



Government of Uganda
Ministry of Water and Environment

Water and Environment Sector Performance Report 2017

Foreword

It is my pleasure to present to you the 9th Water and Environment Sector Performance Report (SPR) for the period 2016/17FY. This report provides information on investments, targets, achievements, and challenges for the sector during the previous financial year.

The sector registered some achievements during the FY16/17. As of June 2017, the average access to safe water in rural areas was estimated at 70% (which is a 3% increase from 67% as of June 2016). Communities need however to be sensitized on hygienic practices in order to maintain a safe water chain from the source up to storage at the household level. The functionality for rural water supplies has on the hand reduced to 85%, from the 86% which was reported in June 2016. Access to safe drinking water in the urban water has stagnated, and stands at 71%. It is worth noting the water and sanitation services managed by the National Water & Sewerage Corporation (NWSC) have now expanded to cover a total of 218 towns. The quality, reliability, and number of connections in these towns has improved significantly.

According to data in urban areas outside Kampala, 86% of the urban population has access to basic sanitation. Access to basic rural sanitation was 80% by June 2016, (from 79% last year). While the national standards for school sanitation recommend a pupil to stance ratio of 1:40, this ration further worsened to 71:1, from that of last year (70:1). Only 35% of the pupils have access to washing facilities, which puts the lives of the pupils at risk of faecal related diseases leading to absenteeism.

By the end of FY 2015/16, the national cumulative storage for water for production had increased from 37.2 million cubic meters (in FY 2015/16), to 38.9 million cubic meters. This is just a small portion of the amount required meet all the livestock watering, irrigation and other economic needs.

Implementation of catchment based integrated water resources management activities is on-going in the 4 Water Management Zones (WMZs). Twenty surface water stations and eleven groundwater stations of the Water Resources Monitoring Network were upgraded from manual to telemetric data collection, which forms a major component in the development of an Early Warning Telemetry System since it enables quick dissemination of the information products to the public and researchers. Important achievements under included Policy Reviews to account for national interest in trans-boundary water resources, institutional reviews for improved management of cross-border river basins and coordinating investments and projects in trans-boundary basins and catchments.

The percentage of Uganda's area covered by wetlands is estimated at 10.9%. Activities to restore wetlands are still on-going in many districts, though there is open resistance by some illegal wetland users utilizing the wetlands. Notwithstanding the activities in forestry, the forest coverage has further reduced and is now 9%. 12 % of the forests are under strict nature reserve. Forest reserves with management plans are now 36% of the total number of reserves.

Monitoring of activities within the Albertine Graben was undertaken to establish whether the treatment and disposal of oil waste is in compliance with environmental laws and regulations.

The key challenge faced by the sector is the inadequate financing to achieve the targets under the National Development Plan (NDP-II) and the 2016 National Resistance Movement (NRM) re-election Manifesto. The sector continues to receive only 3% of the national budget resources yet its role in transforming Uganda into middle income status by 2020 is very strategic.

Finally, on behalf of the Government of Uganda, let me express our gratitude to the Sector Development Partners, the Civil Society Organisations and the Private sector for the support given during the financial year.

For God and my country,

Hon. Cheptoris Sam

MINISTER FOR WATER AND ENVIRONMENT, UGANDA

Executive Summary

This is the 9th Water and Environment Sector Performance Report (SPR). It provides a concise and transparent overview of investments, targets, achievements, outputs and challenges for the sector during 2016/17FY (i.e. SPR 2017). This report includes data and analyses with respect to the access, functionality and equity of improved water supplies, sanitation and hygiene, per capita investment cost, water quality, water storage, gender and community management, water resources management compliance, catchment management planning as well as activities and achievements in environmental monitoring and compliance, wetlands and forestry management, meteorology and climate change.

Introduction

Data used for this report is derived from databases in the Ministry of Water and Environment, District Local Governments, sector semi-autonomous agencies, Ministry of Health, Ministry of Education, and the Uganda Bureau of Statistics (UBOS). Databases within the Ministry were enhanced and updated, both in terms of water supply status and in terms of operation and maintenance of urban water supplies.

Sector Finance

In the FY2016/17, the total financing to the Sector (including both off-budget and on-budget resources), totalled to approx. UGX bn 1,098.66, of which UGX bn 1,043.73 was on budget (appropriated by Parliament for Ministry of Water and Environment (MWE) and all the agencies National Environment Management Agency (NEMA), National Forestry Authority (NFA), UNMA and National Water and Sewerage Corporation (NWSC)), while UGX bn 54.93 was off budget. The donor On-budget allocation within this total allocation amounted to UGX bn 331.552, one-third of the total funding envelope. The off-budget financing was mobilized by Civil Society Organizations (CSOs) both in the Water and Environment Sub-sectors.

All government ministries, departments, agencies/parastatals are now required to declare their annual internally generated funds for approval by parliament as Appropriation in Aid. In terms of releases of the allocated budget,

Appropriation in Aid had the biggest share of 41% of the released funds, followed by 35% by GoU funding and 17% by donor funding.

The Government of Uganda (GoU) through its Ministry of Water and Environment (MWE) and its Development Partners (DPs) has been implementing a 5-year joint funding programme that will come to an end by June 2018. During this period, Uganda's funding architecture has gradually changed from a move to align and harmonise with respect to the Paris Agenda to mostly project implementation modalities used by Donors, UN agencies and NGOs.

Progress on undertakings of 2016/17

A total of 12 undertakings were adopted during last year's water and environment Joint Sector Review which was held in September 2016. Thematic groups and subgroups were formed to implement the undertakings; they prepared action plans with indicators/outputs to monitor progress of implementation of each undertaking, which were subsequently approved by the Water and Environment Sector Working Group (WESWG). Progress made on implementation of the 12 undertakings shows that only four undertakings were achieved (i.e. Nos 5, 7, 8 and 10), two undertakings covering also FY2017/18 are on track (Nos 11 and 12), five undertakings were partially achieved (Nos 1, 2, 3, 4 and 9) and delayed mostly as a result of insufficient resources for their implementation, whereas one has largely not progressed at all (6) following lack of funds.

Rural Water Supply

The main technology options used for water supply improvements in rural areas include deep boreholes (42%), shallow wells (25%), and protected springs (21%); others include tap stands and kiosks of piped schemes and rainwater harvesting tanks.

As of June 2017, the national safe water coverage in rural areas is estimated at **70%** (up from 67% in June 2016). The functionality for rural water supplies has on the other hand reduced to **85%**, (from 86% in June 2016 and 88% in June 2015). A total of UGX bn 106.5 bn was used to serve 944,739 persons with new improved water supplies. The overall per capita cost for rural water supplies was UGX 114,295 (USD 32), similar to the UGX 110,887

for FY 2015/16. A total of 64.7 billion was expended on multi-year projects of Bukwo I, Nyarwodho I, Bududa I, Bududa I, Butebo, solar-powered mini-piped water schemes and drilling under the framework contract.

Urban Water Supply

Access to drinking water in urban areas has stagnated at **71%**. During 2016/17FY, a total of 425,000 people had to be served just to maintain the access to safe water. Of these, 290,000 resulted from population growth in the urban councils that existed in 2016. The remaining 135,000, approximately, result from the additional unserved population of the new Town Councils created in 2016/17.

New water supply schemes were constructed by MWE's deconcentrated Water Supply Development Facilities. The average per capita investment cost for the new water facilities increased to **US\$ 54** in FY 2016/17 (below the target per capita investment cost of US\$ 85).

O&M support to the piped water systems in small towns and rural growth centres that are not managed by NWSC is ensured by six regional Umbrella Organisations.

Regulation in the water sector is done to balance the commercial objective of efficient and sustainable service provision with the social objective of accessible and affordable water supply and sewerage services in rural and urban piped water supply systems including sanitation. The regular monitoring of performance contracts is carried out by MWE's Water Utility Regulation Department for currently 218 urban systems managed by NWSC and 127 gazetted piped water schemes in Small Towns and Rural Growth Centers.

Water for Production

MWE constructs and rehabilitates earth dams and valley tanks mainly in the cattle corridor. Secondly, its bulk water transfer programme aims to supply adequate amounts and quality of water all year round for multi-purpose use by conveying large quantities from places of plenty to places of scarcity. MWE is also constructing irrigation schemes and operates and manages earth moving equipment for construction of valley tanks, hired out to individual farmers at subsidised rates.

The total volume added through investments by MWE in the FY 2016/17 (including facilities done by the Districts and private farmers using WfP Construction Equipment) was 1,680,000m³ compared to 5,485,000m³ in the previous year.

Water Resources Management

Twenty surface water stations and eleven groundwater stations of the Water Resources Monitoring Network were upgraded from manual to telemetric data collection.

MWE carried out water quality assessments in 15 districts that have been listed as cholera-prone districts by Ministry of Health. Out of the 216 sources sampled, only 50% were safe, and out of the 176 households where drinking water was tested, only 32% had safe water.

Compliance to waste water discharge permit conditions improved from 56% to 59%. The biggest waste water dischargers such as NWSC facilities, sugar manufacturing companies, leather tanning industries have improved their compliance this financial year. Enforcement efforts continue to ensure that permit holders put in place measures to comply with these conditions.

Trans-boundary organizations that have continued to be supported through both financial contributions and providing technical guidance. These include the Nile Basin Initiative (NBI), Lake Victoria Basin Commission (LVBC) Global Water Partnership (GWP), and Inter Governmental Authority on Development (IGAD).

Water resources planning, development and management is being undertaken within catchment boundaries, as opposed to administrative boundaries, and is coordinated country-wide in four Water Management Zones (WMZs) of Kyoga, Victoria, Albert and Upper Nile. Six Catchment Management Organisations (CMO) were established namely, Lokere, Lokok, Lumbuye, Katonga, Semliki and Kiiha, which makes a total number of 15 CMOs in the country as per end of June 2017. Currently, Catchment Management Planning is ongoing in 15 catchments in the country with already a number of catchment management plans developed.

Sanitation and Hygiene

Most districts worked on creating demand for improved sanitation, working in two sub-counties using either Community Led Total Sanitation (CLTS) or Home Improvement Campaigns (HIC) as approach.

According to district reports, access to rural (basic) sanitation has further increased to **80%** by June 2017, while 37% have access to a hand washing facility.

According to data in urban areas outside Kampala, **85.5%** of the urban population has access to basic sanitation. An estimated **40%** of the urban population have access to a hand washing facility, although this is not an indication of actual use. Some of the hand washing facilities lack soap and/or water.

The national standards recommend a pupil to stance ratio of 40:1 in schools. According to district reports, the national pupil:stance ratio has further worsened to **71:1**, compared to last year (70:1). Access to hand washing in schools has continued to be low with only **35%** of the schools having access to washing facilities.

CSOs Contribution to Water and Sanitation

During the FY 2016/17, a total of 76 Civil Society Organisations (CSOs) made a total investment of UGX 38.39 billion in the areas of water supply, sanitation and hygiene promotion, community management, water for production and integrated water resources management.

The highest level of investment was made in water supply (UGX 21.03 billion) and sanitation (11.6 billion).

CSOs have continued to collaborate with various ministries and their agencies, local governments and development partners. Within the districts of operations, most CSOs are members of the district water and sanitation coordination committees (DWSCCs), and they attend DWSCC quarterly meetings and share quarterly and annual reports with the Local Government. This collaboration and coordination between CSOs and district local governments has led to improved information flow for planning purposes, non-duplication of services in WASH and prevention of conflicts of interest in WASH activities.

Wetlands Management

The percentage of Uganda's area covered by wetlands is estimated at 10.9%. During the FY2016/17, MWE demarcated 167.7kms of critical wetlands, and restored a total of 476 hectares (ha) of degraded wetlands.

The MWE, with support from the Environment Protection Police conducted compliance monitoring of 231 sites, whereas 214 cases were registered in various courts, 131 suspects were arrested), 54 trucks and engineering plants were impounded as exhibits and fines were imposed on encroachers.

Forestry Management

The major challenge for forest management in Uganda is de-forestation which is demonstrated by the decline of forest cover from 24% in 1990 to 11% in 2015. forest coverage in the country is now at **9%** only. 12 % of the forests are under strict nature reserve. Forest reserves with management plans are now 36% of the total number of reserves.

Environmental Support Services

NEMA approved a total of 962 EIAs for development projects in order to take care of environmental and social safeguards. A total of 1,341 environmental inspections and audits were carried out, for which the environmental compliance levels range from 70 to 75%; compliance within the oil and gas sector is best (75%). The approval of EIAs and issuance of permits in fragile ecosystems especially in wetlands has been severely restricted due to the poor compliance by the developers (30% compliance level).

During FY2016/17, a total of 50 km of the external boundaries of the 5 Central Forest Reserves (CFRs) of Mabira were surveyed and demarcated with concrete pillars. 4,755 hectares (ha) of Mabira were mapped as degraded or understocked and 1,500 ha of these are under restoration. Stakeholder engagement at village level is on-going to ensure sustainability of the project in the long run, and ensure the demarcation activities are done without community interference.

Meteorology, Weather and Climate Services

The Uganda National Meteorological Authority (UNMA), is a semi-autonomous government authority which is responsible for provision of

weather information/forecasts and climate services. In total 65,745 national, regional and international meteorological data exchanges have been carried out through various messages such as Synops, Metars, and Terminal aerodrome forecasts.

UNMA supports districts by establishing functional weather stations which generates data that is used in producing early warning information. Currently 32 districts out of 115 districts have functioning weather stations which translates into 28% coverage.

Climate Change

A Ugandan government delegation participated in the 22nd UNFCCC Conference of the Parties (COP22) in Marrakech in November 2016. During the COP22, a universal declaration was adopted for fast-tracking climate action in the most vulnerable countries, which include Uganda.

Climate Change Baseline Surveys were conducted in 32 District Local Governments, to highlight the climate change impacts in different districts and update the district climate change profiles. With this information, climate change action planning and implementation in the respective district local governments can be focused to areas of the most priority.

CSOs in Environment and Natural Resources (ENR)

In total 34 CSOs active in ENR reported a contribution amounting to USD 4,721,909 in FY 2016/2017. Most resources are spent in the Central and Western Region. Eastern and Northern Uganda receive least funding through ENR CSOs. There is a decline in resources spent on national level initiatives and processes. Forestry continues to be the sub-sector where relatively most resources are spent whereas a decline is shown for the wetland sub-sector. ENR CSOs spent the majority of their resources on Forestry (48%), Environment (18%) and governance (17%).

Good Governance Activities

The sector has incorporated good governance indicators in its reporting framework. 10 indicators for good governance were developed to evaluate the mode of reporting, quality of available data and better understanding of the associated governance

issues. The governance principles assessed are accountability, transparency and participation.

The performance of MWE in the Public Procurement and Disposal of Public Assets Authority (PPDA)'s procurement audit report of FY2015/16 was 'highly satisfactory' as a result of a high average compliance score of 94% for procurement systems, and procurement processes. However, failure to perform within the planned timelines was found to be extensive. The PPDA recommended that contract implementation time to reduce variations should be observed. MWE has subsequently developed a tracking tool to assist contract managers in timely procurement, and implementation.

Critical Issues for the Sector

The Joint Water and Environment Sector Support Programme (JWESSP 2013-2018) is coming to an end by June 2018. It is planned to develop a JWESSP- Phase II, a successor to the ongoing programme to start in July 2017. The main changes in development partner support refer to the fact that (i) some partners are substantially ending their support to the sector (or are changing their areas of support) and (ii) future funding arrangements under the next Joint Programme are going to allow less flexibility.

Inadequate financing to the sector is a major challenge and affects the fulfilment of core functions of the sector (such as technical support to districts or monitoring of water quantity and quality) as well as the adaptation capacity to new challenges such as industrialisation or climate change. This leads to a situation where the targets under the Second National Development Plan and Presidential Directives (e.g. one water source per village) are unlikely to be met with current funding levels. The ENR sub-sector still remains grossly underfunded especially at district local government level.

The Umbrella organisations were gazetted as Water Authorities in July 2017. It will be a main focus of work for 2017/18 to establish their new governance, financial management and monitoring systems and conduct related capacity building. In the short term, the Umbrellas will be challenged by a double mandate, to be fulfilled with very limited human and logistical resources. In addition to the direct operational responsibility

for the schemes where the Umbrellas are gazetted as Water Authorities, they will also be expected to continue providing support to all the other piped water supply schemes in their region.

Status of Golden and Platinum Indicators

The performance of the water and environment sub-sectors against the Golden and Platinum

indicators respectively, is presented in the tables below and on the following page. Achievements above the target for FY 2016/17 are shaded green, while indicators shaded red highlight the non-achievement in FY 2016/17.

Water and Sanitation Sub-sector Performance against the Golden Indicators

Golden Indicators			Achievements	
			15/16	16/17
1. Access: % of people within 1,000m (rural) and 200m (urban) of an improved water source	Rural		67%	70%
	Urban		71%	71%
2. Functionality: % of improved water sources that are functional at time of spot-check (rural/WfP). Ratio of actual hours of water supply to the required hours (small towns)	Rural		86%	85%
	Urban		94%	92%
	WfP		84%	85%
3. Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD)	Rural		32	32
	Urban		65.5	54
4.1 Household Sanitation: % of people with access to improved sanitation	Rural		79%	80%
	Urban		85%	86%
4.2 School Sanitation: Pupil to latrine/toilet stance ratio)	(from DHI reports)		70:1	71:1
5. Water Quality: % of water samples taken at the point of water collection, waste discharge point that comply with national standards.	Protected Rural Source	E.coli (from WQD)	41%	59%
	Large Towns Drinking Water (data from NWSC)	E.coli	99%	99.6%
	Wastewater (data from NWSC)	Colour	93%	91%
		BOD ₅	46%	44%
		TSS	45%	53%
6. Cumulative Water for Production Storage Capacity (million m ³)			37.2	38.9
7. Equity: Mean Sub-County deviation from the national average in persons per improved water point			142	120
8. Hand washing: % of people with access to (and using) hand-washing facilities	Household (rural)		36%	37%
	School		34%	35%
9. Management: % of water points with actively functioning Water & Sanitation Committees (rural/WfP)/Boards (urban)	Rural		87%	88%
	Urban		78%	72%
	WfP		81%	83%
10. Gender: % of Water User committees/Water Boards with women holding key positions [Note * WfP 73% for valley tanks, 48% for dams]	Rural		86%	86%
	Urban		67%	82%
	WfP		73/48	73/48%
11. Water Resources Management Compliance: % of water abstraction and discharge permits holders complying with permit conditions (Note: before FY 2011/12, indicator referred to permit validity only. In FY 2011/12, for wastewater discharge, % compliance was taken. In FY 2012/13, permit conditions are compliance to permitted abstraction volumes and compliance with effluent quality. From FY 2014/15, a compliance on reporting on drilling is included).	Wastewater discharge		56%	59%
	Surface water abstraction		74%	75%
	Groundwater abstraction		74%	71%
	Drilling		90%	89%

Environment Sub-sector Performance against the Platinum Indicators

No	Platinum Indicators	Baseline Value	Achievements	
			15/16	16/17
1.	% Uganda's land area covered by forest	18%	10-11%	9%
2.	% natural forest under strict nature reserve	12%	12%	12%
3.	% survival of tree seedlings past year 3	60%	75%	76%
4.	% rural households that travel more than 1 km to collect firewood	2 km	unknown	unknown
5.	% forest reserves under management plans	32%	35%	36%
6.	% developers complying with certificate of approval conditions	60%		70-75%
7.	% solid waste disposed of safely in the 12 municipalities	50%	65-70%	65-70%
8.	% meteorological rainfall observation network coverage of country	60%	95 stations	
9.	% Uganda's land area covered by wetlands	10.9%	10.9%	10.9%
10.	% Uganda's wetlands used under management plans	0.9%	11.3%	11.3%

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List of Abbreviations

ACCRA	Africa Climate Change Resilience Alliance
ADB	African Development Bank
BFP	Budget Framework Paper
BOD	Biological Oxygen Demand
BoP	Best operational Practices
CBO	Community Based Organisation
CBMS	Community Based Maintenance System
CCU	Climate Change Unit
CDD	Community-Driven Development sub-project
CDM	Clean Development Mechanism
CFA	Cooperative Framework Agreement
CFR	Central Forest Reserves
CLTS	Community Led Total Sanitation
CMO	Catchment Management Organisation
CSO	Civil Society Organisation
DESS	Department of Environment Services
DHI	District Health Inspector
DLG	District Local Government
DP	Development Partner
DWAP	District Wetland Action Plan
DWD	Directorate of Water Development
DWO	District Water Office(r)
DWRM	Directorate of Water Resources Management
DWSCC	District Water and Sanitation Coordination Committee
DWSDCG	District Water and Sanitation Development Conditional Grant
EAC	East African Community
EC	European Commission
EHD	Environment Health Division (of Ministry of Health)
EIS	Environmental Impact Statement
ENR	Environment and Natural Resources
EPPU	Environment Protection Police Unit
FAO	Food and Agricultural Organisation
FGD	Focus Group Discussion
FIEFOC	Farm Income and Enhancement and Forestry Conservation
FMP	Forest Management Plans
FO	Forest Officers
FSSD	Forestry Sector Support department
FY	Financial Year
GEF	Global Environmental Facility
GFS	Gravity Flow Scheme
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GGAP	Good Governance Action Plan
GGDS	Green Growth Development Strategy
GGWG	Good Governance sub-sector Working Group
GIS	Geographical Information System
GoU	Government of Uganda
ha	Hectares
HIC	Home Improvement Campaigns
HIP	Hygiene Improvement Programme

HIV/AIDS	Human immunodeficiency virus / acquired immunodeficiency syndrome
HPM	Hand Pump Mechanic
HPMA	Hand Pump Mechanic Association
HWF	Hand Washing Facility
ICT	Information Communication Technology
IDAMC	Internally Delegated Area Management Contract
IDP	Internally Displaced Persons
IGAD	Intergovernmental Authority on Development
ISDP	Infrastructure Service Delivery Plan
ISH	Integrated Sanitation and Hygiene
INDC	Intended Nationally Determined Contributions
JAF	Joint Assessment Framework
JBSF	Joint Budget Support Framework
JPF	Joint Partnership Fund
JSR	Joint Sector Review
JWESSP	Joint Water and Environment Sector Support Programme (2013 – 2018)
KCCA	Kampala City Council Authority
KfW	Kreditanstalt für Wiederaufbau
KP	Kyoto Protocol
KPI	Key Performance Indicators
LG	Local Government
LGDP	Local Government Development Programme
LVEMP	Lake Victoria Environmental Management Project
LVWATSAN	Lake Victoria Water and Sanitation Initiative
M&E	Monitoring and evaluation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MIS	Management Information System
MoEMD	Ministry of Energy and Mineral Development
MOESTS	Ministry of Education, Science, Technology and Sports
MoFPED	Ministry of Finance, Planning and Economic Development
MoGLSD	Ministry of Gender Labour and Social Development
MoH	Ministry of Health
MoLG	Ministry of Local Government
MoLHUD	Ministry of Lands Housing and Urban Development
MoTTI	Ministry of Tourism, Trade and Industry
MoU	Memorandum of Understanding
MUCCRI	Makerere University Centre for Climate Change Research and Innovations
MTEF	Medium Term Expenditure Framework
MWE	Ministry of Water and Environment
MTEF	Medium Term Expenditure Framework
MRV	Measuring, Reporting and Verification
NAADS	National Agricultural Advisory Services
NAPA	National Adaptation Programme of Action
NAMA	Nationally Appropriate Mitigation Actions
NBI	Nile Basin Initiative
NDP	National Development Plan
NEA	National Environment Act
NEC	National Environment Council
NEMA	National Environment Management Authority
NEMP	National Environmental Management Policy
NFA	National Forestry Authority

NGOs	Non-Government Organisations
NPHC	National Population and Housing Census
NPV	Net Present Value
NRW	Non-Revenue Water
NSDS	National Service Delivery Survey
NSOER	National State of Environment Report
NSWG	National Sanitation Working Group
NWIS	National Wetland Information System
NWSC	National Water and Sewerage Cooperation
NWQRL	National Water Quality Reference Laboratory
O&M	Operation and Maintenance
OBA	Output Based Aid
ODF	Open Defecation Free
PAF	Poverty Action plan
PEAP	Poverty Eradication Action Plan
PES	Payment for Ecosystem Services
PHAST	Participatory Hygiene and Sanitation Transformation
PMF	Performance Measurement Framework
PPDA	Public Procurement and Disposal of Assets Authority
PPEA	Participating Poverty Environment Assessment
PPD	Policy and Planning Department
PPP	Public Private Partnership
PSP	Public Stand Post
PRT	Performance Review Team
PWD	Person(s) with disabilities
PWP	Public water points
REDD	Reducing Carbon Emissions from Forest destruction and Degradation
RGC	Rural Growth Centre
R-PP	Readiness Preparation Proposal
RWHT	Rain Water Harvesting Tank
RWSS	Rural Water Supply and Sanitation
RWT	Rain Water Tank
SIM	Sector Investment Model
SIP	Sector Investment Plan
SPGS	Saw log Production Scheme
SPR	Sector Performance Report
SSIP	Sector Strategic Investment Plan
STWSS	Small Towns Water and Sanitation
SWAp	Sector Wide Approach
SWC	Soil and Water Conservation
SWG	Sector Working Group
SWSSB	Sub-county Water Supply and Sanitation Boards
TA	Technical Assistance
ToR	Terms of Reference
TSS	Total Suspended Solids
TSU	Technical Support Unit
UBOS	Uganda Bureau of Statistics
UfW	Unaccounted for Water
UGX	Uganda Shillings
UIA	Uganda Investment Authority
ULGA	Uganda Local Governments Association

UN	United Nations
UNMA	Uganda National Meteorological Authority
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Fund
UPHC	Uganda Population and Housing Census
USAID	United States Agency for International Development
UWASNET	Uganda Water and Sanitation NGO Network
UWSS	Urban Water Supply and Sanitation
VCT	Voluntary Counselling and Testing
VfM	Value for Money
VHT	Village Health Team
VIP	Ventilated Improved Pit
VT	Valley Tank
WAG	Wetland Advisory Group
WAP	Wetland Action Planning
WASH	Water, Sanitation and Hygiene
WED	World Environment Day
WfP	Water for Production
WMD	Wetland Management Department
WMZ	Water Management Zones
WPC	Water Policy Committee
WQ	Water Quality
WRM	Water Resources Management
WSDF	Water and Sanitation Development Facility
WSP	Water and Sanitation Programme
WSC	Water Source Committee
WSS	Water Supply and Sanitation
WSSWG	Water and Sanitation Sector Working Group
WUC	Water User Committee
WURD	Water Utility Regulation Department

Exchange Rate¹ USD 1 = UGX 3,528 EUR 1 = UGX 3,846

¹ Actual annual average exchange rates based on official statistical exchange rate information from Bank of Uganda and The European Central Bank.

Glossary and Definitions

Alignment: an arrangement whereby the activities and systems of a Development Partner are harmonised with the Government's priorities and systems, thereby increasing the Government's "ownership" of activities and systems and making implementation more effective.

Basket Funding: aid finance flowing from a Development Partners' account, kept separate from other funding. The Joint Partnership Fund (JPF) is an example in the water sector of basket funding using on-budget project modalities.

Biomass: is the total living woody natural vegetation found above ground. It includes stems, branches and twigs. Biomass refers to their air-dry mass, measured after drying the wood for up to 15 days, until the mass is constant.

Biodiversity: the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Consolidated Fund: 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 budget that is notionally earmarked to a specific sector or sub-sector. In the water and sanitation sub-sector earmarked sector budget support includes support via the consolidated fund and Poverty Action Fund (PAF) to the District Water and Sanitation Development Conditional Grant (DWSDCG) and also to the Ministry of Water and Environment (MWE) at central level. There is no difference between earmarked sector budget support and sector budget support for the water, health and education (sub-) sectors as all sector expenditure is under the PAF.

General Budget Support: 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: the process of rendering approaches, systems or policies between Development Partners and Government coherent.

Lead Development Partner: In any given sector or area, there are a range of leadership functions that can be taken on by one or more Development Partner (DPs). 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.

Large Towns: are classified as those gazetted for operation by National Water and Sewerage Corporation (NWSC), which provides water and sewerage services. NWSC currently operates in 110 "Areas". The NWSC coverage area extends beyond the above urban boundaries.

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 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: is 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 considers should be included in the MTEF and the 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 within the sector ceiling.

Off-budget Aid: is Aid that is not reported in the MTEF and budget estimates GoU either because it is not reported to 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 is not included within sector ceilings.

Poverty Action Fund (PAF): established by GoU in 1998 under the Medium-Term Expenditure Framework, is a ring-fenced fund aimed at protecting resources for key poverty reducing areas including water, health, education and rural infrastructure.

Poverty Action Fund 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 refers to assistance that is not channelled via the Government systems. It can be on-budget (i.e. within the ceiling) or off-budget (i.e. outside the ceiling).

Sector Ceilings: 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 Wide Approach (SWAP) is a mechanism whereby GoU, civil society and Development Partners support a single policy, development plan and expenditure programme, which is under Government leadership and follows a common approach. A SWAP de-emphasises donor-specific project approaches and promotes funding for the sector through general, sector earmarked budget support or through basket funding. The rural water and sanitation sub-sector is the most advanced in terms of SWAP implementation.

Small Towns urban centres as defined by UBOS that are not served by National Water and Sewerage Corporation (NWSC), also includes Town Boards and Rural Growth Centres (RGCs) with populations of more than 500 people. Currently, there are 198 Urban Councils and 1,772 RGCs.

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 ensure community management of improved water supply facilities.

Undertaking: strategic action 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).

Urban and Rural: as defined by UBOS' National Population and Housing Census (NPHC) 2014, urban centres include all areas gazetted as City, Municipality, Town Council or Town Board All other areas are classified as rural.

Water and Environment Sector Working Group (WESWG): comprising stakeholders from GoU institutions within a sector, civil society organisations and Development Partners, the WESWG 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.

1 INTRODUCTION

1.1 About this Report

The Uganda Water and Environment Sector Performance Report (SPR) is the most important document for assessing the performance of the water and environment sector. It provides an annual assessment of investments, targets, achievements, outputs and also highlights the major challenges or strategic issues which effect performance. The report includes data and analysis with respect to the agreed key indicators in the following water sub-sector performance themes: access, functionality and equity of improved water supplies and sanitation, hygiene, per capita investment cost, water quality, water storage, gender and community management. The SPR also includes essential information on Uganda's environment and natural resources and a description of the efforts being made to ensure sustainability of the ecosystems in the country. Annual SPRs for Water and Sanitation were produced from 2003 to 2008. Since the merger of the water and environment sectors in 2008, this is the 9th Water and Environment Sector Performance Report.

The Sector Performance Report is based on the water and sanitation sub-sector performance measurement framework developed in 2003. The environment and natural resources sub-sector performance measurement framework was developed in August 2010. A sector-wide approach to planning, implementation, reporting and accountability was first adopted in 2001, when a number of individual donor specific projects and reviews were phased out, and the first Joint Government of Uganda – Development Partners Water and Sanitation Sector Support Programme (JWSSPS, 2007 to 2013) was implemented. Currently, the five-year Joint Water and Environment Sector Support Programme (JWESSP) is ongoing, including also Environment as a sub-sector. In addition, the Joint Sector Review (JSR) for the water and environment sector has been held annually since the merger of the water and environment sectors in 2008. The SPR forms the basis for discussions at the Joint Sector Review, during which a number of Undertakings for the subsequent year are formulated and agreed.

The SPR has been prepared through a participatory process with inputs from the Ministry of Water and Environment (MWE), the National Water and Sewerage Corporation (NWSC), the National Environment Management Authority (NEMA), the National Forestry Authority (NFA), the Uganda National Meteorological Authority (UNMA), the Water and Sanitation Programme of the World Bank (WSP/WB), the Environment Health Division (EHD) of the Ministry of Health (MoH) as well as the Uganda Water and Sanitation NGO Network (UWASNET) and Environment and Natural Resources CSO Network. A senior management team from MWE collated, quality assured and synthesised these inputs. The primary data sources are Local and Central Government reports and databases at District Local Governments and MWE, and these are listed in Annex 1.

The urban water and sanitation sub-sector, through MWE's Water Utility Regulation Department, reports on the targets and achievements for the performance indicators under the performance contracts signed between MWE and NWSC, and the Water Authorities. Sanitation information and data is largely consolidated and provided by the sanitation sub-sector working group, based on data from the respective district local governments and the Environmental Health Division of the Ministry of Health.

Chapter 2 on Sector Planning, Human Resources Development and Finance includes an analysis of on-budget and off-budget resources, Government (GoU) and Development Partner contributions, and contributions from large cross-sectoral projects and programmes. The on-budget GoU financial data was obtained from the Integrated Financial Management System (IFMS), while the donor funding was obtained from the Joint Partnership Fund (JPF) and directly from the few development projects that are outside the JPF (like the Lake Victoria Environment Management Project and the Water Management Development Project). The off-budget financial information was obtained from the sector agencies (NWSC, NEMA, UNMA and NFA) and from the CSO umbrella organisations (UWASNET

and ENR-CSO Network). Chapter 3 of the SPR provides a brief summary of the status of the undertakings agreed at the last JSR in 2016.

The structure of the SPR from Chapters 4 to Section 10 considers each component within the sector in the order of the Vote Function numbering under the Sector Budget Framework and Ministerial Policy Statement, namely (Chapter 4) Rural Water Supply, (Chapter 5) Urban Water Supply, (Chapter 6) Water for Production, (Chapter 7) Water Resources Management, (Chapter 8) Sanitation and Hygiene, (Chapter 9) Environment & Natural Resources and (Chapter 10) Climate Change.

Chapters 4 to 10 of the SPR provide an overview of the objectives, strategies, achievements and challenges for each component. Each component examines the status and trends of outcomes from the work undertaken in FY 2016/17. The relevant sector indicators, which form the core of the sector performance measurement framework, are presented within the respective sections. This structure is intended to take the reader through a logical progression from the inputs, activities and outputs to outcomes and analysis. Recommendations are provided for each component.

The remainder of the SPR describes progress on cross-cutting issues (Chapter 11), the contributions from Civil Society Organisation under Chapter 12 (Water and Sanitation) and Chapter 13 (Environment and Natural Resources), and progress of implementation of Good Governance activities in the sector (Chapter 14). Finally, Chapter 15 provides some considerations on selected key issues for further dialogue and/or action during the next twelve months.

1.2 Sector Institutional Framework

The Water and Environment sector consists of two sub-sectors: the Water and Sanitation (WSS) sub-sector and the Environment and Natural Resources (ENR) sub-sector. The WSS sub-sector comprises water resources management, rural water supply and sanitation, urban water supply and sanitation, and water for production. The ENR sub-sector comprises environmental management; management of forests and trees; management of wetlands and aquatic resources; and weather and climate. The institutional sector framework consists of:

- The Ministry of Water and Environment with the Directorates for Water Development (DWD), Water Resources Management (DWRM) and Environmental Affairs (DEA);
- Local Governments (Districts and Town Councils), which are legally in charge of service delivery under the Decentralisation Act;
- A number of de-concentrated support structures related to MWE, are at different stages of institutional establishment, including Technical Support Units (TSUs), Water Supply Development Facilities (WSDFs), Water Management Zones (WMZs), and Umbrella Organizations;
- Four semi-autonomous agencies: (i) National Water & Sewerage Corporation (NWSC) for urban water supply and sewerage; (ii) National Environment Management Authority (NEMA) for environment management; (iii) National Forestry Authority (NFA) for forestry management in Government's Central Forest Reserves; and (iv) the Uganda National Meteorological Authority (UNMA) for weather and climate services;
- NGOs/CBOs (coordinated through UWASNET and ENR-CSO Network) and Water User Committees/Associations;
- The private sector (water and sanitation infrastructure operators, contractors, consultants and suppliers of goods).

Activities undertaken in Sanitation and Water for Production (mainly focusing on agricultural and animal production) require close coordination with other line ministries including the Ministry of Health, Ministry of Education & Sports and the Ministry of Agriculture, Animal Industry & Fisheries.

The Water and Environment Sector Working Group (WESWG) provides policy and technical guidance and has representatives from key sector institutions (GoU), Development Partners and NGOs).

A more detailed description of the institutional set up at the national level, de-concentrated level, district level, private sector and community level is provided in Annex 2.

1.3 Data Collection for Golden and Platinum Indicators

1.3.1 Introduction

Data used for the determination of the indicator values is derived from a number of databases in the three directorates of MWE as well as other databases under the sector semi-autonomous agencies (i.e. NWSC, NEMA, UNMA, and NFA), and from the Ministry of Health Table 1.1 summarises progress with respect to eleven key indicators used for performance monitoring for water and sanitation in Uganda.

Table 1.1 Water and Sanitation sub-sector Performance against the eleven golden indicators

Indicator				Achievement									
				06/7	07/8	08/9	9/10	10/11	11/12	12/13	13/14	14/15	15/16
1. Access % of people within 1 km (rural) and 0.2 km (urban) of an improved water source		Rural	63	63	65	65	65	64	64	65	65	67	70
		Urban	56	61	66	67	66	69	70	73	73	71	71
2. Functionality % of improved water sources functional at time of spot-check (rural/WfP); ratio of the actual hours of water supply to the required hours (small towns)		Rural	83	82	83	80	83	83	84	85	88	86	85
		Urban	82	89	89	90	91	84	87	89	92	94	92
		WfP	35	23	23	26	24	67	71	74	75	84	85
3. Per Capita Investment Cost Average cost per beneficiary of new water and sanitation schemes (US\$)		Rural	\$38	\$44	\$43	\$41	\$47	\$44	\$35	\$47	41	32	32
		Urban	\$58	\$93	\$64	\$46	\$40	\$38	\$55	\$46	\$45	\$65.5	54
4.1 Sanitation % of people with access to improved sanitation (Households).		Rural	59	62	68	70	70	70	71	75	77	79	80
		Urban	-	74	73	77	81	81	82	84	84	85	86
4.2 Sanitation: Pupil to latrine/toilet stance ratio – schools			69:1	47:1	43:1	54:1	66:1	69:1	70:1	70:1	67:1	70:1	71:1
5. Water Quality % of water samples taken at the point of water collection, waste discharge point that comply with national standards	Protected Source - Rural	e. coli	Sam ple data only		70	57	93	93	65	53	36	41	59
	Treated Drinking Water Supply - Large Towns	e. coli	95	97	83	100	100	100	99.5	99.7	99	99	99.6
		colour	69	80	-	92	72	88	77.5	89.9	93	93	91
	Waste water	BOD ₅	12	60	15	47	26	40	37	41	40	46	44
		Phosph	26	-	-	-	-	-	-	-	-	-	
		TSS	40	67	100	61	61	45	-	73	42	45	53

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Indicator		Achievement										16/17
		06/7	07/8	08/9	9/10	10/11	11/12	12/13	13/14	14/15	15/16	
6. Quantity of Water Cumulative water for production storage capacity (million m ³)				17	21.2	26.5	27.2	27.5	28.4	31.7	37.2	38.9
7. Equity Mean Sub-County deviation from the National average in persons per improved water point		-	243	178	159	114	160	153	161	162	142	120
8. Hand washing % of people with access to (and using) hand-washing facilities.	House hold	14	21	22	21	24	27	29	33	33	36	37
	School	41	-	31	33	33	35	37	38	38	34	35
9. Management % of water points with actively functioning Water & Sanitation Committees (rural/WfP)/Boards (urban).	Rural	63	65	68	70	71	72	71	71	77	87	88
	Urban	-	65	69	89	71	73	75	76	78	78	72
	WfP	-	31	29	65	68	79	78	80	80	81	83
10. Gender % of Water User committees/Water Boards with women holding key positions. (WfP: Valley tank/dam)	Rural	87	63	71	85	81	82	80	83	84	86	85
	Urban	18	71	15	37	39	45	49	63	67	67	82
	WfP	-	63	61	68	48	57	57	69/45	73/48	73/48	73/48
11. Water Resources Management Compliance* - % of water abstraction and discharge permits holders complying with permit conditions	Waste water discharge	-	-	40	44	46	22	48	50	52	56	59
	Surface water abstraction	-	-	65	64	73	60	65	68	71	74	75
	Ground water abstraction	-	-	55	63	67	60	68	68	71	74	71
	Drilling	-	-	-	-	-	-	-	-	88	90	89

*note that before FY11/12, indicator referred to permit validity only. In FY11/12, for wastewater discharge, % compliance was taken. In FY12/13, permit conditions considered are compliance to permitted water abstraction volumes and compliance with effluent quality.

1.3.2 Water Supply Database (WSDB) update

In the previous financial year, FY2015/16, the Ministry of Water and Environment undertook a project, the Water Supply Update Project II (WATSUP II) to update the dataset of all safe water sources in the country. The main output of the WATSUP II project is the Uganda Water Supply Atlas 2017 which is currently being printed.

The WATSUP II used the existing baseline data from WATSUP, the predecessor project that resulted in the production of the Uganda Water Supply Atlas 2010, as a benchmark for updating the water sources inventory. This inventory is what has come to be known as the WATSUP database, or Water Supply Database (WSDB). This database was redeveloped into an online web-based database, accessible to the public through the Ministry of Water and Environment website, www.mwe.go.ug.

The WATSUP II project entailed making physical visits of water sources, data collection, data validation, analysis and presentation through the use of maps, tables, graphs and figures. Typically,

this involved updating the status of existing water sources as well as including new, or previously not included water sources in the inventory. These updates of water sources mainly comprised of in-depth information such as geo-referenced locations, year of construction, source of funding, ownership, current management structure and operational status. In addition, during the physical visits to the water sources, some of the sources that were non-functional for more than 5 years were found to be repairable and have been recommended for repair by the respective district authorities.

All districts were trained in data collection using hand-held Geographical Positioning System (GPS) devices. All water source data collected from the districts was entered into the water supply database. From 2015 to date, the WATSUP II project has discovered and incorporated a total of 9,122 additional water sources, making the total number of safe water sources in the country to be 135,208, thereby increasing access of safe water supplies from 67% by June 2016 to 70% in 2017.

The updated Atlas is available online through the Ministry of Water and Environment website. In addition to this, more detailed water supply information at district, sub-county, parish and village level, including maps, tables and specific datasets is available on request from the Ministry of Water and Environment headquarters in Luzira, Kampala.

1.3.3 Utility Performance Monitoring & Information System (UPMIS) update

The web-based Utility Performance Monitoring & Information System (UPMIS) is designed to support the various functions of the Umbrellas as well as the monitoring and regulatory function of the Water Utility Regulation Department. Development of the UPMIS was completed in FY 2016/17, and has been rolled out to all regions after a phase of field testing, fine-tuning and user training. The system holds information on functionality, management, the financial situation, key assets, water sources and drinking water quality data for each of Uganda's small piped water systems, plus monthly performance data to be submitted by the scheme operators. Key information on sanitation in each town is also included. Further information on the UPMIS outputs is provided in Section 5.4.4.

1.3.4 Differentiation between rural and urban population

Urban areas, according to the definition used by the Uganda Bureau of Statistics (UBOS), are gazetted urban councils, i.e. Kampala Capital City, Municipalities, Town Councils and Town Boards, as well as the sub-counties named as Town Council. Rural Growth Centers are considered rural when they are located in a rural sub-county. This definition is used for the calculation of urban access to safe water supply, whereas the rest of the population is considered to be rural.

However, all the actors in urban water supply extend their services into rural areas. The National Water and Sewerage Corporation (NWSC) serves an increasing number of customers in rural areas. The piped water schemes implemented by Water and Sanitation Development Facilities (WSDFs) and supported by Umbrella Organisations often supply rural growth centres that are not gazetted as urban administrative areas. The urban-rural distinction is therefore not clear-cut and is more related to responsibilities than to administrative divisions or technologies used.

The biggest challenge in the urban coverage calculation is the fact that these 'urban' actors include the number of connections they have outside the urban administrative units, yet this is considered a rural area. Therefore, the urban coverage as calculated by NWSC up to 2014/15FY (i.e. under SPR 2015) includes people that have also been counted for rural coverage. From FY2015/16, the Urban Sub-Sector has attempted to subtract rural coverage provided by NWSC from the urban coverage.

1.3.5 Calculating access to drinking water

Access to drinking water is calculated for both the urban and the rural population, based on the data on percentages rural and urban population of the Statistical Abstract of Uganda Bureau of Statistics (UBOS, 2016), and the mid-year population projections by sub-county for all districts in Uganda for the period 2015-2018, for the year 2017 (provided by UBOS, July 2017).

Access is calculated for improved water sources. Improved water supply sources include boreholes, protected springs, shallow wells, and rainwater harvesting tanks. Improved piped water supply outlets include public stand posts, yard taps, kiosks, house (domestic) connections and institutional connections. Water for production facilities (dams and valley tanks) are consequently not regarded as improved water supplies for domestic use. The calculation of access is based on an assumed number of people served for each type of water source, as listed in Table 1.2. This number is then multiplied by the total number of that source type existing in a particular area to get the total number of people served in that area. The access rate is the ratio of the total number of served people from the total population.

Table 1.2. Number of users per water source type

In the access calculation, “Functional”, “Functional (not-in-use)” and “Non-Functional” sources are considered. Decommissioned sources are not considered. Sources with a downtime of over 5 years are also not counted. It should be noted that not all the decommissioned sources have officially been decommissioned by DWD.

Water source type	Number of users
Protected Spring	200
Shallow Well	300
Deep Borehole	300
Kiosk	150
Rainwater Harvesting Tank <10,000 l	3
Rainwater Harvesting Tank >10,000 l	6
House connection	6
Institutional connection	100

A **capping** is implemented at sub-county level, resulting in 95 % access in cases where the calculated access is over 95 %.² The population served for the entire district is calculated based on the capped population served per sub-county.

1.4 Review of the Water and Environment Sector Performance Monitoring Framework

During the Joint Sector Review 2015, an undertaking was formulated to develop, in consultation with all sector stakeholders, a revised performance framework incorporating water quality monitoring, good governance, human right to water and sanitation, climate change, sector specific Sustainable Development Goals (SDGs) and the National Development Plan (NDP II) objectives. The assignment for this, facilitated by a consultant, was completed during 2016, and resulted in a fully owned formulation of a total of 42 sector performance indicators, together covering the full spectrum of monitoring needs. The summary of this set of indicators is listed in Table 1.3. In addition, some initial guidance towards monitoring the indicators was discussed in terms of calculation method, suggested dataset, and expected challenges.

In this Sector Performance Report, the stage has been set for determination of the baseline values for the new indicators as of June 2017. The various sub-sectors have each described in some detail how they intend to start implementing the monitoring of the indicators. In relation to this, Section 1.5 provides an overview of the specific work carried out for the piloting of the Sector’s Sustainable Development Goal targets 6.3 – 6.6, related to water resources management.

² “capping” of the figures is done to ensure that improved water sources in a particular sub-county do not serve more than 95% the population hence unrealistically high coverage figures at district and sub county level are avoided.

Table 1.3 Set of 42 New Sector Performance Indicators (formulated in December 2016)

Theme	Proposed indicator blue: new indicator	Sub-Indicators	Reference to SDGs, NDP II Results Framework etc.	Current Golden Indicator
Water Supply				
Use of safe water	1. Basic water: Percentage of population using an improved drinking water source	Rural Urban	SDG 6.1.1 (Basic water) NDP II indicators B.3.1 and B.3.2: Rural and urban safe water coverage	1. Access: % of people within 1,000m (rural) and 200m (urban) of an improved water source
	2. Safely managed water: Percentage of population using safely managed drinking water services located on premises	Rural Urban	SDG-6.1.1 (Safely managed water)	-
	3. Percentage of villages with a source of safe water supply	Rural Urban	Presidential directive	Suggestion: Current Equity indicator “Mean Sub-County deviation from the national average in persons per improved water point” to be replaced by this indicator
	4. Percentage of towns with pro-poor facilities where people pay less or equal to the house connection tariff in the service area	Small Towns NWSC	Monitoring Governance Report (2016); WaterLex study (2015); JWESSP Outcome UWSS 1.3	-
O&M/ sustainable management	5. Functionality: rural: % of water sources functional at time of spot-check urban: % piped water service availability	Rural Small Towns NWSC	<i>implied in SDG-6.1.1 (“safely managed”)</i>	2. Functionality <i>Rural: no change</i> Urban: Ratio of actual to required hours of water supply
	6a. Management - rural: % of water points with actively functioning Water & Sanitation Committees	Rural Small Towns	<i>implied in SDG-6.1.1 (“safely managed”)</i>	7. Management <i>Rural: no change</i>

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Investment Efficiency	6b. Management – piped schemes: % of piped water schemes with formal contract-based management structure			Urban: % of water points with actively functioning Water & Sanitation Boards	
	7a. % Non-revenue water Piped schemes	Small Towns NSWC	NWSC PC 5 Target <i>Common international indicator for management efficiency</i>	-	
	7b. Customer satisfaction NSWC’s customer satisfaction index	NSWC	GGWG	-	
	8. Financial Sustainability: Ratio between total revenue collection and O&M costs	Small Towns	JWESSP Outcome UWSS 2.2	-	
	9. Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD)	Rural Urban	-	3. Per Capita Investment Cost (<i>no change</i>)	
Drinking Water Quality	10. Drinking water quality: % of water samples taken that comply with national standards Point water sources / Piped schemes	Rural Urban	<i>Water quality implied in SDG-6.1.1 (“safely managed”)</i>	5. Water Quality: % of water samples taken that comply with national standards	Protected rural source – E.coli Large Towns (NSWC) – E.coli and colour <i>Small Towns: missing</i>
	Wastewater quality: See water resources management				Wastewater – BOD ₅ and TSS
	Sanitation and Hygiene				
Sanitation	11. Basic sanitation: Percentage of population using an improved sanitation facility not shared with other households	Rural Urban Households	SDG-6.2.1 (Basic sanitation) NDP II: Household latrine coverage / Access to sanitation facilities	4.1 Household Sanitation: % of people with access to improved sanitation (rural/urban) 4.2 School Sanitation: Pupil to latrine/toilet stance ratio)	

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Hand washing (proxy for hygiene awareness)	12. Safely managed sanitation: Percentage of population using safely managed sanitation services	Rural Urban	SDG-6.2.1 (Safely managed sanitation)	-
	13. Open defecation: Percentage of population practicing open defecation	Rural Urban?	SDG-6.2.1 (Open defecation)	-
	14. Hand washing: Percentage of population with hand washing facilities with soap and water at home <i>Schools: Percentage of pupils enrolled in schools with basic hand washing facilities</i>	Rural Urban Schools	SDG-6.2.1 (Hand washing at home, Hand washing in schools) NDP II: Households hand washing with soap	8. Hand washing: % of people with access to (and using) hand-washing facilities (Household – rural and Schools)
Water for Production				
Storage capacity	15. Cumulative Water for Production Storage Capacity (million m ³)		NDP II indicator B.3.3: Storage capacity for WfP	6. Cumulative Water for Production Storage Capacity (million m3) – <i>no change</i>
Water use potential	16a. Irrigation: Proportion of irrigation potential utilized		SDG 6.4	
Actual water use	17a. Irrigation: Proportion of actual water abstraction to total irrigation water requirement		from SIP 2009 SDG 6.4	-
O&M/ sustainable management	18. WfP Functionality: % of water for production facilities that are functional at time of spot-check			2. Functionality – WfP : % of water sources that are functional at time of spot-check
	19. WfP Management: % of water for production facilities with actively functioning Water User Committees			9. Management – WfP: % of water points with actively functioning Water & Sanitation Committees

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Water Resources Management				
Compliance with permit conditions	20. Compliance with permit conditions: % of permit holders complying with permit conditions	Wastewater discharge Surface water abstraction Groundwater abstraction Drilling Hydraulic works and Construction		11. Water Resources Management Compliance: % of water abstraction and discharge permits holders complying with permit conditions - no change -
	21. Proportion of wastewater safely treated	Municipal waste Economic activities industries	SDG-6.3.1 Proportion of wastewater safely treated	-
	22. Proportion of bodies of water with good ambient water quality		SDG-6.3.2: Proportion of bodies of water with good ambient water quality NDP II indicator A.3.4: Proportion of bodies of water with good ambient water quality	-
Wastewater and water quality	23. Water use efficiency: Gross Value Added by irrigated agriculture per vol. of water used [USD/m ³]		SDG-6.4.1 Change in water-use efficiency over time	-
	24. Level of water stress: Water withdrawal as a proportion of available water resources		SDG-6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	-
Water use and scarcity				

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Environment & Natural Resources				
Forestry	25. % Uganda's land surface area covered by forest		SDG 15.1.1 NDP II indicators C.2.1., A.3.1 (Forest Cover)	1. % Uganda's land area covered by forest
	26. % forest area under management plans		SDG 15.2.1: Progress towards sustainable forest management	5. % forest reserves under management plans
	27. Proportion of population with primary reliance on clean fuels and technology	Rural Urban	SDG 7.1.2 Proportion of population with primary reliance on clean fuels and technology	4. % rural households that travel more than 1 km to collect firewood
Wetlands	28. % Uganda's land surface area covered by wetlands		SDG 6.6.1 Change in the extent of water-related ecosystems over time NDG indicators C.2.2., A.3.2 Wetland cover	9. % Uganda's land area covered by wetlands
	29. % wetland area with approved management plans		NDP II, ENR Objective 3: ii. Develop wetland management plans vi. Develop and operationalise legal and governance mechanisms for sustainable wetlands management	10. % Uganda's wetlands used under management plans
Solid waste management	30. % urban solid waste safely disposed of or recycled in municipalities		SDG 11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge	7. % solid waste disposed of safely in the 9 municipalities

Meteorology & Climate Change				
Meteorolo- gical network	31. % weather observation stations operational and submitting data throughout the year		NDP II, ENR Objective 4: Increase the functionality and usage of meteorolo-gical information systems	8. % meteorological rainfall observation network coverage of country
	32. % of districts with functioning early warning systems		SDG Target 13.3 NDP II, ENR Objective 4 v: Design, develop and implement early warning systems	-
Climate change	33. CC Mitigation:		SDG Targets 13.2 and 13.3 SDG Targets 13.1, 13.2 and 13.3	-
	34. CC Adaptation: % change in budgets for CC adaptation ministries		NDP II, ENR Sector Objectives 5 and 7	-
	35 % change in Uganda’s climate change vulnerability index			
Cross-cutting issues				
Gender	36. Gender: % of Water User Committees/Water Boards/Environmental management/Water catchment management committees with women holding key positions	Rural Urban Water for Production		10. Gender: % of Water User Committees/Water Boards with women holding key positions – <i>no change</i>
Good Governance	37. Auditing: % Implementation of the previous year’s audit recommendations	MWE NWSC	GGWG	-
	38. Procurement:	MWE	GGWG	-

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Sector Funding	Average weighed procurement performance	NWSC		
	39. CSOs' contributions: % Districts' budgets that reflect CSOs' contributions		GGWG	-
	40. Adequacy of Sector Funding: % of sector funding needs (SIP) covered by actual budget releases	By sub-sector	GGWG (modified)	
	41. External Funding: % of sector expenditure covered by GoU budget	By sub-sector	Related to SDG-6.a.1 (International cooperation and capacity development)	
Reporting	42. Reporting: % of districts and piped water schemes complying with reporting obligations	Rural Small Towns	Monitoring Governance Report (2016)	

1.5 Pilot Testing of Monitoring Methodologies of SDG6 Indicator Monitoring

The 2030 Agenda for Sustainable Development includes a dedicated Goal on Water and Sanitation (SDG 6) that sets out to “ensure availability and sustainable management of water and sanitation for all.” SDG 6 expands the Millennium Development Goal’s focus on drinking water and sanitation to cover the entire water cycle, including the management of water, wastewater and ecosystem resources. With water at the very core of sustainable development, SDG 6 does not only have strong linkages to all of the other SDGs, it also underpins them; therefore meeting SDG 6 would go a long way towards achieving much of the 2030 Agenda.

Box 1.1 Targets for Sustainable Development Goal 6, by 2030

- 6.1 Achieve universal and equitable **access to** safe and affordable **drinking water** for all
- 6.2 Achieve **access to** adequate and equitable **sanitation and hygiene** for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 Improve **water quality** by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4 Substantially increase **water-use efficiency** across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.5 Implement **integrated water resources management** at all levels, including through transboundary cooperation as appropriate
- 6.6 Protect and restore water-related **ecosystems**, including mountains, forests, wetlands, rivers, aquifers and lakes

At the time of development of 2030 agenda, it was noted that a coherent framework for monitoring different aspects of the water sector was missing. To respond to the monitoring needs of SDG 6, an Inter-Agency Initiative called “Integrated Monitoring of Water and Sanitation Related SDG Targets” (GEMI) was established in 2014 under the UN-Water “umbrella”. A GEMI Steering Committee was also established, consisting of seven United Nations Agencies working under the coordination of UN-Water. GEMI aims to integrate and expand existing efforts to ensure harmonized monitoring of the entire water cycle.

The objective of the GEMI initiative is to develop coherent methodologies for monitoring water and sanitation related SDG targets in an integrated manner. The first phase of this Initiative has focused on the development of a Monitoring Guide for use by countries, and for the establishment of a global baseline. However, before the methodologies can be rolled-out globally, they need to be pilot-tested in a small number of countries and be revised as necessary based on lessons learned.

In 2016, GEMI went into its Proof of Concept³ phase. As a first step within this phase, draft monitoring methodologies were prepared for the indicators relating to SDG targets 6.3-6.6. The next step was to present and test these methodologies in six countries in order to collect, collate and integrate feedback with a view to refining and improving them. The six countries selected to pilot-test the monitoring methodologies for SDG 6 include Uganda and Senegal in Africa, Peru in Latin America, the Netherlands in Europe, Jordan in the Middle East and Bangladesh in Asia.

The 4-months’ pilot testing process (June to October 2016) was led by the Ministry of Water and Environment and UN-Water with support from GEMI partners. The process was facilitated by Global Water Partnership (GWP) Eastern Africa. The key processes during the pilot testing included the following:

³ MWE/UN Water, November 2016. Testing methodologies for Global Monitoring Indicators (GEMI) for SDG 6 on Water and Sanitation, Uganda Report.

- The kick off national stakeholders' workshop (15 and 16 June 2016).
- Task teams were constituted for each of the SDG targets and indicators, team leaders were identified and formally appointed by the Permanent Secretary of the Ministry of Water and Environment (PS, MWE). The task teams held a workshop on 5 July 2016 to kick start the work of the task teams.
- The Permanent Secretary, Ministry of Water & Environment formally requested all the identified Ministries, Departments and Agencies, CSOs, NGOs, research institutions, religious and cultural institutions, to nominate representatives to the task teams.
- The nominated members were co-opted to the task teams, and requested to provide the necessary information relevant to the pilot exercise. The teams thereafter undertook intensive data collection including holding individual meetings/workshops.
- Various workshops were held during the piloting process.
- The various task teams prepared reports for the different indicators, and these were used to prepare the Uganda Proof of Concept Final Report

Based on the results of the piloting exercise some **reflections** on the monitoring indicators as well as the methodologies themselves were made:

- The pilot testing exercise for SDG 6.3-6.6 targets in Uganda was successful and all the methodologies for the various indicators were pilot tested and found appropriate and useful. Some suggestions for improving the methodologies were however made per indicator for consideration during the improvement of the monitoring methodologies.
- The success of the exercise was largely due to the strong leadership by the Ministry of Water and Environment and highly committed multi-disciplinary task teams drawn from various organisations including government, civil society, academic institutions, religions and cultural institutions, development partners etc.
- Pilot testing of the various indicators such as on ambient water quality was made possible due to an already established monitoring network with advanced analytical capability and applied ISO/IEC 17025 in the laboratory. Countries without an established ambient WQ monitoring program will struggle to achieve the same level of achievement in a short period of time.
- Regular indicator monitoring requires a lot of financial resources that will be difficult to come by. One way of sustaining this process is to mainstream the activities in existing processes and institutions.
- Indicator monitoring requires a lot of data that needs to be gathered from various sources.
- Some indicators and their methodologies are relatively new and quite difficult to comprehend. Continuous capacity building is therefore necessary for effective data collection and analysis

A number of **lessons** have been **learnt** from the piloting process in Uganda:

- (i) SDG 6 monitoring is a process, not an event and requires input of various agencies and stakeholders. This input improved gradually as the piloting proceeded.
- (ii) Indicator monitoring requires resources in terms of staff time, technical support and financial resources. Costs are however expected to decrease over time with institutionalization of the process.
- (iii) Indicator monitoring improves collaboration and coordination among various water related agencies and stakeholders. This will enhance collaboration beyond the SDG6 piloting.
- (iv) Some data collected during the piloting is already being used to assess progress in areas previously not monitored due to lack of indicators, including Integrated Water Resources Management, wastewater, water use efficiency and water scarcity.
- (v) SDG 6 indicators were already considered in the review of the Sector Performance Monitoring framework in Uganda. This sets the stage for monitoring of these indicators from FY2017/18.
- (vi) Success in monitoring needs high level support and recognition by key decision makers in various agencies and at various levels. The piloting process in Uganda was handled at the highest level of

government, which made it possible for the various task teams to do their work successfully within a very short time.

- (vii) It is important to have a clear institutional set-up with defined roles and responsibilities of the involved institutions and stakeholders, and the monitoring process needs to be fully institutionalised within respective sector institutions including national statistics office; this was achieved during the pilot in Uganda.
- (viii) A lot of data on various indicators is available but scattered in various organisations and documents. Future monitoring of SDG6 indicators will therefore require progressive improvement in data collection, storage and analysis.
- (ix) There is need for champions of the monitoring process within the relevant agencies. The piloting process in Uganda was successful due to the deliberate selection of self-driven and committed officials from within the Ministry of Water and Environment and many other institutions and agencies to coordinate and lead the piloting process.
- (x) The monitoring process needs to be fully integrated into the national monitoring and reporting process in order to ensure ownership and sustainability.
- (xi) Some indicator methodologies were difficult to comprehend and hence support was requested, and provided from UN Water. In future, technical support should be available and provided in monitoring of some indicators that are new and rather complicated to comprehend.

2 SECTOR PLANNING, FINANCE AND CAPACITY DEVELOPMENT

2.1 Sector Planning and Budgeting

2.1.1 Introduction

This section gives an insight into the sector budget allocations and resource utilisation for FY2016/17. Planning and budgeting is generally guided by the government planning and budgeting framework as provided for in the Public Finance Management Act 2015 .

2.1.2 Sector Planning Framework

To achieve the sector goals, the water and environment Sector is implementing its Sector Development Plan (SDP) that is aligned to the second National Development Plan (NDP2) covering the period 2015/16 – 2019/20. The SDP outlines key strategies, interventions and targets to be achieved in the five years' period in support of the NDP2.

The Policy and Planning Department of MWE coordinates sector planning and budgeting and, upon completion of the annual budget and plans, submits them to the Water and Environment Sector Working Group (WESWG) for approval before onward submission to Parliament through the Ministry of Finance. The WESWG is supported by two sub-sector working groups – Water and Sanitation (WSS) sub-sector and Environment and Natural Resources (ENR) sub-sector for coordination, implementation and monitoring of activities at sub-sector level for efficient and effective service delivery. In addition, there are seven (7) functional sub-groups (FSGs) to support the management of cross-cutting issues. These are: Finance, Good Governance, Sector Capacity Development, De-concentrated Structures, Sanitation, Catchment Management, and Climate Change Sub-Groups. It is a requirement that involvement and participation by Development Partners, Civil Society Organisations, other line Ministries, Departments and Agencies, private sector and Local Governments is ensured in these FSGs.

2.1.3 Planning and Budgeting Process for FY2017/18

The Budget for FY 2017/18 was based for the first time on a Program-Based Budgeting system which is focused on expected outcomes, following the budget cycle as prescribed in the Public Finance and Management Act (PMA 2015) and including parastatals and agencies. Program-Based Budgeting seeks to address the pertinent question of whether the available funds allocated are spent efficiently and effectively. This ensures that all the sector programs are aligned to its strategic objectives to facilitate achievement of budget outcomes, and strengthen resource prioritization. This budget reform also requires that the WESWG approves the budgets of all parastatals and agencies in the sector before submission to MoFPED and subsequently to Parliament for final approval.

The budget process began with annual negotiations and agreement with local governments, under the coordination of the Local Government Finance Commission (LGFC), on key sector concerns to be addressed during the year as provided under Article 193(3) of the Constitution of the Republic of Uganda. Thereafter, regional consultations with stakeholders, providing sector guidelines for budgeting and receiving feedback, were held in all the clustered centres as coordinated by MFPED.

Upon receipt of the first Budget Call Circular (BCCI), a Top Policy Meeting of the Ministry and its affiliated institutions/agencies was held to guide and kick-start the budget process at the centre. This was followed by two WESWG meetings to discuss and approve the draft Budget Framework Paper (BFP) for FY 2017/18. The priorities and allocations in the BFP were further presented and discussed with the Sessional Committee of Parliament on Natural Resources, leading to the preparation of detailed budget estimates and the Ministerial Policy Statement (MPS), which were submitted to Parliament for approval and adoption into the national budget for the fiscal year 2017/18.

2.1.4 Sector monitoring and reporting

The Ministry of Water & Environment produced quarterly performance reports as well as the annual performance report which were used by the Office of the Prime Minister as an input to the Government Annual Performance Report (GAPR, 2016/17) and by MFPED as an input into the Government Annual Performance Report (GAPR).

The Policy & Planning Department of MWE also conducted monitoring and inspection focusing on utilization of local government conditional grants, project and programs implemented by the Sector's deconcentrated structures, to provide feedback to stakeholders and generate information necessary to guide management for informed decision-making. The field monitoring exercise was conducted in a number of districts⁴.

Box 2.1 Main findings of monitoring visits in FY2016/17

- Despite the achievements made in wetland restoration and protection in Lira district, there were still glaring challenges including lack of staff, low funding for environment and natural resources and lack of facilitation to the Environment Protection Police Force. The picture in Barlobo wetland in Lira District shows the impact of wetland degradation on a point water source.



The borehole dried up as a result of a complete conversion of wetland into farm land. The office of the Resident District Commissioner Lira, effectively mobilized the community and 10 degraded wetlands were restored.



- High iron contents were encountered in some boreholes in Amuru district leading to abandoning of those facilities, mainly attributed to poor quality of hand pump pipes.
- At Andibo Dam in Nebbi, deep galleys were evident on the banks of the dam, which could lead to accelerated silting of the dam. The Ministry needs to prioritize and emphasize Environment and Social Impact Assessment during design and implementation of large scale projects such as dams, irrigation schemes as well as piped water projects.



- In the Acholi sub region, the political and technical leadership have a dedicated weekly program on the radio talk shows where they receive and respond to questions from the local community regarding government plans and programs in the district, which enhances good governance and accountability
- Adequate project preparation involving all stakeholders needs to be embraced, so that design specifications are discussed and understood. An example is Andibo Dam, where communities as well as local government did not understand the need to wait with actual use of the dam for a period of four years after project completion.
- As part of the efforts to curb charcoal burning in Amuru district, a Natural Resource Ordinance to was adopted to stop gross reduction in forest cover in the district.

⁴ Lira, Oyam, Amuru, Kitgum, Lamwo, Nebbi, Mbarara, Lyantonde, Isingiro, Ibanda, Wakiso, Butambala and Kayunga

2.1.5 Consolidating the gains under the current JWESSP (2013-2018) and future plans

At the start of the current Financial Year (2017/18), the Ministry of Water and Environment carried out a study to develop a strategy and plan to consolidate and sustain the results achieved under the ongoing Joint Water and Environment Sector Support Programme (JWESSP 2013-2018). This was in light of the likely decreasing of Development Partner (DP) support to the sector through the Joint Partnership Fund (JPF), earmarked as well as un-earmarked, and through Sector Budget Support (SBS).

The Government of Uganda (GoU) through its Ministry of Water and Environment (MWE) and its Development Partners (DPs) has been implementing the 5-year JWESSP since July 2013. However, during the currently running 5-year period (2013-2018), Uganda's funding architecture has changed from a move to align and harmonise with respect to the Paris Agenda to project implementation modalities supported by Donors, UN agencies and NGOs.

The sector has gained a lot during the development and implementation of Joint Programmes as more and more reforms were implemented especially the establishment of various MWE structures at the de-concentrated or regional levels. Decentralisation led to new roles and responsibilities at both central and district levels. The Ministry built capacity in the districts to manage this substantial increase in funding and the response was the creation of de-concentrated Technical Support Units (TSUs). They were set up as temporary structures but have now been made permanent and function as intermediaries between the centre and districts. The need for capacity building at decentralized levels also led to the creation of other de-concentrated entities, the Water and Sanitation Development Facilities (WSDFs), the Umbrella Organizations (UOS), the Water Management Zones, (WMZs), the Water for Production Units (WFP) and the Regional Support Units (RSUs) to carry out activities not originally found in the Ministry but rather developed as a response to an emerging need and to effectively support of the Government's and DPs ambitions to provide the best possible support to the sustainability of capital investments and protection of water resources.

The less positive side of this development was that the MWE, with funding from the JWESSP established large staff structures in the de-concentrated entities, which may not be sustained by the government in terms of operational costs and staff remuneration (as most contract staff in the de-concentrated structures have higher salary scale(s) except for the WMZs, which are paid by government in line with the public service salary scales; the rest may be demotivated to accept a lower government salary scale). Secondly, the government has put a cap on recruitment of substantial staff and consequently less than 50% of the MWE staff structure is permanently filled.

Also notable is the meagre funding and development of the Environment and Natural Resources (ENR) subsector. It was a clear goal that having a joint water and environment programme would benefit the ENR sub-sector in building capacity and especially in attracting more funding. Unfortunately, this has not happened despite all key partners acknowledging how vital it is to protect Uganda's water and environment resources.

The following is an outline of the main findings from the JWESSP consolidation study:

- There is a need for a no-cost extension of the JWESSP by 12 months to complete outstanding activities which cannot be concluded by June 2018 (end of the JWESSP).
- Un-allocated DANIDA funds should be used to finance activities within the JWESSP
- GoU has a strong interest in continuing with a Joint Programme after June 2018. Some DPs have expressed interest in joint programming even though it is generally agreed that the scope will reduce.
- In order to consolidate the gains from the previous Joint Programmes (2003 -2008, 2008 -2013) and the current JWESSP, it is crucial to identify aspects/activities that are critical and develop possible mechanisms for their support as either un-earmarked, earmarked and/or in-kind, which will facilitate effective and efficient coordination, monitoring and reporting mechanisms within the sector.

- There is recognition of the change in the financing landscape with a reduction in grants and increase in loan financing through multilateral DPs and Development Banks that are not able to provide un-earmarked funding directly to Government. However, it is also recognised that various untapped sources of climate change funding are available and provide opportunities. This calls for a proactive approach to soliciting for funds by improving the capacity of MWE to prepare viable proposals from external funding.
- Despite the halt towards creating an independent regulator, it is important that regulation activities start actively in the field with available resources, both to gain experiences and training of the new staff. The urgent need for regulation of the private operators should be an incentive enough to get started, even though at a small scale.
- Schemes in the urban and rural subsectors, are taken over by NWSC at a large scale, providing a threat to sustainability of some of the deconcentrated structures, and specifically viable schemes, which could contribute to make Small Towns' water supply self-financing. It could also cause problems which are already seen where big GFS are taken over and the water tariff is increased astronomically for the rural population.

In response to the above findings, the study recommended the following amongst others:

- Sign a one year no cost extension of the JFA for the JWESSP for the period July 2018–June 2019 to finalise/carry forward activities not completed by June 2018.
- Commence implementation of the identified activities for use of the Danida unallocated funds during the remaining period of JWESSP and continue into the one-year extension period July 2018 –June 2019.
- Prepare a successor joint programme for the period (2018-2023). This programme should include all projects and programmes to ensure all activities are coordinated within the SWAp framework and reporting progress to the Joint Water and Environment Sector Working Group

2.2 Sector Capacity Development

Sector Capacity Development (CD) is planned and coordinated under the Policy and Planning Department of MWE. During the FY2016/17, CD interventions focused on the implementation of Undertaking 11: *Finalise the development of costed CD plans for the departments of the MWE and its agencies and embark on implementation by end of FY 2016/17*, and Undertaking 12: *Develop a strategy to systematically build the capacity of middle and lower level sector personnel in leadership and managerial skills to address emerging sector demands by the end of FY 2016/17*.

Key achievements during the FY 2016/17 are highlighted in the following sections.

2.2.1 Development of the CD plans

The Capacity Development Strategy (CDS) and the Capacity Development Plan (CDP) for the Directorate of Water Resource Management (DWRM) were finalised. In line with the overall SCD Strategy for the MWE, this Strategy takes into account the capacities of the individual in terms of skills, knowledge and attitude, the organization (DWRM's processes, structures and communication lines) and enabling environment (policies, relationships at sector level and other aspects). The exercise involved carrying out a comprehensive capacity needs assessment for the DWRM and its de-concentrated structures (Water Management Zones). Key capacity gaps were found in the areas of technical skills, leadership and management, performance management, information and knowledge management, catchment management, communication and stakeholder coordination. This exercise led to the development of a costed capacity development plan with strategies to close the capacity gaps, using the capacity development framework for the water and environment sector embedded in the Joint Water and Environment Sector Support Programme (JWESSP 2013 – 2018). Implementation of the strategy and plan has commenced with short term training interventions for the top management, technical and support staff of the DWRM. A total of 148 staff of DWRM have benefited

from various training courses in topics such as performance management, international negotiations, team building, performance appraisal, report writing, first aid at workplace, and defensive driving this year.

Development of the costed CD plan for the Urban Water Supply and Sanitation Services sub sector was also finalized, focusing on the two departments of Urban Water and Sanitation Services Department (UWSSD) and Water Utility Regulation Department (WURD), including its deconcentrated structures (WSDFs and the Umbrella Organizations). The exercise revealed that priority CD interventions for the sub-sector include general leadership development, strategic planning and management, general water utility management, water quality management, Operation and Maintenance of water utilities, as well as Human Resources Management (HRM). In addition, there is an urgent need to clarify the specific purpose, function and role of the WURD.

2.2.2 Development of learning materials

During FY2016/17, learning materials were developed for specific training courses for the Urban Water Supply and Services sub-sector, and training courses conducted. These learning materials include those for Training of Trainers for the future leaders to be able to carry out training needs analysis and capacity development analysis, for the Workers Practically Acquired Skills (PAS) assessments⁵, and the Small Town Scheme Operators (STSO) course. The STSO course was piloted in Lira Town, and awareness programmes were conducted on infrastructure asset management, which is a baseline for future evolution of the water utility management approach. The UPMIS programme was rolled out widely to all future users in all the affected organisations countrywide, and training courses conducted in the subjected area. A wider view of the CD needs of the urban water sector under MWE responsibility points to the need for basic operational level training for up to 800 towns with piped water schemes. Training workbook for Small Town Scheme Operators was developed, but commercial, plumbing, electrical and mechanical maintenance skills will also be needed.

Other training materials developed include for vocational skills such as industrial plumbing, mechanical and electrical maintenance, and customer services.

2.2.3 Strategy for succession planning

During the Joint Sector Review (JSR) of 2016, it was noted that effective succession planning is an organisation's insurance policy for sustainability, hence the need to develop a strategy to address succession planning in the sector was discussed, and a strategy to systematically build the capacity of middle and lower sector personnel in leadership and management skills Development of this strategy started in November 2016 and was finalised by the end of May 2017. The exercise involved analysis of the current position holders in the MWE structure and identification of senior managers (Directors, Commissioners and Assistant Commissioners) due for retirement in the next 5 years. In addition, senior and middle level managers with potential to fill the resultant vacant positions were also identified. (The assessment established a number of gaps in the 5 management function areas, namely planning, organizing, staffing, directing and controlling. During the assessment, it was noted that while the middle level managers assessed themselves highly on these functions, their supervisors pointed out a number of performance weaknesses and suggested related capacity development interventions to address them. The recommended interventions range from short term training courses for middle level managers to development of elaborate mentoring and coaching programme.

2.2.4 Strengthening the human resource capacities for sustainability of sector services

A training course in procurement, contract management and amendments to the PPDA Act 2003 was

⁵ Certification, approved by NWSC, of experienced technicians without formal qualification

conducted for 26 (23 males + 3- females) sector personnel drawn from the de-concentrated structures (WSDFs, TSUs, WMZs & UOs), the local governments and the private sector. In addition, routine quarterly support supervision and monitoring on the performance of de-concentrated structures was conducted for two WSDFs (East and North). The overall aim is to promote good governance and capacity building for better and improved service delivery.

Implementation of the standard capacity development programs aimed at equipping the fresh graduates and undergraduates with practical skills through attachment to on-going projects continued. A total of 50 fresh graduates (24 male and 26 female) of not more than two years of field experience were admitted to the program, and 152 undergraduate students (66 male and 86 female) from local training universities and tertiary institutions were recruited for a three-months industrial training from June to August 2017.

2.2.5 Challenges

The key challenges in the implementation of the sector capacity development include (i) limited ownership of CD as a key component that contributes to achievement of sector targets, (ii) no rational utilisation of CD funds to address identified sector performance gaps.

2.3 Financial Performance

2.3.1 Introduction

Sector funding is categorised as (i) *On budget Funding* consisting of government's revenue mainly from taxation, budget support funding from Development Partners and Appropriation In Aid (AIA), which are internally generated funds by parastatals and agencies like NWSC, NEMA, NFA and UNMA that are appropriated (approved) by Parliament to be included in the parastatal/agency's budget; the other category is that of (ii) *Off-budget funding* that includes funds to the sector that do not go through the government budget system, but instead are spent by the funding partner themselves and the CSOs.

This section highlights the resource allocation, release and expenditure for the FY2016/17 by government and development partners (through loans and grants) to the Ministry, parastatals, agencies and local governments, while Civil Society Organizations (CSOs) and the private sector operate through direct funding and direct implementation in the beneficiary communities. The sector also notes interventions by other Ministries, Departments and Agencies to develop and implement water and environment activities in the country, however with limited information of their funding allocations.

Table 2.1. Funding Sources for the Sector for FY2016/17⁶

Source	Budget [bn UGX]	Released	Spent	% Released	% release spent
GoU	331.552	299.873	289.894	90.4%	96.7%
Donor	357.129	142.375	111.490	39.9%	78.3%
AIA	355.050	360.710	355.390	101.6%	98.5%
Off Budget	54.930	54.930	54.930	100.0%	100.0%
Total	1,098.660	857.890	811.700	78.1%	94.6%

⁶ All foreign exchange rates are based on the Budget Call Circular assumptions

During the FY2016/17, budgeted funding to the sector totalled to 1,098.66 bn including Appropriation In Aid (AIA) from government parastatals/agencies and off-budget funding to water and environment activities by CSOs, under the umbrella of UWASNET (for water and sanitation CSOs) and Environmental Alert (for Environment CSOs). GoU funding (Funds realised from Treasury) availed during the financial year amounted to UGX 299.87 bn against UGX 331.55 bn budget.

According to the Public Financial Management Act 2015 (PFMA 2015), all government agencies/parastatals are now required to declare their annual internally generated funds for approval by parliament as appropriation in Aid. These internally generated funds were up to last financial year under the Off-budget category, and are now On-budget, hence the apparent increase in the (On-budget) sector budget compared to the previous financial years.

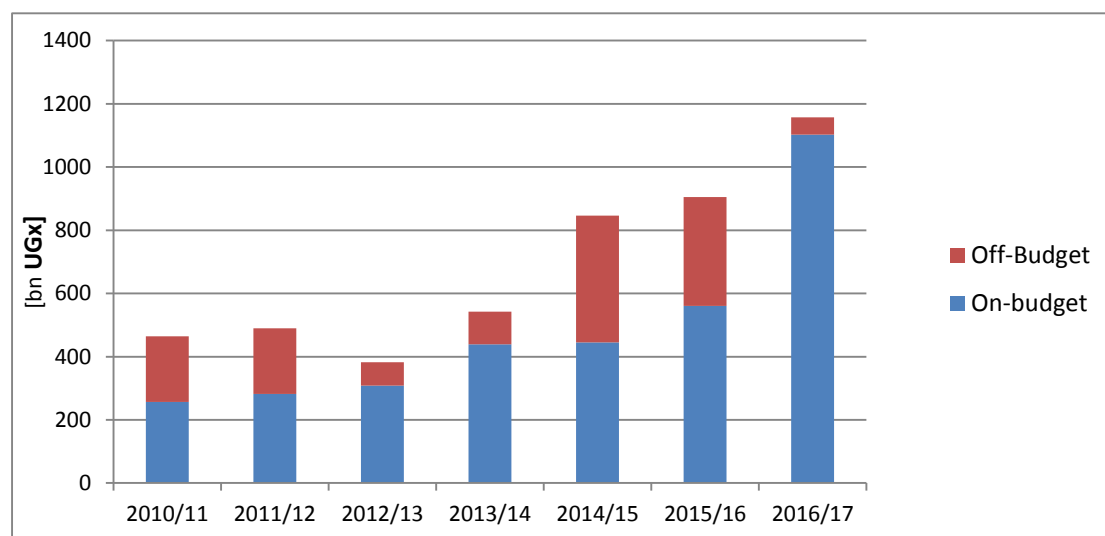


Figure 2.1 Trends in sector funding over the period FY2010/11 to 2016/17

Donor contribution to the sector budget took the biggest share of 33% at the budgeting stage followed by 32% from AIA and 30% by GoU. However, due to comparatively low releases by donors, in terms of outturn, Appropriation in Aid had the biggest share of 41% of the released funds, followed by 35% by GoU funding and 17% by donor funding.

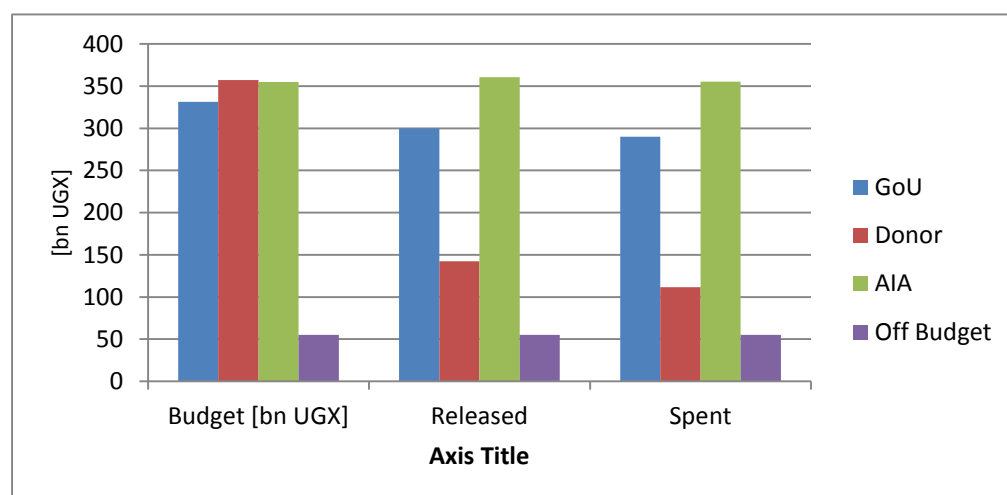


Figure 2.2 Budget performance from the different sources of funding, FY2016/17

2.3.2 Overall budget performance

A summary of overall budget performance is given in Table 2.2.

Table 2.2. Total FY 2016/17 Sector Budget Performance by Vote function incl. off budget figures [UGX bn]

Vote Function/Centre	Budget Category	Category	Approved budget [bn UGX]	Released	Spent	% of Budget Released	% release spent	
VOTE 019 (MWE)	Recurrent Component	Wage	4.366	4.366	4.457	100.0%	102.1%	
		Non-wage	12.494	10.549	10.549	84.4%	100.0%	
	Development Budget	GoU	216.751	192.668	191.932	88.9%	99.6%	
		Donor	357.129	142.375	111.49	39.9%	78.3%	
		Arrears	0.085	0.085	0.085	100.0%	100.0%	
	Vote 019 Total			590.83	350.04	318.51	59.2%	91.0%
Vote 0150 (NEMA)	Recurrent Component	Wage	3.775	3.7	3.691	98.0%	99.8%	
		Non-wage	4.221	2.766	2.714	65.5%	98.1%	
	Development Budget	GoU	1.05	0.435	0.433	41.4%	99.5%	
		AIA	11.082	11.082	11.082	100.0%	100.0%	
	Vote 0150 Total			20.13	17.98	17.92	89.3%	99.6%
Vote 157 (NFA)	Recurrent Component	Wage	5.40	5.40	5.40	100.0%	100.0%	
		Non-wage	0.13	0.09	0.09	63.9%	100.0%	
	Development Budget	GoU	1.93	0.69	0.69	36.0%	100.0%	
		AIA	21.05	15.00	9.68	71.3%	64.5%	
	Vote 157 (NFA) Total			28.51	21.18	15.86	74.3%	74.9%
Vote 302 (UNMA)	Recurrent Component	Wage	1.22	3.74	3.73	307.9%	99.8%	
		Non-wage	5.12	4.72	5.56	92.1%	117.8%	
	Development Budget	GoU	16.28	12.02	9.19	73.8%	76.5%	
		AIA	0.00	0.00	0.00	0.0%	0.0%	
	Vote 157 (NFA) Total			22.61	20.48	18.48	90.6%	90.3%
NWSC	Development Budget	AIA	322.91	319.99	319.99	99.1%	100.0%	
Conditional Grants to LG	Rural Water Development	Development	48.44	48.44	41.17	100.0%	85.0%	
		Recurrent	4.50	4.50	4.50	100.0%	100.0%	
	Urban Water O&M	Recurrent	2.50	2.50	2.50	100.0%	100.0%	
	Sanitation Development	Recurrent	2.00	2.00	2.00	100.0%	100.0%	
	Wetlands	Recurrent	1.29	1.20	1.20	93.0%	100.0%	
	Vote 0580 LGs			58.73	58.64	51.37	99.8%	87.6%
KCCA	Development Budget	GoU	0.01	0.01	0.01	100.0%	100.0%	
		AIA	0	14.634	14.634	0.0%	100.0%	
	Total KCCA			0.01	14.64	14.64	146440.0%	100.0%
OFF BUDGET	WSS		38.39	38.39	38.39	100.0%	100.0%	
	ENR		16.54	16.54	16.54	100.0%	100.0%	
	Off-Budget Total			54.93	54.93	54.93	100.0%	100.0%
GRAND TOTAL			1098.66	857.89	811.70	78.1%	94.6%	

In FY2016/17, the total funds allocation to the Sector, both off budget and on budget⁷, totalled to UGX bn 1,098.66, of which UGX bn 1,043.73 was on budget (appropriated by Parliament for MWE and all the agencies NEMA, NFA, UNMA and NWSC), while UGX bn 54.93 was off budget. The donor On-budget allocation within this total allocation amounted to UGX bn 331.552⁸, one-third of the total funding envelope.

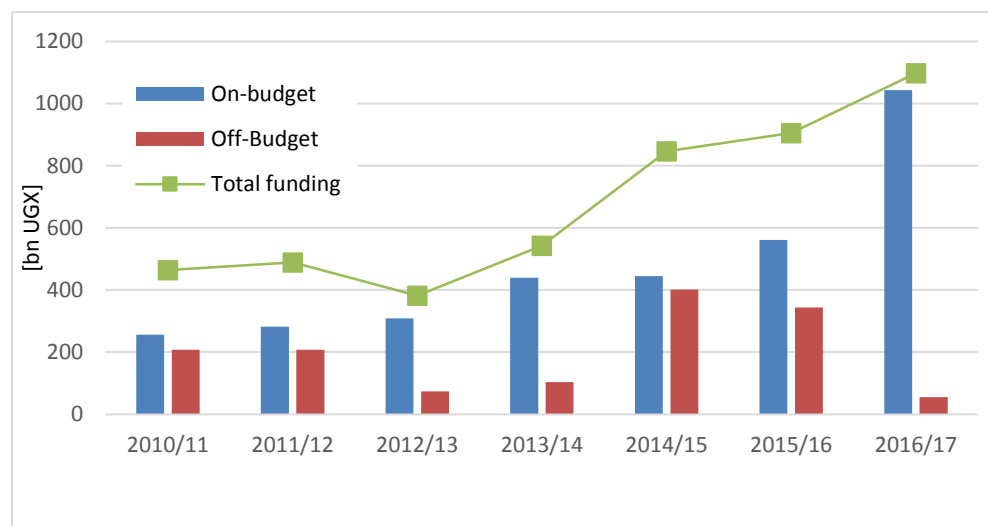


Figure 2.3 Trends in overall sector funding amounts [UGX bn]

The off-budget figures for the FY 2016/17 have reduced mainly due to the removal of agencies' internally generated revenues under this category.

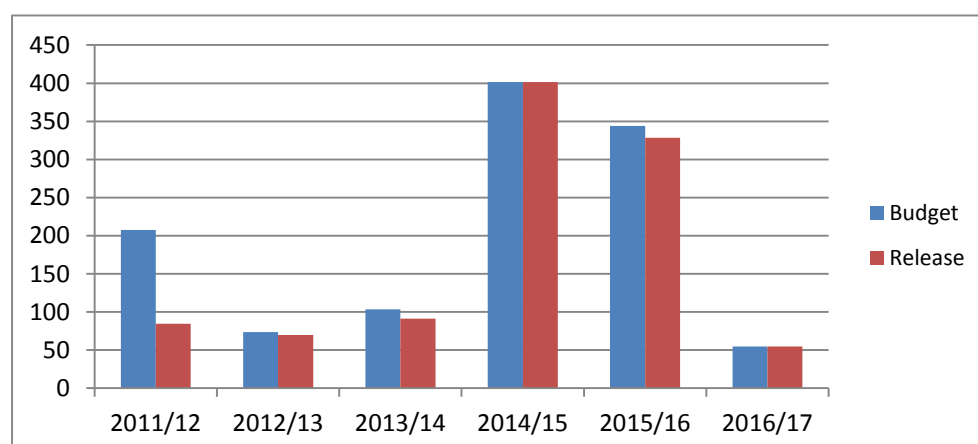


Figure 2.4 Trends in Off-Budget funding to the Water and Environment Sector from FY2011/12 to 2016/17

The total sector budget was UGX bn 1,098.66 and this was distributed as follows: Vote 019 (MWE) was budgeted for UGX bn 590.83 (53.8%), Vote 0150 (NEMA) was allocated UGX bn 20.13 (1.8%), Vote 0157 (NFA) was allocated UGX bn 28.51 (2.6%), the Conditional Grants totalled up to UGX bn 58.73 (5.3%), NWSC budgeted for UGX 322.91 (29.4%) UNMA was allocated UGX 22.61 (2.1%) and the Off-

⁷ the sector receives funds from the Government of Uganda (GoU) composed of Treasury releases known as 'on budget support' including both government's own resources and development partners' contributions, whereas 'off budget support' is composed of mainly donor funds independently accessed by Organisations.

⁸ Equivalent to USD 93.98 million.

budget figures totalled to UGX 54.93 (5.0%). The Conditional Grants to Local Governments comprised of:

- District Water and Sanitation Development Conditional Grant for Rural Water: UGX bn 52.94
- Urban Water Operation and Maintenance Grant: UGX bn 2.50
- District Health and Sanitation Conditional Grant to selected districts: UGX bn 2.00 and
- Natural Resources Grant, more specifically Wetlands Conditional Grant: UGX bn 1.29.

The decrease in the Conditional Grants from UGX 66.07 bn in FY 2015/16 to UGX 58.73 in FY 2016/17 results from the ending of Plan for Reconstruction and Development for Northern Uganda Project (PRDP) funding at the end of FY2015/16, which funding amount was combined with the funding amount of the DWSDCG.

2.3.3 Distribution of On-budget funding

The approved (On-budget) sector budget of FY2016/17 was UGX bn 1,043.73. Excluding the AIA, which is only since this financial year On-budget, it amounts to UGX bn 688.68, an increment compared to the UGX bn 560.98 of the FY2015/16. The increment is mostly as a result of new loans signed and released during the year.

Over the medium term, funding allocation to the Sector has been increasing both from Government and the Development partners through loans and grants. During the period under review, government signed three new loans that led to the increase on the development partner funding side. These included (i) African Development Bank Loan to FIEFOC II, (ii) WSP II for both Rural and Urban Water components and the (iii) AfDB loan to Multi Lakes Edward and ALBERT Fisheries and water resources management project (LEAF II). Jointly, these loans are to the tune of US\$ 176.1 m for a 5-year period. The sector also signed an agreement for funding from Adaptation Fund by the World Bank to support “Enhancing Resilience of Communities to Climate Change project” under the Directorate of Water Resources Management (see also Section 2.3.2).

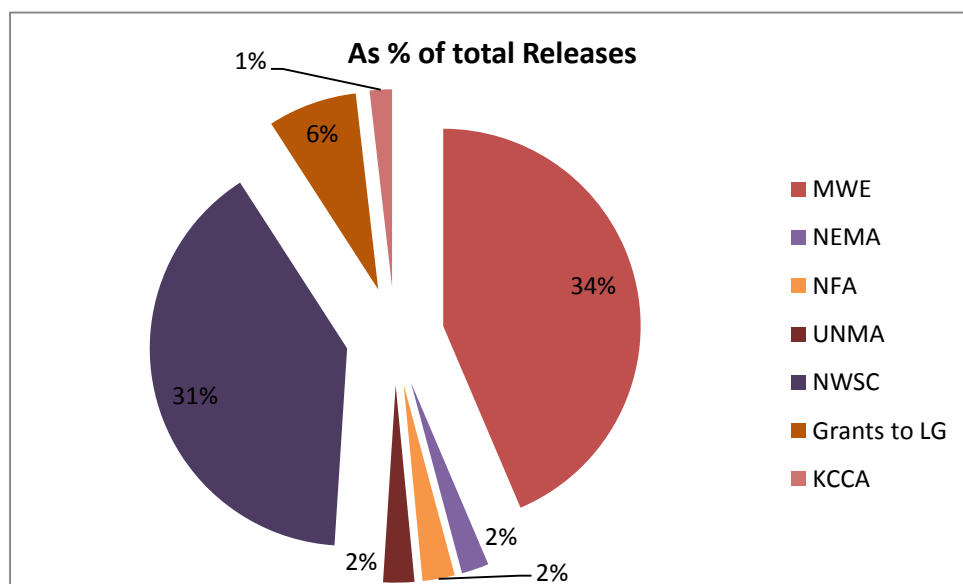


Figure 2.5 On-budget share by the different votes in the sector FY 2016/17

Figure 2.6 shows the difference between approved budgets and actually released funding amounts for the various sector budget categories. Unreleased funding remains a big challenge for the sector, specifically the Ministry of Water and Environment. The effect of unreleased funds adversely affects the performance of On-budget components, which funds are released from Treasury. On the overall sector budget, a total of UGX bn 240.77 (22% of the total budget) was not released despite having budgeted and procured most of the service providers. It should be noted that over 90% of works and

services procured are implemented over a multi-year period, hence un-released funds in one financial year result in debts to contractors and consultants carried forward into the following year, hence affecting subsequent year's output performance.

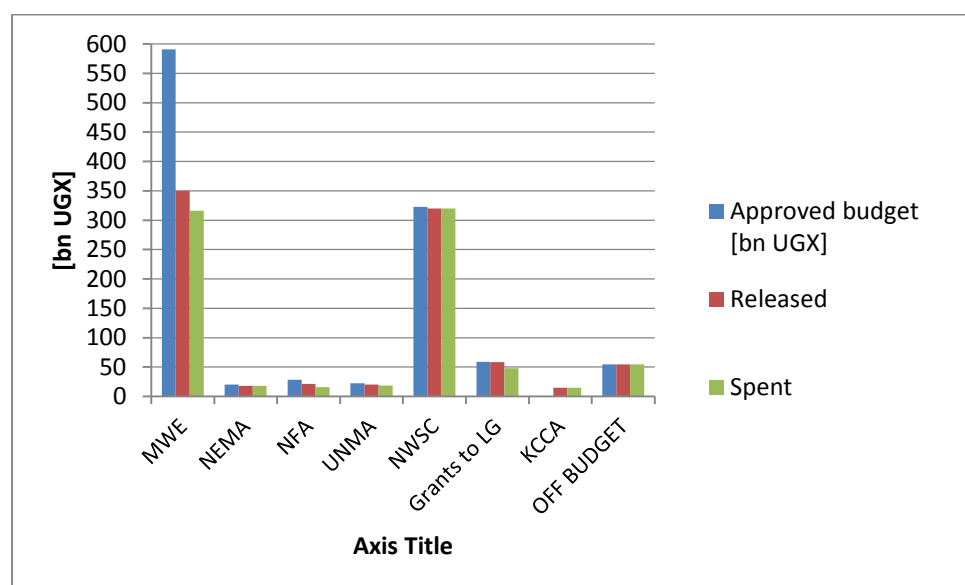


Figure 2.6. Budget performance per Vote, FY 2016/17

Table 2.3. On-budget performance per category including AIA collected and spent at source, FY2106/17

Vote Function/Centre	Approved budget [bn UGX]	Released	Spent	% of Budget Released	% release spent
MWE	590.83	350.04	318.51	59.2%	90.4%
NEMA	20.13	17.98	17.92	89.3%	99.6%
NFA	28.51	21.18	15.86	74.3%	74.9%
UNMA	22.61	20.48	18.48	90.6%	90.3%
NWSC	322.91	319.99	319.99	99.1%	100.0%
Grants to LG	58.73	58.64	51.37	99.8%	82.4%
KCCA	0.01	14.64	14.64	n/a	100.0%
Total	1,043.73	802.96	756.77	76.9%	94.2%

N.B. It should be noted that at budgeting time the AIA from KCCA (sanitation) was not reflected as it was not projected at the time.

As can be seen in Table 2.4, during the FY 2016/17, only 66% of funds from Treasury to the sector's budget was released; these funds include GoU funds from Treasury and funds that are contributed by both the Development Partners supporting the Joint Water and Environment Sector Support Program and the direct loans to the individual projects like the World Bank funded Water Management Development Project, and loans to NWSC, but excluding AIA). In absolute figures, UGX 252.48 bn of funds appropriated by Parliament of Uganda were not released to the Sector by Treasury during the year.

It should be noted that some funds like AIA from NWSC and NEMA are approved but are spent at source without first depositing them into the national Treasury, whereas other funds to the Sector including Development Partner's grants and loans, and AIA to NFA are deposited into Treasury first and later on released to the Sector as appropriated.

Table 2.4. On-Budget Performance 2016/2017 from Treasury only

Vote Function/Centre	Approved budget [bn UGX]	Released	Spent	% of Budget Released	% release spent
MWE	590.825	350.043	318.513	59.25%	90.39%
NEMA	9.046	6.901	6.838	89.34%	99.65%
NFA	7.462	21.181	15.857	74.29%	74.86%
UNMA	22.612	20.476	18.480	90.55%	90.25%
Grants to LG	58.730	58.640	51.366	99.85%	82.37%
GRAND TOTAL	688.675	457.241	411.054	66.39%	89.90%

Donor budget performance was low during the year. The low combined release of donor funding as compared to the donor budget is partly due to with-holding of funds by some donors due to some financial irregularities. Other aspects include low absorption of released funds by some projects thus affecting subsequent disbursements by some of the development partners. In terms of AIA, there was good performance by the sector realizing more funds than initially budgeted

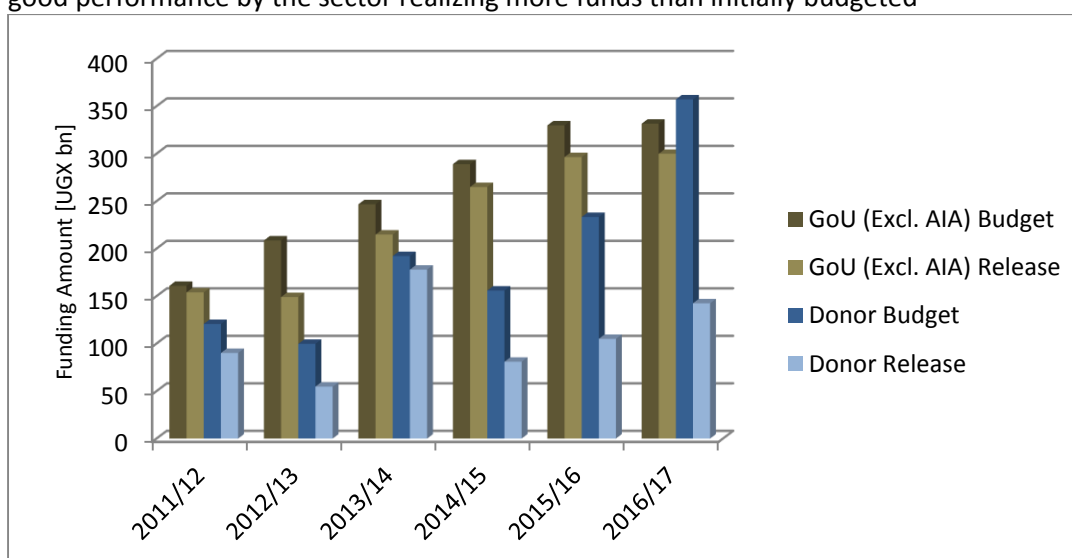


Figure 2.7. Government of Uganda and Development Partners' budget performance, FY2016/17

The reduced funds release mostly affected Water Resources and the Natural Resources Vote functions, which performed below 50% release levels.

Table 2.5. Performance by Vote function, FY2016/17; Vote 019 MWE

Sub Sector	Vote Function Billion Uganda Shillings	Funders	Approved budget	Released	Spent	% Budget released	% Release spent
WSS	VF:0901 Rural Water Supply	Total GoU + Ext Funding	92.95	83.14	56	89.4%	67.4%
	VF:0902 Urban Water Supply and Sanitation (Small Towns/RGCs)	Total GoU + Ext Funding	289.1	148.3	146.69	51.3%	98.9%
	VF:0903 Water for Production	Total GoU + Ext Funding	47.5	43.26	41.32	71.4%	99.7%
	VF:0904 Water Resource Management	Total GoU + Ext Funding	44.54	18.91	19.051	42.5%	100.7%
	NWSC	AIA	322.91	319.99	319.99	99.1%	100.0%

Sub Sector	Vote Function Billion Uganda Shillings	Funders	Approved budget	Released	Spent	% Budget released	% Release spent
	LG- Grants	Rural and Urban Water	57.44	57.44	50.17	100.0%	87.3%
	KCCA	Sanitation	0.01	14.64	14.64	100.0%	100.0%
	Total for WSS		854.45	685.68	647.86	80.2%	94.5%
ENR	VF:0905 Natural Resources Management	Total GoU + Ext Funding	83.17	27.53	25.56	33.1%	92.8%
	VF:0906 Weather, Climate and Climate change	Total GoU + Ext Funding	2.85	2.16	2.5	75.8%	115.7%
	VF 0150 NEMA	Total GoU + Ext Funding	20.13	17.98	17.92	89.3%	99.6%
	VF 0157 NFA	Total GoU + Ext Funding	28.51	21.18	15.86	74.3%	74.9%
	VF 302 UNMA	Total GoU + Ext Funding	22.61	20.48	18.48	90.6%	90.3%
	LG- Grants	Wetland Mgt Grant	1.29	1.20	1.20	93.0%	100.0%
	Total for ENR		158.56	90.53	81.51	57.1%	90.0%
Sector Support Services	VF:0949 Policy, Planning and Administration + Arrears	Total GoU + Ext Funding	30.63	26.66	27.32	87.0%	102.5%
	Arrears	Arrears	0.09	0.09	0.09	100.0%	100.0%
	Total for SPS		30.72	26.75	27.41	87.1%	102.5%
Total			1,043.73	802.96	756.78	76.9%	94.2%

2.3.4 Sector funding as a share of the national budget

Over the years, GoU's contribution to the Sector budget has been increasing, but compared to the overall budget, the Sector has maintained a stable share of approximately 3 % of the national budget, which has not enabled the Sector to achieve its targets over the years.

Table 2.6. Comparison between Water and Environment and key other sectors of the economy, in terms of the share to National Budget in the medium term

F/Y	Water ENR	Works & Transp.	Education & Sports	Health	Security
2011/12	3.1%	13.4%	14.7%	8.3%	10.1%
2012/13	2.8%	15.1%	14.6%	7.8%	8.7%
2013/14	3.2%	19.2%	13.5%	8.6%	8.0%
2014/15	3.0%	16.1%	13.1%	8.6%	7.8%
2015/16	3.0%	18.5%	11.6%	7.1%	8.8%
2016/17	2.9%	21.8%	10.5%	6.6%	7.3%

The Water and Environment sector still stagnated at 3% as share of the National Budget despite calls and arguments to substantially increase the share of the sector's budget. It should be noted that an Economic study, undertaken by the sector in 2016⁹, has established that the sector will contribute up

⁹ MWE, 2016. Contribution of Water Development and Environment Resources to Uganda's Economy.

to 9% of National GDP by 2040. Hence if the targets for Vision 2040 are to be realised, substantial amounts have to be invested in the Water and Environment sector.

2.3.5 Grants to Local Governments

The sector has four Conditional Grants of which two are development grants (Rural Water Development Conditional Grant and Sanitation Development Grant), while Urban O&M Grant and the Wetland Grant are recurrent grants. The Conditional Grants are transferred directly to the district local governments from Treasury. The annual budget for these grants was UGX bn 58.73 in the FY 2016/17 which was a reduction from 66.07 in FY2015/16, as PRDP funding, added to the Grant, has ended. The LG conditional grant budget was realised fully to the local governments by Treasury by the end of the 3rd quarter of the financial year. The absorption rate stood at 87.2% based on a total of 101 LG reports out of 115 local governments that had submitted by August 24th, 2017; it should be noted that for the 14 LGs that had not submitted their final accountability, the expenditure of up to end of quarter 3 is included in the analysis). The detailed performance by each local Government for the Rural Water Development Conditional Grant is attached in Annex 7.

Table 2.7. Conditional Grants to Local Governments, FY2016/17

Category	Sub-Sector	Released	Budget [bn UGX]	Released	Spent	% Released	% release spent
Conditional Grants to LG	Rural Water Development	Dev't	48.44	48.44	41.17	100.0%	85.0%
		Recurrent	4.50	4.50	4.50	100.0%	100.0%
	Urban Water O&M	Recurrent	2.50	2.50	2.50	100.0%	100.0%
	Sanitation Development	Recurrent	2.00	2.00	2.00	100.0%	100.0%
	Wetlands	Recurrent	1.29	1.20	1.20	93.0%	100.0%
	Vote 0580 LGs		58.73	58.64	51.37	99.8%	87.6%

2.3.6 Off-budget figures

The sector receives funds Off-budget as grants. Funding to the sector under this category is mainly through community-based organisations in both the water and sanitation sub-sector and the environment and natural resources subsector. These have contributed substantial investments in natural resources management, water supply, sanitation and hygiene promotion, activities related to community management, water for production and integrated water resources management, which supplements government's efforts highly. Figure 2.8 shows the trends in Off-budget funding to the sector in the last 6 years (see also Chapters 12 and 13 of this Report).

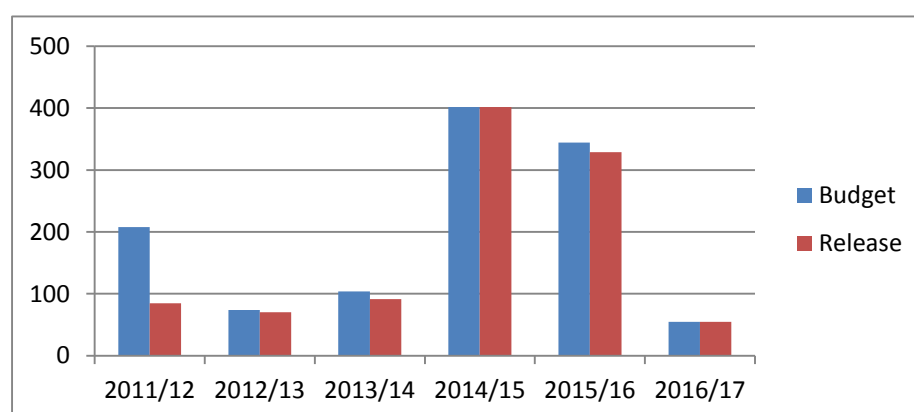


Figure 2.8. Off Budget funding Trends in Bn Ugshs 2011/12-2016-2017

The Non-Governmental Organisations (ENR and WSS) in the sector contributed UGX bn 54.87 to the sector; these funds were directly or indirectly used in the country in areas of water supply, sanitation and hygiene promotion, activities related to community management, water for production and integrated water resources management, wetland conservation, tree planting and promoting, climate change activities under the ENR subsector.

Table 2.8 Off-budget funding in the Water and Environment sector in the FY 2016/17

Subsector		Budget	Release	% Release
Water supply	CSOs	38.39	38.39	100%
Environment and natural resources	CSOs	16.54	16.54	100%
Total		54.93	54.93	100%

2.3.7 New Sector Performance Indicator (NSPI) 41 – External Funding

An increased mobilisation of domestic funds and a significant scaling up of external support is needed to ensure access to water and sanitation for all. The NSPI is defined as “the percentage of Official Development Assistance (ODA) that is included in a government coordinated spending plan” whether on treasury or on budget. For this year, instead of ‘percentage’, ‘amount’ is used, because this is what can be analysed this year due to the lack of data from the spending plan to calculate the percentage.

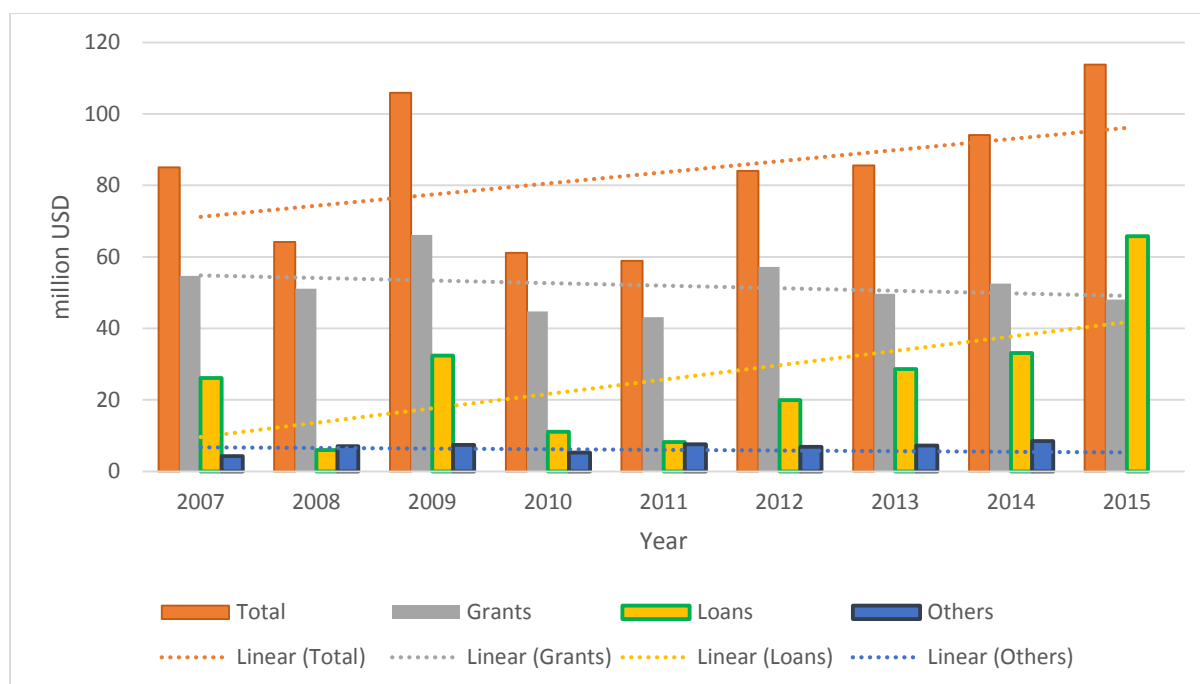
ODA is provided by official agencies with the aim to promote economic development and welfare of developing countries. It is concessional in character and conveys a grant element of at least 25%. By convention, ODA flows comprise contributions from donor government agencies, at all levels, to developing countries, either bilaterally or through multilateral institutions. A government-coordinated spending plan is defined as a financing plan/budget for water and sanitation projects, clearly assessing the available sources for strategies and future needs.

The total amount of all types of ODA disbursed in Uganda but including DP off budget support through all channels (public sector, NGOs and civil society, public private partnerships, multilateral organizations, etc.) has increased by 34 % from 2007 to 2015, but the amount has fluctuated significantly over the period. The grant and loan flows are the most important contributions. The amount of these have also changed significantly during the period. From 2015, the loans account for the largest part of the total ODA¹⁰.

Table 2.9 Amount of Official Development Assistance Water and Sanitation to Uganda

USD Millions	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	85.079	64.199	105.886	61.144	58.922	84.036	85.561	94.097	113.809
Grants	54.702	51.145	66.118	44.776	43.161	57.213	49.708	52.522	48.087
Loans	26.139	5.979	32.403	11.086	8.183	19.967	28.604	33.083	65.722
Others	4.238	7.075	7.365	5.282	7.578	6.856	7.249	8.492	0.000

¹⁰ The information for the SDG indicator is not yet available from the UN Water GLAAS Database. The applied information and amounts are extracted from OECD’s Creditor Reporting System. The system doesn’t provide information about the Water and Sanitation spending plan amounts.



2.3.8 Challenges

The key challenge faced by the sector is limited funding to finance the sector's plans as detailed in the NDPII and the presidential manifesto. The sector continues to receive around 3% of the national budget resources despite its strategic role in transforming Uganda into middle income status by 2020 and the economies of scale that would accrue there of as a result of strategic investment in agriculture, health, industry energy and infrastructure sectors.

Releases made quarterly by government fall short of the annual and quarterly projections to allow realistic implementation of the planned activities. Over time, the sector has accumulated arrears that have affected the new projects' funding base, as subsequent releases are used to pay off pending payments and unfinished activities. This has affected the rate at which new projects are taken on due to delayed completion of old projects that are carried over the project's life span.

Tax requirements for grant and loan-funded projects as counterpart funding for donor-funded projects formed a major challenge. The sector accumulated tax arrears for the donor-funded projects over the period due to insufficient releases by Government. The Government counterpart funding has not been forth-coming as per the annual workplan schedule, which has left the sector with unpaid commitments.

3 JOINT SECTOR REVIEW UNDERTAKINGS 2016

Twelve Undertakings were adopted at the 2016 Joint Sector Review. To implement these Undertakings, thematic groups were formed and charged with the responsibility for their implementation. The various thematic groups prepared detailed action plans (with indicators/outputs to monitor the progress of implementation), which were subsequently approved by the Water and Environment Sector Working Group (WESWG). This section presents the progress made on implementation of these Undertakings.

3.1 Environment and Natural Resources

3.1.1 Undertaking No. 1: Implement the ENR Sector Performance Monitoring Framework

“Address the drivers of environmental degradation by mainstreaming ENR considerations across government sectors by focusing mainstreaming actions on the high profile/high impact sectors of agriculture, infrastructure, lands, energy and water in order to achieve reduced contributions to degradation by these sectors by the end of FY2016/17”.

The following has been achieved:

- Finalized situational analysis report for the sectors
- The task team was constituted and orientation undertaken
- Terms of Reference for the thematic team were prepared, discussed and approved

Constraints to implementation:

- Difficulties in mobilizing and coordinating of different stakeholders
- Limited sectoral information on environment mainstreaming and integration to effectively track performance
- The multi-sectoral nature of Stakeholder - Institutions requires a lot of time and lengthy discussions
- Limited / total non-response by MDAs – mainly by Focal Point Officers

Next actions:

- Engage sectors to develop mainstreaming guidelines
- Prepare checklists to guide in mainstreaming actions
- Make recommendations for amendment of the Finance Act
- Prepare a monitoring and evaluation framework

This undertaking was partially achieved.

3.2 Water Resources Management

3.2.1 Undertaking No. 2: Operationalise Catchment Based IWRM

“Operationalise the proposed coordination, implementation and funding mechanisms for catchment-based IWRM by the end of FY2016/17.”

The following has been achieved:

- Prepared a brochure and documentary on experiences in implementing Catchment based Integrated Water Resources Management (CbiWRM) from the 4 WMZs
- Initiated collaboration with a number of organisations (USAID, UNHCR, UNICEF, ECOTRUST, Kinyara Sugar Ltd etc)

- Operationalized key proposed coordination mechanisms for catchment-based IWRM at the national level through the Water Policy Committee, Water and Environment Sector Working Group, MWE Top Policy Meetings and IWRM working Group
- Operationalized key proposed coordination and implementation mechanisms for catchment-based IWRM at catchment level (Stakeholders Forum, Catchment Management Committee, Catchment Technical Committee) in 14 catchments in the 4 WMZs
- Operationalized the proposed coordination mechanisms for catchment-based IWRM at community level in 10 hotspot catchments in 5 catchments (Rwizi -3, Mpanga- 3, Aswa- 1, Semliki- 2, and Mpologoma- 1) in 4 WMZs
- Partly operationalized the key proposed funding sources for catchment-based IWRM in 5 catchments (Rwizi, Mpanga, Aswa, Semliki, and Mpologoma) in the 4 WMZs
- Raised awareness and disseminate information on experiences in implementing Catchment based IWRM in 15 catchments where implementation of CbIWRM is ongoing

Constraints to implementation:

- Some of the proposed coordination, implementation and funding mechanisms for catchment-based IWRM could not be operationalized due to limited time and funds.

Next actions:

- Fully operationalize all the proposed coordination, implementation and funding mechanisms for catchment-based IWRM at different levels in all the 4 WMZs.

This undertaking was partially achieved.

3.2.2 Undertaking No. 3: Framework for Drinking Water Quality Management

“Finalize the National Framework for Drinking Water Quality Management and Regulation by end of FY 2016/17.”

The following has been achieved:

- Prepared Terms of Reference and procured consultants
- Inception report prepared and workshop organized
- Prepared two situational reports for Policy, legal and Institutional framework; and National framework for drinking water quality
- Carried out final Stakeholder Consultations
- Prepared two Draft National Framework reports; Policy, legal and Institutional framework; and National framework for drinking water quality
- Presented the draft framework at the JTR, 2017
- Held departmental meeting to review draft framework and a Stakeholder Workshop to present draft Framework including Policy and Legal aspects
- Reported on lessons and experiences of Austria

Constraints to implementation

- Procurement processes delayed the implementation of the Undertaking

Next steps:

- Prepare final draft framework
- Finalise amendments to the Water Policy and Water Act
- Endorsement of the final framework by the WESWG
- Endorsement of the final framework by the WPC

This undertaking was partially achieved.

3.3 Water Supply and Sanitation

3.3.1 Undertaking No. 4: Strategy for one Water Source per Village

“Develop a strategy for providing at least one water source per village in line with the Presidential Directive by the end of FY 2016/17.”

The following has been achieved:

- A water supply database was redesigned and updated. This has been uploaded on the Ministry website www.mwe.go.ug. The data collected during the WASTSUP II has been analysed and mapping exercise completed.
- A list of all villages without a water source has been compiled. Out of the 57,950 villages in rural areas, 19,596 villages (34 %) do not have a safe water source.
- A policy guidance letter was written to all District Local Governments emphasizing allocation of resources in areas without a water source.
- District Investment Plans for 95 out of 121 District Local Governments have been developed with Technical support from Water for People.
- The national data collection and update was completed and the Uganda Water Supply Atlas 2017 is ready for launch at the presentation of the JSR in September 2017.
- Carried out monitoring and reporting on increase in safe water coverage by service areas, Sub Counties, District and nationally.

Constraints to implementation:

- One of the challenges in the development of the strategy is funding for implementation of the Undertaking. Development of the District Investment plans require funding of the activities that involve Water for People (Technical Assistance), the staff from the District Local Governments (including representations from the lower Local Governments) and the Ministry of Water and Environment Rural Water and Sanitation teams.
- The data generated for update of the Water Supply Atlas 2017 has some villages of which names as in the database do not match those in the Uganda Bureau of Statistics (UBOS). It therefore requires a number of consultations to determine these names, actual boundaries and how they relate to the UBOS village data.
- Training of the District Local government staff in collection (WATSUP II) and analysis of data took a fairly longer time as a basis of updating the Water Supply database and developing the Water Supply Atlas.

Next steps

- Stakeholder consultation on the strategy and launch of the Water Supply Atlas
- Developing a costed Implementation Strategy

This undertaking was partially achieved.

3.3.2 Undertaking No. 5: Reorganisation of Umbrella Organisations

“Re-organize Umbrellas of Water and Sanitation Focusing on Financial Mechanisms and Management Responsibilities for Piped Water Supply Systems by the end of 2016-2017.”

The following has been achieved:

- Completed the Umbrella reorganization study report, draft PWU legislation and prepared a white paper for the PWU bill
- Procured and completed a consultancy to develop financing criteria and financial management guidelines for the implementation of the Revolving Facility. Conceptual design report and draft Operations Manual available.
- Cashless systems developed and piloted in Central and Eastern Umbrella. Countrywide introduction of cashless/mobile payment systems is under preparation.
- Monthly reporting on performance including financial data uploaded on UPMIS for a growing number of schemes in all regions of Uganda
- Umbrellas of Water and Sanitation gazetted as Water Authorities in the 6 Regions of Karamoja, Eastern, Northern, South Western, Central and Mid Western.

Constraints to implementation:

- The human, financial and logistical resources of the Umbrellas are very limited compared to the task ahead, with dual management and support responsibilities. Strengthening of these resources is strongly recommended to make the institutional transformation a success.

Next steps

- Umbrellas to start stakeholder engagement and set up new management systems for the 74 gazetted water supply systems.
- Performance contracts for the Umbrellas to be prepared and signed
- Short-term financial and capacity building support for the start-up phase to be mobilized with support from development partners
- Billing software and cashless payment systems to be rolled out as soon as possible
- Recruitment of Commercial Officers for the Umbrellas as soon as possible
- Reporting and monitoring systems to be developed in line with the new Umbrella responsibilities, with regular reporting based on UPMIS

This undertaking was achieved.

3.3.3 Undertaking No. 6: Strengthen Use of WfP storage

“Strengthen utilization of Water for production storage by end of FY 2016/17.”

The following has been achieved:

- Terms of reference for a consultant to undertake the study have been prepared

Constraints to implementation:

- Lack of funds to undertake the study.

Next steps:

- Lobby and secure funding to undertake the study.

This undertaking was not achieved.

3.3.4 Undertaking No. 7: Review the water tariffs

“Review the Water Tariff Regime to Strengthen Pro-poor Provisions with Respect to Public Institutions, Rural Areas, and Water Vending by the end of the FY 2016/17.”

The following has been achieved:

- Existing tariff policy was reviewed and relevant clauses identified and included in the issues paper
- Reviewed the existing Tariff Policy and Performance Contract V for Towns under National Water and Sewerage Corporation to identify clauses relevant to public institutions and water vending
- Carried out a desk study on the documented current practices on tariff regimes for public institutions, rural areas and water vending
- Updated and fine-tuned the Situation Analysis Report internally
- Reviewed the Pro-poor Strategy to identify fundamental principles of pro-poor service delivery

Constraints to implementation:

- Limited quality and quantity of data on prices paid at the point of sale at public stand pipes and yard taps.
- Limited documentation on the impact of pre-paid meters on poor customers like acceptability, affordability, accessibility, availability and quality.
- Tariff setting and approval process that results into charging unapproved tariffs.

Next steps:

- Formulation of amendments to the existing Tariff Policies to take into account revised tariff regimes including introduction of block tariffs to cater for the poor.
- Redefine and formulate the indicators on which the sector reports on pro-poor.
- The need to involve different stakeholders to review pro poor strategy, tariff policy and Business Planning Tool.

This undertaking was achieved.

3.3.5 Undertaking No. 8: Cholera Elimination Strategy

“Develop a strategy on cholera elimination in the 16 cholera-prone districts by end of FY 2016/17.”

The following has been achieved:

- Prepared Terms of Reference for consultancy for Development of a Strategy for Cholera elimination
- Identified the consultant to prepare the strategy
- Established the cholera prone/priority areas.
- Documented the causes and effective actions to be taken to contain the outbreaks
- Prepare a cholera elimination strategy for the priority areas
- Disseminated and initiated implementation of recommended actions in 5 districts.

Next steps:

- Continue implementation of the strategy

This undertaking was achieved.

3.3.6 Undertaking No. 9: Scaling Up Town Sanitation Planning

“Develop a Strategy to Scaling up Town Sanitation Planning (TSP) in a phased approach, harmonized with District Investment Plans, by end of FY 2016/17.”

The following has been achieved:

- Prepared Terms of Reference for Consultancy for documenting lessons learnt from the pilot on Town Sanitation planning process from the six (6) towns under WSDF North and District Investment Plans from six (6) Districts
- Procured the consultant to document lessons learnt, harmonize the Sanitation Plans and DIPs and develop a strategy to scale up the TSP process in a phased approach
- Developed, reviewed and had the guideline for implementation of the TSP approved

Constraints to implementation:

- Delay in securing funds for training the WSDFs officers and other relevant officers in carrying out TSP

Next steps:

- Train WSDF officers and the other relevant officers who will carry out the TSP implementation.
- Roll out the implementation of the TSP nationally.

This undertaking was partially achieved.

3.4 Policy and Institutional Issues

3.4.1 Undertaking No. 10: Review Sector Performance monitoring framework

“Review Sector Performance monitoring framework to incorporate the water quality monitoring, good governance, human right to water, climate change, Sustainable Development Goals (SDGs), and the National Development Plan (NDP II).”

The following has been achieved:

- Agreed on a work plan to implement the Undertaking
- Prepared Terms of Reference for consultant to undertake the review
- Consultant carried out the review in a highly consultative process and prepared the final report
- Final report with reviewed indicators has been disseminated to the different MWE sub-sectors and autonomous agencies

Next steps:

- Sub-sectors/Agencies agree on computation methods for the different indicators
- Sub-sectors/Agencies establish baseline values for the revised indicators
- The different Sub-sectors/Agencies own the revised indicators
- The sector fully adopts and begins to report on all the revised indicators in the FY 2018/19

This undertaking was achieved.

3.4.2 Undertaking No. 11: Development of costed Capacity Development plans

“Finalise the development of costed CD plans for the departments of the MWE and agencies and embark on implementation by end of FY 2016/17. Continue with Implementation into 2018.”

The following has been achieved:

- Carried out Capacity Needs Assessment for Urban Water Supply and Sewerage sub-sector.
- Finalised the Development of the costed CD plan for the Urban Water Supply and Sanitation Services sub sector, focusing on the two departments of Urban Water and Sanitation Services Department (UWSSD) and Water Utility Regulation Department (WURD), including its deconcentrated structures (WSDFs and the Umbrella Organizations).
- Developed learning materials for specific training courses for the Urban Water Supply and Services sub-sector, and training courses conducted. These learning materials include those for Training of Trainers (ToT) for the future leaders to be able to carry out training needs analysis and capacity development analysis, for the Workers Practically Acquired Skills (PAS) assessments¹¹, and the Small Town Scheme Operators (STSO) course. Piloted the STSO course in Lira Town, and awareness programmes were conducted on infrastructure asset management.
- The UPMIS programme was rolled out widely to all future users in all the affected organisations countrywide, and training courses conducted in the subjected area.
- The Capacity Development Strategy (CDS) and the Capacity Development Plan (CDP) for the Directorate of Water Resource Management (DWRM) were finalised. Commenced implementation of the DWRM strategy and plan with implementation of short term training interventions for the top management, technical and support staff of the DWRM. A total of 148 staff of DWRM have benefited from various training courses in topics such as performance management, international negotiations, team building, performance appraisal, report writing, first aid at workplace, and defensive driving this year.
- Prepared a financing strategy for sector CD.

Constraints to implementation:

- There is generally limited understanding of Capacity Development Planning (CPD). For most of the people responsible for CD, CD has been synonymous with training and this is evident in the CDPs which are really training plans. Hence there is still emphasis on Bottom-Up Training Planning as opposed to Top down CD.
- Inadequate resources for conducting CNA and developing CD plans for the remaining sector agencies (NEMA & NFA)
- Inadequate resources for implementation of the CD plans, in view of the withdrawal of key DPs that have been supporting CD under the Joint Partnership Funds (JPF).
- Some thematic areas in the CDP are outside the scope of the departments/agencies- e.g. the institutional and operating environment. Most of the plans do not include these two thematic levels

Next steps:

- Develop Capacity Needs Assessment and costed CD plan for the Rural Water Supply sub sector (Including Water for Production), Water and Environment Sector Liaison, Environment Affairs Departments.
- Review of the SCD strategy 2013/18 Consolidate and harmonise of the different Departmental and agencies' costed CD plans
- Conduct short term performance training programmes in selected areas highlighted in the CAN report
- Explore alternative sources of funding for CD by preparing project proposals for funding Sector CD activities.

This undertaking was partially achieved and is on track.

¹¹ Certification, approved by NWSC, of experienced technicians without formal qualification

3.4.3 Undertaking No. 12: Strategy to build capacity of middle and lower level sector

“Develop a strategy to systematically build the capacity of middle and lower level sector personnel in leadership and managerial skills to address emerging sector demands by the end of FY 2016/17.

The following has been achieved:

- Carried out analysis of staff database to establish the demographic characteristics of human resources in the MWE to facilitate the succession planning exercise. Identified future leaders at the level of Principal Officers and Assistant Commissioners for Career Planning programme, identified the CD gaps, and highlighted the CD interventions.
- Developed a strategy to address succession planning in the sector, focusing on systematically building the capacity of middle and lower sector personnel in leadership and management skills.

Constraints to implementation:

- Inadequate resources for implementation of the succession plan, in view of the withdrawal of key DPs that have been supporting CD under the Joint Partnership Funds (JPF).
- Availability of the senior officers in the sector to mentor the subordinate officers.

Next steps:

- Develop coaching and mentoring programme for MWE personnel.
- Conduct training in coaching and mentoring for sector personnel.

This undertaking was partially achieved and is on track.

4 RURAL WATER SUPPLY

4.1 Background

Uganda's population has continued to grow rapidly over time. The Uganda Bureau of Statistics projected the population to be 37,730,300 by mid-year 2017 on an average annual growth rate of 3.0 percent. Of these, 28,572,200 (76%) are living in rural areas.¹² In addition, the majority of the poor people reside in the rural areas of the country¹³. The provision of rural water supply covers communities or villages (at the level of Local Council 1 (LC1)) with scattered population in settlements up to 1,500 people, and Rural Growth Centers (RGCs) with populations between 1,500 and 5,000.

The main technology options used for water supply improvements in rural areas include deep boreholes (42%), shallow wells¹⁴ (25%), protected springs (21%), public stand posts (6%), yard taps for public use (6%) and kiosks (1%) and rainwater harvest tanks (1%). This implies that the rural population is predominantly served by the deep boreholes technology as shown in Table 4.1.

Table 4.1 Main categories of safe water supply technology as of June 2017

Source of water	Number	No. of persons served	%
Deep boreholes	38,712	11,613,600	42%
Shallow wells	22,737	6,821,100	25%
Protected springs	29,276	5,855,200	21%
Public stand posts	10,328	1,549,200	6%
Yard tap for public use	8,204	1,230,600	4%
Kiosks	1,119	167,850	1%
Rainwater Harvest Tanks	21,061	126,366	1%
	131,437	27,363,916	100%

Source: Uganda Water Atlas, June 2017

Boreholes are the predominant water supply technology in Uganda's rural communities. Whereas the number of point sources is more than the number of villages in the country, there are still villages in water-stressed areas that do not have water sources. The sizes of villages also vary substantially in the country, where people in some villages in Eastern and Northern Uganda walk much longer distances than the minimum walking distance for a safe water source.

4.2 Key Programmes and Projects

The major programs, projects and initiatives under Rural Water Supply Department are:

District Water and Sanitation Development Conditional Grant (DWSDCG). This decentralized implementation by district local governments is based on annual work plans and budgets approved by MWE. The DWSDCG finances construction of water supply and sanitation facilities, community sensitization and mobilization in rural areas. The regionally based Technical Support Units (TSUs) of MWE provide capacity building, monitoring and

¹² Uganda Bureau of Statistics, July 2017; mid-year population projections by sub-county for all the districts in Uganda for the period 2015-2018

¹³ Uganda Bureau of Statistics, 2016 Statistical Abstract

¹⁴ Construction of shallow wells was stopped through a Ministerial directive from MWE

technical back-up support to local governments in the implementation of the program. Note: in previous years, the and Peace, Recovery and Development programme (PRDP) funding was added under the DWSDCG; this programme ended by June FY2015/16.

The central government through MWE's rural water supply and sanitation department (i) coordinates use of the DWSDCG including resource mobilization and allocation, setting standards, technical support, and monitoring compliance, (ii) promotes appropriate technology through action research, development and up-scaling, (iii) plans and develops water schemes that traverse local government boundaries i.e. large gravity flow schemes and large motorized piped water schemes, (iv) strengthens improved sanitation hygiene service delivery in the District Local Governments (DLGs) through capacity building programs, and (iv) carries out quality assurance of water supply designs developed by DLGs.

4.2.1 District Water and Sanitation Development Conditional Grant

Table 4.2 provides an overview of the number of water sources planned and actually constructed by District Local Governments (DLG) during 216/17FY.

Table 4.2 Targets and achievements using the DWSDCG as by June 2017

Type of water source	2016/17		taps	Achieved	persons/source	Persons served
	Planned ¹⁵	Achieved				
Protected springs	214	208		87%	200	41,600
Shallow wells	44	26		59%	300	7,800
Boreholes	904	859		95%	300	257,700
Piped schemes/ GFS	70	55	676	77%	150	101,400
Rainwater Harvesting Tanks 10m ³	152	143		94%	6	858
Total	1,384	1,291		93%		409,358
Rehabilitation - different sources including valley tanks and dams	1,418	1,495		105.4%		
Total	2,802	2,786		99%		

The physical performance of 93% for hardware facilities is attributed to the timely release of funds to the DLGs, where districts received 100% of their 2016/17 FY budget by January 2017 (that is by the third quarter of the year – Q3). A total of 409,358 people were served through the Conditional Grant disbursed to the DLGs. This is drastic reduction in the number of additional people served (by 170,564) using the DWSDCG, from 579,922 in FY 2015/16. The DWSDCG, amounting to UGX 60.37 bn in FY2015/16 was cut to 52.94 billion in FY16/17; hence, a budget reduction of about 12%. A total of UGX 48.4bn was allocated for development while 4.5bn was allocated for non-wage recurrent as per the guidelines.¹⁶

A summary of budget and absorption figures of the DWSDCG is provided in Annex 7. A remarkable improvement is noted in absorption of funding: 83.5% of the districts absorbed above 80% of their budget, from 73% in FY2015/16; The under-performance of 16.5% of the districts that did not spend up to 80% is attributed to diversion of funds meant to do sector work, slow and bureaucratic procurement processes in the districts, staff

¹⁵ In FY16/17, the conditional grant stood was reduced from 60 billion in FY2015/16 to 52 billion in FY16/17; of the 52bn, 48.4bn was allocated to capital development/ constructions.

¹⁶ The guidelines on development provides that up to 15% of the grant is for rehabilitation, up to 5% is for investment servicing costs and minimum of 80% is for development/ construction; while, the non-wage recurrent provides that up to 50% is for software, up to 14% is for office running and monitoring and up to 26% is for coordination activities.

transfers that affected the procurement process and political interference by the Chief Administrative Officers who were transferred in the course of the year. In FY2016/17, 100% of the funds were released; 87% of the funds released to the local government were absorbed as compared to 79% in FY 2015/16. This is an indication of an improvement in both funds release to the districts and funds absorption rates by the districts in FY 2016/17.

The total amount of unspent funds was 6,765,255,542 (13%) from the 101 districts¹⁷ that submitted their annual reports of FY 2016/17; of the unspent funds, 530,000,000 (1%) was diverted; for instance in Hoima District, funds were diverted from water development to other departments while in Kamuli district, funds were diverted to pay pension of former civil servants.

4.2.2 MWE Centrally Implemented Development Projects

The activities implemented through centrally managed projects by MWE are outlined in table 4.2. These activities include the construction of large gravity flow piped water systems, pumped water systems with abstraction of groundwater from solar pumped boreholes, and boreholes fitted with hand-pumps. An additional total number of **522,442**¹⁸ persons were served with MWE central government interventions during FY 2016/17. Rehabilitated boreholes restored supply to 104,700 persons and the off-budget support programmes by JICA and the Egyptian Grant served an additional 41,900 persons. In FY 2016/17, more boreholes were rehabilitated as compared to FY 2015/16; similarly, more persons were served on off-budget support programmes in FY 2016/17.

Table 4.3 Performance of development projects managed by MWE

Description	Target	Achieved		Comment
		15/16	16/17	
Construction of Large Gravity Flow Schemes Phase I ¹⁹				
Nyarwodho GFS-Phase I in Nebbi District	100%	92%	100%	Targeted a population of 85,582 persons in Jonam and Padyere Counties and has successfully connected 800 households to safe and clean water. The remaining 100 connections to be achieved due the defects liability period.
Bududa – Nabweya GFS in Bududa District	100%	70%	96%	Targeted a population of 63,000 persons. 800 households were successfully connected to safe and clean water. The substantial completion was not attained due to capacity issues of the contractor.
Bukwo GFS in Bukwo District	100%	70%	98%	The scheme targeted a population of 54,000 persons. 312 households were successfully connected to safe and clean water.
Butebo water supply in Pallisa District	100%	50%	100%	The scheme targeted a population of 21,236 persons. The scheme successfully connected 113 households to safe and clean water.
Buwoya-Buboko Water Supply System	100%	50%	100%	The system targeted a population of 17,000 persons and 160 connections were successfully made to safe and clean water.

¹⁷ Amudat, Amuria, Gulu, Kaabong, Kagadi, Kakumiro, Kamwenge, Kayunga, Kotido, Lyantonde, Napak, Ngora, Yumbe and Rakai Districts have not submitted their reports.

¹⁸ Nyarwodho GFS (85,582)+ Bududa-Nab. GFS (63,000)+Bukwo GFS (54,000)+Butebo GFS (21,236)+Buwoya-Bub. (17,000)+solar schemes (21,000)+boreholes (86,700)+JICA and Egyptian grant (41,900)+rehabilitated boreholes (104,700)_ Unicef (27,324)

¹⁹Completed designs for Orom GFS in Kitgum district, Lukalu-Kabasanda GFS in Butambala district, Shuuku Masyoro GFS in Sheema district, Nyamiyonga-Katojo Water Supply System in Isingiro District, Potika Gravity Flow Scheme in Lamwo District, Bukedea Upper Sipi in Sironko, Bukedea, Kahama Phase II in Ntungamo District, Bwera GFS and Nyamugasani GFS in Kasese District

Kahama GFS – Phase II Ntungamo District	40%	0%	0%	Contract awarded pending Solicitor General’s Clearance. Main reason for not achieving was due to delays in procurement.
Rwebisengo Kanara GFS	10%	0%	5%	Targeting a population of 67,649 persons and 2,500 households will be successfully connected to safe and clean water.
Nyabuhikye-Kikyenkya GFS	10%	0%	2%	The scheme is under mobilization and so far the contractor has been advanced some funds but targeted population is 45,105 and expected connection will be 1,500.
Construction of Large Gravity Flow Schemes Phase II				
Bukwo GFS in Bukwo District	40%	0%	50%	The scheme targeted a population of 54,000 persons and is expected to connect 500 households to safe and clean water
Nyarwodho GFS-Phase I in Nebbi district	30%	0%	35%	The scheme targeted a population of 85,582 persons and is expected to connect 300 households to safe and clean water
Bududa – Nabweya GFS in Bududa District	50%	0%	50%	The scheme targeted a population of 63,000 persons and is expected to connect 1,200 households to safe and clean water
Lirima GFS in Manafwa District	20%	0%	5%	The scheme targeted a population of 179,000 persons and is expected to connect 1,700 households to safe and clean water
Bukedea GFS	10%	0%	-	The scheme targeted a population of 262,343 persons and is expected to connect 2,700 households to safe and clean water
Orom GFS	10%	0%	-	This is under redesign.
Shuuku Masyoro GFS	10%	0%	-	The scheme targeted a population of 55,105 persons and is expected to connect 2,000 households to safe and clean water
Solar powered Solar Powered mini piped schemes				
Solar Powered mini piped systems	35		35	Completed the construction of 35 systems countrywide serving up to 21,000 people with safe and clean water
Drilling of Boreholes				
New Boreholes with hand pumps and productions wells	270		289	Drilled 249 boreholes with hand pumps and 40 production wells in water stressed areas serving 86,700 persons.
Rehabilitation of chronically broken down boreholes				
Rehabilitation of Boreholes	450		349	349 boreholes were rehabilitated and water supply restored for 104,700 persons.

NB: The large piped water supply systems of Lirima, Bukwo, Nyarwodho and Bududa have a potential of realizing an increment of 500 connections annually per system during the first 4 years of operation.

4.2.3 Technical Support to Local Governments

The Technical Support Units provided technical support to District Local Governments (DLG) in the aspects of planning, budgeting, procurement, contract management as well as monitoring DLG activities. The number of TSUs increased from 8 to 10 to reduce the work load on the existing TSUs and address the challenge of creation of new districts; these are TSU 9, based in Moroto and TSU 10, based in Jinja (see Figure 4.1). Key activities by the TSUs included the following:

Planning, budgeting and reporting: Technical Support Units (TSUs) provided guidance in the planning, budgeting and reporting on the use of the District Water and Sanitation Conditional Grants (DWSCG) and the District Sanitation and Hygiene promotion Conditional Grant (DSHCG). As a result, there has been improved reporting by the District Local Governments from 40% in FY2015/16 to 45% in regard to compliance to deadlines.

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gaps were identified. The districts without DWOs were identified and advised on recruitment options. As at 30th June 2017, all 115 (100%) districts had DWOs, though only 65 (57%) were substantive, 21 (18%) were Acting and 29 (25%) were doubling as District Engineers. The staffing gaps led to overload on the substantive Officers; consequently, this affected DLG planning, budgeting, implementation and reporting of activities.

TSU support districts in planning, coordination and implementation of software activities: These software activities included District Advocacy Meetings (DAM), Sub-County Advocacy Meetings (SAM), formation and training of Water Source Committees (WSC), Social Mobilisers Meetings (SMM), District Water and Sanitation Coordination Committee (DWSCC) meetings, Rural Water and Sanitation Committee (RWSCs) community mobilization, sanitation and hygiene promotion, monitoring and evaluation, coordination, trainings and cross-cutting issues for sustainability of WATSAN facilities. Figure 4.2 shows progress made.

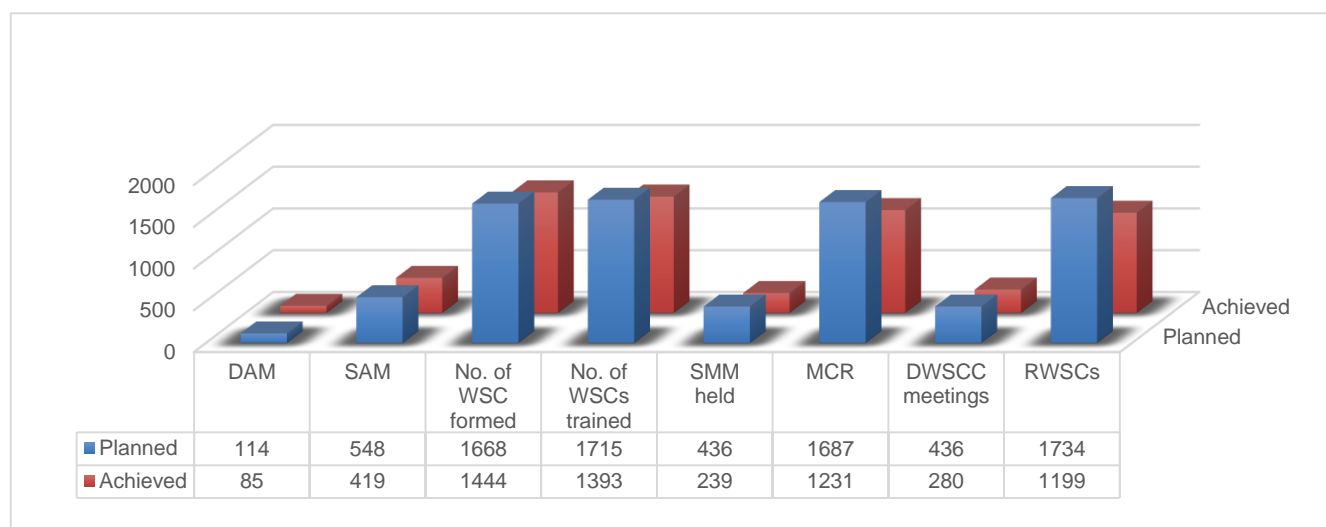


Figure 4.2 Support by TSUs in software activities

TSU support to local governments in sanitation and hygiene promotion activities. The Ministry of Water and Environment has continued to promote Community Led Total Sanitation (CLTS) as one of the approaches aimed at improving Hygiene and Sanitation practices in rural communities for the last five years under the District Sanitation and Hygiene Conditional Grant (DSHCG) disbursed to the districts. The Ministry of Health under Uganda Sanitation Fund (USF) has also promoted a similar approach in 30 districts in the quest of achieving Open Defecation Free (ODF) status in rural communities. Other approaches like Participatory Hygiene and Sanitation Transformation (PHAST) and Home Improvement Campaigns (HIC) have been used as complementary to CLTS. For more information is referred to Section 8.2.

Documentation of Best operational Practices (BoP) in water supply and sanitation service provision

MWE assesses and documents good practices in water supply and sanitation provision by various stakeholders for purposes of replication and promotion. The outstanding practices during the reporting period are summarised in the following boxes:

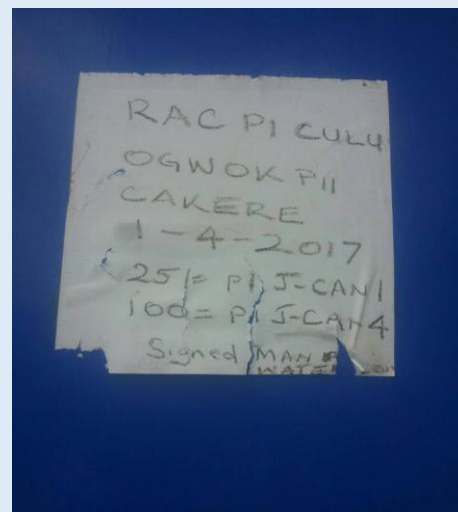
Box 4.1 Three Best operational Practices learnt in FY2016/17

Functionality: Water as a business in Kamwenge: Water as a Business (WAAB) is an intervention or model that addresses the irregularities and inefficiencies of Water and Sanitation Committees under the community-based maintenance system in collection and management of user fees. WAAB was initiated in Kamwenge District by Water for People, a WASH international NGO operating in the region in collaboration with Kamwenge District Local Government since 2014. The intervention involves the installation of water meters on shallow wells, boreholes and piped systems, and hiring the local entrepreneurs to manage them in clusters of 10 metered water sources. These entrepreneurs are members of Kamwenge District Water Maintenance Association (KADWAMA) that works closely with Kamwenge District Water Office and other WASH development partners. The entrepreneurs hire local water source attendants to maintain the water facilities and collect user fees, 20% of which is banked on the respective sub-county Escrow account for operation and maintenance. As a result, the facilities break down less often and the average downtime was reduced from over three months to 48hrs (picture shows metered borehole at Bigodi T/C- Kamwenge District).



Stakeholders Involvement in Project Implementation: Best practices noted include vigilant monthly monitoring site meetings to ensure the contractor complies with contractual timelines for timely implementation of the project; holding community site handover meetings by Project Managers to the contractors in presence of the media, the district political and technical leadership and a few selected members of the community to ensure project transparency, accountability and ownership.

Water Supply System Management Practice: The promotion of good records keeping by the Water User Committees; display of water tariffs charged per jerry can at every water point in the conspicuous part is a good practice among end users; and the technology used in Bukwo GFS that operates with minimal human intervention can be scaled and replicated to other jurisdictions or areas (picture shows display of water tariffs charged per jerry can at every water point in a local language at Inomo Solar Powered Mini-Piped Water Schemes, Apac District).



4.2.4 UNICEF WASH Activities

During FY 2016/17, UNICEF supported Government of Uganda to deliver WASH services, through provision of water systems, rehabilitation of existing sources, supporting establishment and activation of management structures of water and sanitation facilities, promotion of improved sanitation through CLTS and construction of institutional latrines, hygiene promotion and support to water quality monitoring. Also, government was supported in training district staff on CLTS, commemoration of World Water Day and Global Hand Washing Day and organising Karamoja Regional Sanitation Conference.

Refugee influx: UNICEF responded to emergencies in the country, including the refugee influx into Uganda from South Sud by a number of activities; the organisation supported emergency refugee intervention in Bidibidi refugee settlement, Yumbe district through construction of five motorised water supply systems serving approximately 40,000 refugees and drilling of 45 boreholes which were fitted with hand pumps serving approximately 22,500 refugees. Provided comprehensive sanitation and hygiene promotional services to approximately 85,000 South Sudanese refugees across the refugee settlements of Kiryandongo, Arua, Yumbe and Adjumani districts.

Water Supply: UNICEF supported the construction and rehabilitation of water facilities, serving an estimated population of 27,324 people as shown in Table 4.4.

Table 4.4 Water facilities constructed and rehabilitated through UNICEF in FY 2016/17

Type of Technology	achieved	Locations	People served	Direct [UGX]	Cost
Piped water systems in Rural Growth Centres	4	Nadunget in Moroto, Kopoth in Kaabong and Rwaihamba in Kabarole	6,874	2,201,435,875	
Rehabilitation and major repairs (handpump boreholes and gravity flow schemes)	62 BHs and 1 GFS	Boreholes: Isingiro 8, Adjumani 8, Kaabong 10, Moroto 24, Abim 12. Kalarike GFS in Kasese	20,450	256,996,540	
Total			27,324	2,458,432,415	

Community Sanitation and Hygiene: UNICEF supported 15 Districts of Rubirizi, Kabale, Ntungamo, Kanungu, Adjumani, Nebbi, Lamwo, Agago, Kitgum, Pader, Nakapiripirit, Kotido, Iganga, Kamuli and Gomba to carry out Community Led Total Sanitation; more than 650 villages were triggered. UNICEF continued to support the Hand washing Initiative through provision of funds to facilitate operations of the National Hand Washing Secretariat.

Institutional triggering of District leadership was carried out in Arua, Adjumani, Nakapiripirit, Abim, Kamuli and Iganga to mobilise institutional support for CLTS and motivate key players to take action within their scope of influence. UNICEF also supported Yumbe, Arua, Moyo, Adjumani, Kiryandongo, Nebbi, Pader and Koboko Districts to assess the status and quality of CLTS using the CRAP (CLTS Rapid Appraisal Protocol) diagnostic tool.

Institutional Sanitation: UNICEF supported the construction and rehabilitation of latrines in primary schools in Kasese, Iganga, Kaabong and Yumbe. The 72 stances are serving at least 2,880 pupils.

Capacity Development: UNICEF supported the District Local Governments in training CLTS practitioners in Gomba, Kamuli, Rubirizi, Kabale, Iganga, Ntungamo, Kanungu and Moroto. 60 Water and Sanitation Committees at point water sources were retrained, while the Water and Sanitation Boards at 4 piped water systems were trained in operation and maintenance.

4.2.5 Appropriate Technology Centre for Water and Sanitation, Mukono

Appropriate Technology Centre for Water and Sanitation (ATC) continued applied research, training and development of capacities of sector actors and promotion of appropriate water and sanitation technologies in the FY2016/17. The achievements by the ATC during the year under review are summarised in line with the Centre's objectives as follows:

Applied research: The Centre continued to conduct research on ecological sanitation during the year. The Centre intensified the vermi-culture, the commercial production of tiger worms for faecal sludge management with support from Water for People. A tiger worm farm was set up at the Centre. The Vermicompost is being used in a garden to study its benefits. The key products from the farm will be compost and worms for use in toilets. Tiger worm toilets typically reduce sludge volume by 80%. The Centre is also developing an Ekolet with support from Drop 4 Drop, a UK Charity. It has a rotating cylinder with 4 compartments and a filter to separate the liquids from the solids.

The Centre piloted the WaSH in Schools Joint Monitoring Tool (JMP) in 30 schools in Kampala, Wakiso and Mukono Districts. The JMP is a tool to monitor progress towards achievement of the sustainable Development Goals.

Technology Promotion: The ATC continued to promote rainwater harvesting using the revolving fund approach in four water-stressed districts of Sheema, Mukono, Kaliro and Namayingo through NGOs i.e. Shuuku

development Foundation, Katosi Women Development Trust, Busoga Trust and Uganda Muslim Development Association.

ATC has become a one stop learning Centre for visitors and institutions of higher learning from both within and outside the country for exposure learning on appropriate technologies. The Centre received a total of 127 students from both Uganda and across the world, 10 professionals and 62 practitioners from different NGOs, CBOs and individual artisans who were for exposure learning. People from Butambala district were trained on climate change resilience techniques and rainwater harvesting and as a result, six demonstration rain water tanks (Rectangular EMAS tanks) were constructed by the trainees.

The management of ATC was shifted effective April 2017 to the Ministry of Water & Environment. A study to analyse the modes of operation, legal setup, institutional arrangements and ease of establishment for ATC was conducted and it was recommended that ATC should preferably operate as a company limited by guarantee.

4.3 Status and Trends of Key Indicators

The Water Supply Data Base of MWE (accessed online via www.mwe.go.ug) was used to generate the indicator figures for rural water supply for FY 2016/17.

4.3.1 Golden Indicator No 1: Access to Safe Water in Rural Areas

Access/coverage refer to the percentage of people that collect water from an improved water source. The golden indicator for access for rural water supplies is defined as “% of people within 1.0km (rural) of an improved water source”. The average access per district by June 2017 is shown in Figure 4.5. The estimate of access excludes non-functional water facilities (which are reported to be down for more than 5 years). The national safe water coverage in rural areas stands at 70% as of June 2017, up from 67% recorded in June 2016. The increase in safe water coverage is attributed to updating the water atlas that revealed a total of 5,610 new water sources from 115 districts (making a total of 9,122 since FY 2015/16) during data collection.

However, based on the analysis from the updated water atlas, 65% of the districts have a coverage equal to or above the national average coverage figure of 70% compared to 69% of the districts that had a coverage equal to or above the national average coverage figure of 67% in FY 2015/16. On the other hand, 35% of the districts recorded a coverage below the national average coverage figure of 70% compared to 31% of the districts that had a coverage below the national average figure of 67% in FY 2015/16. This is an improvement as compared to FY 2015/16.

4.3.2 Golden Indicator No 2: Functionality

The golden indicator for functionality for rural water supplies is defined as the “% of improved water sources that are functional at time of spot-check”. The average functionality rate for rural water supplies by district is shown in Figure 4.4.

The trend in average nation-wide functionality of rural water supplies, defined as the “percentage of improved water facilities found functional at the time of spot check”, is indicated in Figure 4.3. The functionality for rural water supplies is estimated at **85%**, a reduction from 86% recorded for FY 2015/16. Overall, 50% of the districts have functionality above the nationwide average compared to 58% in 2015/16.

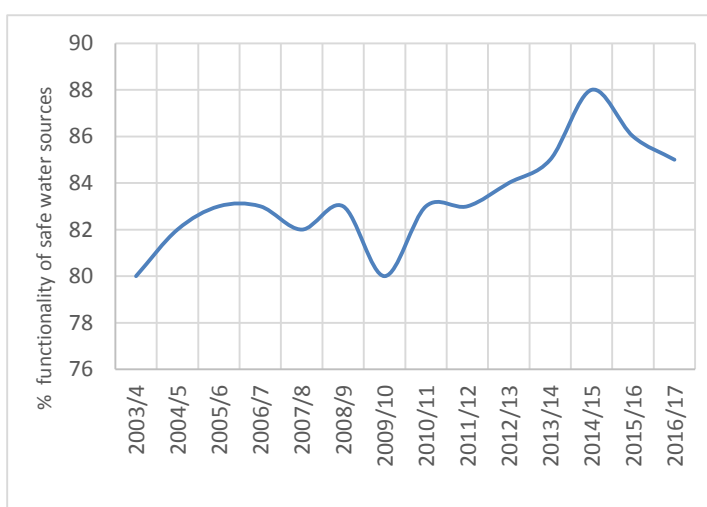


Figure 4.3 Trend in functionality of rural improved safe water sources

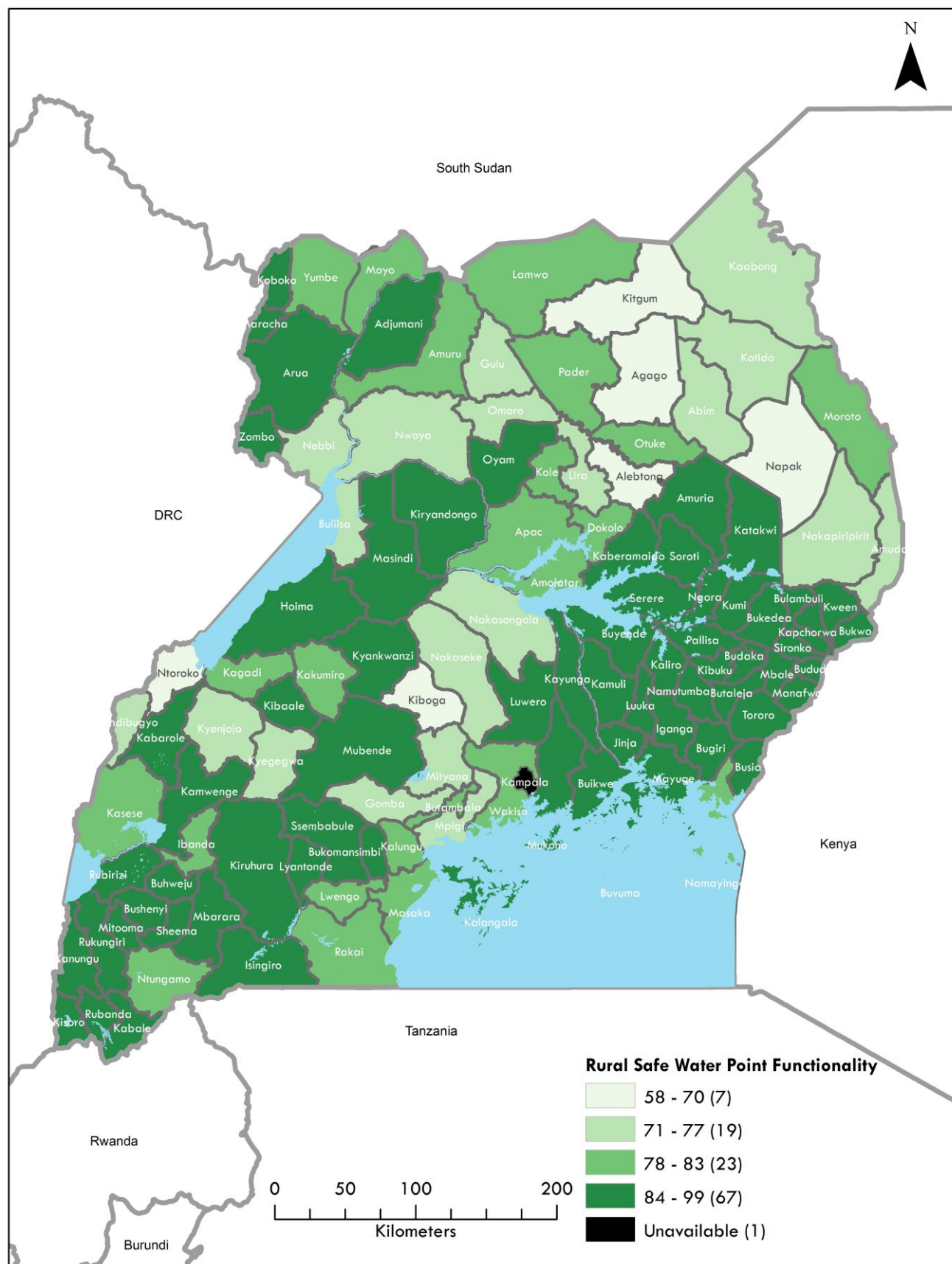


Figure 4.4 Functionality of safe water sources by district, June 2017

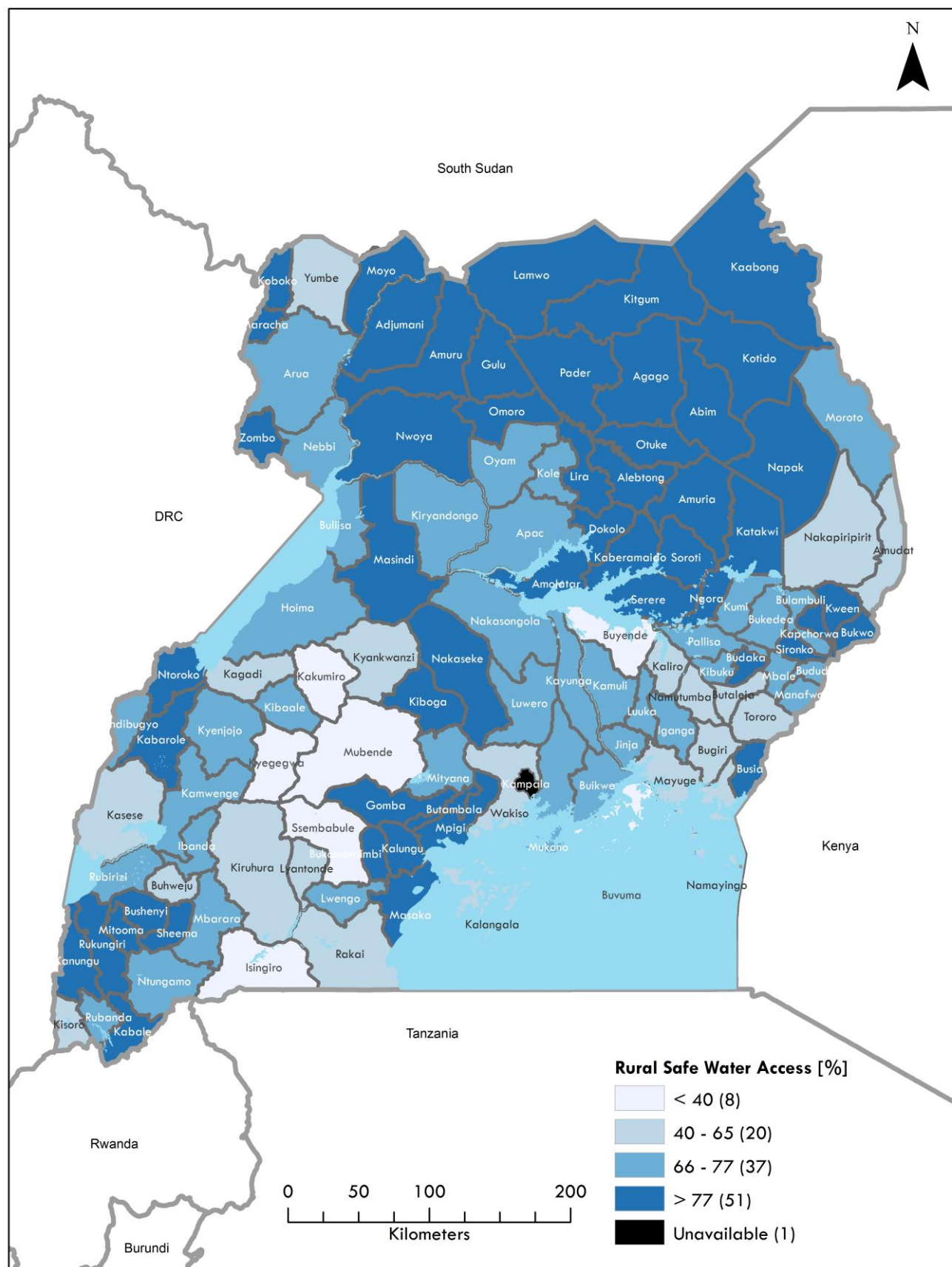


Figure 4.5 Access to safe water supply by district, June 2017

The reduction in functionality is mainly because there are more facilities breaking down than there are repaired, because of a reduction in the amount of the Conditional Grant to cover costs of rehabilitation, and also inadequate structures to sustain functionality. In addition to that, the period under review had a long dry spell that forced the community to rely heavily on deep boreholes since other water sources dry up earlier and eventually break down.

A total of 58 districts are above the national average of 85%. The five districts with lowest functionality remained the same and these include Kitgum (59%), Napak (61%), Mityana (66%), Ntoroko (68%) and Alebtong (70%), while the five districts with highest functionality include; Luuka (97%), Isingiro (97%), Budaka (95%), Rubirizi (95%), Manafwa (95%). This indicates performance stagnation of districts in regard to levels of functionality.

4.3.3 Golden Indicator No 3: Per Capita Investment Cost

The golden indicator for per capita investment cost for rural water supplies is calculated as the *“total MWE and District Local Governments expenditure divided by the total number of new people served”*. It is estimated that, a total of 931,800 people have been served by MWE and DLGs with new water supplies in 2016/17 (i.e. 409,358 by the DWSDCG and 522,442 by MWE).

A total of UGX bn 106.5 bn was used to serve 944,739 persons with new improved water supplies. The overall per capita cost for rural water supplies is UGX 114,295 (USD 32), similar to the UGX 110,887 for FY 2015/2016. A total of 64.7 billion was expended on multi-year projects of Bukwo I, Nyarwodho I, Bududa I, Bududa I, Butebo, solar-powered mini-piped water schemes and drilling under the framework contract.

4.3.4 Golden Indicator No. 7: Equity

For rural water supply, equity is defined as *“the mean sub-county deviation from the district average in persons per water point”*. Equity is the sector performance indicator specifically intended to promote provision of equal opportunities for the water supply delivery service and minimize differences between groups of people. A lower numeric value indicates a more even distribution between sub-counties within a district. The equity value per district by June 2017 is shown in Figure 4.6.

The equity value is estimated at **120**, down from 142 during FY2015/16 (equity values per district are provided in Annex 5). The seemingly positive impact on the distribution of water sources between sub-counties is attributed to the discovery of 5,610 new water sources from 115 districts, which were not in the database. It ought to be noted that the trend over the past four years indicates that interventions in rural areas with the current level of funding have not truly created a positive impact on the distribution of water sources among sub-counties, because district local governments can only implement low cost water supply technologies in those areas where they are feasible, leaving out the water-stressed areas. Political interference in the allocation of new safe water sources at DLG level also greatly undermines the performance of the equity indicator.

MWE continued to address the issue of equity by helping all the 115 districts to come up with WASH investment plans. These plans were able to guide the districts identify the areas that needed to be prioritized in the next year's investments in order to achieve equity in the districts. MWE will continue with the process of updating the Water Supply Database management information system (MIS) to cover all districts with emphasis on training of district local governments in handling management information. With an improved MIS, the practice of concentrating infrastructure development in particular communities and localities while neglecting other parts of the DLGs can be minimized.

In a bid to support DLGs in addressing the water supply needs in the water stressed areas, MWE embarked on the construction of 10 large gravity flow water schemes that cut across local government boundaries over the next four years. The proposed systems will have transmission and distribution in areas of water scarcity. In order to drastically improve the equity, it is necessary to provide water and sanitation facilities in water-stressed areas with low coverage. This can only be achieved through higher service level investment with higher per capita costs. Lastly, as an interim measure, MWE continues to promote appropriate technologies, i.e. mini solar powered piped systems, and scaling up of rainwater harvesting using the revolving fund approach in areas where groundwater potential is low or the water quality is poor.

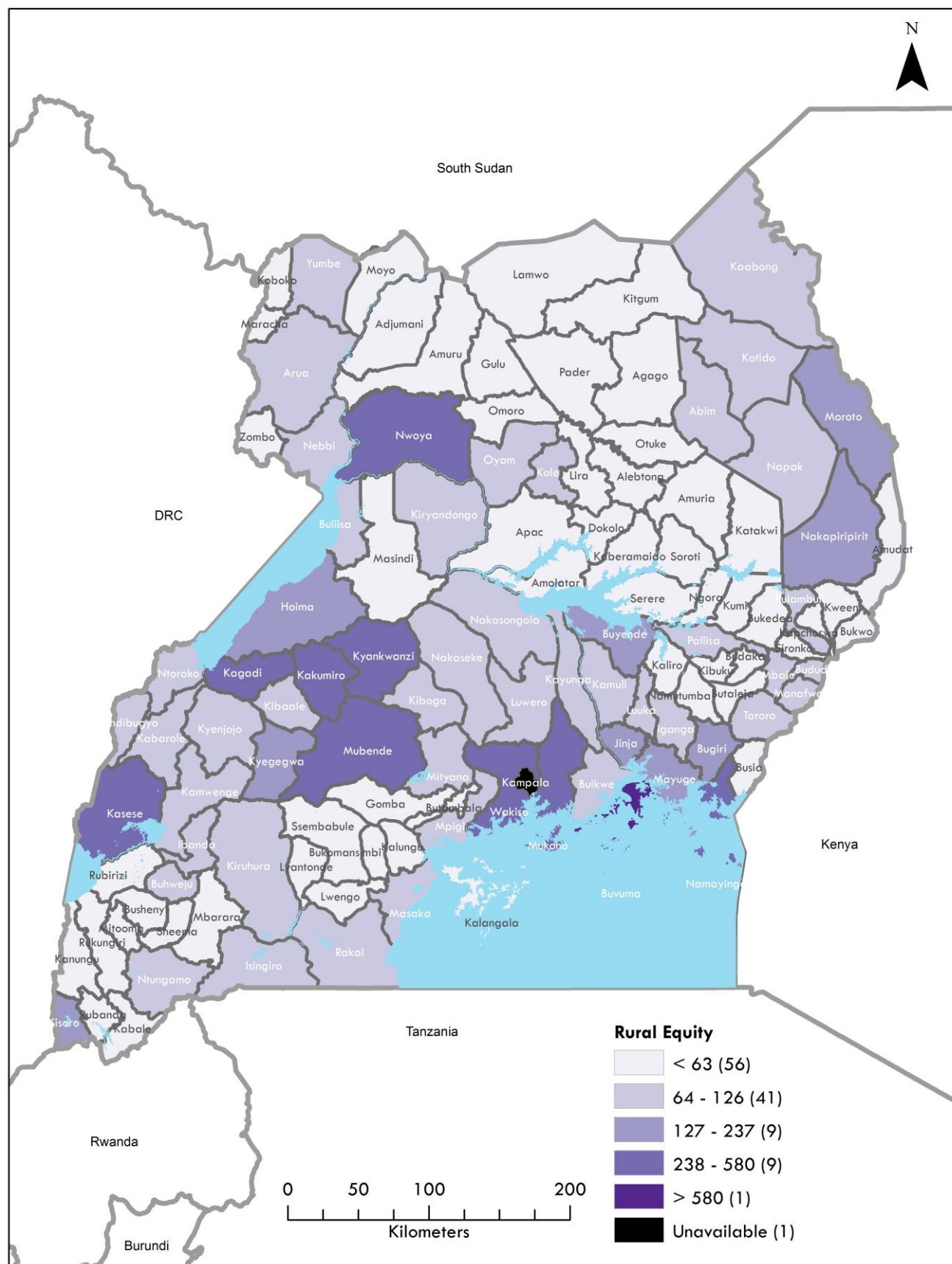


Figure 4.6 Equity in distribution of safe water sources by district, June 2017

4.3.5 Golden Indicator No. 9: Community Management

The management of rural water facilities is largely based on the Community Based Maintenance System (CBMS). The CBMS emphasizes community responsibility and authority over the development, operation and maintenance of their water facilities. The golden indicator on community management is defined as *% of water points with functioning water and sanitation committees (WSC)*, whereby a WSC community is considered functional if it regularly collects O&M funds, holds regular meetings, undertakes minor repairs and maintains adequate sanitation around the water source.

Data derived from the Water Supply Data Base (WSDB) from the whole country, based on 63,327 communally managed water sources, indicates that functionality of WSCs slightly increased from 87% by end June 2016, to **88%** by end June 2017. The increase is attributed to the recently concluded comprehensive update of WSDB that led to the capturing of data from water sources that had previously not been included in the calculations.

It should be noted that earlier increases in the indicator value are also not as such attributed to actual changes in percentage functionality: the jump from 71 to 77% for FY2014/15 was the result of a change in calculation of the indicator, whereas for FY2015/16 the update of data from the WATSUP II project had started, while districts with outlier data were technically supported to provide accurate data.

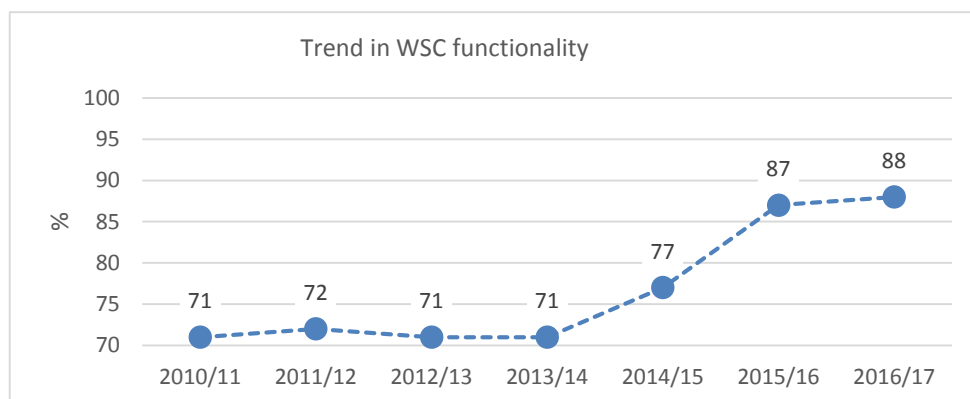


Figure 4.7 Trend in WSC functionality

Capacity building of extension workers

The capacity of extension staff to effectively engage community members/ water users has over the years been affected by a number of factors. These factors include the retirement of staff, the recruitment of new staff, the review and development of new community engagement guidelines, the emergence of new community engagement approaches and finally the creation of new districts leading to the redeployment of experienced extension staff to administrative positions. Therefore, the sector embarked on capacity building initiatives for all sub-county extension staff in FY 2016/17. The capacity building initiative resulted in the training of 180 sub-county extension staff from 11 districts²⁰ in community mobilisation for water supply, hygiene and sanitation promotion, gender mainstreaming, operation and maintenance of water facilities, and participatory monitoring and reporting of WASH activities. It is envisaged that the training of sub-county extension staff will facilitate knowledge transfer and skills acquisition for stakeholders at different levels, hence influencing behaviour and attitude change of communities towards sustainable operation and maintenance of water facilities.

Formation and training of new Water and Sanitation Committees

It is a critical requirement that Local Governments facilitate communities in formation and training of new WSCs for all new water point water sources. The WSCs are bestowed with the responsibility of ensuring sustainable operation and maintenance of water facilities at the community level. Data from 115 districts indicates that out of the 1,668 new water points for which WSCs needed to be formed, a total of 1,444 (87%) committees were

²⁰ Bukomansimbi, Butambala, Gomba, Kalangala, Kalungu, Lyantonde, Lwengo, Masaka, Mpigi, Rakai and Sembabule.

actually formed, while 1,351 (81%) of the planned 1,668 new WSC were formed and trained. Highest performance in training of new committees was realized in the districts of Arua, Bududa, Bugiri, Jinja, Kiruhura, Lira and Maracha, with 100% of new committees effectively formed and trained. This was attributed to DWO's efforts to prioritize the activity in the districts.

Community contribution to capital cost

In a bid to promote community ownership and responsibility towards the operation and maintenance of water facilities, communities are required to contribute towards the construction of a new water source. Out of the 1,668 communities with new water points, 915 (57%) made financial contributions to the new water sources. It should be noted however that the majority of the districts that did not mobilize and train WSCs as indicated beforehand, failed to meet community contribution to capital cost. These include Amuria, Buliisa, Buvuma, Hoima, Kabarole, Katakwi, Kayunga, Luwero, Mukono, and Ngora. The lack of community contribution is an expression of lack of community commitment to use and maintain the facilities and translates into low functionality of water facilities.

Follow up and support of Water and Sanitation Committees

District local governments are mandated to regularly follow up and support communities, as communities often face operation and maintenance challenges beyond their ability. These challenges usually arise from their own internal changes and dynamics, and from the institutional and environmental setting. A review of district reports for FY 2016/17 indicates that district staff followed up with 1,199 WSCs (69%) against a planned 1,734 WSCs. Out of the 63,327 communally managed sources (June 2017) district reports indicated that only 1,199 (2%) old water and sanitation committees were supported. The inadequate follow up of existing WSCs is attributed to the reduction of the software budget²¹ in FY 2016/17. The failure to follow up and support communities could affect functionality of the water facilities in the long run. Districts should therefore adequately plan for continuous support of the water source communities.

Social Mobilisers Meetings

According to the district local government work plans, Social Mobilisers Meetings are held on a quarterly basis. The purpose of the meetings is to discuss quarterly plans, achievements, challenges, and emerging water and sanitation issues in different communities for purposes of establishing solutions for the challenges. However, data from district reports indicate that only 55% of the planned Social Mobilisers meetings were held. A further analysis of reports indicates that only 24% (28) districts²² held all quarterly social mobilisers meetings while 19% (22) districts²³ did not hold any meeting. The failure to hold meetings is attributed to the inadequate software budget as indicated above. Failure to hold social mobilizer meetings by some districts affects effective planning and coordination of activities between the District Water Office and the Sub County extension workers.

²¹ following the categorization of software as recurrent expenditure as indicated in the District Water and Sanitation Development Conditional Grant Guidelines for FY 2016/17.

²² Adjumani, Maracha, Zombo, Yumbe, Nebbi, Amolatar, Amuru, Apac, Kitgum, Kole, Lira, Nwoya, Abim, Namutumba, Kanungu, Rukungiri, Ntugamo, Sheema, Bushenyi, Buhweju, Mbarara, Isingiro, Kiruhura, Kisoro, Gomba, Masaka, Mpigi and Sembabule.

²³ Butambala, Kalangala, Kalungu, Lwengo, Lyantonde, Masaka, Rakai, Kyenjonjo, Nakaseke, Mukono, Masindi, Kiryandongo, Buikwe, Bugiri, Kayunga, Iganga, Amuria, Katakwi, Soroti, Serere, Bukedea and Moyo.

Commissioning of Water and sanitation Facilities

District local government's water offices plan for the commissioning of newly constructed facilities. The core objective of the commissioning exercise is to ensure that districts formally hand over the new facilities to the users while reminding them of their roles and responsibilities in operation and maintenance. Analysis of district quarterly reports indicate that only 33 (29%)²⁴ districts commissioned new water and sanitation facilities in FY 2016/17. Failure to formally hand over water sources to communities leads to lack of sense of ownership of the water facility.

4.3.6 New Sector Performance Indicator (NSPI) 3: Percentage of villages with a source of safe water supply

The current strategic policy directive by government is to ensure provision of at least one safe or improved water source per village. In that regard, the water supply atlas indicates that of the 57,585 villages recorded, only **64%** (36,614) of the villages have an improved or safe water sources. The 64 % excludes all water sources that are non-functional for the last 5 years and those recommended for decommissioning. When villages with non-functional water sources for the last 5 years and those recommended for decommissioning are included, the figure slightly rises from 64% to 65% (37,448 villages).

4.4 Challenges and recommendations

Inadequate funding has had a negative effect on the achievement of the sector targets of ensuring that at least each village has a clean and safe water source; and, effective use and functionality of the water supply systems including the severely water-stressed areas due to high investment requirements.

In addition to the above, the available funds are overstretched by community driven demands for clean and safe water as more connections and supplementary supply areas after the construction of large gravity flow schemes require expansion of services to other areas and people.

There is ambiguity in delineating rural vis-à-vis urban population for purposes of water developments, exerting pressure on the already strained budget for rural water development, whereas the set tariffs for piped systems are sometimes not affordable for the poor in rural areas. There have been incidences of stretching approved investments to cover urban areas in constructing large gravity flow schemes primarily for rural communities.

There are capacity gaps within the district local governments (DLGs) leading to under-utilisation of the rural District Water and Sanitation Development Conditional Grant usually as a result of high staff turnovers in the DLGs and breach of the guidelines for grant utilisation. Additionally, there is still a challenge of emerging (new) districts with new, low capacity staff who need continuous support.

Community mobilization activities having been greatly affected by the reduction of the software budget following the categorization of software as a non- wage recurrent as indicated in the District Water and Sanitation Conditional Grant Guidelines for FY 2016/17.

The capacity of extension staff to undertake community engagement activities is still insufficient. The majority of extension workers are relatively new and have never undertaken training in community engagement participatory methodologies which are key to empowering communities to own and maintain their water facilities in a sustainable manner.

To address these challenges, the following recommendations are made:

- (i) Continued technical Support (through TSUs) to the district local governments is essential to minimise the capacity gaps in planning, budgeting, procurement, implementation and O&M of water facilities.

²⁴ Amuru, Dokolo, Kitgum, Lira, Otuke, Nwoya, Oyam, Pader, Abim, Kotido, Kaabong, Napak, Nakapiripirit, Moroto, Amudat, Mukono, Bundibugyo, Kakumiro, Kyenjonjo, Mityana, Mubende, Kabale, Kanungu, Rukungiri, Mitooma, Sheema, Bushenyi, Mbarara, Isingiro, Ibanda, Kiruhura, Kisoro, and Rubirizi.

- (ii) Operationalisation of the rural water department's strategy on improving water supply to the water-stressed areas. This calls for emphasis on the use of different technology options/multiple approaches to ensure a water source per village through large gravity flow schemes, solar powered mini-piped water schemes, boreholes, rainwater harvesting and self-supply. This approach will lead to a higher per capita cost, and therefore needs more financial resources.
- (iii) A national programme needs to be developed at all levels involving all sector players including NGOs to rehabilitate rural water supply infrastructure to enhance water facilities' capacity and improve reliability, followed by an enhanced O&M structure both at the source and by district local governments.
- (iv) The budget for software activities falls under the Non-wage recurrent which is basically for administrative costs and software activities implementation. It is recommended that MWE and stakeholders explore possibilities of having clear cut budget to cater for software activities. The budget line should not be merged with another component because it can easily be 'swallowed' up.
- (v) Capacity building of new extension staff needs to be undertaken to improve their skills in participatory community engagement methodologies.

5 URBAN WATER SUPPLY

5.1 Introduction

Uganda's second National Development Plan (NDP II) aims to increase access to safe water in urban areas to 95% (100% in NWSC towns) by 2020. Beyond this extremely ambitious target for the sub-sector, the Sustainable Development Goals (SDG Target 6.1) aim to "achieve universal and equitable access to safe and affordable drinking water for all" by 2030. This raises the bar even further as the SDG indicator "*proportion of the population using safely managed drinking water services*" implies that water is located on premises, available when needed and free from contamination.

Achieving these goals not only needs a substantial increase of the rate of investment (see next section), but also effective operation & maintenance and regulatory frameworks to ensure equity, affordability and sustainability of water and sewerage services in the longer term.

It is in this context that the O&M roles and responsibilities are being revised, with the recent gazetting of 74 water supply areas to the six Umbrellas for Water and Sanitation and gazetting of 48 additional supply areas to the National Water and Sewerage Corporation (NWSC) in 2016/17.

This chapter starts with Section 5.2 on access to piped water supply, as a proxy for access to water for the urban population. The section discusses the impact of accelerated urban growth, and the golden indicator on Access to Piped Water. It ends with a discussion of the New Sector Performance Indicators. After this general section that focuses on piped water supplies in gazetted urban areas, sections 5.3 to 5.5 also cover piped water supplies that serve rural growth centers, insofar as they are constructed or managed by the urban water institutions (WSDFs, Umbrellas, NWSC). Section 5.3 covers new constructions and rehabilitations in Small Towns and Rural Growth Centers while Section 5.4 summarises support to utility management of Small Towns and Rural Growth Centers. Section 5.5 summarises water supply in towns managed by NWSC, large or small, whereas the last section, Section 5.6, summarises regulation of all (urban) water supply and sanitation services.

5.2 Urban Water Service Coverage: Access to Piped Water Supply

5.2.1 Concerns on urban growth and sub-sector financing

Uganda's urban areas face a high population growth that tends to outrun gains in infrastructure development. This is also true for the urban water sub-sector where an increase of the number of people served is achieved every year, but the number of underserved people is stagnant or even still growing, partly due to population growth and partly due to the gazetting of additional areas as urban. Levels of urban access to piped water have thus only marginally increased in the last few years from 69% in 2011/12 to 71% in 2016/17 (SPRs).

During the last year, 425,000 people had to be served just to maintain the coverage rate. Of these, 290,000 resulted from the population growth of the urban councils that existed in 2016²⁵. The remaining 135,000, approximately, result from the additional unserved population of the new Town Councils²⁶ created in 2016/17.

Figure 5.1 illustrates how the increase in people served is offset to a large extent by the increase of urban population.

²⁵ Based on UBOS population projections per sub-county, analysed for urban councils that existed in 2016. This is equivalent to a growth rate of 3.3%.

²⁶ A possible further increase of the unserved urban population may result from the creation of new Town Boards. This is not considered here because information on new Town Boards was not available.

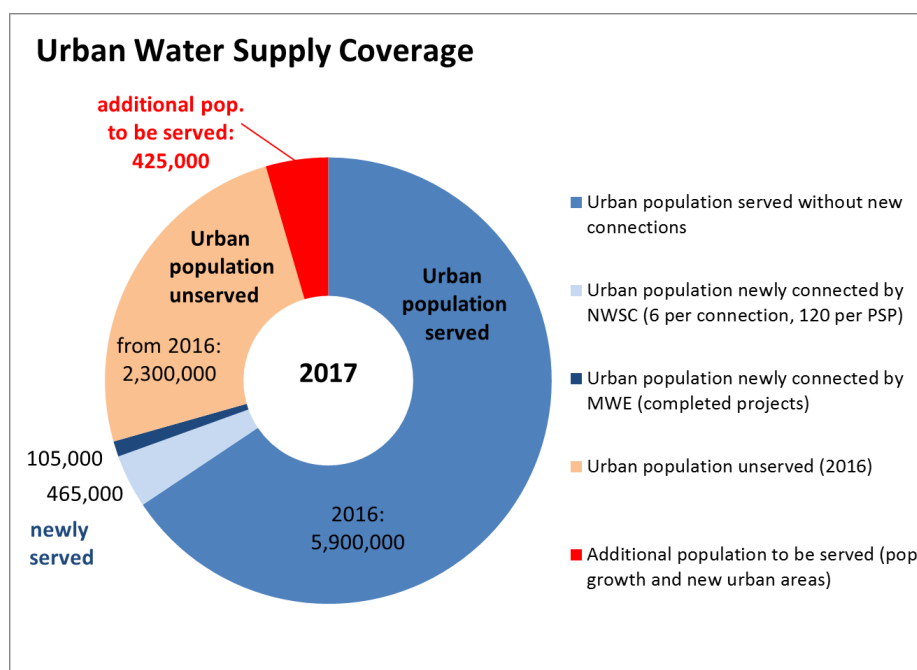


Figure 5.1 Urban water supply coverage: increase cancelled out by population growth

In the future, even higher urban growth rates may be expected. Further urbanisation is an explicit strategic national goal, as Vision 2040 aims for a level of urbanisation of 60% by 2040. The exponential increase of urban areas and urban population is shown in Figure 5.2.

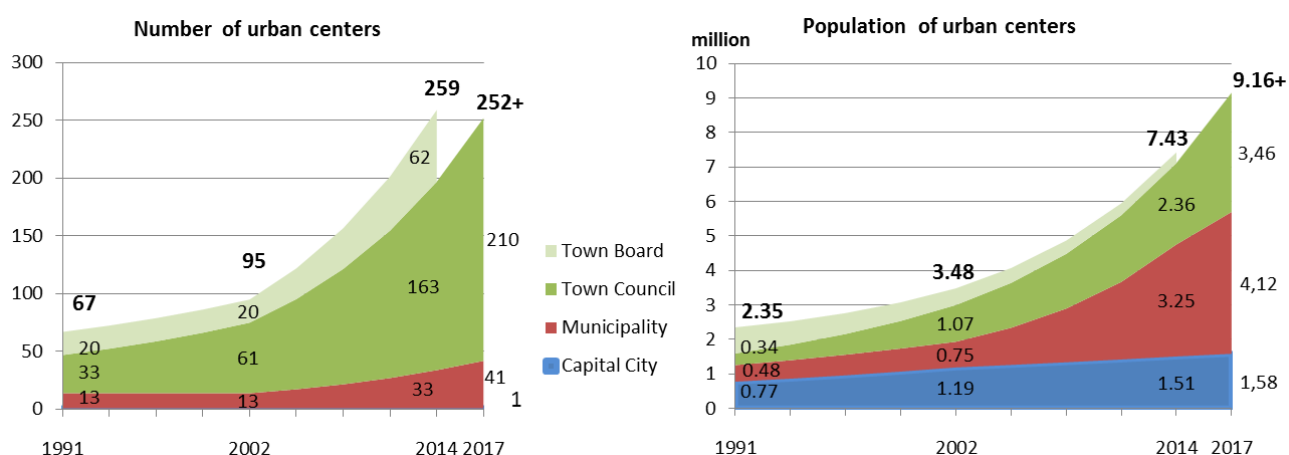


Figure 5.2 Growth of the number of urban centres 1991 - 2017

Table 5.1 Population of urban centres by administrative status

Urban Centre	Nat. Population & Housing Census 2014 ²⁷		Projection 2017 ²⁸	
	No.	Population	No.	Population
Capital City	1	1,507,114	1	1,583,000
Municipalities	22	1,731,024	41	4,115,300
Town Councils	17	3,879,618	210	3,459,500
Town Boards	4	308,142	n/a	n/a
	62			
Total Urban	259	7,425,898	252 excl. TBs	9,157,800 excl. TBs
Total Uganda		34,634,650 (21% urban)		37,730,000 (24% urban)

Uganda currently has an urban population of 9.16 million²⁹ living in the capital city, 41 municipalities and 210 town councils (UBOS projections). About 2.6 million of these urban residents remain without piped water services. Not included in these figures is the population of Town Boards, for which no data were available, as well as an additional population of more than 3 million people who live in more than 1,100 semi-urban rural growth centres (RGCs) that are likely to become gazetted urban centres in the near future.

This scenario calls for further efforts to increase investments in water supply infrastructure to close the access gaps and achieve the sector goals. Currently, sector financing for urban water (and sanitation) is not increasing and even at risk to be reduced as some development partners are ending their support after decades of support.

5.2.2 Golden Indicator No. 1: Access to Piped Water Supply

The Golden Indicator No. 1 – Access – is defined for urban water supply as “% of people within 200m of an improved water source”. In practice, this distance criterion is not being used for operational monitoring and the indicator will be replaced by two indicators (“basic water” and “safely managed water”, which are aligned to the SDGs (see Annex 8.1).

According to the National Population and Housing Census (2014, data published in 2016), 86%³⁰ of Uganda’s urban population used a “protected”³¹ source of water supply. However, this figure does not take distance into consideration, and it includes improved point water sources, such as boreholes, which in urban areas are often not free of contamination and hence may not provide safe water. It is therefore assumed that safe water within 200 meters can only be provided by piped water supply.

Urban access is therefore calculated based on infrastructure data, i.e. the number of piped water connections in each urban area combined with assumptions on the number of people that can be served per type of connection (household connection, public stand post/kiosk etc.). According to this method, the overall access to piped water in 2017 is **71%**, as in 2016. The apparent stagnation of urban coverage is mainly due to gazetting of 37 new Town Councils, which are now considered as urban, while piped water supply infrastructure is often

²⁷ The National Population and Housing Census 2014 – Main Report, Uganda Bureau of Statistics 2016

²⁸ based on administrative information and population projections provided by UBOS

²⁹ Excluding Town Boards for which population projections were not available.

³⁰ Figure calculated from the individual Sub-county Reports, UBOS 2016; Data are provided at the sub-county level, it was therefore not possible to extract data for Town Boards (parish level).

³¹ Protected water sources, according to the NPHC Sub-county Reports, include piped water, boreholes, protected wells and springs

not yet in place or only covers a fraction of the population. This compensates for the increase in coverage due to the construction of new schemes or expansions of existing schemes.

Table 5.2 shows that access to piped water is about 80% in Large Towns, which are almost exclusively³² served by National Water and Sewerage Corporation (NWSC). Of the 256 Small Towns, 200 have a functional piped water system, but only 56% of the population can be considered as served as the schemes are often too small, have insufficient connections or cover only a part of the urban area. In addition to the 56 small towns that are still unserved, several hundred rural growth centres aspire to have a piped water supply.

Table 5.3 shows the trend of urban coverage over the last five years. Comparisons should be made bearing in mind that there were administrative changes (increasing number of urban areas) and that the distinction between urban and rural population served is difficult. Service coverage in small towns partly relies on estimates as the information on connections was incomplete.

Table 5.2 Details on Golden Indicator No. 1 – Urban Access to an Improved Water Source, June 2017

Category (No.)	Total Population 2017 (UBOS)	Pop. served by piped water 2017	Access (Golden Indicator) 2017	Towns managed by NWSC	Towns without piped water	% using a protected water source (NPHC 2014) ³³	% having piped water on premises (NSDS 2015) ³⁴
Large Towns (42) - CC, MCs	5.70m	4.56m	80%	41	0	90%	26%
Small Towns (256) - TCs, TBs	3,73m	2.09m	56%	107	56 ³⁵	78%	
Total Urban Centres (298)	9.43m	6.65m	71%	148 ³⁶	56	86%	

Table 5.3 Trend of access to piped water supply in urban areas - 2012 to 2017

Reporting Period		11/12	12/13	13/14	14/15	15/16	16/17
Total Urban	Total population (million)	5.87	6.45	6.65	6.97	8.34	9.43
	Population served (million)	4.04	4.51	4.84	5.11	5.89	6.65
	% Coverage	69%	70%	73%	73%	71%	71%

Without the administrative changes that occurred the urban coverage would have increased by about 0.6% through new scheme construction by WSDFs and other projects (see chapter 5.3 for details), plus beneficiaries of additional connections of existing schemes. The number of additional people served was below expectations due to delays of disbursements and related commencement of projects in three of the four WSDFs (see Section 5.3).

³² The only exception is Koboko Municipality, which is expected to be handed over to NWSC after completion of the ongoing expansion works.

³³ National Population and Housing Census 2014, Main Report, UBOS 2016

³⁴ Source: National Service Delivery Survey 2015 Report, UBOS 2016

³⁵ Four of these towns were under construction as at June 2017

³⁶ Gazetted urban areas (TCs and TBs) only; NWSC also supplies a number of RGCs/Sub-counties that are not included in this figure.

At any rate, the level of investment in FY 2016/17 was clearly insufficient to make significant progress towards the sub-sector targets. The Strategic Sector Investment Plan³⁷, which is being developed, will provide clarity on the levels of investments that are required if the sector goals are to be achieved.

5.2.3 New Sector Performance Indicators for urban water supply

The revision of the sector performance monitoring framework, launched in 2016, will change considerably the way how progress in urban water supply will be monitored. A list of the proposed new indicators is provided in Annex 8.1. It is not yet possible to report on performance against the new indicators. Details of the calculation methods are still being defined and the baselines and targets for the new indicators are yet to be established. Several of the new indicators will be calculated from the Utility Performance Monitoring & Information System (UPMIS), but data entry needs to be substantially completed in order to obtain meaningful results. Furthermore, automated calculation routines are needed for some of the indicators in order to make monitoring of a large number of piped water schemes viable.

A reliable calculation of access to safe water supply in urban areas – both for the “old” access indicator and the New Sector Performance Indicator (based on the SDGs) – needs to be based on the UBOS census data of 2014. This includes harmonisation of the UBOS information on safe water supply (which is based on household surveys) with MWE’s information (which is based on infrastructure data). In the past there were large differences between these two sources of information, in particular for urban areas. For this harmonisation it is necessary to obtain the full details of the UBOS census data.

NWSC is planning to carry out a baseline survey to establish service coverage during FY2017/18, including a more accurate determination of the target population (service areas) and a clear distinction between urban and rural areas served. This will also provide the information needed for the calculation of the new SDG indicator (safely managed water available on premises).

It is expected that the necessary clarifications of methodology and data collection for the new indicator set can be accomplished during FY2017/18, and that baseline values for most of the indicators can be provided in the SPR 2018. The main steps to be taken in FY2017/18 are: (i) obtain detailed census data from UBOS, (ii) agree on responsibility for reporting for rural piped water schemes, (iii) complete data entry in UPMIS, (iv) implement automated calculation of new indicators in UPMIS, (v) carry out the NWSC baseline survey, including urban-rural disaggregation and new indicators, and (vi) implement a GIS-based calculation of “% of villages with a source of water supply” using the Water Atlas.

5.3 Water Supply Interventions in Small Towns and Rural Growth Centres

5.3.1 Overview

During the financial year 2016/17, MWE’s Urban Water Supply and Sewerage Department has completed and technically commissioned 14³⁸ water supply and sanitation systems and 1 faecal sludge management (FSM) facility in Kayunga District.

The total water supply capacity installed is 5,386 m³/day, with a total storage capacity of 2,170 m³ and a total length of pipelines of 505.4 kilometres. The population will be served by initially 316 public stand posts, 34 kiosks and 4,140 household/yard tap connections. The commissioned schemes will serve a current population of 105,384 people and a design population of 240,000 people by 2024. The population served in FY 2016/17 falls short of the planned target of 274,000 people, mainly due to the fact that the disbursements for WSDF East and WSDF South-West were suspended for the larger part of the year, and implementation of the EU Trust

³⁷ Development/Review and Update of a Strategic Investment Plan for the Water and Environment Sector, Uganda (2015-2030), Inception Report, May 2017

³⁸ The 14 towns are: Kiboga, Sunga, Katuugo/Kakoooge, Buvuma, Nyamarunda, Migeera, Bukakata, Kagoma, Nyahuka, Sanga, Kaliro, Kasagama, Kalongo and Amach.

Fund project in Northern Uganda will only start in FY 2017/18. Therefore only one scheme could be commissioned in the East (Kagoma), and 2 in the Northern Region (Kalong, Amach).

Water supply and sanitation systems for 44 other urban centres³⁹ are under construction, to serve a total current population of some 651,000 people. Three faecal sludge management facilities in Kamuli, Ishongororo and Kasaali are also under construction. Procurement of contractors has been completed for 15 Towns; for 52 towns designs have been approved, and tender documents available. 36 town water supplies are being designed.

5.3.2 Implementation of water and sanitation projects by WSDFs

The regional Water and Sanitation Development Facilities (WSDFs) remain MWE's main implementation channel for water and sanitation interventions in Small Towns and Rural Growth Centres (STs/RGCs) (see also Annex 6.2). The four WSDFs are supported by different Development Partners through the Joint Partnership Fund (JPF), a basket fund within the framework of the Joint Water and Environment Sector Support Programme (JWESSP 2013-2018) which is coming to an end by June 2018 (see also Section 15.1, which discusses critical issues in the Sector).

Karamoja Towns Water Supply and Sanitation Project commenced in FY2016/17. Large towns with bigger investment requirements are constructed by MWE's central programmes (e.g. LV WATSAN II, and WMDP). Table 5.4 summarises achievements for all WSDFs as well as for the other projects. More details are provided in Annex 8.3.).

Table 5.4. Summary of performance of WSDFs and other projects during 2016/17

WSDF	Commissioned	Under Construction	Completed Procurement	Completed Designs	FSM facilities
North	2	8		7	
Central	6	16		14	1 (completed)
East	1	10		16	1 (under construction)
South West	4	9	6	8	2 (under construction)
Total WSDFs	13	43	6	45	4
Other Projects					
WMDP				7	
Karamoja		1	1		
LV WatSan	1		8		1 compl., 1 under
Total other projects	1	1	9	7	2
Grand total	14	44	15	52	6

³⁹ These schemes are: Bugoigo-Walukuba-Butiaba, Gombe-Kyabadaaza, Ssekanyonyi-Zigoti, Namulonge-Kiwenda, Kalagi-Kabembe, Nagalama, Kyakawanga- Namarwa-Kabwoya, Nakapiripirit, Kyere, Kaperabyong, Bulengeni, Namagera, Amudaat, Katwe-Kabatooro, Koboko, Rukungiri, Nyero-Ngora-Kuumi, Paliisa, Kayunga-Busaana, Busede-Bugobya, Buyende, Pacego, Loro, Pabbo, Namukora, Paloga, Palabek-Ogil, Mucwini, Lagoro, Iziru, Kasambira, Kainja, Buyamba, Kashaka-Bubare, Kiko, Nsiika, Kambuga, Ocapa.

5.3.3 Centrally implemented water and sanitation projects

Complementary interventions are carried out through stand-alone projects implemented from the MWE headquarters. These are:

- (i) Lake Victoria Water & Sanitation (LVWATSAN) Project Phase II: November 2011 to December 2015, was extended to 2018; LV WATSAN III preparation is in progress.
- (ii) Water Management & Development Project (WMDP): June 2012 to December 2018
- (iii) Energy for Rural Transformation (ERT) Phase II: April 2009 to June 2016, extended to December 2017 for completion of the planned activities. ERT III has also been started for schemes which were not part of the ERT II.

Lake Victoria Water Supply and Sanitation

During the financial year 2016/17, the LV WATSAN has completed one piped water supply and sanitation system in Bukakata Town. The water sub-component has improved access for a total population of 6,139 people. The sanitation sub-component consists of 1 faecal sludge management system composed of 1 sludge vacutag, 1 sludge exhauster, 26 skips and 2 trucks. The completed facilities are functional and serve a total population of 13,732. The water supply and sanitation systems were technically commissioned and handed over to NWSC for operation and management.

LV WATSAN projects being designed for the next phase (which is yet to start) are located in the Greater Gomba Area (Kanoni, Bulo, Nsabwe, Ngomanene, Kiriri, Bukandura, Rugaga, Kabulasoke, Butiti, Kifampa, Kisozi, Kajumiro, Maddu); Greater Rakai Area (Rakai, Nsaro, Rumbugu, Birabago, Buyamba, Rwanda-Kooki, Dwaniro, Byakabanda, Kamukala, Kibbale); and Greater Bugadde Area (Bugadde, Kityerera, Busakira, Kuluuba).

Water Management Development Programme

WMDP continued with construction of water supply and sanitation systems for the towns of Koboko, Rukungiri and Katwe-Kabatooro. Construction of Pallisa and Nyero-Ngora-Kuumi systems commenced. Busia, Butalejja, Busolwe, Budaka, Kadama, Tirinyi and Kibuku were designed and are to be implemented under the follow-up project (WMDP-Phase II).

Energy for Rural Transformation (ERT II)

ERT II has completed hybrid extensions in 32 towns (14 in northern Uganda, 12 in West Nile Region and 6 in the Eastern and Karamoja Region).

5.3.4 Pro-poor measures

During the FY 2016/2017, the MWE/UWSD served about 70,000 poor people through the construction of 34 water kiosks and 316 public stand posts. This was a significant increase compared to the 22,144 poor people served last financial year. For further improvement of the pro-poor approach, a progressive water tariff is being discussed, where poor households would get access to basic supply at a lower cost than at public stand posts/kiosks, where the price per jerrycan is often higher than the water tariff for household/yard tap connections, due to the need to pay for the services of the water vendor/tap attendant.

5.3.5 Water source and catchment protection

WSDFs made good progress towards implementation of Water Source Protection activities (2013). All respective WSDF activities were implemented with the involvement of the respective Water Management Zone team in the area. Water source protection has been implemented for all the water supply systems through a combination of advocacy/sensitisation, tree planting, and restriction of activities around the water sources. Pilot Water Safety Plans were developed and are under implementation by the Umbrella Organisations. Water Source protection has also been implemented in all schemes.

Within the Water Protection Zone, the land is acquired and fenced off to ensure the highest level of protection by excluding all human and animal activities within. A minimum size of 50x50 metres is acquired as a rule in all schemes being implemented by WSDFs or other projects. Community members are trained on the importance and benefits gained as a result of undertaking water source protection.

5.3.6 Golden Indicator No. 3: Per Capita Investment Cost

The golden indicator for per capita investment cost in urban areas is: “the Average cost per beneficiary of new water and sanitation schemes (USD)”. The total amount invested during this financial year – UGX 49.3 billion – is equivalent to an average per capita investment of **USD 54** (based on design population), with a maximum of USD 103 for scheme with the highest per capita cost. This is well below the typical per capita expenditure according to international experience⁴⁰ and also below the sub-sector target of USD 75.

Per capita costs depend on many factors, including the settlement structure, the topography, the definition of the supply area, and the type of water supply and technology used. The per capita cost indicator can only be analysed in conjunction with the reasons for an increase or reduction in per capita costs, and should never stand alone to assess the effectiveness of the planning and construction procedure. Low per capita investment costs are not a target per se. Higher per capita costs may locally be inevitable due to factors such as remote location, low ground water potential, or absence of grid power.

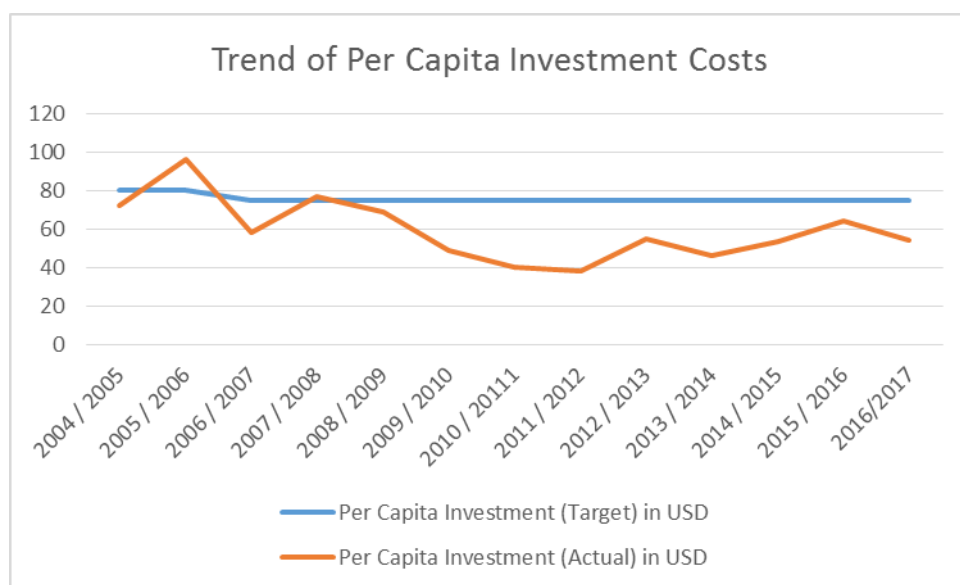


Figure 5.3 Trend of Per Capita Investment Costs for Small Towns and RGCs

5.4 Support to Utility Management of Small Towns and Rural Growth Centers

5.4.1 Umbrella Organisations

O&M support to the piped water systems in small towns and rural growth centres that are not managed by NWSC is ensured by six regional Umbrella Organisations⁴¹. UOs also provide limited financial support for major repairs, replacement of equipment and extension works, mainly by channelling earmarked government subsidies (conditional grants) for infrastructure investments. In this context a “revolving fund” (or trust fund)

⁴⁰ Average per capita cost for initial investment costs for 64 African Cities: USD 102 without sanitation. Source: Evaluation of Costs and Benefits of Water and Sanitation Improvements on a Global Level, G. Hutton, L. Haller, WHO 2005

⁴¹ Central Umbrella for Water and Sanitation (cUWs), based in Wakiso; Mid-Western Umbrella (mwUWs), based in Kyenjojo; South Western Umbrella (swUWs), based in Kabale; Northern Umbrella (nUWs), based in Lira; Eastern Umbrella (eUWs), based in Mbale; and Karamoja Umbrella (kUWs), based in Moroto.

approach was developed is going to be implemented (see Section 5.4.5). The current mandate of Umbrella Organisations is described in more detail in Annex 2.

5.4.2 Institutional transformation

In FY2016/17, significant progress was made in developing a viable approach for the sustainable management of piped water systems in small towns and rural growth centres where NWSC does not operate. There are more than 950 such small piped water systems in Uganda, including the rural gravity flow schemes, of which 462 are currently being supported – to the extent possible – by the Umbrella Organisations. However, the supporting mandate of the Umbrellas – as described above – is not always sufficient to ensure effective and sustainable operations.

MWE therefore explored alternative options to improve performance and service delivery. Phase II of the Reorganisation Study⁴² studied the “preferred option” of establishing regional public water utilities. As a first step towards implementing this approach, the existing Umbrellas for Water and Sanitation will start taking over direct management responsibilities for a number of schemes. It is in this context that Undertaking No. 5 of JSR 2016 had been formulated: “Re-organise Umbrella Organisations focusing on financing mechanisms and management responsibilities for piped water systems”.

The main objectives of this institutional reform are (i) to enhance revenue collection and financial management systems, and (ii) introduce good practices of preventive maintenance and asset management, in order to achieve better functionality and sustainability of the piped water schemes. The new approach was finally launched in July 2017 when the six Umbrellas were gazetted as Water Authorities for 74 towns in total. In the medium term this is expected to secure the institutional sustainability of the Umbrellas, which currently still depend on donor funding to cover their operational costs. In the short term, however, the Umbrellas will be challenged by a double mandate, to be fulfilled with very limited human and logistical resources. In addition to the direct operational responsibility for the schemes where the Umbrellas are gazetted as Water Authorities they will also be expected to continue providing support to all the other schemes in their region. The reorganisation will start essentially using the existing human and logistical resources (see also Section 15.2).

5.4.3 Performance of Umbrella Organisation 2016/17

Currently, the six Umbrella Organisations are supporting 462 piped water schemes, plus 60 designated member schemes that are still under construction or design⁴³. This number continues to increase as every year more than 20 new schemes are added by construction⁴⁴ and Umbrellas were instructed to extend their services to all schemes in their area of intervention, to the extent possible. However, the transport, financial and human resources of Umbrellas will have to be strengthened significantly to make this support realistic in practice.

Table 5.5 summarises the Umbrellas’ performance in FY 2016/17. **95%** of the supported schemes are functional⁴⁵. However, many of these schemes suffer from functionality problems such as insufficient water quantity, frequent breakdowns, management issues or – less frequently – water quality issues. Fixing these issues would often require investments that are beyond the current Umbrellas’ capacities. The same applies to the 25 non-functional schemes which cannot be rehabilitated with the Umbrellas’ current resources.

⁴² Reorganisation of Water Supply and Sewerage Service Areas in the Urban Water and Sanitation Sub-Sector in Uganda, Phase II – Preferred Option Report, December 2016

⁴³ Umbrella Organizations are involved by the WSDFs right from the design and implementation phase of new water supply systems, in order to ensure building of adequate O&M structures from the beginning.

⁴⁴ This includes schemes constructed under the Rural Water and Sanitation Department, which is increasingly developing piped water systems, including large systems covering several administrative areas.

⁴⁵ „Functional“ here means that the system is producing and distributing water, irrespective of the service quality. Note that this is not the same as the Golden Indicator on functionality which is defined as “Ratio of actual hours of water supply to the required hours”. This indicator will be discussed in the section on Water Utility Regulation.

Major repairs or replacement of components were carried out in 67 schemes. 52 km of network extensions were implemented, and 3,510 water meters were procured and distributed. The financial resources used for these interventions were mainly O&M Conditional Grants, of which UGX 2.2bn were provided to the Umbrellas and fully spent in FY 2016/17. The Umbrellas aim to visit each scheme once per quarter, and also take water quality samples once in a quarter. These targets are not always met due to the limited human and transport resources. Each Umbrella has currently 6 to 7 professional staffs sharing between one and three vehicles per Umbrella.

Table 5.5 Performance of Umbrella Organisations in FY 2016/17

	All Umbrellas	Central	Eastern	Kara-moja	Mid-Western	Northern	South-Western	Explanations
No. of schemes registered/supported <i>(excluding schemes that are not yet completed)</i>	462	99	97	35	71	99	61	Umbrellas to become Water Authorities for 74 of these schemes in 2017/18
% functional schemes	95%	100%	99%	80%	99%	84%	100%	Former IDP schemes in Northern region to be rehabilitated
No. of non-functional schemes repaired during FY 2016/17	67	14	4	13	14	18	4	Major repairs or replacement of components
Financial support: O&M Conditional Grant funds spent (UGX)	2,208m	412m	400m	300m	364m	342m	390m	Expenditure for investments in member schemes (mostly in kind)
No. of advisory financial mgmt. audits conducted	120	47	6	3	46	6	12	
Network extensions constructed (km)	52	14	7	3	12	4	12	
No. of water meters provided	3,510	2,333	435	150	447	143	2	
Volumes of faecal sludge emptied and deposited (m ³)	1,065	1,065	n/a	n/a	n/a	n/a	n/a	Only implemented in cUws

Source: Q4 Reports 2016/17

5.4.4 UPMIS

The web-based Utility Performance Management and Information System (UPMIS) became fully operational in FY2016/17. It holds information on the technical characteristics, functionality, financial, management and water quality situation as well as asset registers for all piped water schemes, urban or rural, that are not managed by NWSC. Baseline data collection and entry have made good progress and are near completion for

several regions of the country. The number of scheme operators submitting monthly reports – either using the web interface or via SMS – is growing (see Figure 5.4).

The focus will now be on further roll-out of monthly reporting (training of scheme operators) as well as the full introduction of UPMIS at the central level for generating performance reports and for informed decision making at the senior management level of three departments: UWSD, RWSD and WURD.

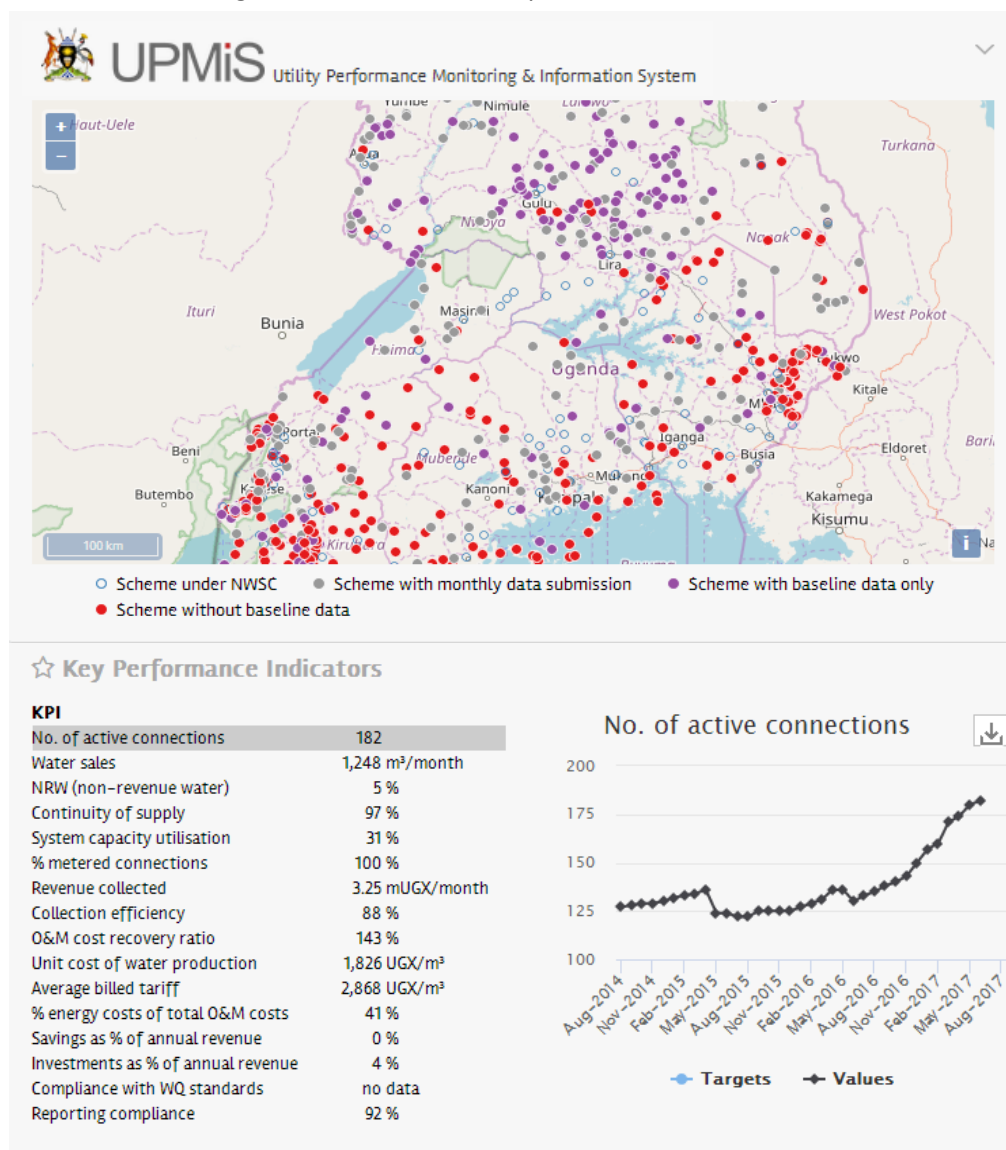


Figure 5.4 UPMIS Screenshots

5.4.5 Revolving Financing Facility

After several years of piloting at a small scale by the Umbrellas, MWE developed the concept of a Revolving Financing Facility (RFF) for investments in existing piped water schemes during the FY2016/17; an operations manual has been developed and some seed funding has been secured. The main purpose of the RFF is to provide a source of funding for investments. More information is provided in Box 5.1.

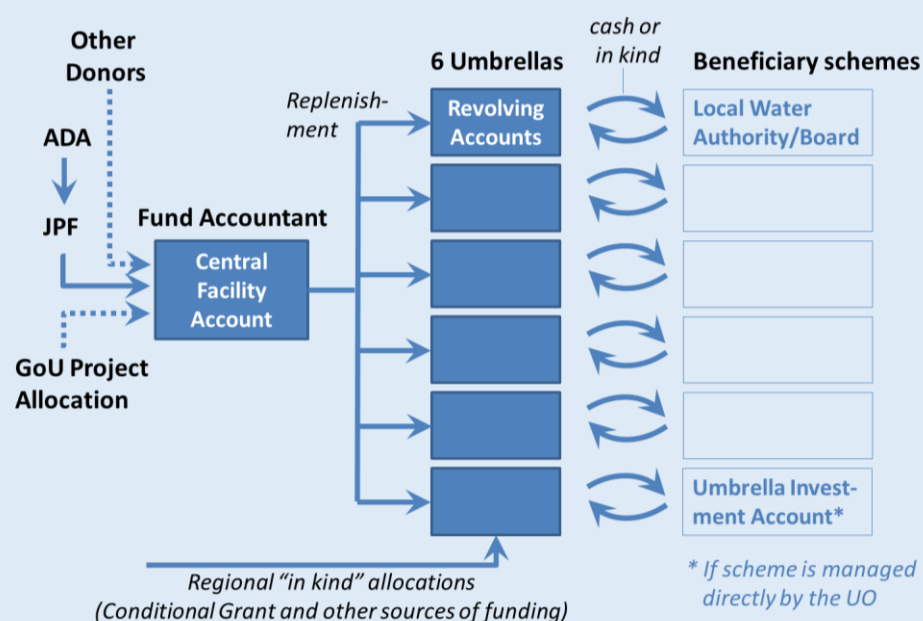
Box 5.1 Revolving Financing Facility

Investments such as major repairs, replacement of equipment, network extensions and new connections, water source protection (e.g. fencing of the protection area), and water metering (required for commercial operations) may be covered by the RFF. Currently there is no source of funding for this type of investments, apart from the Conditional Grants which are grossly insufficient to meet the demand. Many of the investments are moderate but have a significant impact on service quality and sustainability. The RFF intends to replace the traditional cycle of deterioration and rehabilitation by a continuous flow of moderate capital maintenance investments, in order to maintain service quality throughout the lifetime of the infrastructure. Complete rehabilitations or major expansions will continue to be financed through other channels, for instance by the Water and Sanitation Development Facilities (WSDFs).

The RFF approach is building on successful piloting at a small scale by the six regional Umbrella Organisations, which demonstrated overwhelming demand for this type of funding. This will now be scaled up with enhanced financial management arrangements and safeguards.

The basic concept of the RFF is to provide immediate support (e.g. by financing repairs or extensions) and require back payments from locally collected funds (user fees) that can then be used to support other schemes. Instead of accumulating funds on an investment account – an approach that largely failed in the past – the beneficiary schemes get the necessary equipment or financial support first and then use part of their revenue to pay back the loan. Partial grant support can be provided in certain cases, such as urgent investments that cannot be fully covered by local revenue without making user tariffs unaffordable.

The RFF will be managed in trust by the regional Umbrellas, but will be available to all schemes that are not managed by NWSC. RFF funds will be ring-fenced and cannot be mixed with other operational funds. Funding decisions will be made, based on the agreed funding criteria, by the Umbrellas' regional Executive Committees. Appraisal and monitoring of individual projects will be ensured by the Umbrella Organisations under the oversight of MWE and of a Fund Accountant at the national level.



Operating Principle of the Revolving Financing Facility

5.4.6 Golden indicator No. 9: Management

The golden indicator for management for urban water supply is “% of water points with actively functioning Water and Sanitation Boards”. By end June 2017, **72%** of the small towns and rural growth centres with piped water had actively functioning Water Supply and Sanitation Boards, based on data for 445 schemes provided by the Umbrella Organisations (see Annex 8.2 for a regional breakdown).

5.4.7 Golden indicator No. 10: Gender Mainstreaming

This golden indicator reflects the participation of women in water management. For urban water supply it is defined as “% of Water Boards with women holding key positions”. **82%** of the Water Boards had at least one woman holding a key position as per end June 2017. 97% of the Water Boards had at least one female member, and one third (34%) of all Water Board members were female.

The Golden Indicator value of 82% cannot be compared with the previous figure of 67%, when the information was only available for 69 piped water schemes. The revised figure is based on a survey covering 445 schemes, conducted by the Umbrella Organisations in conjunction with the baseline data collection for UPMIS. WSDFs and Umbrella Organisations continue to advocate for a gender-balanced composition whenever new Water Boards are formed or existing ones are revitalised or retrained (see also Annex 8.4).

5.5 Water Supply in Towns Managed by National Water and Sewerage Corporation (NWSC)

The NWSC geographical coverage has increased from 170 towns (“town Area”) as at 30th June 2016 to 218 towns as at 30th June 2017, an addition of **48** towns. This translates into a target population within the municipal boundaries of approximately 8.0 million people. The increase in geographical coverage and the stretch beyond the municipal boundaries requires greater effective planning, management and control. NWSC has embarked on carrying out a baseline survey to establish the effect of increased geographical coverage on the overall service coverage, which is expected to be completed in the FY2017/18.

5.5.1 NWSC Tariff Structure

NWSC implements a uniform tariff structure across all its towns to ensure equity in pricing. Table 5.6 shows the NWSC tariff implemented for the various consumer categories during the financial year 2016/17. The average water tariff increased from 2,668 UGX to 2,855 UGX/m³, an increase of **7%**. Sewerage tariff is 75% of the water tariff for the Domestic category, and 100% of the water tariff for other categories of customers. Sewerage is not billed in isolation; it is based on volume of water consumed.

Table 5.6 NWSC Tariff Structure FY 2016/17 (VAT Exclusive)

Customer Category	Water tariff [UGX/m ³]	Tariff [UGX/20L]	Sewerage Tariff [UGX/m ³]
Public Standpipe	1,593	31.86	n/a
Domestic	2,716	54.32	2,037
Institutions / Government	3,344	66.88	3,344
Comm <500m ³ /m	4,102	82.04	4,102
Comm 500-1500m ³ /m	4,102	82.04	4,102
Comm >1500m ³ /m	3,278	65.56	3,278
Average Commercial	3,827	76.54	3,827
Average Water tariff	2,855	57.1	

5.5.2 Unit costs of production for FY 2016/17

The unit cost of production decreased by 8% from UGX 2,271 per m³ in June 2016 to UGX 2,083 per m³ in June 2017. The reduction in the unit cost is attributed to the cost optimization measures instituted by the NWSC amidst the expansion drive in geographical coverage. Figure 5.5 shows the increasing trend of unit costs of production from June 2007 to June 2017.

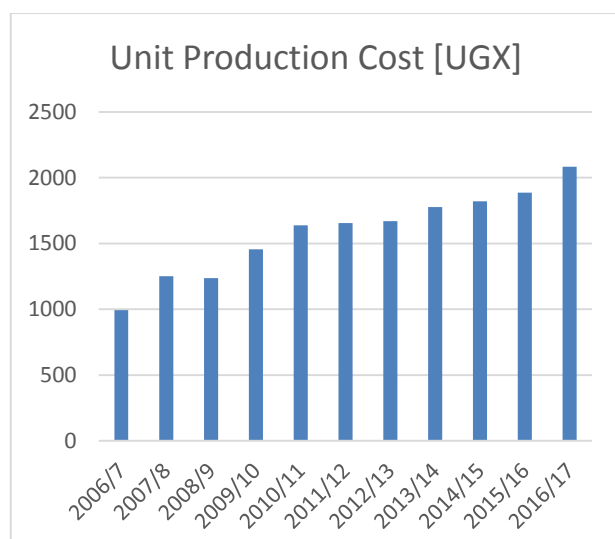


Figure 5.5 Trend in unit cost of production [UGX]

5.5.3 NWSC internal strategies

During the financial year 2016/17, the management of the NWSC implemented the following strategic activities aimed at improving corporate performance:

- ❖ **Infrastructure Service Delivery Programme (ISDP).** During the FY 2016/17, the Corporation planned to lay 1,058 km of water mains and 30 km of sewer mains. As at 30th June 2017, 910.566 km of water mains and 26.140 km of sewer mains had been laid translating into an achievement of 86% and 87% of the annual water and sewer mains target respectively. The total network increased by 24% from 9,759.87 km in June 2016 to 12,112.93 km as at June 2017 and the sewer network increased by 23% from 556.2 km in June 2016 to 686.2 km in June 2017. This marks a continued commitment of the Corporation to ensure increased coverage of water services.
- ❖ **Water Supply Stabilisation Programme (WSSP).** To ensure reliable water supply and augment service delivery, varied activities aimed at enhancing production and supply were implemented in various areas during the review period. These include among others installation of water pumps, replacement of booster pumps, drilling of boreholes, and laying of transmission and distribution lines.
- ❖ **Water Loss Prevention Program (WALOP).** This aims at curbing the growing water losses through enhanced monitoring and partnership with different stakeholders including the communities and the Police. During the FY2016/17, 1,282 illegal consumers were apprehended as compared to 1,208 apprehended in FY2015/16.
- ❖ **Stakeholder Management.** Aware of the need to manage stakeholder expectations for effective service delivery, the NWSC undertook various stakeholder engagement programmes that entailed an awareness drive of the public through a cocktail of channels including water Barazas, radio and TV stations, churches and mosques, Magazines, social media campaigns on Facebook, Twitter, and programs such as WACOCO (Water Community Communication Clubs), and SWAS (School Water and Sanitation) clubs.
- ❖ **Performance, Autonomy and Creativity Enhancement (PACE).** NWSC continued with implementation of PACE within the framework of Internally Delegated Area Management (IDAMC). PACE is operationalized through Performance Improvement Programs (PIPs) To this effect, a bi-annual regional evaluation was held in March 2017 to assess regional performance.
- ❖ **Pro-poor Interventions.** A total of 1,087 Public Stand Pipes were installed which accounts for 109% achievement of the annual target of 993 PSPs. The total number of PSPs as at 30th June 2017 was 11,237 PSPs. This demonstrates the Corporation's commitment towards improving access to water services by all income categories.

- ❖ **Energy Reduction Action Plan.** This entailed energy use monitoring, energy audits, water accounting and water loss reduction efforts. The major aim of this programme is to reduce operation costs and consequently increase savings towards infrastructure upgrades.
- ❖ **Arrears Wipe-out Campaign (AWOC) and Suppressed Accounts Reduction Programme (SARP).** This programme is implemented to reduce the level of arrears and the number of suppressed accounts. The mode of implementation entails enforcement of the customer credit limit of one-month bill. The momentum of this program is hinged on an incentive framework that targets a collection ratio of 100%.
- ❖ **Information and Communication Technology (ICT).** NWSC depends heavily on ICT for delivery of its services, its operational management, internal and external communications. Some of the key interventions undertaken in ICT during the review period include;
 - SMS web client application – This was developed and rolled out to all areas to enable and allow NWSC to control/manage its communication to stakeholders.
 - An online leave application system developed and currently being used to manage staff leave.
 - A fuel requisition and approval module that was developed and rolled out to all areas by June 2017.
 - An E-inventory system is being rolled out to all areas in addition to Head office and Kampala Water offices. This is to enable staff to request for materials through an automated platform, as opposed to the current manual set up.
 - A Windows platform for on-spot billing application was designed and developed and training done in areas that are in possession of the equipment.

5.5.4 Key projects implemented by NWSC

The following section gives the status of projects implemented by the NWSC as at the end of June 2017:

- I. **Kampala Sanitation Project (KSP).** The project components include: Construction and operation of Nakivubo Waste Water Treatment Plant, Nakivubo and Kinawataka Sewers Project, Kinawataka Pre-treatment and Pumping Station, as well as Community Mobilization. In regard to Construction and operation of Nakivubo Waste Water Treatment Plant, overall progress of the project was estimated at 90% completion as at June 2017. In regard to Nakivubo and Kinawataka Sewers Project, over 22 kms were laid which represents 76% of the planned extensions. Construction of platform access road on Kinawataka Pre-treatment and Pumping Station commenced and was in progress as at June 2017.
- II. **Kampala Water – Lake Victoria WATSAN Project (KW – LV WATSAN).** The project includes upgrading and rehabilitation of the Gaba water treatment complex, construction of new water treatment plant east of Kampala, construction of the Katosi – Kampala drinking water transmission main, extension of water supply in informal settlements, and capacity development in the areas of overall investment planning inclusive of training and equipment. By the end of June 2017, upgrading and rehabilitation of the Gaba Water Treatment Complex was completed and commissioned while works for new water treatment plant in Kampala East (Package 4B) was at evaluation stage. Engagement of a consultant for water and sanitation in informal settlements (package 5B) was in progress, a site for faecal sludge management was identified and negotiations in progress.
- III. **Water Management and Development Project (WMDP).** The project aims at improving water supply and sanitation services, including services to the urban poor and source protection measures, in the towns of Arua, Gulu, Mbale, and Bushenyi. During the FY 2016/17, varied milestones were registered in different areas:
 - **Arua:** Over 80 km and 18.4 km of water and sewer network, respectively were laid while a borehole pumping system was commissioned at Angufea. As at end of June 2017, overall progress on works is estimated at 72%.
 - **Bushenyi:** By the end of the review period, 70% overall progress on works was achieved.
 - **Gulu:** The contract was signed and construction works commenced.
 - **Mbale:** This project was earmarked for funding under the next phase of the WMDP.
- IV. **New Soroti Water Intake.** It involves construction of an intake structure comprising of inlet sump and pump room, supply and installation of 3 pumps (including other electro mechanicals) delivering 288m³/h each, installation of delivery main, supply and installation of standby generator, extension of

overhead power supply to the new intake plant, and construction of stabilized murram access road of 100 meters linking the Intake Works to Soroti Highway. The project, fully funded by the NWSC was substantially completed.

- V. **Package Sewage Treatment Plants for Fort Portal & Kisoro Towns.** The project that is fully funded by the NWSC involves design, supply, installation and operation of sewage treatment plants for both towns. The Kisoro Plant works was substantially completed.
- VI. **Kapeeka Water Supply Project.** The project involves construction of water intake (4400m³/day), water treatment plant (4000m³/day), reservoir (600m³), 15 km water network (transmission & distribution), and 4 staff houses. Raw water pumps were delivered and installed. The project was completed and is under defects liability period.
- VII. **Masindi Water Production Improvement.** This project, involving improvement of water production by construction of additional water treatment units, was fully completed.
- VIII. **Integrated Program to improve Living conditions in Gulu – Phase II Nile option.** This phase involves construction of the Karuma water treatment plant and bulk water supply to Gulu and onsite sanitation for private homesteads; the contract was signed.
- IX. **Development of WatSan Infrastructure for the Mbarara-Masaka Areas.** The project is aimed at improving water supply and sanitary services in the Mbarara and Masaka service areas as well as small towns neighbouring Masaka service area. Process of consultations is in final stages.
- X. **Development of WatSan Infrastructure for the Hoima - Masindi Areas (Albertine Graben Cluster North).** The project is aimed at further development of water and sanitation infrastructure in the Albertine Region operational areas of Hoima and Masindi. During the reporting period, the feasibility study and pre-design reports were finalized, while borehole drilling was completed. The feasibility study report was submitted.
- XI. **Kampala South WatSan Project (KSWSP).** the overall objective of the project is to improve the quality of life, health and economy of people in the south and west of Greater Kampala area. The first project phase covers a feasibility study for the development of the new Waste Water Treatment Plant (WWTP), abstraction system, primary bulk storage reservoir, associated pumping main, distribution system, a faecal sludge treatment plant and supply of water in informal settlements in this area.
- XII. **Kyotera Water Works and Bulk Transfer to neighbouring towns.** The project involves water abstraction at Malembo landing site along Lake Victoria, treatment and transfer of water to the towns of Kyotera, Kalisizo, Sanje, Kakuuto, Mutukula, Rakai, Lyantonde and Kalisizo. The works contract is in the final stages.

5.5.5 Financial performance

During the FY 2016/17, the NWSC turnover grew by **16%** from UGX 276.06bn in FY 2015/16 to **UGX 320.96bn**. Similarly, a growth of **16%** was registered in operating profit before depreciation from UGX 60.17 bn to UGX 70.03bn in FY 2016/17. The profit will be ploughed back in form of investments in water and sewerage infrastructure aimed at extending services closer to the customer.

5.5.6 NWSC performance analysis using Performance Contract 2016/2017 indicators

During the financial year under review, NWSC achieved most of the key performance targets by the government in line with its Performance Contract, as summarized in Table 5.7.

Table 5.7 NWSC's Performance versus Performance targets for PCV - 2016/2017

	Indicator	Performance	Target	% performance
i.	Non-Revenue Water-Kampala Water	37.5%	32.0%	85%
ii.	Non-Revenue Water-Central Region	19.7%	32.5%	165%
iii.	Non-Revenue Water- Northern & Eastern Region	17.8%	22.0%	124%
iv.	Non-Revenue Water-Western & South Western Region	21.2%	21.0%	99%

	Indicator	Performance	Target	% performance
v.	System Input Meter Coverage	74%	67.0%	110%
vi.	New Water Connections	43,241	28,000	154%
vii.	New Sewerage Connections	318	250	127%
viii.	Capital Works implemented	160%	80.0%	200%
ix.	Water Sales (Million m ³)	80.15	66.8	120%
x.	Collection/Billing Ratio	93%	95.0%	98%
xi.	Receivable Collection Days (Average Days Receivables)	90	80	89%
xii.	Return on Capital Employed	6.0%	1.0%	600%
xiii.	Working Ratio (Operating Cost/Revenue)	78%	85%	109%
xiv.	Water Quality	98.2%	98.0%	100.2%
xv.	Effluent/Sewerage Discharge Compliance	48.3%	50.0%	97%
xvi.	Pro- Poor Connections	1,087	500	217%
xvii.	Audit Recommendations Implemented	89.2%	80.0%	111.5%
xviii.	Customer Satisfaction Index	84%	70.0%	120%

5.5.7 Status of water connections and extensions

As at 30th June 2017, the total NWSC customer base was **529,402** connections compared to 472,193 connections as at end of June 2016. Table 5.8 shows the status of connections and total mains extensions per financial year since FY 2013/2014, while Table 5.9 shows the trend in the number of new connections per region and new mains extensions per year since FY 2013/14.

Table 5.8 Tracking the status of water connections and mains extensions (2013/14 – 2016/17)

	2013/14	2014/15	2015/2016	2016/2017
Total No of Accounts	366,330	418,031	472,193	529,402
Number of Active Accounts	326,381	372,189	427,795	471,393
Number of Inactive Accounts	39,949	45,842	44,398	58,009
Percentage Inactive	10.9%	11%	9%	11%
Number of Metered Accounts	364,637	416,380	470,240	529,085
Meter Coverage (%)	99.5	99.6	99.6	99.9
Total Mains Extensions	7,113.42	8,569.47	9,759.87	12,112.93

Table 5.9 NWSC new water connections and new water mains extensions (2013/14 - 2016/17)

	2013/14	2014/15	2015/16	2016/17
Kampala Metropolitan	15,324	14,982	18,951	22,862
Central Region	6,132	7,630	8,253	8,286
Northern Region	3,315	5,026	4,796	5,581
Western Region	3,297	6,344	6,836	6,512
New water mains extensions	470.26	1,447.47	887.60	910.57

5.5.8 Cross-cutting issues

Gender balance in staffing

The Corporation gives due credence to gender issues when recruiting staff. The Corporation had seven Directorates, and four of these Directorates were headed by Ladies by end of June 2017. Overall, **30%** of staff in the Corporation are female which is a **2%** improvement from last financial year's 28%. In summary, as at the end of June 2017, NWSC had total staff of **3131** across all its areas of jurisdiction

Pro-poor Infrastructure

The NWSC undertakes pro-poor strategies aimed at improving the lives of the people living in informal settlements in the urban areas served by NWSC. One way of reaching out to such people is through installation of public stand posts (PSPs) with a subsidized and affordable tariff. As at end of June 2017, the NWSC had installed **1,087** new pro-poor connections in form of public standpipes.

Table 5.10 Trend in status of PSPs/kiosks as at June FY 2010/11 – 2016/17

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
New PSPs/Kiosks	469	191	95	921	924	1,093	1,087
Total Active PSPs/Kiosks	6,668	6,814	6,825	8,038	6,594	8,161	8,859
Total Inactive PSPs/Kiosks	1,634	1,688	1,749	1,951	2,488	2,680	2,378
Total PSPs/Kiosks	8,302	8,502	8,574	9,989	9,082	10,841	11,237

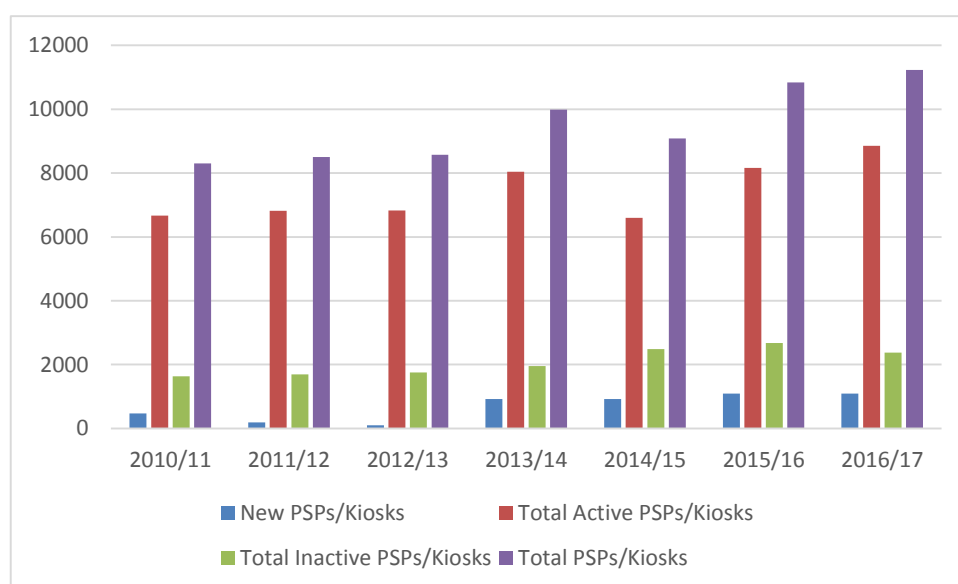


Figure 5.6 Status of PSPs/kiosks as at June FY 2010/11 – 2016/17

5.5.9 Status and trends of key sector indicators

Golden Indicator No. 1: Access to an Improved Water Source

Table 5.11 shows the water coverage trend for the period 2010 to 2016. Please note that the population served by NWSC also includes part of the rural population (see also Section 1.3.4).

Table 5.11 Water Supply and Sewerage Coverage (FY 2010/11 – 2016/17)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Target Population	3,239,370	3,377,240	3,838,004	4,439,084	6,068,473	7,502,874	8,002,874
Population Served	2,426,502	2,614,090	2,986,773	3,382,050	4,636,750	5,871,224	6,310,824
% Population Served	74.90%	77.40%	77.80%	76.19%	76.40%	78.25%	78.86%
Number of Service Areas	20	20	28	66	110	167	218

Table 5.12 details NWSC's operational and financial performance relating to increased coverage from FY 2010/11 to FY 2016/17

Table 5.12 Targets and achievements for urban water supply and sanitation (NWSC), 2010/11 - 2016/17

	Actual 10/11	Actual 11/12	Actual 12/13	Actual 13/14	Actual 14/15	Actual 15/16	Actual 16/17	Target 16/17	Variance 16/17
Service coverage (%)	75	76	78	77	76	78.2	78.9	78.2	0.66
No. new Connections	23,992	23,313	21,637	28,068	33,982	38,821	43,241	39,000	4,241
Total No. connections	272,160	296,206	317,292	368,313	417,938	472,193	529,402	519,373	10,029
Meter Coverage (%)	99	99.7	99.9	99.5	99.9	99.5	99.6	100	-0.4
Mains Extensions (km)	161.7	102.2	85.8	470.3	1448	888.6	910.566	1,058	-147.43
Water Production (m ³)	74.53	81.6	87.3	94	99.6	106	120.59	117.2	3.4
Non-Revenue Water	33.8	32.8	33.6	33.7	31.2	28	31.3	28	3.3
NRW (%) Kampala	39.2	38.5	38	37	33.3	31.8	37.5	31	6.5
NRW (%) Rest	16.7	16.7	23	26.2	26.9	21.2	19.7	19.91	-0.21
Staff per 1,000	6	6	6	5	6	6	6	6	0
Turnover UGX (billions)	133.9	154.7	170.4	183.4	211.8	276.02	320.96	318.82	2.14
Collections/Billing	99	95	96	96	105	97.20%	93	98	-5

Note: Baseline Survey aimed at validation of service coverage is ongoing.

Golden Indicator No. 5: Water and Sewerage Quality

As at 30th June 2017, the overall compliance of both physio-chemical and bacteriological parameters to the National standards was **98.2%** meeting the National target (98%) as per the running performance contract with Government.

With regard to wastewater, while continuous improvements have been achieved through better maintenance of the systems, the compliance of wastewater was **48.3%**, slightly below the target of 50%.

Table 5.13 Water and Sewerage Quality Performance as at June 2017

Water Quality	Ingredients	Indicator	Actual Performance [%]
Compliance with National Standards for Drinking (potable) Water 2008	(No. of water supply samples passing National Standards / Total of samples tested) X 100	Bacteriological Quality	99.6
		Colour	91.1
		Turbidity	98.7
		Chlorine residual	96.2
		pH	100
		Electrical Conductivity	100
		Alkalinity Total	100
		Hardness Total	100
		Average	98.2
Sewage Quality			
Compliance with all 54 effluent discharge parameters	(No. of samples passing National Discharge Standards/ Total Samples tested) X 100	BOD	43.9
		Total Suspended Solids	52.7
		Average (%)	48.3

A number of strategies were implemented aimed at improving the water quality performance. These included installation of chlorine dozers in all Areas, use of newly developed chlorine chart readers for all Areas to ensure a sufficient chlorine dose on the network, adequate quality control and monitoring, adherence to O&M regimes, and training of the relevant staff. However, the following challenges are being faced:

- Inadequate funding for sewerage and sewage treatment.
- Encroachment on wastewater treatment plants in most parts of the NWSC areas.
- Storm water flows into sewers and stabilisation ponds negatively impacting on treatment efficiency.
- Illegal dumping of industrial effluents into sewers and treatment plants.
- Vandalism of sewer components, like manhole covers, allowing in storm water.

To address the above challenges, NWSC has made a budgetary provision for construction of wetlands to polish/strip the sewage effluents, modify operational and maintenance regimes, de-sludging the ponds, implementation of the Kampala Sanitation Master Plan, and sensitize local leaders and industrialists against illegal dumping of untreated industrial effluents into sewers, treatment plants and wetlands.

5.5.10 New Sector Performance Indicators

Sector Performance Indicator No. 1: Safely Managed Water

NWSC is currently undertaking a water service coverage survey to determine the percentage of the population using safely managed drinking water services located on their premises.

Sector Performance Indicator No. 3: Percentage of villages with a source of safe water supply

NWSC is currently undertaking a water service coverage survey to determine the percentage of villages with a source of safe water supply.

Sector Performance Indicator No. 4: Pro-Poor / Affordability

This indicator measures “the % of towns with pro-poor facilities where people pay less or equal to the house connection tariff in the service”. As at end of June 2017, the NWSC had installed 11,237 pro-poor connections in form of public standpipes with a subsidised and affordable tariff.

Sector Performance Indicator No. 5b: % piped water service availability in small towns

Currently, NWSC measures functionality by the number of active water connections as well as the average number of hours, water is available during the day. As at 30th June 2017, NWSC had a total of 529,402 connections of which 471,393 were active connections. The percentage of inactive connections was 11% during the review period.

Sector Performance Indicator No. 7a: Non-Revenue Water (NRW)

As at 30th June 2017, the NRW was **31.3%** against a target of 28% which translates into an **89%** achievement. The high level of NRW is largely attributed to the old/aged network (especially in Kampala), high rates of water theft, illegal connections, bursts and leakages.

Sector Performance Indicator No. 7b: Customer Satisfaction

During the review period, NWSC conducted a Customer Satisfaction Survey from which a customer satisfaction index of **84%** was obtained. This was above the target of 80% highlighting the corporation's commitment to serve all its customers efficiently.

5.5.11 Challenges

The following were the challenges encountered during the FY 2016/17:

Non-Revenue Water (NRW): The corporation is still faced with high levels of NRW currently at **31.3%**. This is attributed to old/aged network (especially in Kampala), high rates of water theft, illegal connections, and bursts and leakages mainly due to construction works along the pipe network. The current network is also under pressure from increasing urbanization and high population.

Accumulation of arrears in accounts receivable: During the previous financial year 2016/2017, the Corporation registered a 64% increase in arrears from 53.5b in 2014/2015 FY to 87.8b. Despite efforts to pay, the government arrears are still high due to inadequate budgetary provisions. This high level of arrears has resulted into substantial revenue losses to the Corporation affecting NWSC's operations through reduced cash flow.

Dry zones: The dry zones are still a challenge in most Areas, especially in Kampala where pressure problems continue to manifest themselves as a result of the hilly terrain and an aged pipe infrastructure. The areas most affected include Kawempe-Mbogo, Mpererwe, Kira-Namugongo, and Namugongo- Kyaliwajara, some parts of Lubowa on Entebbe road, Kajjansi, and Matugga, among others. The dry zones are mainly caused by low pressure caused by the old and poor network system and the geographical hydraulic challenges.

Human and climate change factors: These are mainly in western Uganda where rains have affected the NWSC water sources in some towns such as Kasese, Gulu and Mbarara due to flooding, drying up of rivers as well as dams. Human factors are also due to a high population growth that has led to the encroachment on the catchment areas.

Inadequate Infrastructure to meet the increasing demand: The rising demand for water supply is as a result of the growing construction industry and increased urban population. Whereas this demand presents an opportunity to grow business-wise, the existing infrastructure cannot adequately support it. This, coupled with poor urban planning in some towns, has complicated the operations of the Corporation.

5.5.12 Way forward

Going forward to the new financial year (FY2017/2018), varied strategies will be executed in line with the revised Strategic Direction 2016 – 2021. The strategies are broadly grouped and aligned to the four Strategic Priority Areas (SPA) as shown in Annex 8.5.

5.6 Regulation of Water Supply and Sanitation Services

Regulation in the water sector is needed to balance the commercial objective of efficient and sustainable service provision with the social objective of accessible and affordable water supply and sewerage services in rural and urban piped water supply systems including sanitation.

Uganda has established an innovative contract-based regulatory framework for water and sewerage service provision in urban areas since 2000 aiming at commercialisation and private-sector participation. The key regulatory instruments are performance contracts (PC) which are entered into by the Ministry of Water and Environment (MWE) and the appointed Water and Sewerage Services Authorities (WSSA) being NWSC and Local Government entities like Urban Councils. The legal framework however has limited provisions under the Water Act (1997) to regulate the service providers NWSC and Local Governments by contract due to wide powers vested in both institutions by their respective laws, the NWSC Act (1995) and the LG Act (1997).

The regular monitoring of performance contracts is technically carried out by the Water Utility Regulation Department (WURD) of DWD/MWE. It has the monitoring responsibilities for NWSC in currently 218 urban systems (under PC V) and 127 gazetted piped water schemes in Small Towns and RGCs, each with individual PCs. The required financial and human resources to undertake sufficient data verification in the field, stakeholder engagement and data analysis outstrip available resources. WURD's mandate includes the continuous renewal of performance contracts that run for 3 years including target setting and stakeholder engagement. It is also in charge of the approval of tariff proposals by the respective Water Authorities and customer protection activities.

In FY2016/17, WURD has undertaken periodic performance reviews of water authorities (4 No.), independent technical audits (4 No.), management audits (8 No.), on-spot inspections (80 No.), and periodical review of tariffs (4 No.); it has published quarterly performance review reports (4) and organized annual and semi-annual performance review workshops, and reviewed business plans (52 No.) among other things, in order to regulate water authorities in line with the mandate and responsibilities under the performance contracts.

5.6.1 Serving the Poor

Most of the urban residents who are not served with safe, piped water supply are poor and therefore unable to afford a water supply connection, or live in unserved areas like informal settlements. The sector efforts in providing public water points either through public stand posts (PSP) or shared yard taps have not resulted in the poor benefiting from subsidized water tariffs. On the contrary, water sales persons (middlemen/women) at PSPs and yard taps sell a jerrycan of water at approx. 100-200 UGX/jerrycan or more, which is about 2-3 times higher than the average NWSC domestic tariff of 64 UGX/jerrycan (equivalent to 3200 UGX/m³ incl. VAT). This is contrary to the sector pro-poor strategy (2006) that poor customers should not pay more than the domestic (household) tariff.

WURD undertook an assessment to determine progress on implementation of pro-poor interventions in urban areas in line with the pro-poor strategy. Findings showed implementation constraints arising from; limited popularization and lack of a clear monitoring framework. Despite the challenges, NWSC has made progress towards providing services to the poor though limited to Kampala. There has been installation of pre-paid meters, water kiosks and public stand pipes though with challenges due to unregulated tariffs for customers throughout Uganda. Subsidies in form of Conditional grants provided to Umbrella and Water Authorities have contributed to increase in access and tariff subsidization.

5.6.2 Undertaking No.7 "Review the water tariff regime to strengthen pro-poor provision with respect to public institutions, rural areas and water vending by end of FY 2016/17"

Following the recommendation by the Joint Sector Review 2016 (JSR), the department reviewed the different water tariff regimes to strengthen pro-poor provisions with respect to public institutions, rural areas and water vending. The key outcome of the undertaking was a recommendation for review of the tariff policy and pro-poor strategy to clearly specify the tariff regime and determine the enforcement for the benefit of the poor.

It was also established that conventional Public Stand Post (PSP) models, save for pre-paid meters, will not be able to charge less or the same as household tariffs, since the income (from water sales) of the PSP operator / vendor is not sufficient to motivate them to run the PSP. In a bid to address this constraint, the sector has developed a New Sector Performance Indicator 4: *"% of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area"* which shall be reported on starting FY2017-18. It shall be measured from performance reports and periodic data validation surveys.

In addition, an increasing block tariff (with the first block of 1 m³ ('lifeline') charged at 25 UGX/jerrycan, equivalent of 1250 UGX/m³) is being considered to address pro-poor concerns. This is to be piloted in the regional Umbrella organization for possible up-scaling.

During FY 16/17, NWSC successfully applied for a review of their tariff structure. This focused mainly on reduction on pro-poor charges at PSPs (from UGX 38/= to 25/= per 20 litres' jerrycan) and an upward adjustment of the domestic tariff to subsidize poor (from 3,205 UGX/m³ to 3,900 UGX/m³ including VAT). The resulting revenue from the tariff rebalancing will enable cross-subsidisation of pro-poor tariff and investments for Service Coverage Acceleration Program (SCAP 100) which aims at implementation of 20,000 PSP over the next 3 years.

During the FY 2016/2017, NWSC constructed 1,087 pro-poor connections serving approx. 515,000 people (based on 20l/p/d consumption and water sales of PSPs⁴⁶). In addition, the WSDFs and Umbrella Organisations have constructed 350 pro-poor connections serving approx. 200,000 people. Despite the positive numbers it must be noted that under NWSC only 8,859 pro-poor connections are active with 2,378 pro-poor connections being inactive (21%). It must be critically asked why so many connections are inactive, leaving poor customers without services.

⁴⁶ NWSC application for tariff rebalancing FY 2016-17

5.6.3 Management responsibilities in urban water supply and sewerage services

The management of piped water supply schemes in Uganda is the responsibility of gazetted Water Authorities as provided for in the Water Act Cap. 152. The management models applied by the Water Authorities are; Utility management model (NWSC), Private Operator (PO) model and Scheme Operator (SO) model. There are also cases of direct management by the local government authorities but this is against the sector guidelines.

During the FY 2016/17, the number of gazetted Water Authorities outside of NWSC increased from 77 to 147. Of the 147 gazetted schemes, 74 schemes were gazetted to Umbrellas, 48 to NWSC and 27 to various local governments.

Table 5.14 Number of gazetted schemes per area

Type of Authority	gazetted schemes	Central	North	Karamoja	East	Mid-West	SW
National Water and Sewerage Corporation *	218	55	65			98	
Umbrellas of Water Supply & Sanitation **	74	12	14	9	13	11	15
Private & Scheme Operators **	73	34	23	3	6	6	1
Total	365						

* Regions according to NWSC areas (Kampala is included into central)

** Regions according to Umbrella areas

5.6.4 Data Collection and reporting

The data collection for regulation purposes is based on the requirements given in the performance contracts which provide for monthly, quarterly and annual reports on operational and financial parameters. This data is used to compute the Key Performance Indicators as stipulated in the respective performance contracts and also assess the compliance to standards and guidelines.

The performance reports of schemes from Local Government managed schemes have been received through various channels. Many reports have been digitally (paperless) provided through the web-based utility performance monitoring system UPMIS. Data input is done via using the dashboard on the internet or via SMS reporting for smaller schemes without reliable access to the internet. It has been noticed that Umbrella organizations have been receiving monthly performance reports (on paper) from their member schemes and recorded this data in UPMIS. The same is true for the regulation department. NWSC's quarterly and annual reports have been received in pdf format via email. It is envisaged to also incorporate NWSC reporting into UPMIS for more effective performance analysis.

It has been noticed that NWSC has fully complied to reporting requirements. On the side of Local Government run schemes, the reporting is still erratic and incomplete which reduces the ability to analyze the performance of the water schemes. Of the 1,764 expected monthly reports from 147 gazetted towns, 500 were received (28% report submission performance) from 64 towns which are available in UPMIS. These reports have been used for analysis of the performance of water supply services in the small towns and regional growth centres.

5.6.5 New Sector Performance Indicator 42: % of districts and Water Authorities that submit according to reporting requirements

The Water Utility Regulation Department is collecting data from Water Authorities. Hence with regard to the reporting performance from Water Authorities the calculation is at the moment defined as the '*Number of gazetted water schemes with published performance divided by total number of gazetted schemes*'. With 64 gazetted Water Authorities (towns/schemes) with published performance reporting against the number of 147 gazetted schemes, the indicator for Water Authority reporting stands at **44%**.

5.6.6 Performance of NWSC

The analysis that is presented is derived from the data that has been submitted in the quarterly reports from NWSC. This data has then been compared against the line targets for year 2 of the performance contract 5. There has been no adequate data verification on the ground to validate the reliability of the data that has been presented by the NWSC in their quarterly performance reports.

The performance of NWSC for FY 2016/17 is marked with overachievement of the annual target as set in the Performance Contract V (7/2015-6/2018). This is an extremely positive development in the light of the management responsibilities for additional 48 schemes since last financial year, which adds up to now a total of 218 schemes/towns under NWSC management.

Despite the overall excellent performance on the majority of key-performance indicators, it is noted that the trend for Non-Revenue-Water (NRW) for Kampala with 37,5% shows a significant increase (more revenue is lost) as it falls short of the annual target of 32,0%. This is especially critical as Kampala accounts for 66% of all water supplied in NWSC and hence impacts heavily on the revenue base. The annual increase of NRW in Kampala is 6,4% from FY 2015/16 to FY 2016/17 which translates into an increase by 7,4million m³ and a corresponding 20,3 BN UGX (5.6 Mio US\$) in revenue lost. In comparison with the annual water supply and sewerage income of NWSC of 305,6 BN UGX this increase of NRW is significant (equates to 7,9% of the WSS income). The main reasons for the performance in Kampala are given by NWSC as ageing infrastructure along with illegal connections. Therefore more efforts should be made to reverse this trend in order to free up more resources for investments and increasing efficiencies in the stipulated aim of NWSC to ensure 100% water service coverage in the major urban centers.

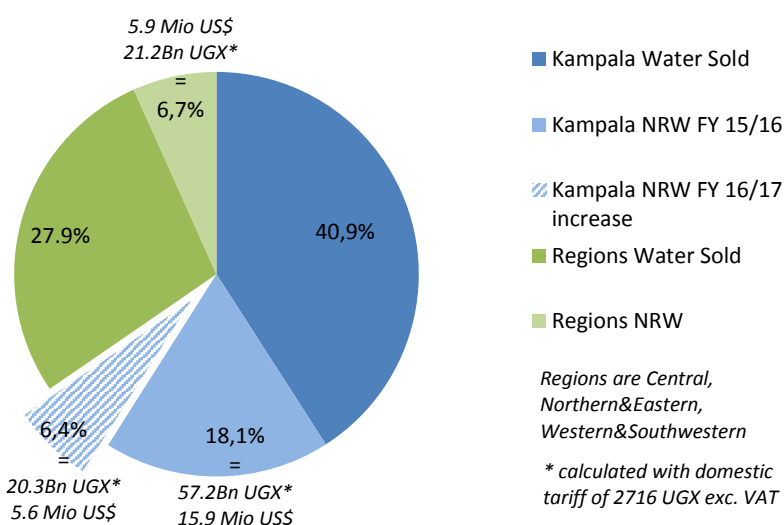


Figure 5.7 NWSC Water supplied in Kampala and other regions of NWSC – comparison of NWR Kampala to all other regions of NWSC

The only other area that has missed the target is the KPI of “Compliance to Sewerage Standards” which aims at 50% compliance rate. Here 48.3% was achieved which provides room for improvement.

The WURD has further observed from the NWSC reports that no explanatory information has been provided for the “System Input Metering Coverage”. As this KPI is key to further improve quality of information on water produced / supplied (in m³) and thus enable exact computation of NRW it is important to know more about the status, challenges and activities undertaken to strive for 100% system input metering coverage.

5.6.7 Performance of Water Authorities in Small towns and RGC

In the following sections, graphs have been presented showing the difference in indicator values for Small Towns’ water supplies over the years. It should be noted that the trends represent preliminary indications only,

in view of the differences in sample size over the years (different number and different schemes are reporting), and the low percentage of reporting. In the analysis below, available monthly performance data of piped water schemes has been used.

Table 5.15 Performance of Small Towns' Water Supply Systems over the last six financial years

Performance Indicators	FY 10/11	11/12	12/13	13/14	14/15	15/16	16/17
1. No. of gazetted Water Authorities with waterschemes under WURD	95	107	110	116	116	77	147
2. No. of Water Authorities reporting to the Regulation Department	88	83	79	73	67	34 ⁴⁷	64
3. Weighted average Unit Cost of producing water [UGX / m ³ sold]*	1,245	1,329	1,186	1,233	1,453	1,683	1,422
4. Arithmetic average Unit Cost of producing water [UGX / m ³ sold] **	1,784	2,316	1,977	1,769	2,012	2,576	1,561
5. Non-revenue water (NRW) [%]	26	24	22	26	28	35	22
6. Water supplied [million m ³]	3.942	3.459	3.512	2.953	2.520	1.322	0.964
7. Water sold [million m ³]	2.937	2.637	2.746	2.195	1.815	0.854	0.797
8. Percentage funded by revenue	130	110	127	135	132	123	119
9. Pipe extensions [km]	118	43	41	46	26	11	0.92
10. Total service connections [No]	41,130	45,858	54,404	46,082	33,502	17,876	12,421
11. Collection efficiency [%]	92	91	90	89	92	93	83
12. Functionality [%]***	87	84	87	89	92	94	92

* calculated as total operation cost in all towns / total volume of water sold in all towns

** calculated as sum of all unit cost in all towns / number of towns

*** calculated as number of days with water supply / total number of days

Operational viability

The operational viability of water supply schemes is attained when the revenues collected meet the operating costs (excluding major repairs). On average, the operational viability has been attained for all schemes since FY 2007/08 (see Figure 5.8). The towns' aggregate percentage of operating costs funded by revenue dropped to 119% in financial year 2016/17.⁴⁸

⁴⁷The figures of the performance indicators are based on the 505 received reports, no extrapolations for missing reports considered.

⁴⁸ Over 100% refers to a surplus to be accumulated for systems extensions and repairs. However, it should be noted that this only depicts the broad picture for all small towns. Since the town systems are managed independently with no formal cross-subsidies between them, the viability of the systems, i.e. whether the systems can sustain themselves through paid revenues, is best assessed on a system by system basis.

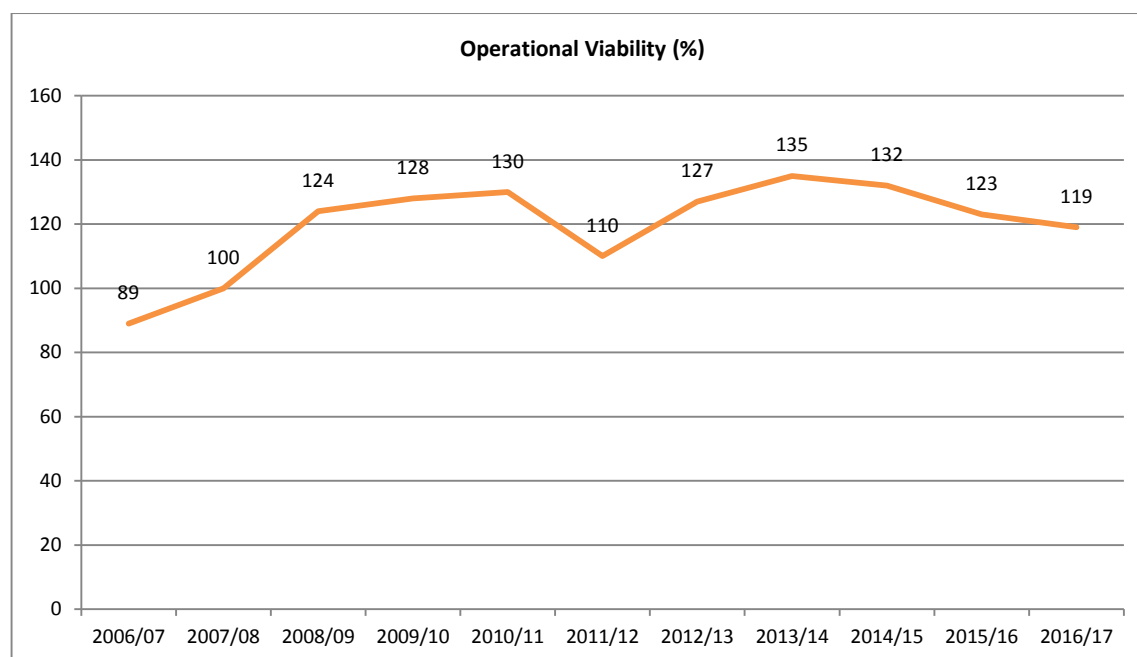


Figure 5.8 Aggregate percentage of operating costs funded by revenue for water supply schemes, FY2016/17

5.6.8 Golden Indicator No. 2: Functionality

The golden indicator has been defined in terms of continuity of supply of water in small towns. In essence, this refers to the effective duration of water service defined as “the ratio of the actual hours of water supply from the system to the required hours of supply expressed as a percentage”. The required hours of supply are 14 hours/day according to the service standards in the performance contracts. Data for FY 2016/17 indicates that the average functionality is **92%**, down from 94% in FY 2015/16.

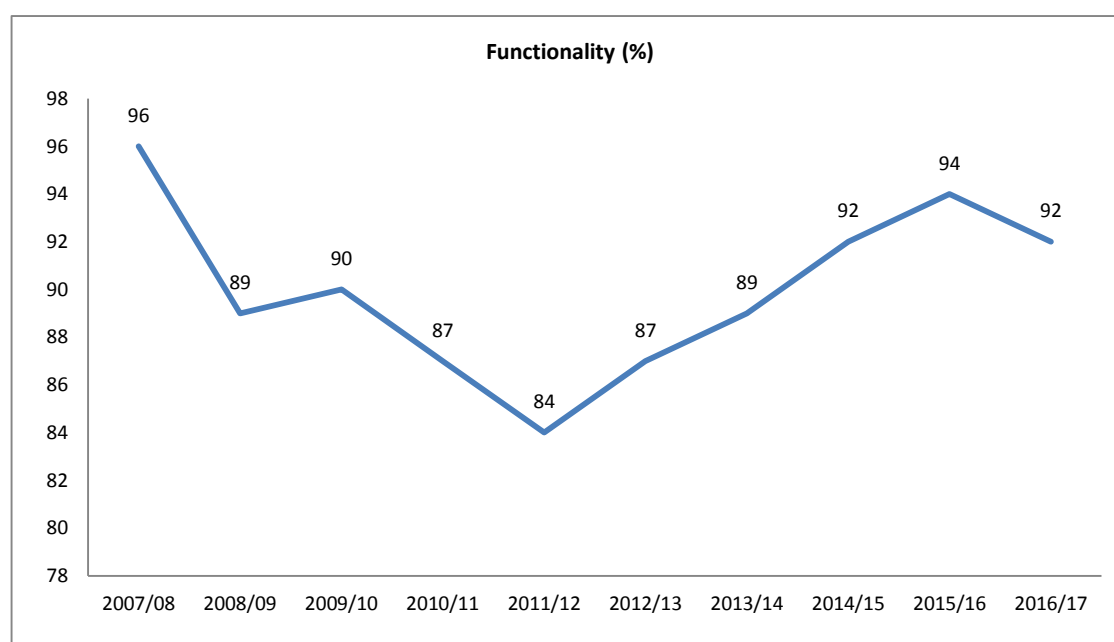


Figure 5.9 Average functionality of piped schemes, FY2016/17

5.6.9 Urban Water O&M Conditional Grant for FY2016/17

A total of 14 Water Authorities and Umbrella Organisations have been supported by the Government of Uganda through O&M conditional Grants. These funds are transferred to schemes to subsidize costs for energy, unique

system challenges and increasing coverage and access. A total of 87% was channelled through Umbrella Organisations to provide technical backstopping support to 462 member schemes country-wide.

The amount of Urban Water O&M Grant for FY 2016/17 released to Water Authorities and Umbrellas totalled to UGX 2.5 billion. Of this, 8.8% was to support offsetting operational costs by small towns while 91.2% was channelled to the umbrella organisation to support member schemes.

5.6.10 Customer Care engagements

During the FY 2016/17, the Water Utility Regulation Department of MWE engaged with various key stakeholders of water supply operations in regard to the level of customer service satisfaction. One customer satisfaction survey was conducted in 36 towns, covering 4 regions across the country (Central, Eastern, Northern and Southwest). From the survey, the key issues established were absence of customer complaints' log books to capture information on faults and other service related complaints, there was also high sensitivity to tariff regimes observed.

The overall customer satisfaction level was reported 61% which was a reduction by 2% (63% in FY 2015-16). The reduction is attributed to inconsistent supply of water due to power cuts, low supply capacity and limited water storage capacity.

5.6.11 Regional Benchmarking of Utilities (ESAWAS report)

In collaboration with Eastern and Southern Africa Water and Sanitation (ESAWAS) Regulators Association, performance of NWSC was benchmarked with other utilities in the region. Whereas the WURD is not a member, there have been a number of collaborations with the Association's secretariat in meetings and annual workshops. The Association conducts benchmarking of utilities in the region on an annual basis. During the year 2016/17, NWSC was benchmarked together with other large water and sewerage utilities in eight countries of the Eastern and Southern African region, including Utilities included; Nairobi City Water and Sewerage Company (NCWSC) of Kenya; Dar Es Salaam Water and Sewerage Corporation (DAWASCO) of Tanzania; Lusaka Water and Sewerage Company (LWSC) of Zambia; Águas da Região de Maputo (AdeM) of Mozambique; Water and Sanitation Corporation Ltd (WASAC) of Rwanda; Water and Sewerage Company (WASCO) of Lesotho and Zanzibar Water Authority (ZAWA) of Zanzibar.

A total of 10 key performance indicators (KPIs) were grouped according to similarity in the components of Quality of Service, Economic Efficiency and Operational Sustainability and the Utilities were ranked using an integrated measurement of performance in the aforementioned components, called the Water Utility Performance Index.

Table 5.16 Performance scores for Utilities

	KPI	NCWSC	LWSC	DAWASCO	AdeM	WASCO	WASAC	NWSC	ZAWA
Quality of Services	Water Coverage	80.6%	82.9%	55.1%	63.1%	62.2%	95.4%	78.3%	77.6%
	Sewerage Coverage	49.4%	12.7%	6.9%	-	5.8%	-	8.4%	10.1%
	Water Quality	98.3%	98.2%	100%	99.3%	95.4%	95.4%	97.9%	57.7%
	Hours of Supply	18	17	17	13	18	15	18	20
Economic Efficiency	O&M Cost Coverage	91%	115%	190%	113%	103%	140%	135%	59.7%
	Collection Efficiency	98%	77%	55%	93%	81%	102%	97%	35%
	Staff Cost vs O&M Costs	54%	66%	36%	30%	39%	30%	41%	33%

Operational Sustainability	Staff/1,000 W&S Connections	6.23	6.96	5.19	3.30	5.56	4.18	5.81	7.76
	Metering Ratio	96%	67%	98%	81%	100%	100%	99.59%	6.6%
	NRW	39.1%	45.6%	53.1%	41.8%	46.9%	38.5%	28.0%	53.3%

Key for the performance standards

	Poor		Acceptable		Good
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National water and Sewerage Corporation had a good performance for the quality of water supplied and had an acceptable performance for water coverage and hours of supply. Poor performance was noted in sewerage coverage not only for NWSC but almost all the other utilities in the region based on regional benchmarking standard.

NWSC had a good performance in collection efficiency across the region with an acceptable performance for O&M cost coverage, however it registered a poor performance in staff costs vs O&M costs like many other utilities in the region.

NWSC had good performance in NRW and Metering Ratio with an acceptable score for staff/1000 W&S connection as compared to many of the other utilities in the region.

5.6.12 Conclusion

The Water Utility Regulation Department is relying on good quality and completeness of performance data to undertake performance analysis and guide the utilities and water sector accordingly. With the development and introduction of the web-based performance monitoring and data management system (UPMIS), the department has acquired a necessary tool to enhance and simplify reporting and provide for more sophisticated data management. It is the goal of WURD to promote reporting via UPMIS (online and SMS) to all Water Authorities and also all other piped water schemes in the country in order to better guide the sector with adequate information on investments and improving efficiencies in service provision in urban areas and beyond.

With regard to performance reporting by NWSC, it is envisaged to receive further disaggregated data from area level (cluster of schemes) to scheme level in order to identify problematic performance trends on town/scheme level and to allow for performance comparison (benchmarking) of piped schemes managed by NWSC, Umbrellas and Local Governments. Additionally NWSC reporting shall be done via UPMIS in order to utilize the data management and analysis functions available and to streamline and harmonise sector reporting.

The reoccurring challenges to compute urban and rural coverage rates for water and sanitation, all reporting shall be aligned to urban areas according to UBOS so that coverage rates can be computed more accurately in the future. The pre-requisite for this is reporting on scheme level as mentioned above.

It is also envisaged to re-negotiate performance targets under the running MWE-NWSC PC V, as they are currently over-achieved. Moreover targets on a regional level could be useful so that a more accurate performance review can be carried out as different regions present different unique characteristics. At the same time WURD will start to prepare a new performance contract number six (VI) in coordination with NWSC and other stakeholders.

Looking forward, MWE aims to support the implementation of the outcomes of the sector undertaking 7 on pro-poor provisions in tariff regimes, being the review of the existing Water Policy and Pro-poor strategy. One key element in the tariff regimes is the introduction of increasing block tariffs with a life-line first block of tariff in conjunction with accelerated increase in access to domestic connection which will serve the poor customers. This solution was proposed in light of the failure to enable customers to pay less or the same as domestic customers due to middlemen (operators) selling the water at a profit. The sector shall gather first experience in the implementation of block tariffs with the Umbrellas for Water and Sanitation.

Finally, MWE is aware of the need to start regulating safe sanitation services in a bit to ensure sustainability of the existing and planned investments in faecal sludge treatment facilities and public latrines. Other areas for regulation are under discussion in the sector, concerning rural water & sanitation schemes and water for production facilities.

6 WATER FOR PRODUCTION

6.1 Background

Water for Production (WfP) refers to development and utilisation of water resources for productive use in crop irrigation, livestock, aquaculture, rural industries and other commercial uses. The current mandate for WfP facilities in Uganda is shared between MWE and other Ministries. On water for Agricultural development, MWE is responsible for “off-farm” activities while MAAIF is responsible for “on farm” activities. MWE works with Ministry of Energy and Mineral Development for water for energy, while MWE produces water to the industrial premises.

6.2 Programmes and Projects

MWE is undertaking several programmes to provide Water for Production facilities in order to improve the livelihoods of the people in rural areas. It is constructing and rehabilitating earth dams and valley tanks mainly in the cattle corridor that stretches from Isingiro in south-western Uganda to Karamoja in the North-East. Secondly, its bulk water transfer programme aims to supply adequate amounts and quality of water all year round for multi-purpose use by conveying large quantities from places of plenty to places of scarcity. MWE is also constructing irrigation schemes under the Farm Income and Enhancement and Forestry Conservation (FIEFOC) project. Then, MWE operates and manages earth moving equipment for construction of valley tanks, hired out to individual farmers at subsidised rates. Finally, MWE provides technical support to local governments and line ministries. The physical performance during 2016/17FY is summarised in Table 6.1

Table 6.1 Achievements versus planned outputs for FY 2016/17

Planned output	Achieved Output	Remarks
20 sustainable management systems established at completed WfP sites	15 management systems were established at WfP facilities	in the districts of Mubende, Sembabule, Nakasongola, Kiboga, Luweero and Nakaseke. Formation of management structures for the rehabilitated 5 Valley tanks is ongoing.
Construction of Ongole Dam in Katakwi District (100% cumulative progress)	Construction of Ongole dam was completed	The dam was technically commissioned .
Construction of 9 valley tanks (4 in Gomba and 5 in Sembabule Districts) under Kisozi Livelihoods Improvement Project	Construction completed	Commissioned 4 Valley tanks in Gomba District. Defects Liability Period (DLP) expired and planning technical commissioning for the 5 Valley tanks in Sembabule District.
Construction of Iwemba and Nabweya valley tanks in Bugiri District (100% cumulative progress).	Construction completed to 95%	Works substantially completed. In Defects Liability Period.
Construction of 6 Valley tanks under Office of the Prime Minister (OPM) Memorandum of Understanding (MoU) in Karamoja Sub-region	Constructed the 6 valley tanks in Moroto (2No.), Kaabong (2No.) and Nakapiripirit (2No.) Districts.	Commissioned

Planned output	Achieved Output	Remarks
Construction of WfP facilities on demand countrywide using MWE's WfP equipment	Constructed 90 Valley tanks	5 in Nakaseke D., 8 in Kiboga D., 6 in Mubende D., 6 in Lyantonde D., 4 in Sembabule D., 22 in Kiruhura D., 16 in Mbarara D., 5 in Kayunga D., 2 in Mityana D., 2 in Luweero D., 10 in Isingiro D. and 4 in Nakasongola D.
Construction of 14 windmill-powered watering supply systems in Karamoja Sub-region	Construction is at 25% cumulative progress.	Supply and installation of windmill-powered watering supply systems delayed as some sites were found low yielding after test pumping.
Construction of 15 and rehabilitation of 5 valley tanks in 6 districts under the Global Climate Change Alliance (GCCA) Programme	Construction of 15 and rehabilitation of 5 valley tanks completed to 100%	in Mubende, Nakasongola, Kiboga, Sembabule, Nakaseke and Luweero districts. The Valley tanks were commissioned.
Olweny Irrigation Scheme (95% completion) of civil works constructed, under FIEFOC Project	Olweny irrigation scheme construction works is at 85%	Planned delayed by untimely release of funds.
Construction of Kyabal and Kalera valley tanks in Sheema District	Construction was completed to 100%	

6.2.1 De-concentration of WfP Activities

To bring services nearer to the communities, Since July 2016, MWE has deconcentrated its operations at regional levels, and decentralized its operations to the regional centres with their offices within the established Water and Sanitation Development Facilities in Mbale for the Eastern and Karamoja Sub-Region, Lira for the Northern, West Nile and Upper Central Region, and Mbarara for the Lower Central and Western Region.

6.2.2 Operation and maintenance of WfP facilities

Proper management of WfP facilities is a crucial factor for sustainability and functionality of the facilities. Therefore, if the facility is not owned by an individual, a private operator, beneficiaries, district local government and central government, there is need to ensure that a Water User Committee or water board in the case of a private operator system, at each WfP facility is formed.

For most facilities constructed with funding from Central government or District Local Governments, a Community Based Management System (CBMS) is implemented where Water User Committees/water boards are formed. MWE uses participatory Information, Education and Communication (IEC) materials, posters and brochures to mobilise, sensitise and build stakeholders' capacity on Operation and Maintenance of WfP facilities.

During FY2016/17, the MWE worked towards improving functionality status for the partially functional facilities. These facilities serve the beneficiaries but with reduced functionality due to pump breakdown, siltation, inactive water user management committee and inactive by-laws. MWE has continued to put an effort in installation of abstraction systems, formation and rejuvenation of management committees, by-laws and training of stakeholders, all aiming at improving functionality. The construction of abstraction systems and rejuvenation of the WUCs to improve functionality is still ongoing.

Efforts to improve functionality include the introduction of drip irrigation systems to demonstrate use, as well as the use of Farmer Field Schools (FFS), demonstration schools of best practices by farmers.

Box 6.1 Farmer Field Schools to improve sustainable use of water for production facilities

To ensure sustainability and boost the management and effective use of WfP facilities, MWE introduced the Farmer Field Schools (FFS) approach that includes (i) Strengthening knowledge and capacities for climate change adaptation, (ii) Strengthening skills in operation, maintenance and management of water for production facilities at communal and individual level, (iii) Better access of livestock and crops to water through training in water management, (iv) Improving resilience of livestock and crop production systems in the cattle corridor, (v) Establishment, training and integration of FFS with the community-based water management system to improve sustainability, operation and maintenance of water for production facilities, (vi) Saving and marketing, (vii) Introduction of integrated and modern agricultural practices, and (vi) Strengthening collaboration, monitoring, supervision and networks among the farmers within FFS.

Using this approach, in Mubende District, groups engaged in the following action learning activities: trainings in livestock nutrition and pasture conservation, livestock disease management, improved management of poultry and small ruminants, integrated pest management of common crops, soil and water conservation, post-harvest handling and management, livelihood and entrepreneurial skills in farming as a business, savings mobilization. This has led to increased production, easy marketing of products and improved livelihoods of the people around the facilities.

Through this, the created storage in the valley tanks is put to effective use, and out of the collected money from the sale of the agricultural products, 5% is saved for operation and maintenance of the facilities. Below pictures demonstrate the effectiveness of the approach; all pictures were taken at or close-by Kinoni Valley tank, in Nansimbi Village, Kiganda Sub-County, Mubende District.



Kinoni valley tank and part of its infrastructure.



Intact infrastructure (cattle crush, toilet, taps) of the valley tank.



A post showing translated by-laws at the valley tank site.



Contours created around plants to reduce water runoff by farmers



Maize garden to act as a study site for farmers



Records of farmers' savings

6.3 Status and Trends of Key Indicators

6.4.1 Golden Indicator No. 2: Functionality

Functionality of water for production facilities is defined as “the percentage of facilities with fully functioning abstraction systems that are not silted, with active water user management committees and active by-laws”. Functionality was assessed for all facilities constructed between 2000 – 2017 in the 112 districts so far covered in the database. The results are shown in Table 6.2 Functionality of earth dams and valley tanks as at June 30th, 2017. This year’s functionality rate for WfP facilities is **85.2%** (including the newly constructed facilities in FY2016/17). The data is based on a total of 1,172 valley tanks and 34 dams.

Table 6.2 Functionality of earth dams and valley tanks as at June 30th, 2017

Functionality Level	Description	Total
Fully Functional	Fully functional without any damage	85.2%
Partially Functional	Operational but with reduced functionality due to siltation, pump breakdown or other problems	14%
Non-Functional	Not operational at all	0.8%

Table 6.3 Functionality status per facility type as at June 30th, 2017

Functionality Status	Valley tanks		Dams		Total	
	No.	%	No.	%a	No.	%
Fully Functional	1,005	86.6	23	67.6	1,028	85.2
Partially Functional	159	12.7	9	26.5	168	14
Non-Functional	8	0.7	2	5.9	10	0.8
Total	1,172	100	34	100	1,206	100

Source: Data for valley tanks and dams constructed from 2000 – 2017 covered in WfP Database – MWE

6.3.1 Golden Indicator No. 6: Cumulative WfP Storage Capacity

The golden indicator for water for production is defined as “the Cumulative WfP Storage Capacity (in million cubic meters)”. The total volume added through investments by MWE in the FY 2016/17 (including facilities done by the Districts and private farmers using WfP Construction Equipment) was 1,680,000m³ compared to only 5,485,000m³ in the previous year. The relative reduction as compared to FY2015/16 was due to construction completion of the large Andibo Dam in Nebbi District in that year. By the end of FY 2016/2017, cumulative storage had increased from 37.185 million cubic meters (MCM) in FY 2015/2016, to **38.865 MCM**.

Table 6.4 shows the volumes of storage created through construction of various WfP facilities in FY 2016/17.

Table 6.4 WfP volume created by MWE in FY 2016/17

S/n	Water for Production Facility	% Completion as at 30th June 2016	% Completion as at 30th June 2017	Progress btn 30th June 2016 and 30th June	Design Capacity (m3)	Volume Created		
						Dams	Valley Tanks	
1	Construction of Ongole dam in Katakwi District	95%	100%	100%	1,000,000	1,000,000		
2	Construction of Iwemba and Nabweya Valley tanks in Bugiri District	0%	95%	95%	20,000		20,000	
3	Construction of 9 Valley tanks in Gomba and Sembabule Districts under Kisozi Livelihoods	0%	100%	100%	90,000		90,000	
4	Rehabilitation of 5 Valley tanks under GCCA Project in the Districts of Kiboga, Sembabule, Nakasongola, Luweero and Nakaseke.	0%	100%	100%	50,000		50,000	
5	valley tanks in Sheema district	35%	100%	100%	10,000		10,000	
6	Ministry Equipment	Karamoja Reg	0%	100%	06 no.	10,000@	60,000	
		Western Reg	0%	100%	48 no.	5000@	240,000	
		Central Region	0%	100%	42 no.	5000@	210,000	
		Sub Total 1					1,000,000	680,000
		Sub Total 2					1,680,000	
TOTAL VOLUME CREATED (m3)							1,680,000	

6.3.2 Golden Indicator No 9: Management of Water Points

The analysis on management of WfP facilities only considers those under community based management system (CBMS) with support from local governments including private facilities constructed with support of Government, representing 28% of all facilities constructed from 2000-2017. Using a CBMS approach, MWE forms Water User Committees to enhance and promote self-driven approaches for community ownership and sustainability initiatives. MWE supports the local government to train the beneficiaries and their management committees on their roles and responsibilities and establishment of by-laws to ensure sustainability.

The golden indicator for management of Water for Production facilities is “the percentage of water points with actively functioning Water User Committees”. The total number of facilities constructed since the year 2000, so far entered in the Water for Production database, is 1,206, and the functionality of WUCs for FY 2016/17 based on the reports of 339 facilities under community management is **83%**.

Out of 1,206 entered in the database, 339 facilities are under community management system with established Water User Committees, of which 281 Water User Committees were still fully functional at the time of spot-check. The rest of the facilities (867) are non-communal and managed by individual farmers (constructed using MWE equipment under Public Private Partnership (PPP) arrangement).

A total of 1,172 valley tanks were constructed from 2000-2017; among these 305 valley tanks (26%) are under community based management system. All the 305 valley tanks under CBMS have established Water User Committees (WUCs), while 257 (84%) were fully functional at the time of spot check. A total of 34 dams were constructed from 2000-2017; all are under CBMS, and 24 Water User Committees (71 %) were fully functional at the time of spot-check.

Table 6.5 Community Management of WfP facilities constructed between 2000 – 2017 as at June 30th 2017

Facility Type	Total No. of Facilities	Under community management		With established WUC		With functioning WUC	
		No.	%age	No.	%age	No.	%age
Valley Tanks	1,172	305	26%	305	100%	257	84%
Dams	34	34	100%	34	100%	24	71%
Total	1,206	339	28%	339	100%	281	83%

Source: MWE WfP Database⁴⁹

Public-Private Partnership (PPP): MWE has been developing facilities under a PPP arrangement with farmers; these farmers take responsibility of managing their facilities. To-date, 867 valley tanks have been constructed under this arrangement since 2008. This financial year, a total of 90 valley tanks have been constructed. The numbers are attributed to intensive sensitisation that has brought more farmers on board. All the facilities constructed in Nakaseke, Kiboga, Mubende, Lyantonde, Sembabule, Kiruhura, Mbarara, Kayunga, Mityana, Luweero, Isingiro and Nakasongola Districts are fenced and there is no direct watering of animals at the facilities. The use of both traditional and modern troughs is high, functionality rates are high and care of facilities is commendable, silting of facilities is limited, cleanliness at the facilities is high and this arrangement has also minimised the challenge of livestock diseases. Mechanisms have been put in place to establish an O&M framework to monitor development and maintenance of these facilities. A coordination committee is established at sub-county level, including sub-county officials, councillors and the Farmers' Coordination Committee together with the other sub-county and district technical teams that work with private farmers to ensure sustainability of the constructed facilities. This has gone a long way to solving poor O&M and the functionality challenges that are associated with the community-managed facilities.

The Ministry has constructed 6 valley tanks in the districts of Moroto, Kaabong and Nakapiripirit of 10,000m³ each, using funds from the Office of the Prime Minister (OPM). This arrangement was effected through a Memorandum of Understanding signed between MWE, OPM, Kaabong, Moroto and Nakapiripirit District Local Governments. MWE undertook the designs and construction using government-owned WfP equipment.

6.3.3 Golden indicator No. 10: Gender

Both women and men have equal access to the WfP facilities depending on their needs. The men are the major users since they own livestock, the farm land and are more mobile than the women. Equal access by men, women, children and people with disabilities is encouraged through installation of fuel driven and solar powered pumps at the valley tanks and the delivery system is now by gravity flow to watering troughs compared to treadle pumps which were cumbersome for women, people with disabilities and children.

In FY 2016/17, 15 committees were formed and at each formation, women were encouraged to participate in key positions of Chairperson, Vice chairperson, Secretary and Treasurer. For valley tanks, **73%** of the water user management committees have women in key positions and 48% of the dams have women in key positions.

6.3.4 New Sector Performance Indicators

The new Sector Performance Indicators have been analysed further by MWE's Water for Production Department, and refined where needed. One additional indicator has been added, *17. b Water Use Efficiency - Irrigated Agriculture, measuring the change in water use efficiency over time*; this indicator is required for the Sector Investment Plan. The detailed version of the indicators is provided in Annex 9.

⁴⁹ Valley tanks include those constructed using Ministry WfP equipment

²Fish ponds were not included in this years' analysis because the department is not active in fish ponds construction. This has a slight impact on the functionality rate.

7 WATER RESOURCES MANAGEMENT

7.1 Introduction

The priority interventions for Water Resources Management during the FY 2016/17 were as follows:

- Continued implementation of catchment based water resources management through the four Water Management Zones (WMZs), supporting and facilitating preparation of Catchment Management Plans and establishment of Catchment Management Organizations to promote coordination and collaboration among stakeholders.
- Promotion of the use of Water Source Protection Guidelines to secure the quality and quantity of water resources for water supply infrastructure projects.
- Continue active participation in transboundary water resources management programmes under the Nile Basin Initiative, East African Community (EAC)/Lake Victoria Basin Commission and Intergovernmental Authority on Development (IGAD) to ensure that Uganda's interests are safeguarded.
- Continued implementation of the National Water Quality Management Strategy through upgrading of the Entebbe water quality laboratory to a national reference laboratory, establishment and operation of regional laboratories in WMZs and development of water quality guidelines and standards for various emerging issues such as oil drilling and emergency response etc.
- Support to the Water Policy Committee (WPC) to enable it to provide policy advice to the Minister of Water and Environment and other government agencies on integrated and sustainable management and development of water resources of Uganda.
- Continue strengthening of the water resources regulatory framework through review and amendment of the National Water Policy and Water Act, development of a reservoir regulation and dam safety guidelines, and implementation of the strategy for compliance and enforcement of water laws and water permit conditions.
- Strengthening water resources monitoring and information services through establishment of new water resources monitoring stations, operation and maintenance existing monitoring stations, and preparation of a Hydrological Yearbook.

7.2 Water Resources Monitoring and Assessment

Progress achieved for activities planned for the financial year 2016/17 is described in the following sections.

7.2.1 Water resources monitoring network

MWE's Water Resources Monitoring and Assessment Department (WRMAD) took daily recordings of water levels, measures discharge, monitors and assesses the trends in order to establish whether or not the fluctuation is abnormal, to inform water development and infrastructure projects along the water bodies. Two telemetry stations located in Jinja and Entebbe on Lake Victoria were established and now have near real-time data transmission to the Department's server (see also Figure 7.1).

By monitoring and assessing trends in water levels of Lake Victoria, the likely extremes that would lead to disasters such as floods were identified in time and used to take corrective regulation measures that kept the average lake level within an acceptable range compared with the long-term historical average (Figure 7.2). Four stations that had been non-functional since 2014, Namatala, Sironko, Malaba and Manafwa, were rehabilitated.



Figure 7.1 Telemetric stations newly installed in Jinja and Entebbe

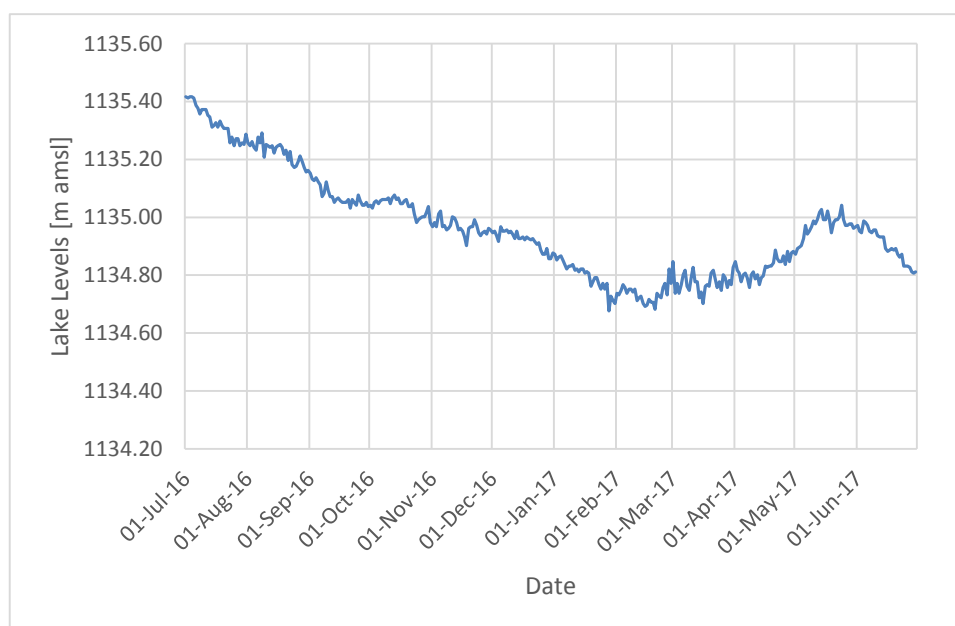


Figure 7.2 Fluctuation of Lake Victoria Water Level from July 2016 – June 2017

Groundwater monitoring

Data collected from groundwater monitoring stations is used to avoid overexploitation of groundwater resources. Using the data sets, long term variations of groundwater levels in response to rainfall and climate variability may be assessed, to understand fluctuation of groundwater resources availability and assess the impact of motorized groundwater abstraction on groundwater quality and water levels (see Figure 7.3).

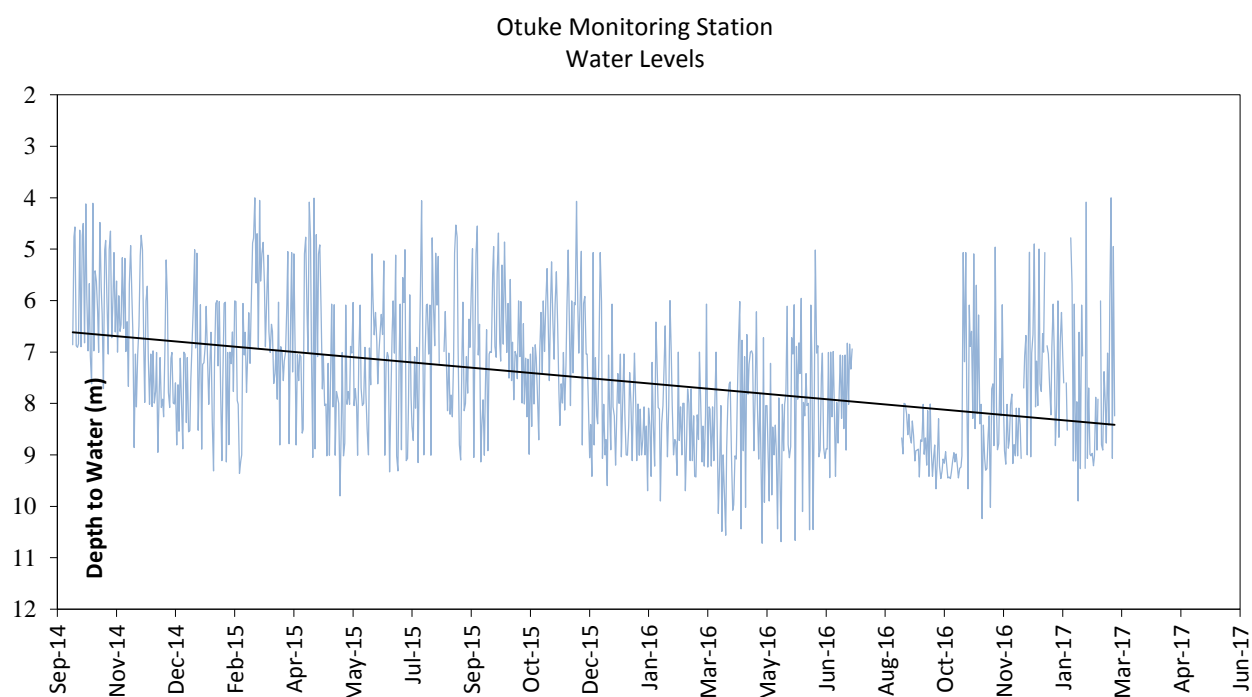


Figure 7.3 Groundwater level fluctuations and trend in Otuke borehole, September 2014 – March 2017

Modernization and Upgrade of the Network

Twenty surface water stations and eleven groundwater stations have been upgraded from manual to telemetric data collection, and staff have been trained in the installation and maintenance of the stations. The groundwater monitoring stations obtain real time data on water quality in addition to water levels. Acquisition of real time data from telemetric stations is a major component in the development of an Early Warning Telemetry System since it enables quick dissemination of the information products to the public and researchers. In general, MWE has established a small but robust telemetric system largely in Lake Kyoga Basin, and the system is being rolled out to other parts of the country. Technical and institutional capacity for MWE to collect, store and disseminate timely and accurate hydrological data and information has been built, to enable the efficient and economic management of Uganda's water resources. This has led to provision of high quality data to users who are implementing development projects. Data is received in real time for fast decision making and now comes from a wider area of the country.

7.2.2 Database management and dissemination of water resources data and information to users

The water resources database was upgraded with new hardware and Aquarius software. The new database has many capabilities of generating data and related outputs. This has led to improvement of the quality of the complete historic data set that is archived and later provided to users.

Water resources data is needed for the design of development projects. Over the period under review, the number of requests received and processed reached a peak of 56. Data recipients during the year included UNRA, which acquired data for the design of an airport at Kabaale in Hoima district as well as a ferry crossing at Wanseko – Panyamur. EON partners acquired groundwater data for prefeasibility studies for the East African Crude oil pipeline. Catchment management plans for Awoja and Akokorio were also informed by data from the surface and groundwater databases. Researchers from international institutions and universities were supported in their work through data provision and results validation; for example the International Institute for Applied Systems Analysis (IIASA) that is developing scientific evidence to help identify global water issues and solutions on balancing future trends in water availability. Data dissemination attracted Non-Tax Revenue (NTR) of UGX 24.23 million during the reporting period, up from 14.2 million in FY2015/16.

MWE completed the State of Water Resources Report (2017). This report contains a non-technical description of how over the past years until 2014 Uganda developed in terms of use of water resources. The report shows that some lakes including Lakes Kyoga, Albert, George and Edward showed overall declining water levels in the study period. However the levels for Lakes Victoria and Wamala started increasing from 2012 to 2014. For most catchments, the declining water levels have been linked to surrounding human activity coupled with devastating weeds and deteriorating water quality as major drivers. The flows for major rivers have significantly reduced over the study period. The estimated renewable groundwater resources exceed the projected demand for domestic water but shortages may locally arise, particularly in areas with a high population density. With an average utilization rate well below 15%, other uses for groundwater can be considered. These include drinking water for livestock, fish farming and other agricultural uses.

Furthermore, MWE prepared the consolidated Hydrological Yearbook (HYB) for the period 1978-2014. This HYB provides documentation and interpretation of the hydrological conditions and water resource variations in the country. HYB basically documents principal datasets relating to river flows, groundwater levels and lake levels and summarises hydro-meteorological parameters. The HYB provides an important information base to be used as reference material by a range of decision makers and professionals for policy development, water resources management, and programming of development projects.

7.2.3 Provision of advice on water resources development projects

Three assessments were carried out, along River Aswa, River Nyagak and River Mubuku.

Aswa Hydropower Plant

Plans are underway to develop a hydropower plant along River Aswa to supply Pader, Kitgum and Agago Districts. The initial design was intended for a plant with a capacity of 41MW, however analysis of River Aswa discharge data for 31 years (1950 – 1981) revealed that the average discharge (40.875cms) required for such a capacity is only exceeded 29% of the year, while the river flow is unstable. It was recommended that a capacity factor⁵⁰ of 40% be adopted by the developer.

Nyagak Small Hydropower plant

Nyagak power supply reduced significantly during the period December 2016 –February 2017 coinciding with the drought and corresponding decline of the discharge of Nyagak River. An assessment was carried out to ascertain the cause of the decline and inform future plant operations. The assessment revealed that a high capacity factor (73.5%) makes the run-of the river power plant highly vulnerable to changes in the river flows, resulting in unstable power supply. This is due to the fact that three cascades were planned on the same river and Nyagak I was the first to be completed, giving it an initially high load (hence a high CF). Power supply will however stabilise after the completion of Nyagak III (5.5MW), which will be connected to the substation of Nyaga I (3.5MW), giving a total hydropower capacity of 9MW.

7.2.4 Improvement of irrigation efficiency for Mubuku irrigation scheme

The Nile Basin Initiative, in collaboration with MWE and MAAIF is exploring the expansion of Mubuku Irrigation Scheme, which draws water from River Sebwe under scenarios of improved irrigation efficiencies. The study has revealed that the scheme is currently operating at a very low irrigation efficiency with substantial losses in the field ditches; any effort to improve overall efficiency of the scheme must target these losses. Improving the application efficiency alone (scenario 1) greatly improves the water saving, creating potential for scheme expansion. The study reveals further that improving the irrigation efficiency cannot be achieved with the required 480 hectares. Therefore, it is recommended that alternative sources of water other than River Sebwe are explored.

⁵⁰ The net capacity factor is the ratio of an actual electrical energy output over a given period of time to the maximum possible electrical energy output over the same amount of time

7.2.5 Challenges and way forward

With the gradual upgrade of stations to telemetry equipment, communication costs for data transmission have escalated whereas no corresponding budget line has been provided. As satellite transmission, which is cheaper, is being adopted for future stations, sufficient budget provision should be made for the current telemetric systems.

Despite repeated appeals, the welfare of observers has not been addressed which has resulted in demotivation and low commitment which in turn results in poor quality of data received from the non-telemetric stations. Welfare of observers may be supported from the planned water source protection levy.

There are many cases of vandalism at the stations which render the stations non-operational and lead to data gaps. Use of measures that are unattractive to thieves, for example using the main electricity grid as an alternative to batteries and solar panels, would reduce vandalism.

7.3 Water Resources Planning and Regulation

The overall progress made in terms of water resources planning and regulation over the last six years continues to be assessed based on various sub-sector indicators.

7.3.1 Permits applications and assessment

During the reporting period, 201 new permits applications were received and 186 applications were assessed. 296 permits (164 new and 132 renewal)⁵¹ were issued against the planned 240 permits, an achievement of 123%. Though the annual target of the number of permits issued was met, there was a slight decrease from last year in the number of permits issued, from 313 to 296. Some new permit applications received were not approved for permit issuance. The reasons for non-issuance of some water permits were as follows: i) some applicants had drilled many boreholes close to each other in the same aquifer implying that permitting of abstraction from these boreholes would lead to competitive pumping and overexploitation of the groundwater resources in the aquifer, ii) some boreholes were illegally drilled in gazetted water supply areas and could not be licensed due to lack of no objection letters from the respective water authorities and iii) non-response from the applicant when letters are sent to them informing them of insufficient data and non-payment of processing fees. Figure 7.4 shows the numbers of water permit applications received, assessed, and issued over the last six years.

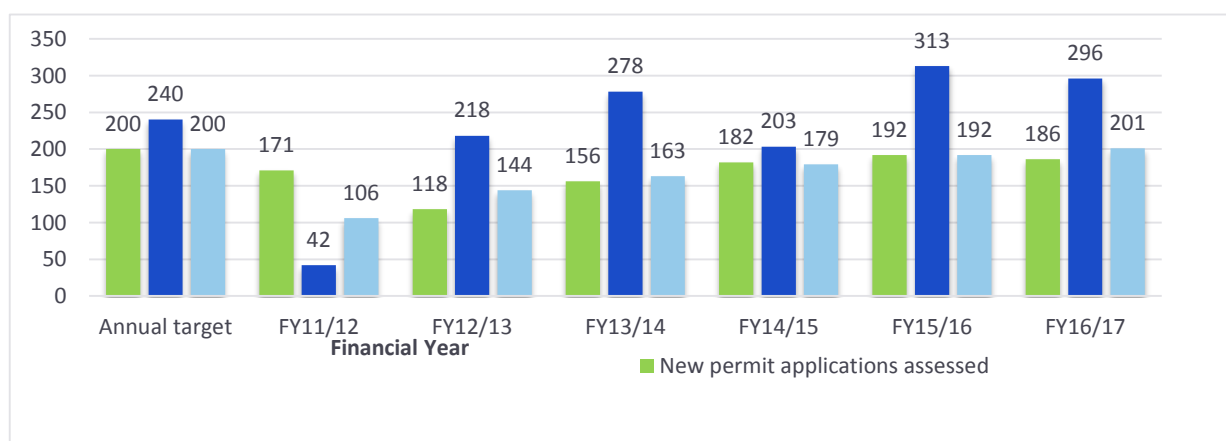


Figure 7.4 Trends of water permit applications received and permits issued over the last six years

Generally a steady increase in the number of permit applications received, assessed and issued is visible since FY2011/12, as a result of increased awareness by water users, continuous inventory and mapping of the water

⁵¹ Note that the number of permits issued depend on the applications received in the current year, those pending from previous year and permits which have expired and need renewal.

users and waste water dischargers, and close follow up of the illegal water users and waste water dischargers through the Water Management Zones.

7.3.2 Compliance to Water Act Cap 152 and Water Resources Regulations

In an effort to ensure compliance to the Water Act and Water Resources Regulations, MWE embarked on a nationwide water regulation campaign. The aim of the campaign is to identify all those without water permits and assist them to apply for and obtain water permits, monitor and enforce compliance to the Water Act, Water Resources Regulations, Wastewater Discharge Regulations and water permit conditions, and generally identify illegal water users and assist them to regularize their water use. This campaign, initiated in the last quarter of this reporting period, already led to the result that many illegal water users and waste water dischargers were identified, given permit application forms and assisted to apply for water permits in compliance with requirement of Water Act and Water Resources Regulations. Table 7.1 shows the achievements of the campaign for each Water Management Zone. The bulk of these water users without permits turn out to be from the Umbrella Organizations, Water and Sanitation Development Facilities (WSDF) and National Water and Sewerage Corporation (NWSC). Many private water users with motorised boreholes in urban areas were found as well, and efforts are being made to regularize their use of water in line with the provisions of the Water Act.

Table 7.1 Number of identified water users without permits per Water Management Zone

No.	Water Management Zone	No. of illegal water users Identified
1	Victoria	217
2	Albert	267
3	Kyoga	226
4	Upper Nile	157

7.3.3 Compliance to permit conditions

This year, 1,130 permit holders were monitored for compliance with permit conditions up from 856 permit holders in last financial year. In general, over the last seven years, the trend shows that the number of permit holders monitored for compliance has been increasing as shown in Figure 7.5.

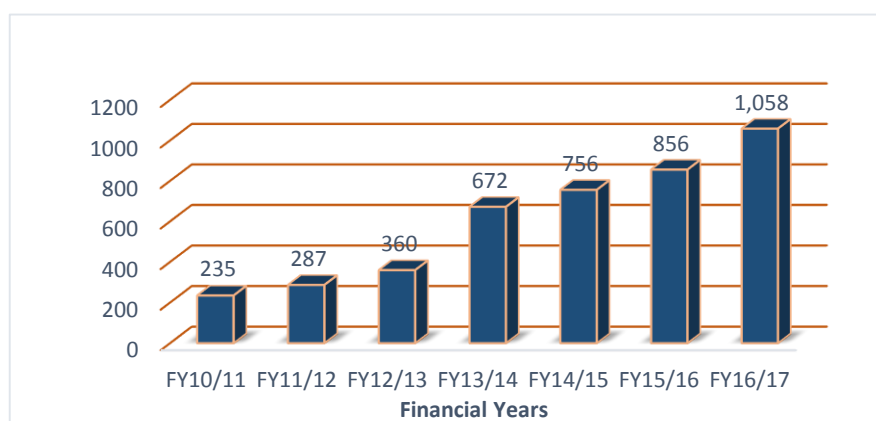


Figure 7.5 Number of permit holders monitored for compliance over the last 7 years

A total of 1,085 out of 1,400 (78%) water permit holders for waste water discharge, drilling, groundwater and surface water abstraction permits were monitored for compliance to the provisions of Water Act and permit conditions. This percentage is higher than the 65% monitored in the previous financial year. One major area of improvement in water resources regulation has been enforcement. As a result, compliance to water laws and permit conditions has continued to improve as seen from the increase in the number of new permit applicants and those applying for renewal as well as the compliance status to water abstraction and waste water discharge permits.

Golden Indicator no. 11:

The golden indicator for water resources management related to compliance is defined as “% of water abstraction and discharge permits holders complying with permit conditions”. The permit conditions considered are compliance to waste water discharge standards including possession of wastewater treatment facilities for wastewater discharge and compliance to permitted water abstraction volumes.

Table 7.2 Compliance to permit conditions FY 2016/17

Type of permit	Permit Condition	Total No. of Permit Holders	No. of permits complying	% compliance FY2016/17
Wastewater	Effluent discharge	165	98	59
Surface water	Abstracting within permitted amount	218	164	75
Groundwater	Abstracting within permitted amount	700	500	71
Drilling	Quarterly submission of Borehole Completion Reports	47	42	89
Total		1130	804	71

Table 7.2 presents the status of compliance to various permit conditions. The average compliance to all the permits (surface water, groundwater, waste water discharge and drilling) conditions stands at 71%, slightly less than the 72% in the previous financial year. Compliance to waste water discharge permit conditions improved from 56% to 59%. The biggest waste water dischargers such as NWSC facilities, sugar manufacturing companies, leather tanning industries have improved their compliance this financial year, though they still do not fully meet the National Standards for waste water discharge onto/into land for some parameters. Enforcement efforts continue to ensure that permit holders put in place measures to comply with these conditions. The challenges faced by these companies relate to inadequate and inefficient waste water treatment plants due to financial and human resource capacity in addition to operational efficiency.

In addition, working together with the multi-sectoral monitoring technical committee on oil and gas activities, a number of environmental issues in the Albertine Graben are being followed up in the bid to control pollution, ensure sustainable use of the water resources and increase the coordination amongst government agencies that have a stake in the Albertine Graben. To that effect, the ministry participates in the technical committee through joint inspections, sensitization and awareness campaigns, enforcement and conflict resolution. While efforts have been put in place to treat and dispose of the waste, there is still a challenge of determining the efficiency of the waste treatment facilities due to inability to analyse and assess all effluent parameters associated with oil and gas industry within the country. In addition, efforts are being put in place to assess the effluent being transported from the consolidation area to the treatment facilities to ensure that there are no spills during transportation.

DWRM, in collaboration with other relevant organisations / institutions (NEMA, DEA, NWSC, KCCA, UCPC and UMA⁵²) and the private sector, has continued to address issues of pollution control of the environment in the greater Kampala area through a Pollution Task Force, which carries out joint inspections, sensitization and awareness campaigns, enforcement and public-private sector dialogue.

⁵² In full National Environment Management Authority (NEMA), Directorate of Water Resources Management (DWRM), Directorate of Environmental Affairs (DEA), National Water and Sewerage Corporation (NWSC), Kampala Capital City Authority (KCCA), Uganda Cleaner Production Centre (UCPC) and Uganda Manufacturer's Association (UMA).

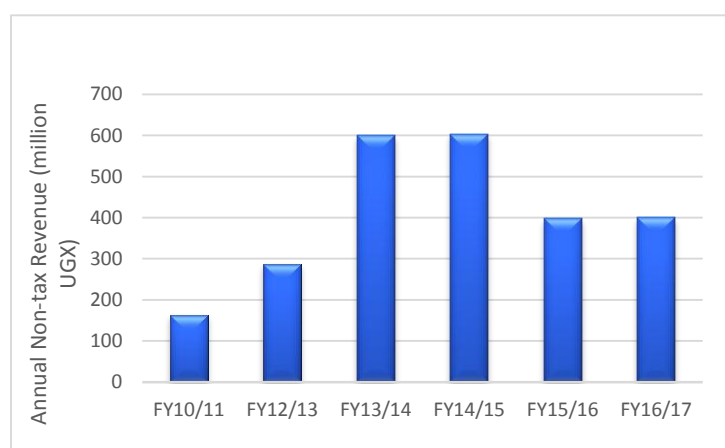
Box 7.1 Achievements of the Pollution Task Force (PTF) in FY2016/17

In order to address Kampala's growing challenge of industrial waste disposal and management which has greatly impacted on the environmental quality through increased air pollution, water pollution and wetlands deterioration, a pollution task force was instituted in 2013. Its main objective is improving institutional coordination so as to enhance regulation of industrial wastewater pollution in the Greater Kampala through joint inspections, sensitization awareness campaigns, enforcement and public-private dialogue.

This year the PTF has realised a number of achievements as follows:

- Joint inspections to over 50 industries aimed at monitoring water and environmental laws and compliance assessment have been successfully undertaken with representation from all key government agencies
- The Kampala Pollution Task Force has continued to implement the Green Industry Campaign (GIC) aiming at improving industrial compliance to the environmental laws by providing a platform for industries to compete for awards. In this financial year, 20 more industries were given awards as an incentive to compliance to environmental laws and these have since developed programs to enforce cleaner production in their industrial activities.
- Additionally, under the Green Industry Campaign, 8 Industrial Wastewater Management Guides for various industries (such as garages, breweries, soft drink processing, textiles etc.) were published and circulated among the industries and relevant government and private institutions.
- A baseline assessment of industrial hotspots in the Kinawataka catchment was carried out to establish an industrial pollution monitoring framework – 36 priority industrial hot spots and 66 industries as wastewater dischargers were identified and mapped.

7.3.4 Non-tax revenue



Non tax revenue amounting to UGX 400.6 million shillings was collected during the FY2016/17 from permit application processing fees, annual water use fees and annual wastewater discharge fees. This is slightly more than the UGX 387.48 million in the previous year. It is envisaged that the non-tax revenue will substantially increase during the next reporting period due to the regulation campaign that has identified many new water users without permits and has also improved compliance to permit conditions by existing permit holders.

Figure 7.6 Total annual non-tax revenue from water use collected over the last 6 financial years

7.3.5 Water use planning and allocation

Work related to water use planning and allocation was this FY 2016/17 initiated in all the four Water Management Zones as part of a national water resources regulation campaign. Outputs of earlier work on water use and demand mapping in the basins of Lake Victoria, Lake Albert, Lake George, Lake Edward and River Kafu have been used to identify illegal water users and waste water dischargers, and identify non-compliant permit holders for use in improving compliance to the Water Act and the permit conditions. The benefits of the water use and demand mapping are reflected in the significant continuous increase in the number of new water use permits issued annually.

7.3.6 Reservoir regulation and dam safety

Reservoir regulation activities are undertaken to ensure optimal utilization of water resources by reservoir/dam operators while dam safety activities are undertaken to ensure that dams are safely operated. During the reporting period a total of 15 existing reservoirs⁵³ were monitored for compliance to dam safety requirements and water use permit conditions as contained in the Construction and Surface Water Abstraction Permits. Dam instrumentation as well as water source protection was emphasised so as to ensure efficiency and effectiveness of infrastructure systems as well as minimizing the threat on the systems from catchment degradation. There is generally increased compliance to water permit conditions by the operators of water reservoirs as a result of increased enforcement actions.

Four large hydropower dams, namely Owen Falls Dam Complex, Bujagali Dam, Karuma Dam and Isimba Dam, were inspected to ensure that water is used efficiently and the structures are operated in a safe environment. Specifically, the trend in water levels of Lake Victoria was continuously monitored using data from Entebbe and Jinja Piers. In addition, strategic inspections were done to examine the status of infrastructure around the Owen Falls Complex to ensure that water does not rise above the safe level of operation.

Work on establishment of the dam safety regulatory framework continued with the finalisation of the guidelines on dam safety. In addition, updating of dam safety inspection forms, and capacity building of the staff on dam safety inspection and theory of dam breach analysis was undertaken. The web-based Dam Safety Database Management System was finalised and commissioned together with an upgrade of the server systems as well as equipping of the Dam Safety Unit (DSU) with relevant equipment. In addition, 12 new dam construction permit applications were assessed and permits issued with technical advice on the type of hydraulic structures and safety instrumentations to be installed.

7.3.7 Environmental Impact Assessments

MWE continued to review Environmental and Social Impact Assessment reports submitted through NEMA to DWRM by various developers of water resources related projects and programs. Related to the review of ESIA reports, MWE carries out compliance assistance to developers during project planning and implementation through stakeholder consultation meetings.

A total of 122 Environmental Impact Assessment related reports were reviewed, and 62 consultative meetings were held during the reporting period. The review findings and recommendations were submitted to NEMA for consideration at various decision-making levels and for follow up with the project developers. Most of the reviewed reports related to Hydroelectricity power (HEP) development, e.g. Kasinga Small Hydropower plant, Isimba 183 MW Hydropower Project, 9.6MW Nkusi Hydro power project, and RAREH SIS Hydro power. The projects were mainly in Kasese, Kanungu, Kisoro and Kabarole Districts in the Albert Water Management Zone (AWMZ), with a few projects in the Mt Elgon Region in the Kyoga Water Management Zone. Other reports reviewed related to the oil and gas sector, water supply and sanitation projects and road construction sector. Through stakeholder consultations, developers were guided on the permit application process and all the hydropower projects have since applied and acquired water abstraction and/or construction permits.

Box 7.2 Most common comments on ESIA per type of project

Hydropower

- Communities have concerns about the water quantity and restricted access to water collection points along rivers during construction and operation of the projects; the developers were advised to address the concerns before implementation of the projects.
- The developers to:
 - provide domestic water supply points and cattle watering troughs for the community.

⁵³ Bujagali, Karuma, Nalubaale, Isimba, Mpanga, Nyamwamba, Mubuku I, Mubuku II, Mubuku III, Nyagak II, Nyagak III, Kibimba, Kabelega, Nkusi, and Ishasha

- to ensure that solid waste management plans are developed and implemented
- to acquire, surface water abstraction permit, construction permits and dredging license from DWRM before start of project activities
- to develop proper drainage systems to control contamination from storm water and increasing surface run off.

EIA Consultative meetings

- The developers to ensure that all the project facilities are linked with proper drainage systems to avoid lake water pollution.
- The project facilities to be established at least 100m from the lake shoreline as required by environmental regulations.
- The developer to ensure proper solid and liquid waste disposal and management at the site.
- The developer to put in place storm water and soil erosion control measures to avoid deposition of soil in the lake.
- Further hydrological studies for the project should be carried out to determine the flow regime of rivers and identification of water catchment areas to establish where the water is drained as it passes through the bridge.
- The quantity of water both upstream and downstream should be determined
- Consultations should be done with the affected community and proper documentation of the findings done.
- The different water sources in the project area should be identified. This should be done to ensure that during project implementation, community water sources are neither depleted nor their water quality altered due to construction works;
- The contractor should consider working with the already established Catchment Management Committees and Water management Zones in the region. This will provide direct links with catchment management committees on ground and gives more information and guidance on water resource management during project implementation.
- Ensure that source protection measures/guidelines are developed and implemented
- Carry out community awareness campaign on environmental protection

7.3.8 Water laws, policies and regulations

The Water Policy Committee (WPC) continued to perform its functions of providing policy advice to the minister in charge of water resources. During the reporting period the committee held one meeting in Mbale where amongst others, the revision of the National Water Policy and amendment of two Bills (Water Amendment Act and Uganda Water and Sewerage Regulatory Authority) were discussed.

7.3.9 Conclusions and way forward

Performance of water resources planning and regulation functions has continued to improve compared to previous years as a result of strengthening of the Water Management Zones. The de-concentration of water resources management functions through the four WMZs has brought services such as compliance monitoring, compliance assistance and awareness raising closer to the permit holders. This has ultimately improved performance in terms of water permits issuance and compliance monitoring and enforcement. Through the WMZs, awareness about the need for catchment based integrated water resources planning, allocation and regulation of water resources has greatly improved among the stakeholders who have responded through applying for various water permits. The increasing trend of water permits issuance will continue as the capacity WMZs improves through additional staff, facilities and financial resources.

Furthermore, finalisation of the regulatory framework for dams and reservoirs and the wide dissemination and promotion of use of the Water Sector EIA guidelines continues to assist in water resources planning and regulation and hence protection of water resources.

7.4 Water Quality Management

7.4.1 Water Quality Monitoring Networks

The Ministry of Water and Environment (MWE) through its Water Quality Management Department (WQMD) in the Directorate of Water Resources Management (DWRM) operates a national network of 119 water quality monitoring stations; of these 10 are trans-boundary and 19 are located on Lake Victoria. These stations monitor

impact on the quality of water resources of human activities in the catchments, effluent discharges from industries and municipal sewerage, and quality of drinking water from point sources in rural and water supplies in urban areas. The department has de-concentrated routine monitoring of the 119 stations to the Water Management Zones (WMZs) since July 2011. Assessment studies to address specific national and trans-boundary water quality issues are implemented by the department from the centre. The distribution of monitoring stations among the four WMZs is as shown in figure Figure 7.7.

In total, 87 stations out of the 119 monitoring stations were visited in the financial year under review, representing 73% achievement, a drop from last financial year when achievement was at 85%. Overall, there has been a continuous increase in number of stations monitored since FY2010/11, when only 26% were monitored. This is attributed to the de-concentration of the monitoring activities and to a lesser extent improved funding through support to WMZs under the JWESSP. Since FY2015/16, MWE raised the targets for sample collection from the WMZs after repeated over-achievement in previous years in terms of number of samples collected. Targets for sample collection were doubled from 200 to 400 per year for all WMZs and for the National Water Quality Reference Laboratory (NWQRL) target sample collection was doubled from 1,200 to 2,400. Overall performance with respect to sample collection and analysis was 113%, as shown in Table 7.3. This is an improvement in performance compared to 99.6% performance achieved last financial year. The performance of Kyoga WMZ dropped slightly due to delayed release of funds for two quarters, and also as some of its clients did not operate in the zone during the period under review.

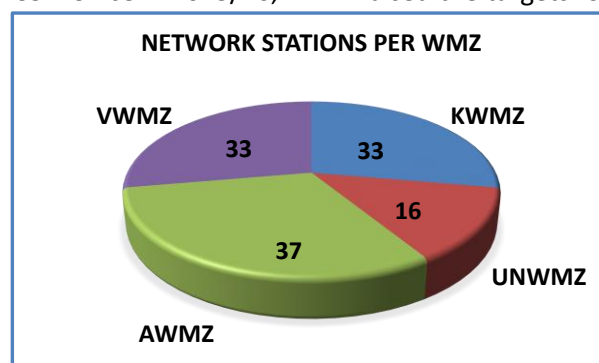


Figure 7.7 Number of water quality monitoring stations per WMZ

Table 7.3 Break down of samples planned and received in water testing laboratories in 2016/17

Serial Number	Sample Source	Number of samples		Performance (%)
		Target	Received	
1	Kyoga WMZ	400	349	87
2	Victoria WMZ	400	464	116
3	Albert WMZ	400	498	125
4	Upper Nile WMZ	400	587	147
5	NWQRL	2,400	2628	110
6	Grand Total	4,000	4,526	113

The overall performance in terms of sample collection in the year under review can be attributed to availability of funds for monitoring, support from UNICEF for drinking water assessment in 15 cholera prone districts, stakeholder sensitisation on importance of water quality testing by the WMZs and establishment of regional laboratories in Lira (Upper Nile WMZ) and Fort Portal (Albert WMZ) in addition to the one in Mbale (Kyoga WMZ).

Box 7.3 Assessment of Drinking Water Quality in Cholera-Prone Districts

MWE carried out water quality assessments in 15 districts that have been listed as cholera-prone districts by Ministry of Health. The districts visited included Moroto, Napak, Isingiro, Rakai, Bulisa, Mbale, Sironko, Adjumani, Kisoro, Kamwenge, Bundibugyo, Hoima, Kiryandongo, Arua and Busia. The water quality parameter used for this assessment was the indicator bacteria, *Escherichia coli*. During the assessment, water sources used by the communities in the affected districts were identified and sampled. Sanitary surveys and safe water chain surveys were carried out.

Findings

1. In total, 6 out of the 15 districts visited did not experience any cholera outbreaks in the last 5 years. These include Kisoro, Isingiro, Kiryandongo, Napak, Kamwenge and Rakai.
2. Out of the 216 sources sampled, only 50% were safe.
3. Out of the 176 households where drinking water was tested, only 32% had safe water.
4. The best district where there was no contamination both at the source and at the household was Kiryandongo district. The municipality and sub-counties where work was done in this district had suffered from typhoid cases in the past. The district therefore carried out a massive sensitisation on sanitation and hygiene and some of the dug wells being used had been chlorinated.
5. The worst districts in terms of measured contamination of water sources were Arua (only 8% safe) and Sironko (only 10% were safe)
6. In districts where outbreaks had been reported, the outbreaks were linked to:
 - i. Influx of refugees in the case of Adjumani and Isingiro districts.
 - ii. Cross-border spread was reported in Adjumani and Busia.
 - iii. Low sanitation coverage in affected sub-counties even when overall district sanitation coverage is high.
 - iv. Poor household sanitation and hygiene.
 - v. Use of open wells or river water where there were no improved water sources or where access was low.
 - vi. Intermittent water supply forces communities to use unsafe alternatives and
 - vii. Use of unsafe open dug wells commonly known as shadoof in Busia and Kiryandongo. In the case of Kiryandongo the shadoofs were chlorinated.

7.4.2 Water and environment laboratories

The National Water Quality Management Strategy (NWQMS) recommends a three-tier water and environment testing laboratory system for Uganda. The 3-tier laboratory system comprises a National Water Quality Reference Laboratory (NWQRL) in the Directorate of Water Resources Management, four regional water quality laboratories in the WMZs and basic laboratories in District Local Governments and at all drinking water treatment facilities. Three of the four regional laboratories have so far been established in Upper Nile, Albert and Kyoga WMZs to support water quality monitoring at the regional and catchment level. Other private water testing laboratories and those from research institutions fall in the basic laboratory category.

The National Water Quality Reference Laboratory and the WMZ laboratories analysed a total of 4,526 samples against the target of 4,000 representing 113% achievement this financial year, though a drop from the 126% achievement last financial year. The performance was good considering that last year's over-achievement was due to financial support received from World Health Organization (WHO) for a drinking water quality

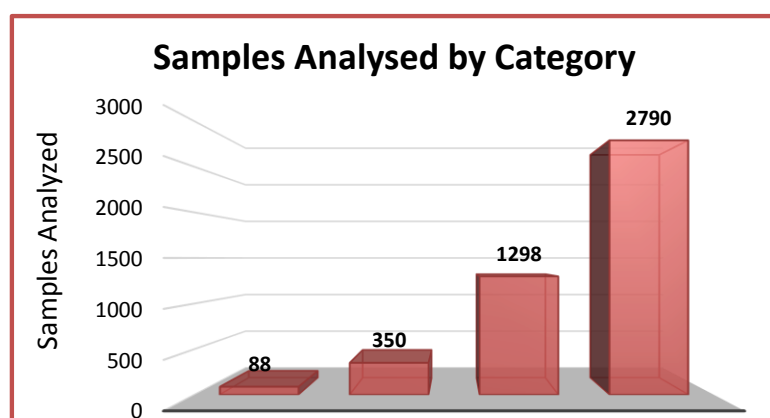


Figure 7.8 Number of samples per client category, FY2016/17

assessment in 45 districts. Secondly, funds for water quality monitoring for quarters three and four were released late and implementation of field activities is on-going and will be reported in the next financial year. The breakdown of samples per client is shown in Figure 7.8.

Out of the 4,526 samples received in the environmental laboratories, 3,666 (81%) were analysed within the sample

turnaround time⁵⁴ of 7 working days set by the laboratory quality system. This was an improvement from last year's performance of 71% (when more samples were received), and especially as compared to the year before that (FY2014/15) when the same efficiency was achieved as this year, but with only 69% of the current sample size. The improvements can be attributed mainly to acquisition of automated advanced laboratory equipment capable of simultaneous analysis of many parameters.

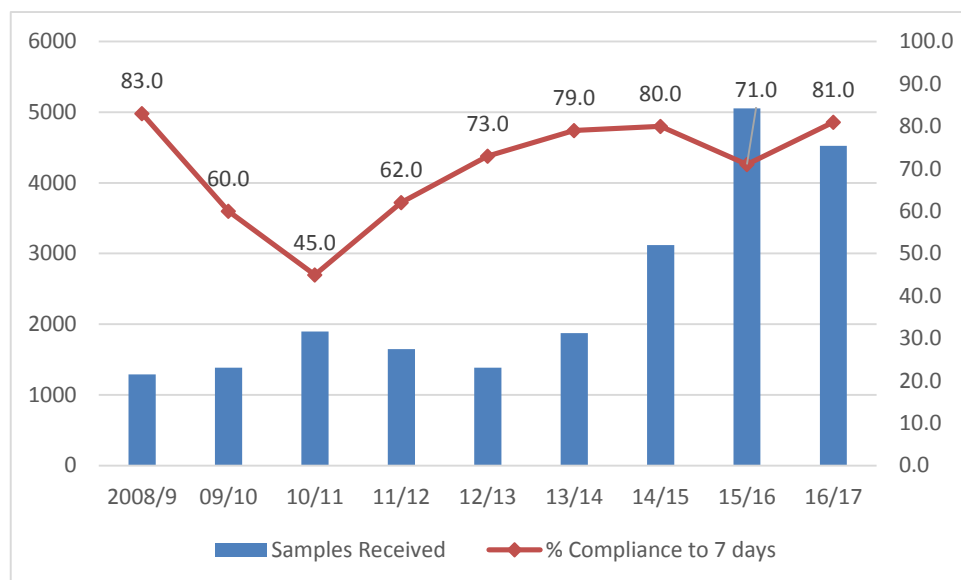


Figure 7.9 Samples received and compliance with efficiency target

The main challenges faced by the department in operation of laboratories include inadequate laboratory space, inadequate funds for laboratory operation and maintenance, lack of in-house capacity to handle minor equipment repairs, lack of competent local firms for timely repairs of specialized laboratory equipment, low staffing levels, and unreliability and spikes in power supply.

The operational challenges are being addressed through a framework contract for supply of chemicals and reagents, procurement of service agreements with authorised dealers of equipment, recruitment of trainees and staff on contract and backup power supplies. The other challenges require strategic interventions. The National Water Quality Reference Laboratory in Entebbe has been modified to the extent that there is no more room for further modification. A new state-of-the-art laboratory is required to be able to cope with the ever increasing water quality challenges.

The Entebbe laboratory continues to be upgraded. The following world-class new equipment have been installed and are functioning:

1. Gas Chromatograph – Mass Spectrometer (GC-MS); Ultra High Performance Liquid Chromatograph (HPCL), Liquid Chromatograph–Mass spectrophotometer (LC-MS). These world class equipment will be used to among other parameters analyze pesticide residues, algal toxins and oil and gas waste.
2. Laboratory staff have trained to operate the equipment.
3. The NWQRL operations are based on the international standard ISO/IEC 17025 and procurement of the consultants for accreditation of the laboratory is ongoing.

⁵⁴ Sample Turn-around time (TAT), the time taken by a sample in the laboratory from sample receipt to issuance of results is a key indicator of laboratory performance.



High Performance Liquid Chromatograph (HPLC)



Gas Chromatograph – Mass Spectrometer (GC-MS)



Liquid Chromatograph - Mass spectrophotometer (LC-MS).

Figure 7.10 New water quality monitoring equipment acquired by MWE's Water Quality Monitoring Department

7.4.3 Non-Tax Revenue

The NWQRL and Regional Water Quality laboratories collected a total of UGX 104 million as Non-Tax Revenue (NTR) for laboratory services offered to private clients, higher than the performance of last financial year at UGX 89.6 million. The Mbale Regional Water Quality laboratory (MRWQL) however received only 9 samples from private clients and collected a total of UGX 900,000; this figure is much less than for previous years because operation of the laboratory was interrupted due to closure of the old offices to create space for construction of new offices and shifting to a new temporary location. Lira Regional Water Quality laboratory (LRWQL) generated UGX 15.347 million while the NWQRL generated UGX 87.81 million. Fort Portal Water Quality Regional Laboratory did not offer services to private clients because it was opened late.

The NTR collection of UGX 104 million was much higher than the collection target of UGX 50 million, representing a performance of 208%. The general trend in non- tax revenue collection shows an overall increase over the years. This can be attributed to acquisition of world class equipment. The NWQRL is now able to analyse all standard parameters for water quality management.

7.4.4 Key impact of laboratory results

Water quality results generated during the year under review have been used for issuance of abstraction and waste water permits, assessment of rural water supplies for drinking and giving advice on maintaining of good water quality through the water safety plan concept, compliance checks on the quality of urban water supplies for drinking purposes and giving advice on how to improve water treatment, monitoring performance of permit holders, assessment of the water quality of surface and ground water resources for ambient purposes and contribution to the writing of the Hydrological Year Book.

7.4.5 Technical support to Local Governments and other stakeholders

MWE provided technical backup support to district Local Governments, Technical Support Units (TSUs), Public Health Officers and other stakeholders in water quality testing. Support included:

- (i) Comprehensive water sampling and analysis for Kagadi, Kabarole, Kyenjojo and Kakumiro Districts where results were shared and appropriate actions taken based on the results;
- (ii) Water sampling and analysis for Butama hydropower and Nyamugasani hydropower projects;
- (iii) IRC was supported in water quality sampling techniques;
- (iv) Technical Support Unit 6 was supported by training District Water Officers in water quality analysis;
- (v) The NGO Protos and Ghent University students were given technical support when they undertook special studies on River Mpanga to assess pollution impact on the river;
- (vi) Training of Public Health officers (graduates of Environmental health, and Community Health) in water quality sampling, testing, data interpretation and report writing for exposure and capacity building. These officers support District Local Government staff in the water and environmental offices.

7.4.6 Golden Indicator Number 5: Water quality

The golden indicator for monitoring water quality is defined as “the percentage of water samples taken at the point of water collection, or waste water discharge point that comply with National Standards for Drinking (Potable) Water (2008) and Water (Waste) Effluent Discharge Standards (1999)”. The following parameters were considered in measuring performance based on this indicator:

- a) Presence of *Escherichia coli* (*E. coli*) in drinking water from protected/improved sources in rural areas and treated drinking water supplies in urban towns
- b) Biological Oxygen Demand (BOD₅), Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) in both municipal and industrial wastewater.

Water quality of Rural Water Supplies

A total of 596 samples were collected from improved water sources in the rural areas out of which 353 (59%) complied with the national standards for drinking water with respect to *E. coli*. The water samples were collected from 303 boreholes (BHs), 8 gravity flow schemes (GFS), 125 protected springs (PS) and 160 swallow wells (SWs). Compliance by technology type was 64% for boreholes, 0% for GFS, 29% for protected springs and 56% for swallow wells. Trends from 2014 – 2017 show that safe water in the rural areas is less than 60%. The fluctuations in figures are attributed to differences in sample size.

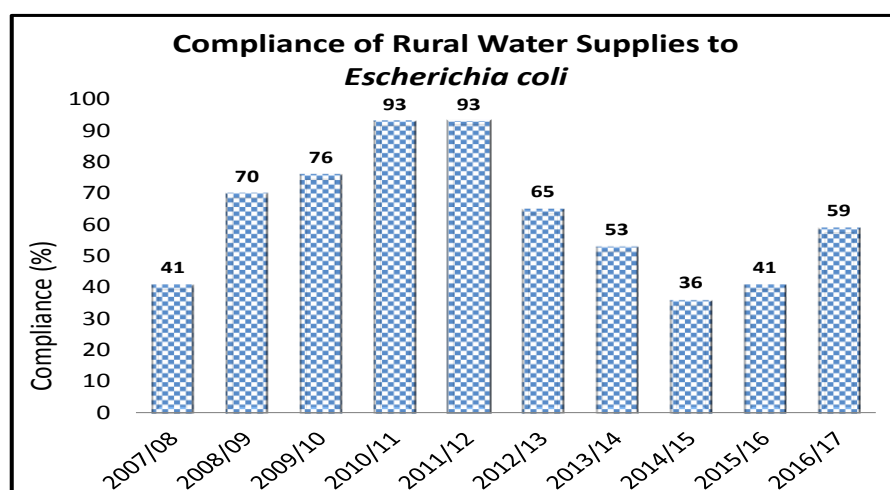


Figure 7.11 Trend in compliance to *E. coli* in rural drinking water supplies

Water Quality of Urban Water Supplies

In total, 21 Large Towns⁵⁵ were visited and 78 water samples were taken for drinking water quality compliance checks. Out of these 78 samples, 66 were compliant to the standards for drinking water with respect to *E. coli* representing 85% compliance level. This compliance level was higher than the 74% achieved in the previous year based on 31 samples from 9 Large Towns.

78 Small Town water supply schemes were assessed for compliance to the drinking water standards, and 265 samples were collected and analysed. Out of these 265 samples, 186 were compliant to drinking water standards with respect to *E. coli*. This represents 70% performance level, while for last year the Small Town water quality performance level was 56% (based on 191 samples from 46 Small Towns). The number of samples collected this year for small towns was higher and therefore more representative of the water quality situation of these water supplies.

Over the years, water quality in the small towns has not reached the desired target of 100% compliance level as shown in Figure 7.12. This could be attributed to water being supplied without any form of treatment from production wells, poor operation and maintenance, lack of skilled manpower for water treatment, seasonal variations in quality of raw water, abstraction of swamp water which is problematic to treat, lack of basic laboratory facilities at some water works to guide operation of the water works, lack of risk management and inadequate monitoring and supervision by regulators.

The observed increase in the number of samples collected from Small and Large Towns is due to establishment of the WMZs which has improved efficiency and frequency of monitoring urban water supply systems.

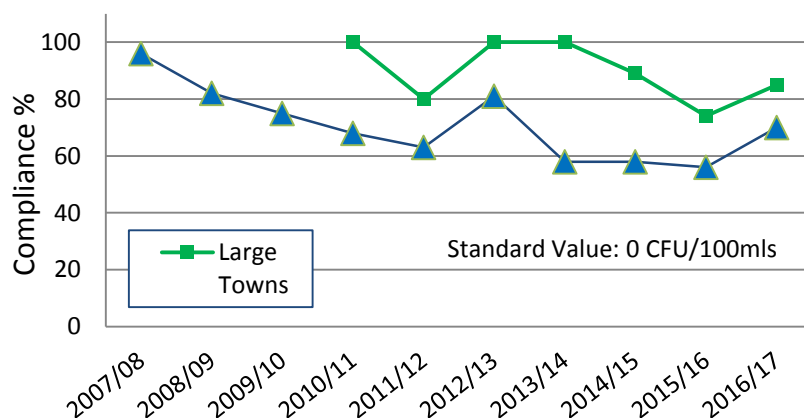


Figure 7.12 Compliance of urban water supplies (Large and Small Towns) to water quality standard

Quality of Wastewater

A total of 76 wastewater discharge samples were collected from 51 industrial and 25 municipal effluents and assessed for compliance to waste (water) effluent discharge standards (1999).

Biological Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) were the main parameters measured to assess the performance of these treatment plants. With respect to BOD, overall compliance level was 44%, which was slightly lower than last year's compliance of 47%, and again below the target of 65%. With respect to TSS, the performance was at 40% up from 23% in the previous year. These compliance levels show that most industries and municipal treatment plants are still inefficient in treating wastewater to the required levels.

⁵⁵ Soroti, Mbale, Tororo, Jinja, Kampala, Mbarara, Bushenyi, Masaka, Lira, Gulu, Arua among others

The receiving environments of these wastes including water bodies, land and wetlands get polluted by the waste. High organic matter as indicated by high BOD values leads to nutrient enrichment of the receiving water bodies causing eutrophication. This enrichment/eutrophication manifests in form of algal blooms and proliferation of water weeds such as water hyacinth and *Salvinia molesta*. Wastewater with a high TSS value causes siltation of water bodies affecting fish breeding grounds, navigation and docking of ships as has been experienced at Port Bell in the Inner Murchison bay. Overall, pollution leads to increased costs of water treatment which translates into high tariffs for consumers.

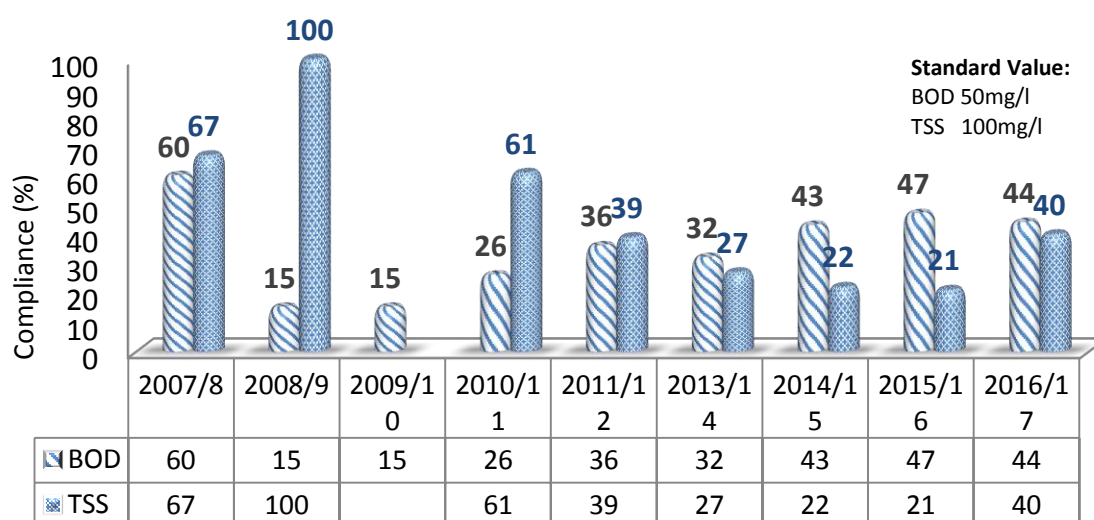


Figure 7.13 Compliance of Biological Oxygen Demand and Total Suspended Solids to Standards

The overall compliance to effluent standard over the years is very low and is attributable to lack of wastewater treatment by industries and poorly designed wastewater treatment facilities. The number of samples used to assess this indicator was rather low, though higher than the 19 samples of last year.

Box 7.4 Negative Economic Impacts of *Salvinia Molesta*

The Kariba-weed locally known as Nankabirwa in Uganda was sighted about five years ago on Lake Kyoga. The water weed has since then spread to different water bodies including Albert Nile, Lake Albert and River Nile among others. It has spread to South Sudan through the Nile. The following are the immediate negative impacts of the weed:

- Most of the communities that live near these water bodies have abandoned fishing because the water weed sweeps away the fishing gear as it moves with the water current.
- Navigation is impeded. Difficulty in docking of ferries and boats has been reported at many docking sites in the affected water bodies.
- Fishing communities that used to survive on fishing have had to change their livelihoods to alternative livelihoods which include charcoal burning.
- Further de-forestation and Environmental degradation as fishing communities resort to charcoal burning.

MWE in collaboration with other Ministries such as Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) under the leadership of the 2nd Deputy Prime Minister came up with a costed action plan in form of immediate, short term and long term strategies to combat the weed. The budgeted action plan did not get funds from the Ministry of Finance, Planning and Economic Development (MFPED), and Ministries were tasked to work within the budgets they operate to handle the weed. Given the resource envelope the Ministry operates, implementation of this action plan remains a challenge.

7.4.7 Implementation of the Sustainable Development Goals

MWE's Department of Water Quality Management is responsible for implementation of the Sustainable Development Goal (SDG) 6.3.2 on "the *proportion of bodies of water with good ambient water quality*", which

has been streamlined into the sector indicators. This is in addition to the golden indicators the Department has been reporting on. The process of calculation of threshold values⁵⁶ to measure these indicators was started. It was noted that different ambient water bodies in Uganda have localized differences in the concentrations of parameters and should be grouped together. No one standard value may apply to all the ambient water bodies.

There is not sufficient data for accurate calculation of the threshold indicator parameter, and it is missing for other parameters like faecal coliforms in ambient water bodies. This is due to the fact that some of these parameters have not been part of the monitoring programme. The Department will therefore start data collection for reporting on the new performance indicators in the coming financial year.

7.4.8 Water quality management challenges

The following challenges can be mentioned: (i) Emerging water quality challenges like proliferation of new water weeds and frequent occurrence of climate related disasters like floods, landslides and droughts which affect the quality of drinking water, (ii) the lack of compliance to environmental laws and regulations namely wastewater discharge regulations, (iii) the population increase, industrialization and urban developments that have led to deterioration in the quality of water resources, (iv) inadequate laboratory infrastructure in the WMZs for effective water quality management at the regional level, (v) inadequate funding and human resources and (vi) lack of a comprehensive regulation for drinking water quality.

7.4.9 Way forward

In order to address the challenges mentioned above, the following measures will be pursued: (i) implement the national framework for drinking water quality management and regulation; (ii) construct a new laboratory block for the National Water Quality Reference Laboratory located in Entebbe; (iii) Mobilize funds for construction of regional water quality laboratories in Lira⁵⁷ and Mbarara; (iv) Lobby for increased funding for department, and (v) fill vacant positions.

There are other technical areas that need attention.

- First of all, there should be a deliberate paradigm shift in policy to focus on rural water supply technologies that consistently supply good water quality like deep boreholes and piped water schemes. The technologies that supply poor water quality (protected springs and shallow wells) should be faced out.
- The main focus of water supply agencies should be to use appropriate low cost technologies for treatment of water from point water sources with naturally poor water quality such as high iron levels.
- Implementation of catchment and water source protection plans should be done at all water sources.
- Awareness campaigns should be done to improve home sanitation and hygiene, including household water treatment.
- All water supply designs should be made based on the feasibility studies that inform the type of treatment suitable for the particular raw water quality.
- Finally, the sector should work together with Uganda Cleaner Production Centre to promote cleaner Production Technologies especially in industries and municipal sites, to minimize waste at the source.

7.5 International and Transboundary Water Resources Management

MWE, through its International and Transboundary Water Affairs Department coordinates national efforts to manage shared water resources with the overall objective *to secure and safeguard Uganda's interests in the shared water resources and therefore ensure availability of water to meet her ecosystem and national development needs.*

⁵⁶ Standard values for reporting the indicators which may be either a single value or ranges-from low to higher range

⁵⁷ for now, the laboratory has been allocated only two rooms in the new office block of the WMZ

MWE has coordinated and supported participation in partnership and cooperative management initiatives, projects and programmes, namely the East African Community/Lake Victoria Basin Commission, (EAC/LVBC), Nile Basin Initiative (NBI), Nile Equatorial Lakes Subsidiary Action Program (NELSAP), African Ministerial Council for Water (AMCOW), Inter-governmental Agency for Development (IGAD) Initiatives, Global Water Partnerships (GWP) and World Meteorological Organization (WMO).

During the FY 2016/2017, key outputs under International and Transboundary Water Affairs included:

- Policy Reviews to account for national interest in trans-boundary water resources.
- Institutional reviews for improved management of cross-border river basins
- Coordinating investments and projects in trans-boundary basins and catchments

7.5.1 Trans-boundary agreements, laws, policies, standards

The **Water Release and Abstraction Policy for Lake Victoria Basin** was developed by EAC and recommends a new regime to regulate the outflow of water from Lake Victoria through the Nalubaale and Kiira hydropower generation facilities at Jinja and downstream on the Nile. In the period under review, the department coordinated national inter-ministerial meetings that culminated in Uganda Appeal to the policy formally presented during the 35th EAC Council of Ministers.

The **Cooperative Framework Agreement (CFA)** for the sustainable management and utilization of the shared Nile basin water resources has been signed by six NBI Partner states (Ethiopia, Rwanda, Tanzania, Kenya, Burundi and Uganda) and ratified by four countries (Ethiopia, Rwanda, Tanzania and Kenya). During the period under review, the 1st meeting of Nile Basin Heads of State (Summit) was held in Uganda to facilitate further negotiations on the CFA.

7.5.2 Coordination of, and support to trans-boundary/cross border organizations

A number of trans-boundary organizations have continued to be supported through both financial contributions and / or providing technical guidance as follows:

Nile Basin Initiative (NBI): During the FY 2016/17, government has contributed financially towards NBI operations and maintaining of the institution's personnel and equipment and also governance meetings. Government has supported, by funding participation of ministers and technical staff, various governance meetings (the 1st Nile Basin Heads of State (Summit) meeting, 2 Nile Council of Ministers meetings, 2 extraordinary ministers meetings to resolve conflict in the use of Nile water and 4 Nile Technical Committee meetings. Government supported participation of 8 officials in cooperative meetings and joint stakeholders' fora like the Regional Nile Day celebrations, and funded training of 20 sector officials in the water allocation tool, 4 officials in hydro-diplomacy and negotiation, and 6 officials in dam safety.

Lake Victoria Basin Commission (LVBC): Government has supported LVBC governance meetings and also availed technical staff to participate in various activities of LVBC. The department continued to coordinate participation by various institutions and other stakeholders in LVBC activities.

Global Water Partnership (GWP): MWE participated in project preparation for the Water, Climate and Development (WACDEP) Project. During the period under review, GWP Uganda received accreditation as a Country Water Partnership (CWP), an entity responsible for coordinating the actions of GWP in Uganda.

Intergovernmental Authority on Development (IGAD): Uganda has been implementing the IGAD-HYCOS project, which is set up to build technical and institutional capacity to collect, store and disseminate timely and accurate hydrological information to enable the efficient and economic management of their national water resources.

During the FY 2016/17, three (3) surface water telemetry stations (Lake Albert at Butiaba, River Tochi II at Kamidini – Lira Road and River Akokorio at Soroti – Katakwi Road) and 12 ground water stations were upgraded to telemetric stations. Four (4) national short training courses in integrated flood management, Hydrological Modelling and Arch-GIS Application, Database Management and Website/Portal Design and Training on

installation, operation and maintenance of groundwater stations were held which benefited a total of twenty-three (23) professionals in National Hydrological Services (NHSs). One Regional Steering Committee Meetings was also hosted by Uganda in February 2017.

African Ministerial Council for Water (AMCOW): MWE supported 2 officers to participate in the training to review the AMCOW monitoring system and strengthen the partnership with relevant global agencies for effective and harmonized monitoring and reporting processes. In addition, the training provided an opportunity to launch the 2017 data collection and submission campaign, as well as a platform to share and deepen knowledge on the monitoring processes under the UN-Water Integrated Monitoring Initiative for SDG 6 (comprising the work of JMP, GLAAS, GEMI, UN-Water); more information is provided in Section 1.5 of this sector performance report.

7.5.3 Achievements under the Nile Basin Initiative (NBI)

Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II)

The Governments of Uganda and Democratic Republic of Congo (DRC) are implementing the Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project. In Uganda, the project covers areas of Lake Edward Basin in the districts of Bushenyi, Rubirizi, Mitooma, Kanungu, Kasese and Rukungiri, and of Lake Albert Basin in the districts of Bundibugyo, Ntoroko, Hoima, Bulisa, Kagadi, Masindi and Nebbi. The project, to be implemented over a five-year period (July 2016-June 2021), aims at poverty reduction and sustainable livelihoods for local communities as well as sustainable environmental management. The project's overall objective is to "sustainably utilize the fisheries and allied natural resources of the Lakes Edward and Albert Basin through harmonized legal framework and policies". The main outputs accomplished by Uganda in this reporting period include the confirmation of land in Kaiso, Hoima for construction of a fisheries research station and a surveillance station on Lake Albert; completion of site selection and designs for 5 landing sites⁵⁸; and 2 regional policy steering committee meetings.

Nyimur (Aswa River Basin) Multi-Purpose Water Resources Development and Management Project

The project, supported by NBI's Nile Equatorial Lakes Subsidiary Action Program (NELSAP), is implemented in Uganda and South Sudan in the River Aswa Basin, with the objective to irrigate approximately 5,000 ha (4000 ha in Uganda and 1000 ha South Sudan), generate 350 kW of Hydropower from a 26 m high dam on River Aswa in Uganda and also provide domestic water supplies for communities. During the period 2016-17, the project conducted a Feasibility Study, an Environment & Social Impact Assessment Study (ESIA) and a Resettlement Action Plan (RAP) in Lamwo District in Uganda.

Sio-Malaba-Malakisi River (SMM) Basin Management Project

The project seeks to reduce poverty in the region through the identification and preparation of a strategic portfolio of bankable water resources projects that demonstrate benefits of cooperation to partner states of Kenya and Uganda within a broader coordinated water-related investment strategy for the region.

In the FY 2016/17, the project Coordinated Water Resources Development and Planning of Angololo Irrigation Development and Watershed Management Project shared between Tororo district in Uganda and Teso district in Kenya. The Government of Uganda through the Ministry of Finance, Planning and Economic Development officially prioritized the Angololo project and through this, NBI/NELSAP is to receive funding from AfDB for the detailed feasibility studies, detailed designs, and ESIA and RAP studies.

Kagera Transboundary Integrated Water Resources Management and Development (KTIWRMD) Project

The Kagera Transboundary Integrated Water Resources Management and Development Project is supporting Uganda in implementing the Kabuyanda Water Resources Project in Isingiro District. This multipurpose project

⁵⁸ Rwenshama in Rukungiri on L. Edward, Mahyoro in Kamwenge on L. George, Kitebere in Kagadi, Mbegu in Hoima and Bei in Nebbi on L. Albert

will develop 4,200 ha of irrigation, generate 350 kW of Hydropower, provide potable and livestock water supply, as well as fish farming. During the period 2016-17, the project carried out feasibility studies and preliminary designs, the ESIA and the RAP.

7.5.4 Achievements under the Lake Victoria Environmental Management Project II (LVEMP II)

LVEMP-II is an East African Community (EAC) regional initiative coordinated by the Lake Victoria Basin Commission Secretariat. The objectives of the Project are to contribute to: (i) the improvement of the collaborative management of the trans-boundary natural resources of the LVB among the Partner States; and (ii) the improvement of environmental management of targeted pollution hotspots and selected degraded sub-catchments for the benefit of communities who depend on the natural resources of Lake Victoria Basin. For Uganda, the project is scheduled to end on 31st December 2017.

The key achievements in the period under review are as follows:

Point Sources Pollution Control and Prevention: One of the main objective of the project is to reduce pollution from municipal waste by supporting public investments through (i) Rehabilitation or improvement of wastewater treatment facilities and (iii) Provision of improved on-site sanitation facilities. Accordingly;

- i. The project is supporting the rehabilitation and expansion of Kirinya Waste Water Treatment Plant in Jinja. During the period under review, progress of works progressed to 89% against a target of 95%. The rehabilitation will expand the capacity of the plant by 25 percent and 12,700 persons will directly benefit from the intervention. To further increase sanitation coverage at landing sites and other public pollution hotspot, the project procured civil works for 32 sanitation facilities in nine districts namely, Mityana, Mubende, Gomba, Mpigi, Kalungu, Masaka, Rakai, Kalangala and Namayingo. Progress works was registered at 58% as at August 30th, against a target of 50%. A total of 59,000 persons are to benefit from these facilities.
- ii. As part of the support to Kampala Capital City Authority (KCCA), the project procured civil works for the construction of a waste recycling plant to facilitate community based waste recycling. Works progressed to 8%. Approximately 40,000 tonnes of plastic and 1,000 tons of market waste streams per month shall be processed at the facility, and transformed into usable, marketable products.
- iii. To prevent marine vessel accidents, (which could be a major source of pollution, including oil spills) and to improve safety of navigation for both cargo and passenger ferries and fishing vessels, the project supported the Ministry of Works and Transport to construct the Maritime Administration Office Block at the industrial area, Kampala and install aids to navigation at 12 sites in and around L. Victoria. These are: Port Bell port (2), Jinja port (2), Gaba port (1), water Front jet port (1), Nakiwogo port (1) in Entebbe, Luvolslet point (1) and Lutoboka (1) ferry landing site at Bukakata port (2) and a Buoy (1). These were commissioned during the period under review.
- iv. The project also seeks to reduce industrial pollution by promoting on-site pre-treatment of industrial waste and efficiency in raw material utilization; through sorting, reuse and recycling activities. During the period under review, the cumulative number of industries trained in Cleaner Production and Resource Efficiency increased to 157 against a target of 158.



Figure 7.14 Hand-over of Maritime Administration Office Block, constructed through the Lake Victoria Basin Commission

Of these, 41 industries generated Cleaner Production Options and have invested US\$ 57.1 million to implement the identified options. The industries are making annual savings worth USD 5.5 million out of the implementation of the cleaner production options.

Box 7.5 Improving Productivity and Competitiveness of Enterprises in Lake Victoria Basin through application of Resource Efficient and Cleaner Production

The Lake Victoria Environment Management Project- Phase II (LVEMP II) is championing Resource Efficiency and Cleaner Production technologies (RECP) through the Uganda Cleaner Production Centre (UCPC). RECP aims at increasing competitiveness and long-term sustainability of the enterprises in the Lake Victoria Basin by promoting source reduction of pollution loadings and enhancing raw material and energy utilization through the application of cleaner production technologies and techniques.



Old leaking drums before RECP at Leather Industries of Uganda (LIU)



A new set of tanning drums installed during the RECP programme at LIU

The implementation of activities under LVEMP II has demonstrated that enterprises in the Lake Victoria Basin (LVB) have a high potential to enhance their profitability and reduce the pollution loading into Lake Victoria. Results indicate that some companies have already achieved significant benefits from implementation of RECP. For example the volume of wastewater discharged from Leather Industries of Uganda has reduced by 30%, the Biochemical Oxygen Demand (BOD) loading by 47% and Chemical Oxygen Demand (COD) by 37%. Crown Beverages Limited (CBL) has achieved a reduction in pollution loading, in respect to BOD and COD, from 43.860tons/yr and 293.862tons/yr to 6.420tons/yr and 13.494tons/yr respectively. The implementation of RECP in Kakira Sugar Works Limited resulted in a number of benefits including reduction in water consumption by 40%; Effluent discharge reduced from 59L/s to 22L/s equivalent to a reduction of 63%; BOD and COD have reduced by approximately 78%.

Ecosystem Monitoring and Applied Research: The project is financing the strengthening of scientific and socio-economic: (a) data gathering protocols; (b) ecosystem monitoring tools; and (c) data-sharing mechanisms. In line with the above, the following were the key achievements during the period under review;

- i. Two Water Quality Laboratories at National Water and Sewerage Corporation (NWSC) in Bugolobi-Kampala and Directorate of Water Resources Management (DWRM) in Entebbe were upgraded. Additional equipment for water quality analysis and monitoring was procured, installed and commissioned at the two laboratories (see also Section 7.4).
- ii. The project has consolidated the Ecosystem Monitoring Network through construction of five new groundwater monitoring wells and rehabilitated one. Progress moved to 92% as at 30th July 2017. These are at Katosi Community School - Mukono, Bunkuge village -Mpigi, Ddimu landing site - Masaka, Makonge Health Centre - Buyikwe, Majanji landing site -Busia, Jinja Town. The network will provide the requisite data necessary for tracking pollution loads, evaluating the impact of pollution control interventions, developing adaptive policies and other interventions.
- iii. To strengthen the human resources to handle the challenges of pollution in the Lake Victoria Basin, the project has supported 14 students to undertake post graduate states at Makerere University with 4 students completing their studies during the reporting period, bringing the cumulative number of student that have completed their studies to 12. The students are from institutions mandated to contribute to pollution control and management.

Watershed Management: the project seeks to reduce environmental stresses from the lake basin by implementing non-point sources pollution mitigation and prevention measures through 46 Community-Driven Development sub-projects (CDDs) in nine districts, namely: Mityana, Mubende, Gomba, Mpigi, Masaka, Rakai, Namayingo, Kalungu and Kalangala. The project progress stands at 86 percent. A total of 438 hectares were brought under sustainable land management bring the cumulative sum to 2,280 hectares against a target of 2,520 hectares, and 1,150 individuals have adopted sustainable land management compared to a target of 1,103.

The project procured civil works for the construction of 118, 500l capacity institutional energy saving stoves for institutions around Lake Victoria which will directly benefit 5,200 persons. Works progressed to 54% during the review period. The stoves will reduce the energy consumption of the beneficiary institutions by 50%.

It was concluded that the watershed management CDDs were dispersed across a wide geographic area which reduces the observable impact of the sub-projects on land degradation, sediment transport and degradation within the LVB. To improve the accuracy, attribution and comparability of ecological impacts of the sub-projects, a systematic monitoring system needs to be put in place. There is need to develop a standardized selection/targeting criterion for watershed interventions focused on the most vulnerable and degraded hotspots.

Box 7.6 LVEMP II enhances garbage collection and drainage maintenance in Kampala City

KCCA targets to increase the collection efficiency from the current 1100tons per day to 2100tons per day but the capacity, in terms of number of garbage trucks, needed to achieve the 100% collection. During the period under review, LVEMP II funded the purchase of three (3) new garbage trucks. And an additional four trucks are on the way. These seven trucks (each of 20ton capacity and making three trips a day) collect 420tons of garbage every day. KCCA's garbage collection capacity is now enhanced by almost 40%. These trucks mainly collect garbage from the four catchments (Nakivubo, Kinawataka/Kyambogo, Kansanga/Gaba and Mayanja) draining into Lake Victoria; and serve a population of 991,734 persons. The main focus is Garbage collection from informal settlements (e.g. Namuwongo, Kitintale, Luzira, Katwe, Kibuli Banda etc.) located in and around the drainage systems. Ultimately, the increased capacity for garbage collection contributes to the long-term catchment management strategy for protection of drainage systems and improving water quality in Kampala.



The one of 3 20 ton garbage trucks received from LVEMP II waste



New LVEMP Tipper trucks delivering silt at the landfill- to cover

Support to drainage maintenance: Further to the garbage trucks, LVEMP II funded the acquisition of 6 tipper trucks, 1 large excavator, 3 small excavators, 2 backhoe loaders, 3 rear loader hydraulic (compaction) refuse trucks and 2 pickup trucks. This equipment has boosted the capacity of KCCA for drainage channel maintenance. The amount of silt removed by KCCA from channels draining into Lake Victoria (Nakivubo, Kinawataka/Kyambogo, Kansanga/Gaba and Mayanja) prior to acquisition of the new equipment used to be only about 21,000 tonnes. With the new equipment from LVEMP, KCCA is now able to remove more than 44,000 tons of silt per year which is more than twice the previous amount.

The silt removed from the drainage channels is used to cover waste at the landfill. With these efforts KCCA now saves over 800million shillings every year, which would otherwise be used to buy marrum to cover the waste.

Additional support: In addition, LVEMP supported KCCA in the following:

- Maintenance of Nakivubo channel, where an estimated 27,000m³ of silt is removed every year.
- Consultancy services for investigate the extent of solid waste (and sediment) accumulation in selected drainage systems in order to inform and guide drainage designs and master planning for Kampala.
- Increase public awareness on proper solid waste management and popularise the solid waste management ordinance. Already sensitization messages targeting one million people have been aired.
- Establishment of a Resource Centre at Nakivubo Blue Primary School for coordination of environmental education in Schools.
- Construction and equipping a model garbage recycling center which shall employ youths in recycling plastics and making manure and fertilizers from waste

Feasibility Study for the Lake Victoria Basin Integrated Water Resources Management Programme with High Priority Investments: Among the high investment projects identified is Nakivubo Constructed Wetland to address Nakivubo Channel Waste Water Treatment for controlling pollution into Lake Victoria from Kampala Business centre through Nakivubo Channel. The ministry has presented a commitment to availing the necessary land and operations of the treatment facility after its development.

The Tanzania - Uganda Joint Cross Border Cooperation Commission: A Ministerial meeting was held, guided by the presidents of the two partner states, discussing the challenges along the common border between Uganda and Tanzania, among them water and livestock. The Joint ministerial meeting agreed as follows;

- i) Establishment of a bulk water supply system with an intake sited downstream of Kikagati and Nshungezi power sites but upstream of BP27 that is located at Kakamba. It was further agreed to jointly carry out the Environmental Impact Assessment for the project;
- ii) Construct big dams in Bugango, Nyamarungi/Kamwema and Sango Bay ; and
- iii) Establish a Joint Expert Group by the end of December 2017 to develop a holistic, integrated catchment management plan for Kagera Basin between the two countries.

7.6 Cross-cutting Water Resources Management Initiatives

7.6.1 Finalisation and costing of the National Water Resources Strategy

During the reporting period the National Water Resources Strategy was finalised, costed and submitted for printing and dissemination. The strategy has a vision, objectives and strategic action for water resources management in Uganda up to 2040 and provides a long term planning perspective for water resources (2015-2040).

7.6.2 Operationalisation of the Water Source Protection Guidelines

According to the Water Source Protection Guidelines (2013), each water infrastructure project is expected to prepare a Water Source Protection Plan. During the reporting period various organisations and agencies (National Water and Sewerage Corporation, Directorate of Water Development, Electricity Regulatory Authority etc.) were supported in implementing of water source protection guidelines and operationalizing of the 3% contribution by water infrastructure projects for water source protection. Piloting of the water source protection guidelines is ongoing in 8 towns (4 under NWSC and 4 under DWD), and the Water Source Protection Plans of these towns have been completed and are ready for implementation. The finalisation of the piloting exercise will provide information needed to update the Water Source Protection Guidelines and issue them as legally binding documents. In addition, it will assist in the finalising and rolling out the strategy for operationalisation of the 3% contribution for water source protection, through verification of the kind of activities to be undertaken and the costs for preparing and implementing Water Source Protection Plans.

7.6.3 Operationalisation of the Water Resources Institute

During the reporting period, the road map for operationalizing the Water Resources Institute (WRI) was developed. The WRI is envisaged to be a “one stop centre” providing approaches to current and emerging water resources issues in the country. The WRI will implement activities under four themes: applied training, applied research, dialogue and outreach. The institute will carry out tailor-made training courses, post graduate training, and induction training for officers joining MWE, its deconcentrated structures and local governments. The Institute will also organise and facilitate multi stakeholder dialogues on topical issues in water resources through use of the existing sector platforms which will be either strengthened and /or expanded to ensure inclusiveness and relevancy.

A costed road map to operationalise the WRI has been prepared. The road map highlights the institutional set up, human resources/staffing requirements and the budget for the proposed activities under each of the four themes. The WRI will be funded through three main sources; in the short run through the creation of a subvention (budget line within the MWE), off-budget from DPs and NGOs as well as acquiring funding through the submission of joint proposals with other stakeholders especially the academia and NGOs. In the medium to long term, the Institute is envisaged to generate its own resources from the services it offers, access own funding from MoFPED as well as continue to access funding from DPs and NGOs.

7.6.4 Implementation of catchment-based water resources management

Implementation of water resources management functions de-concentrated to the four Water Management Zones (WMZs) of Kyoga, Victoria, Albert and Upper Nile continued to be consolidated. Currently each WMZ has 8 to 12 staff with different backgrounds and the number continues to increase due to the increased demand for water resources management services at the lower levels. Additional logistical support in form of office equipment and one vehicle per zone was provided to facilitate the work of the team.

Status of formation of CMOs

Water resources planning, development and management is being undertaken within catchment boundaries, as opposed to administrative boundaries. Each catchment will be managed by a Catchment Management Organisation (CMO) consisting of Stakeholder forum, Catchment Management Committee (CMC), Catchment Management Technical Committee, and Catchment Management Organization Secretariat. The CMO is a level where stakeholder driven integrated water resources management and development is being implemented. During this reporting period six CMOs were instituted namely Lokere, Lokok, Lumbuye, Katonga, Semliki and Kiiha, which makes a total number of 15 CMOs in the country as per end of June 2017.

Status of preparation of Catchment Management Plans (CMP)

The catchment management planning guidelines came into effect in 2013. Some of the plans that were developed before the guidelines came into effect are being reviewed to bring them in line with the guidelines. Currently, Catchment Management Planning is ongoing in 15 catchments in the country with already a number of catchment management plans developed. The status of the CMP development in the different catchments is outlined below:

Table 7.4 Status of catchment management plan development by end June 2017

WMZ	Catchment	Status of the Plan	Financial Year
Albert	Mpanga	Finalised	2015
	Semliki	Finalised	2016
	Ruhenzamyenda	Finalised	2015
	Albert	Under development	2017
	Kiiha	Under development	2017
Kyoga	Awoja	Finalised	2013
	Mpologoma	Finalised	2016
	Victoria Nile	Finalised	2016
	Lokere	Finalised	2017

	Lokok	Finalised	2017
Upper Nile	Aswa	Finalised	2016
	Albert Nile	Finalised	2016
Victoria	Rwizi	Finalised	2016
	Maziba	Finalised	2015
	Katonga	Under development	2018

During the FY 2016/17 4 CMPs (Lokok, Lokere, Victoria Nile and Mpologoma) were completed. So far, 12 catchment management plans are in place.

Implementation of the Catchment Management Plans

The developed catchment management plans contain priority investment and management measures needed to be implemented to protect and restore the catchment while improving people's livelihoods in the various catchments. Implementation of some of the priority measures in the CMPs is ongoing through either collaboration between various stakeholders and the Water Management Zones or by stakeholders alone. Details of implementation of catchment management interventions in the various catchments are elaborated in Annex 10.

8 SANITATION AND HYGIENE

8.1 Introduction

The United Nations 2030 agenda for sustainable development seeks to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of girls and women, and those in vulnerable situations. It also seeks to improve water quality by reducing pollution, to halve the amount of untreated waste water by 2030, and to substantially increase recycling and safe reuse. Therefore it is no longer enough for a household to have a hygienic toilet, as the faecal sludge should also be discharged of in a safe manner, either by safely burying on site or by safe treatment and reuse or disposal. Access to sanitation and improved hygiene will also be essential to the attainment of other SDG goals, e.g. ending all forms of malnutrition, and ending epidemics of water borne diseases, which ultimately translates to good health, thus reaching Sustainable Development Goal No.3.

8.2 Rural Sanitation and Hygiene

Rural Sanitation and hygiene promotion in Uganda is anchored in the 10-year Improved Sanitation and Hygiene (ISH) financing strategy (2006). The strategy is based on three pillars: improving the enabling environment, creating demand and improving the supply.

Over time, a number of programs and projects have been implemented to achieve the three pillars of the strategy, both nationally by central government and locally by the district local governments, NGOs and CBOs. The next section presents the performance of ongoing programmes in FY 2016/17.

8.2.1 Key programs and projects

Sanitation promotion at household level was done with funding from a number of programs and projects which were managed both centrally and at district level. Local governments received two conditional grants from treasury for water and sanitation i.e. the District Water and Sanitation Development Conditional Grant-(DWSDCG) plus the District Hygiene and Sanitation Conditional Grant (DHSCG). UGX 1.43 billion of the DWSDCG was used to construct public sanitation facilities at markets and rural growth centres. Part of the funds was also used for software activities, including promotion of sanitation, for communities that received new water points. UGX 2 billion was disbursed to 91 districts under the DHSCG, with each district receiving approximately UGX 23 million. Most districts worked on creating demand for improved sanitation, working in two sub-counties using either Community Led Total Sanitation (CLTS) or Home Improvement Campaigns (HIC) as approach. The use of CLTS has increased over time, with more than 90% of the districts that receive the DHSCG implementing CLTS in the FY 2016/17, while the rest used HIC; all approaches have open defecation free (ODF) villages as the ultimate outcome.

The villages worked in during the reporting period totalled to 1,433 in the FY2016/17; of these, only 258 (18%) became open defecation free. The 18% ODF attainment is low compared to last year's 26% which is attributed to a number of factors such as poor reporting by the districts, and inadequacies in the ODF sustainability strategies.

At central level, MWE implemented sanitation promotion for the communities that benefited from new water supply systems. These included communities using the Nyarwodho Gravity Scheme (GFS), solar-powered mini piped water systems, Lirima GFS, Bukwo GFS, and Bududa GFS. Furthermore, construction of 120 institutional and 24 public climate-resilient sanitation facilities is on-going (40% completion) in the districts of Bukedea, Kumi, Pallisa, Soroti, Butaleja, and Budaka.

The Uganda Sanitation fund (USF) program implemented under the Ministry of Health supports hygiene and sanitation promotion in 30 districts using the Community Led Total Sanitation-CLTS Approach. During the FY 2016/17, 317 villages were targeted for triggering. However, an additional 295 villages were triggered making the total of triggered villages 612. For this reporting period, 910 villages achieved ODF status.

In the USF program area, 15,218 new latrines were constructed and an additional 539,400 people are now living in an ODF environment. Furthermore, 42,132 new hand washing facilities were constructed and latrine coverage in the program area is on average 96%.

8.2.2 Status and trends of key indicators

Golden Indicator No 4: Access to Household Sanitation

The golden indicator for rural sanitation is “the percentage of people with access to improved sanitation”. In the FY 2016/17, access to rural sanitation, according to district reports was **80 %**, an increase of 1 percentage point from last year’s coverage. Figure below shows the national latrine coverage trend over a 10 year period (2008 - 2017).

During FY 2016-17, an estimated 307,416 new toilets were built with an additional 965,670 people gaining access to household toilets. The sector leveraged an estimated UGX 46 billion from households building their own toilets.

The National Housing and Population Census (2014) estimates that 10 percent of the rural population lack access to a toilet facility, while 58 percent use unimproved toilets. The variation between the access figures is attributed to a difference in definition which should be harmonised especially now that the sector needs to set a baseline for the SDG agenda.

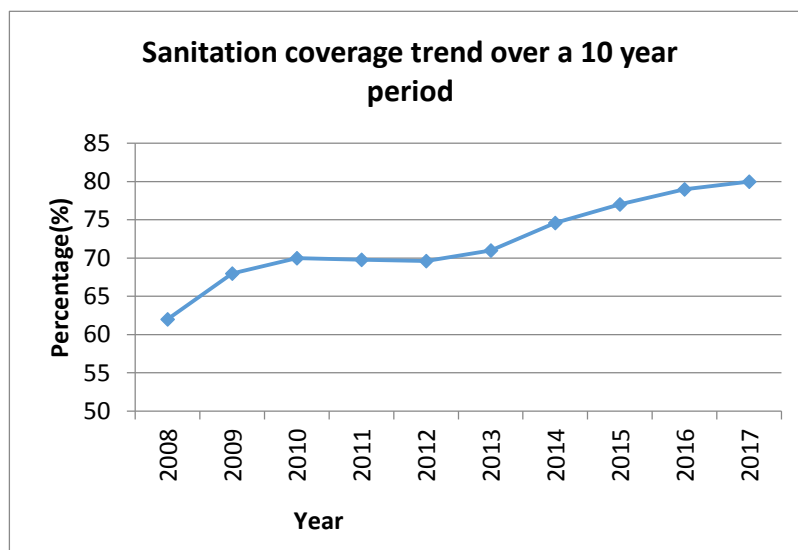


Figure 8.1. Rural sanitation coverage improvements since 2008.

The quality of facilities needs to be addressed urgently if Uganda is to meet the sanitation SDG targets. This calls for enforcement of the appropriate standards for both household and institutional sanitation while giving adequate attention to the entire sanitation service chain including fecal sludge management. Approaches like CLTS that do not prescribe technologies should be reinforced with aggressive sanitation marketing to avail quality sanitation goods and services at affordable prices as nearby as possible.

Golden Indicator No 4: Pupil to Latrine/Stance Ratio in Schools

School sanitation is measured on the basis of “pupil to stance ratio”. The national standards recommend a pupil to stance ratio of 40:1 (pupil: stance). This year, the pupil: stance ratio has increased from 70:1 to **71:1** in FY2015/16 meaning that pupils have to queue for longer in order to access a toilet facility at any given time. Out of the 111 districts (excluding Kampala) only 4 districts meet the national school sanitation standards.

Access to hand washing in schools has continued to be low with only 35% of the schools having hand washing facilities, which puts the lives of the pupils at risk of suffering from faecal related diseases leading to absenteeism.

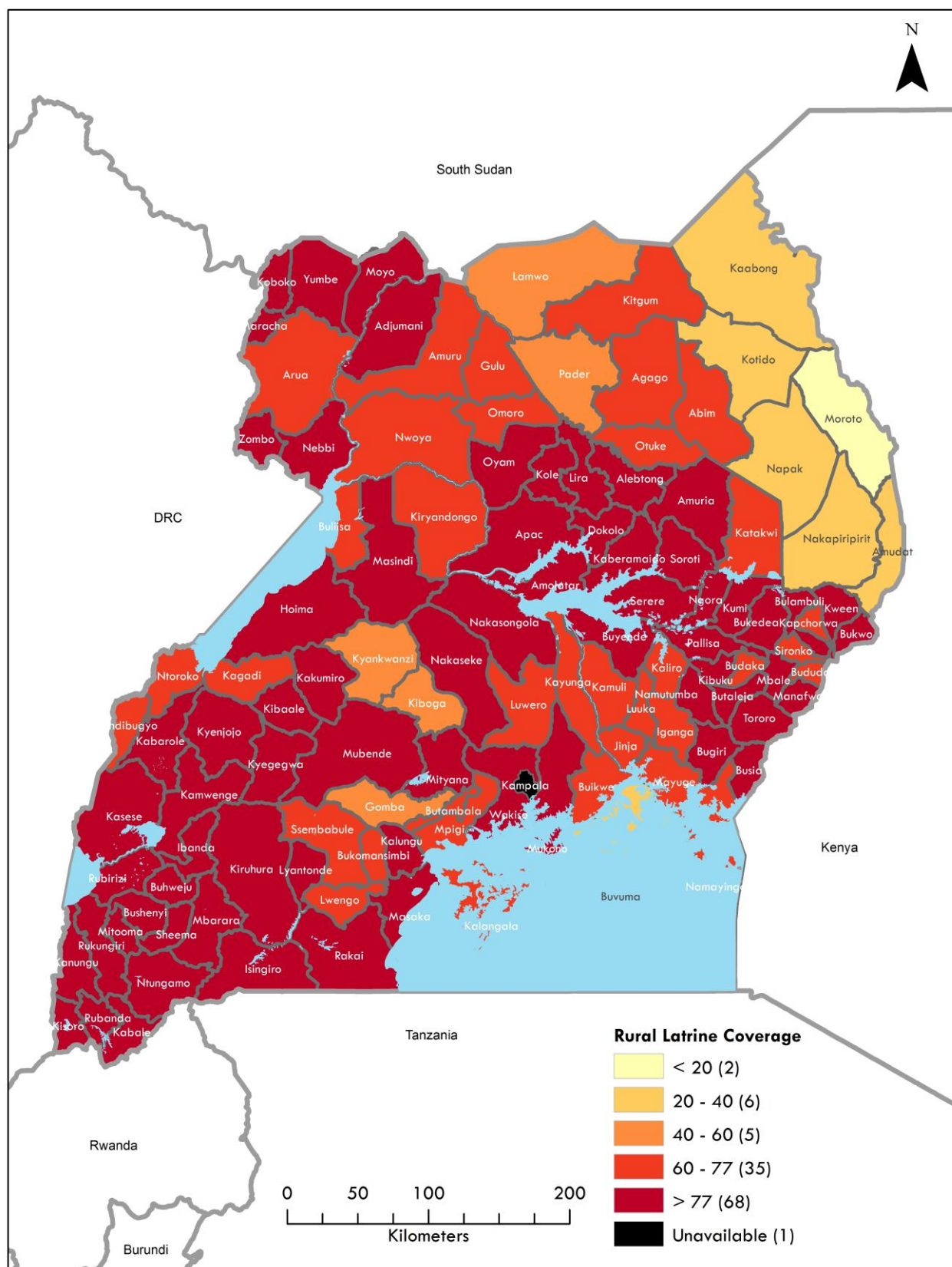


Figure 8.2. Latrine coverage by district, June 2017

Golden Indicator No 8: Hand Washing

The golden indicator on hand washing is “percentage of people with access to hand washing facilities”. The access to hand washing in rural areas is estimated to be **37%**, indicating a 1% increase from financial year 2015/16.

Only 20 districts reported to have access to hand washing rate of over 50%, up from the 18 districts reported the previous financial year. This figure is not even representative of the actual practice of washing hands after using the toilet which is estimated to be lower. According to the National Service Delivery Survey, 2015, only 7% had hand washing facilities with both soap and water.

Although the overall rate of hand washing with soap is a mere 37%, promotion of hand washing with soap in the country has increased by 30% since the hand washing campaign was launched in 2007.

Benchmarking of District Performance

Annex 11 presents the results of the district performance benchmarking. The table below presents the best 5 performing districts.

Table 8.1 District performance in sanitation and hygiene

The districts under the Uganda Sanitation Fund project continue to perform better than the districts that receive the DSHCG, as they have much more resources and can engage more with the communities. In addition, the USF project carries out close supervision of the concerned activities in the districts. The use of Follow up Mandona method of monitoring triggered villages has enabled many villages to achieve Open Defecation Free status.

It is also worth noting that a good number (11) of the districts crossed to the superior band of the district performance benchmarking, which points to a positive step in hygiene and sanitation promotion in the country.

Rank	District	Score (%)
1	Mbarara	90
2	Soroti	90
3	Moyo	83
4	Serere	83
5	Mukono	80

8.2.3 Challenges

The districts cited several challenges to the implementation of the rural sanitation program:

- (i) **Staffing:** Staffing levels of Environmental Health staff in the districts have continued to be low with an average of 67% of posts filled. This continues to stifle implementation of hygiene and sanitation promotion activities in the districts, ultimately undermining the achievement of universal access to improved hygiene and sanitation.
- (ii) **Transport:** More than 90% of the Environmental Health staff in the districts do not have means of transport to facilitate them in their day to day activities. This hinders the Environmental Health staffs who are basically field officers from engaging in the much needed close monitoring and follow up of communities for hygiene and sanitation improvement.
- (iii) **Funding:** Sanitation and hygiene has continued to receive insufficient funding yet the job to be done remains enormous especially in view of the very ambitious SDGs.
- (iv) **Famine and natural calamities:** Floods and prolonged drought have left a good number of areas devastated. Floods destroy sanitary facilities while prolonged drought and famine derail communities in such a way that they prefer to prioritize more pressing needs like food compared to sanitation improvement.

8.2.4 Recommendations

- (i) To address the challenge of low staffing levels, the districts should prioritise the recruitment of staff required to drive the hygiene and sanitation agenda if universal access is to be realised.

- (ii) Lobbying and high level engagement of parliamentarians, district councils and donor organizations should continue to increase budgetary allocations towards sanitation. Deliberate efforts should be made to leverage resources from non – conventional sources like private sector and finance institutions.
- (iii) Climate resilient technologies should be promoted for areas that are flood prone.

8.3 Urban Sanitation and Hygiene

Currently, statistics show that the annual urbanisation growth rate in Uganda is estimated at 5.43%⁵⁹, which is much higher than that of the Sub-Sahara African region at 3.67%⁶⁰ and Africa in general, estimated to be 4% per year. The rate of urbanisation is not in tandem with the infrastructural growth, leading to a number of sanitation challenges such as contaminated water and inadequate sanitation, most especially among the urban poor.

According to a Budget Monitoring and Accountability Unit (BMAU) briefing paper⁶¹, by June 2016, the sanitation coverage for urban areas in Uganda was 85%. Although a sanitation system for a town or cluster of towns ideally includes a piped sewerage system and a sludge treatment facility for sludge from septic tanks, pit latrines and dry sanitation facilities, over 90% of the urban population in Uganda mainly relies on on-site sanitation (latrines or septic tanks), which requires emptying and proper disposal of the faecal sludge.

The BMAU Briefing paper further shows that in most of small towns, less than 10% of the toilet facilities can be emptied, and therefore, the demand for faecal sludge emptying services is low in such areas. As a result, the few service providers available have to levy relatively high charges as they cannot realise economies of scale. The high charges in turn lead to illicit disposal of collected faecal sludge in swamps, quarries and water bodies, with detrimental environmental and public health consequences. The sector has put in place several interventions to ensure that the whole service chain of faecal sludge management is attended to, right from collection, transportation, treatment and disposal/reuse. Most of the current initiatives of the sector focus on how to upscale the interventions that have been put in place and to better handle concerns related to operation and maintenance of faecal sludge facilities while ensuring sustainability, to safeguard better management of human waste.

Faecal Sludge Management in Kampala

Although 99% of the population in Kampala has access to some form of sanitation facility, the majority (90%) of the population relies on onsite sanitation, most of which is not classified as “improved” or “acceptable”. Over 50% of toilets are shared by multiple households, leading to unhygienic conditions. Pit latrines are mostly unlined, contain a large amount of solid waste, and are difficult to access for emptying, ultimately resulting in filled pits that are either abandoned or directly emptied into the environment, posing health and environmental risks for the city and its people.

Besides improving personal hygiene and the cleanliness of toilets, a major challenge is the safe handling of faecal sludge from the onsite facilities. It is estimated that 43% of the faecal waste generated daily in Kampala is currently emptied from the pit latrines and safely managed. The Citywide sanitation census shows that the common emptying practice in Kampala is emptying with cesspool trucks (96%). The others include manual emptying and semi-mechanized emptying using gulpers. These service providers also serve the surrounding metropolitan areas of Kampala. Approximately 21%⁶² of Faecal Sludge (FS) disposed of at the two treatment plants originates from outside Kampala.

⁵⁹The Growth Challenge; Can Ugandan Cities get to work? Uganda Economic Update 5th Edition; The World Bank, Feb 2015

⁶⁰The Growth Challenge; Can Ugandan Cities get to work? Uganda Economic Update 5th Edition; The World Bank, Feb 2015

⁶¹ BMAU Briefing paper, April 2017

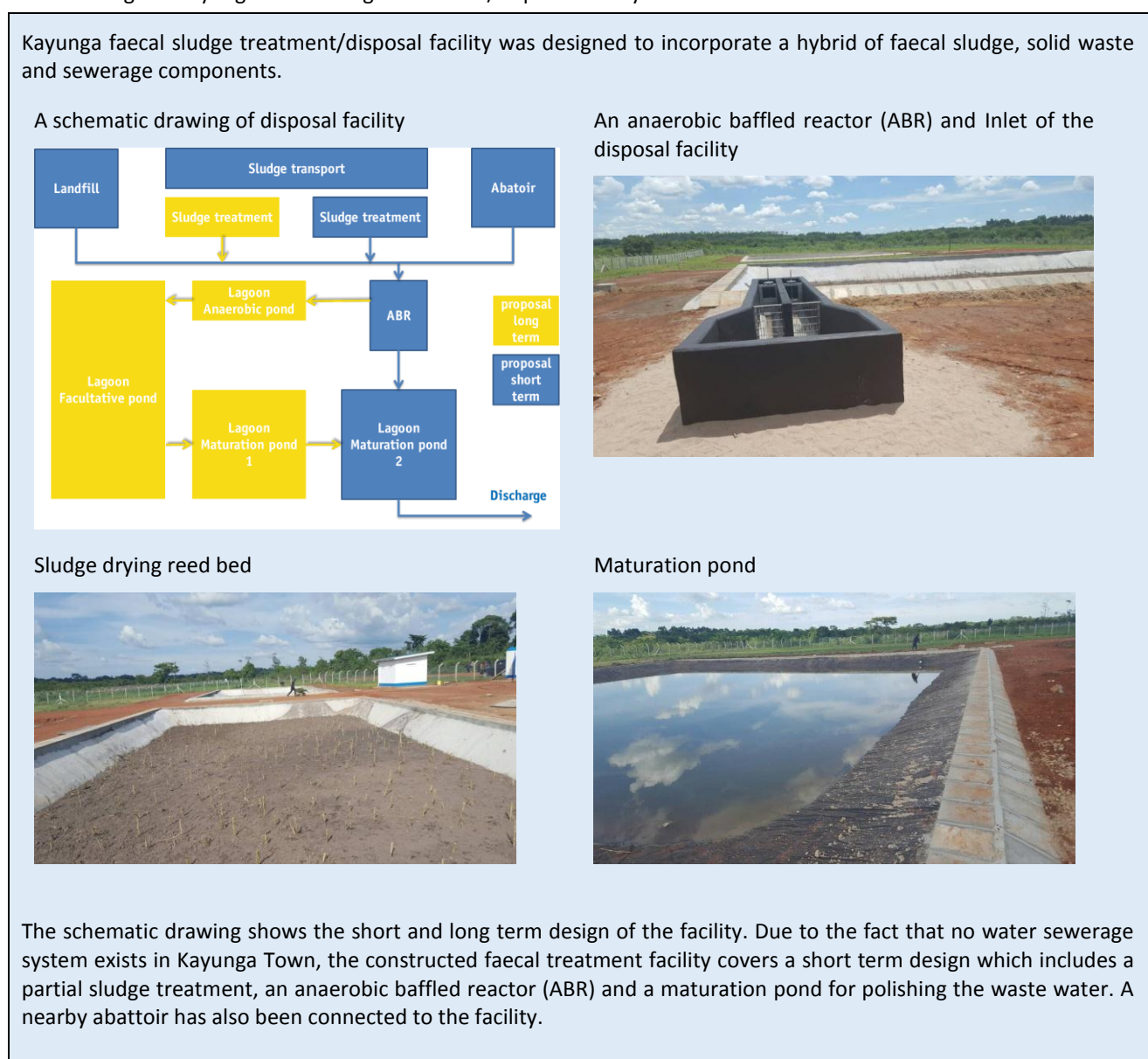
⁶² Tracking of Private Cesspool and Gulper Operators, Unpublished Report, 2017

8.3.1 Achievements in Urban Sanitation

The sector has for the last two years focused on improving faecal sludge management services across the country. The sector put in place a strategy of clustering small towns into 50 clusters to guide sector investment in cost-effective shared faecal sludge treatment/disposal facilities and better engagement of the private sector and local authorities in service delivery. Out of 50 identified clusters, 13 have been existing and by the end of the year 2016/17, an additional seven faecal sludge treatment/disposal facilities have been constructed in Kayunga, Kasaali-Kyotera (in Rakai), Ishongororo (in Ibanda), Kamuli, Buwama (in Mpigi), Ntungamo and Mayuge.

Different designs for the disposal facilities have been explored to incorporate the community needs and sustainability (operation and maintenance) of the facilities, as indicated in Box 8.1.

Box 8.1 Design of Kayunga faecal sludge treatment/disposal facility



Achievements by KCCA to address Kampala's sanitation challenges

KCCA has undertaken a number of initiatives to tackle the sanitation challenges in Kampala including coordination of sector actors in the city, development of operational standards and enforcement of faecal

sludge management. KCCA secured funding for a sanitation improvement programme with a focus on private sector participation to accelerate and improve coverage and levels of service; strengthening the legal and institutional framework of the sanitation sector; and the creation of demand for sanitation services.

The achievements of the programme in FY 2016/17 include a census of sanitation facilities in the city, establishment of a call centre to monitor service delivery and link city residents to service providers, regular and institutionalized engagement of the private sector, development of minimum standards for onsite sanitation, introduction of mobile transfer stations to reduce haulage distances for small scale service providers, development of streamlined behavioural change communication material and a citywide social marketing campaign, and support to Kampala Division offices that are closer to the communities. As a result, access to formalised faecal sludge management services has improved, and the private sector is in constant exchange with the city authority. Household sanitation facilities are being upgraded or constructed to meet the standards.

Town sanitation planning (TSP)

Due to the growing population in most of the towns and urban growth centres, there is increasing pressure on the already poorly planned sanitation facilities. Therefore, in an effort to ensure sustainable sanitation in small towns, MWE adopted a participatory and integrated planning approach that is grounded in the principles of sustainable sanitation. Through this initiative, town sanitation plans are to be developed so as to provide a strategic framework to deliver short, medium and long-term goals to address inadequate small town sanitation. The initiative was piloted in six towns: Aduku, Apac, Ibuje, Loro, Oyam and Kamdini. A strategy has been put in place to upscale the initiative in other towns and rural growth centres for sustainability and ownership of sanitation activities by the Town Councils and improve the already implemented sanitation initiatives, once funds are available.

Initiatives and pilot projects to improve urban sanitation

Various initiatives have been undertaken aiming at improving urban sanitation. Two of these initiatives have been summarised in the following two boxes.

Box 8.2 Operation and Maintenance of Public Toilets in Kiboga, Kakoge, Katugo, and Migera Towns

The Ministry has been constructing public toilet facilities in small towns in order to contribute towards protection of the provided water supply from faecal contamination. The constructed toilet facilities have always been handed over to the Town/Municipal Council for management.

Following increasing challenges with operation and maintenance of public toilets in small towns, WSDP-Central has explored the management model of handing over of the public toilet facility to the Private Operator who is at the same time operating the constructed water supply system in the towns of Kiboga, Kakoge, Katugo and Migera. In this case, the operator employed a caretaker who is being paid a monthly salary; the water collections contribute to the salary of the caretaker. Specifically in Kakoge and Katugo, the operator has put in place a side business of airtime and mobile money at the reception area of the toilet, which the caretaker is running as well. This has greatly motivated the caretaker to stay and execute his duties diligently. This model has been successful since the water bill for the toilet is paid in time and there is easy follow up on the O&M of the toilet, if the information is included in the Operator's monthly report.

Box 8.3 Household Sanitation - Increasing hand washing in Pabbo Town

One of the initiatives towards household sanitation during the period has been a campaign to enhance and promote hand washing hygiene. As such, Water and Sanitation Development Facility (WSDF)-North has taken this initiative in Pabbo Town, Amuru district, alongside the development of piped water and improved sanitation facilities in Pabbo town. Statistics for the year FY2015/16 showed that 15% of the population of Pabbo Town had access to (and was using) hand-washing facilities, while in schools and institutions it is 44%. The campaign is majorly aiming at sharing information and knowledge about Hand Washing With Soap (HWWS) with stakeholders and the public, demonstration of how easy it is to improve HWWS coverage, and provision of reliable authoritative information and knowledge for trainers to back their hygiene education programs.

The campaign was launched by a group of participants who carried hand washing messages on banners and posters, guided by the sub county officials and a team from WSDF-N, and marched along Atiak–Gulu Road showcasing hand washing with soap messages. This was followed by house to house mobilization and sensitization of community members to have Hand Washing Facilities (HWFs) and also wash hands with soap after using the latrine, including demonstration of hand washing and making of Tippy taps in the community.

As a result of the campaign, the area has experienced increased knowledge levels on hand washing hygiene, reported at 68%. In addition, households with hand washing facilities increased from 15% to 28% and of the 28% households with HWFs, 15.6% had water with soap at the facilities. The outcome of the initiative showed that hand washing with soap in the households is not a habit and needs more follow up at community level. Soap use in the households is mostly for laundry, washing dishes and bathing, implying that there is still inadequate knowledge on the benefits of hand washing with soap in the community. Some individuals in the community still have negative attitudes and beliefs towards hand washing with soap. It is therefore recommended that for better uptake of hand-washing as a behaviour, the sub-county Health Inspectors should continue following up households to sustain the practice. Also, the health department of the Town Board Authority should support Water Supply and Sanitation Coordination Committee and Village Health Teams in their effort to track households with no hand washing facilities.

Hand-washing campaign march in Pabbo Town



Hand-washing forum in Pabbo



8.3.2 Status and Trends of Key Indicators

The sector has revised its key indicators for sanitation in line with the SDGs, to incorporate safely managed human waste and include the entire sanitation chain value of safely managed sanitation - from containment, emptying, transportation, treatment and reuse/disposal as follows:

New Sector Performance Indicator No. 11: Basic sanitation Households

The indicator applied to monitor basic household sanitation is “the percentage of population using an improved sanitation facility not shared with other households”.

The definition calculation method for this indicator at household level is given as: Percentage (%) of population using an improved sanitation facility (flush toilet, VIP, pit latrine with a slab, or composting toilet) and not shared with other households.

“Number of Households with improved sanitation facility / Total number of Households”

The indicator does not have baseline data available to calculate its percentage in the period under review (2016/17). The data available instead provides the population with access to improved sanitation inclusive of shared facilities at household, hence cannot be used for the New Sector Performance Indicator 11.

New Sector Performance Indicator No. 12: Safely managed sanitation

The indicator used is *“the percentage of population using safely managed sanitation services”*. The definition calculation method for this indicator at household level is given as: Population using an improved sanitation facility which is not shared with other households and where excreta is safely disposed in situ or treated off-site. Further disaggregated as follows:

- Use of improved sanitation facilities from census/household survey data
- Information on safe disposal or treatment estimated by applying “safe management” factors to each type of facility

The formula is given as: % safely managed = (% flush toilets connected to piped sewers) * (% sewage adequately treated) + (% flush toilets connected to septic tank) * (% faecal sludge safely handled and deposited) + (% improved pit latrines) * (% safely sealed or emptied and deposited) + (% Ecosan toilets) * (% Ecosan toilets adequately managed).

The indicator does not have baseline data available to calculate its percentage in the period under review (2016/17). The data available instead provides the population with access to improved sanitation inclusive of shared facilities at household. More so, a detailed methodology to estimate percentages of safe management (emptying, transport and treatment/ disposal) are yet to be developed.

Golden Indicator No.4: Access to Improved Sanitation

Given the unavailability of baseline data for the above new key indicators for sanitation and being work- in - progress, the urban subsector has opted to report on the previously used sector Golden indicator No. 4 *“the percentage of people with access to improved sanitation”*. Based on the data received, **85.5%** of the urban population has access to sanitation compared to 84.6% for last financial year 2015/16.

Golden Indicator No.8: Access to Hand Washing

The golden indicator for hand washing is *“the percentage of people with access to hand washing facilities.”* According to the data from the towns that reported, an estimated 40.0% of the urban population has access to hand washing facilities at the toilets compared to 39.1% for the FY 2015/16. It should however be noted that access to hand washing at the toilet is not an indication of use. Given the efforts put in by the sanitation sub sector to improve hand washing in urban areas, there has been a noticeable improvement in access to hand washing facilities by the population.

8.3.3 Challenges

The main challenge the urban sanitation sub sector is facing is data collection for safely managed sanitation at all stages of the sanitation chain, since there are different players at every stage who have to be properly coordinated to provide appropriate data.

8.3.4 Recommendations

For the sub-sector to address the issue of data collection and appropriate methodologies, all relevant players need to come together and put in place a road map for data collection for safely managed sanitation and the new indicators at well.

9 ENVIRONMENT AND NATURAL RESOURCES

9.1 Wetland Management

A number of achievements were made in wetlands management, which are reported according to the sub-sector's key objectives in the following sections.

9.1.1 Promotion of knowledge of environment and natural resources

MWE raised public awareness of wetland values, laws and regulations. This was achieved through community policing which targeted reducing encroachment and degradation in slums, radio talk shows on topical subjects, focus group discussions, and TV talk shows. The National Wetlands Information System has continued to support decision-making in the department through production of fact sheets for Walugogo, Aminkwac, Lumbuye, Abalang, and Wuweyi Wetlands. MWE produced 194 maps for clients, as compared to 167 produced the previous year.

9.1.2 Restoration and protection of degraded ecosystems

During the FY2016/17, MWE demarcated 167.7kms of critical wetlands in Hoima, Kisoro, Jinja, Iganga, Arua, Gulu, Alebtong, Lira and Masindi Districts, and restored a total of 476 hectares (ha) of degraded wetlands in the districts of Kiruhura (150ha), Soroti (13ha), Rakai (145ha), Isingiro (40ha), Bududa (10ha), Budaka (28ha), Bulambuli (80ha), Omoro (6ha), and Lira (10ha). The decline in area restored is a result of much funds going to procure pillars in preparation for more demarcation. The trend in the demarcation and restoration of wetlands over the last six years is indicated in Figure 9.1 and Figure 9.2, respectively.

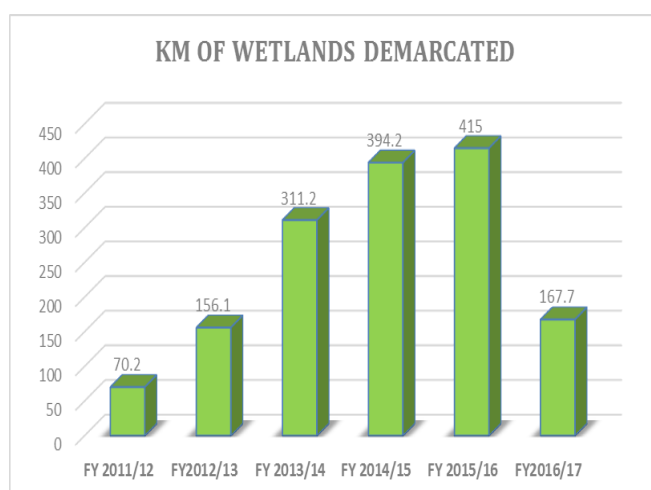


Figure 9.1 Trends in the demarcation of wetlands

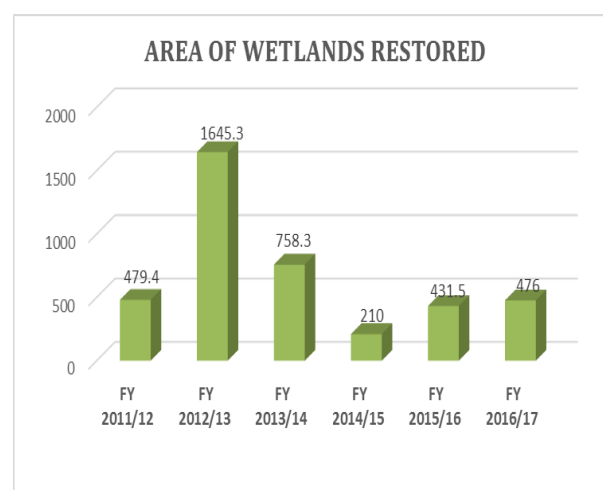


Figure 9.2 Trends in the restoration of degraded wetlands

Photographs showing the restoration of the shores of Lake Kachera are as shown in Figure 9.3 and Figure 9.4.



Figure 9.3 A Section of Lake Kachera Wetland regenerating naturally after the degraders have left



Figure 9.4 A section of Lake Kachera under restoration.

Coding of wetlands for Kyoga and Lake Victoria Basins is completed in preparation for gazetting wetlands in Uganda. The road map for the cancellation of land titles in wetlands was approved Cabinet and MoFPED issued a Certificate of Financial Implications. The Wetland Atlas will guide the cancellation process. Figure 9.5 shows the launching the Wetlands Atlas.



Figure 9.5 The Minister for Agriculture launches the Uganda Wetlands Atlas during World Wetlands Day celebration held at Kalungu District Local Government

9.1.3 Policy, planning, legal and institutional framework

The department has developed guidelines for wetlands restoration. The department is producing copies for dissemination to local governments and relevant institutions for use.

9.1.4 Coordination, monitoring, inspection, mobilization and supervision

All district local governments were technically backstopped; technical backstopping and supervision has assisted local governments in terms of timely planning, reporting, integration of District Wetlands Action Plans in District Development Plans, formulation of ordinances, demarcation and restoration of degraded wetlands among others. The trend in yearly technical support supervision provided to Local Governments since FY2011/12 is as shown in Figure 9.6.

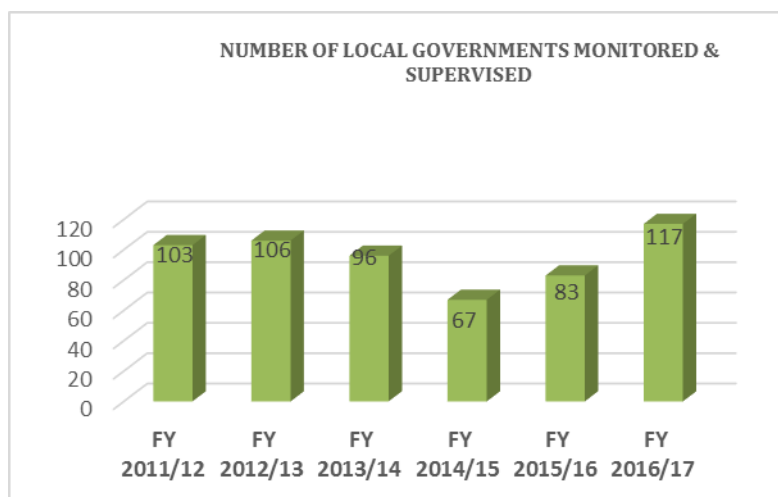


Figure 9.6 Trend in Technical Support Supervision to Local Governments

In the FY2016/17, MWE with support from Environment Protection Police Unit conducted compliance monitoring of 231 sites, whereas 214 cases were registered in various courts, 131 suspects arrested (compared to 282 in the previous year), 77 cases were filed in various courts (compared to 49 in the previous year), 54 trucks and engineering plants were impounded as exhibits and UGX 19 million was imposed in form of fines on encroachers.

Figures 10 and 11 show EPPU officers carrying out compliance monitoring and inspection activities for wetlands in 2016/17.



Figure 9.7 EPPU maintains security during restoration of the shores of Lake Kacheera in Kiruhura District



Figure 9.8 EPPU with suspected wetland degraders

The decline in the numbers of cases handled and fines paid is attributed to the general decline in wetland degradation in a round Kampala compared to the preceding years. This is attributed to the increased awareness on the cancellation of land titles in wetlands, demarcation of wetland boundaries and robust Compliance Monitoring and Enforcement regime.

9.1.5 Status and trends of key indicators

The performance in wetlands management is assessed based on two platinum Indicators: the land area under wetlands, and the area of wetlands under approved management plans. It is based on a percentage coverage determined in 2009. These 2 platinum indicators are operationalized through a number of indicators.

Platinum indicator	Achievement
Indicator No. 9: Wetlands Coverage	10.9%
Indicator No. 10: % Wetland Area under Approved Management Plans	Increase of 837.62 Km ²

Platinum Indicator No 9: Wetlands Coverage

The platinum indicator for wetland coverage is “% of Uganda’s land area covered by wetlands”. According to a publication by UNDP/NEMA/UNEP Poverty Environment Initiative In 2009⁶³, wetlands covered approximately 26,600 km² of Uganda's total area of 241,500 km², including water bodies; calculations in the previous sector performance report (15/16) calculate with a wetland area of 26,330 km². WMD implements measures to ensure that the coverage of wetlands is increased in line with the targets under the National Development Plan. By end June 2016, Uganda’s land area covered by wetlands was estimated at **10.9%**. The area restored by MWE in 2016/17 financial year was only 476ha (4 km²) hence increasing the coverage of wetlands to 26,334 km², or by 0.002%; this still translates to 10.9% wetlands coverage.

Platinum Indicator No.10: % Wetland Area under Approved Management Plans

The platinum indicator for wetland management planning is “% of Uganda’s wetland area under approved management plans”. The area under approved management plans remained at 3,806 km² because no new plans were made in the financial year 2016/2017. All DLGs were monitored and supervised for compliance.

9.1.6 Challenges and recommendations for wetlands management

The following are the challenges that have continuously hindered the performance of the department:

- Delays in finalization of the Wetlands Bill which a big stumbling block in wetland management given that the existing legal frameworks are weak and do not address key wetland issues.
- Dismissal and delays in completion of court cases and execution of offenders which can be attributed to backlogs in the Judiciary and no interest to execute environmental cases
- Inadequate coordination among wetland management stakeholders together with conflicting mandates to manage wetlands resulting into blame games hence continuous wetlands degradation.
- Political interference has continued to impede some of the enforcement efforts throughout the country.
- Delayed procurement processes that hinder the completion of some outputs as planned.
- Lack of transparency in EIA processes resulting into continued approval of projects in fragile ecosystems without the consent of MWE; this is a sign of poor coordination among the stakeholders.
- Impunity and open resistance by some illegal wetland users utilizing the wetlands

The following recommendations can be made to address the challenges:

- (i) Expedite the finalization of wetland bill in order to address key wetlands management issues
- (ii) Creation of an environmental court to fast track execution of the environmental cases
- (iii) Harmonize and clearly spell out the mandates of the different ENR institutions
- (iv) Increase the awareness of the politicians across all levels

⁶³ Kaggwa, R., Hogan, R., and Hall, B., 2009. Enhancing Wetlands’ Contribution to Growth, Employment and Prosperity.

- (v) Community policing around the hotspot wetlands
- (vi) Increased monitoring and enforcement of wetland areas under threat of degradation

9.2 Forestry Management

The Forestry sub-sector is managed by three main institutions: (i) the Forestry Sector Support Department (FSSD) of MWE, (ii) the National Forestry Authority (NFA), the semi-autonomous agency that manages the Central Forest Reserves, and (iii) District Forestry Services (DFS) of district local governments. In addition, the private sector plays an important supporting role through amongst others the Uganda Timber Growers Association, as well as the Civil Society Organisations (CSOs). The CSOs' performance in forestry management is discussed in Section 13.4 of this report. Furthermore, achievements under forestry research and forestry technical education have also been provided in this section.

Forestry management is supported by implementation of Programme 15 of the FSSD, the core activities of the National Forestry Authority in Central Forest Reserves, and those of the District Forestry Services. In addition, there are a number of projects and initiatives including the following:

- The national REDD+ project
- Sawlog Production Grant Scheme (SPGS)
- Enhancing forest tenure and governance in Uganda
- Farm Income Enhancement and Forestry Conservation (FIEFOC)
- Building resilience to climate change in flood prone areas of Mt. Elgon under the additional funds to the Water Supply and Sanitation Programme (WSSP 1)
- Kalagala project support under the Water Management and Development Project.

9.2.1 Forestry Sector Support Services

Forest governance in Uganda was strengthened through a National Forest Consultative Forum held in March 2017, which resolved that government operationalizes the Forest Sector Co-ordination Structure provided for in the Forestry Policy and also making tree growing compulsory while ensuring that the practical arrangements for ensuring compliance are carefully examined and that government to demonstrate commitment towards providing additional funding to the sector through increasing the annual budgets of the responsible institutions.

Harvesting of forest products was regulated through issuing 67 copies of the forest produce movement permits to different local governments⁶⁴, and 45 timber harvesting licenses issued to pits-sawyers⁶⁵.

A total of 58 Districts⁶⁶ were inspected and monitored for compliance to the guidelines for forest management, and provision of extension services to beneficiaries of a number of programs and projects. Findings are that although the majority (75%) complies, there is continued misuse of the licenses issued by the timber harvesters and traders in terms of multiple usage, and misrepresentation of the actual volumes traded. Majority of tree farmers (70%), claiming lack of financing and the required skills are not tending to their woodlots and plantations as per the management requirements. This is also related to the lack of extension services by the district forestry services.

⁶⁴including Arua, Masaka, Mityana, Hoima, Kakumiro, Mubende, Kagadi, Rukungiri, Kaberamaido, Butambala, Zombo, Rukungiri, Mubende, Kibaale, Moyo, Sembabule, Lamwo, Kyenjojo, Kalangala, Nakaseke, Buyende, Rakai, Kyegegwa and Yumbe

⁶⁵in the districts of Kibaale, Rukungiri, Hoima, Mubende, Kakumiro, Kagadi, Kyegegwa, Kyenjojo and Zombo

⁶⁶Mubende, Kween, Oyam, Nebbi, Butaleja, Manafwa, Bududa, Kakumiro, Kyegegwa, Kibaale, Kyenjojo, Moyo, Zombo, Kabarole, Bukomansimbi, Luwero, Kasese, Mbale, Budaka, Tororo, Lira, Kitgum, Masindi, Hoima, Bushenyi, Sheema, Rubirizi, Mayuge, Jinja, Masaka, Mbarara, Kabale, Jinja, Kamuli, Bududa, Mayuge, Bukwo, Pallisa, Kisoro, Soroti, Gulu, Omoro, Sembabule, Rakai, Lwengo, Buikwe, Lamwo, Adjumani, Soroti, Serere, Kumi, Busia, Nakasongola, Oyam, Moyo, Alebtong, Nwoya and Bukedea

Other activities included providing guidance and advocacy on forestry management to individuals and in various cross-sectoral meetings.

9.2.2 District Forestry services

Although no specific conditional grant for forestry exists for local governments, as best practice, district governments have a mechanism to collect data pertaining to the performance of the sector at that level. So far, 42 local governments⁶⁷ out of 114 local governments (of which only 70 have done forestry work) have reported on different forestry management aspects. These contributions have been supported by local revenue and support from different programmes and projects undertaken or funded by government programmes, development agencies, NGOs, civil society and the private sector⁶⁸.

District governments planted 6.3 million tree seedlings⁶⁹ with an average survival rate of 67.1% on a total area of 17,261 hectares (ha), while 1,664 ha of local forest reserves were planted and maintained in terms of weeding, pruning and thinning. 5,876 farmers were trained in different aspects of forestry management, and 3,790 farmers were monitored for compliance to forestry management guidelines.

Inspections were conducted where it was observed that there was poor post planting management due to lack of skills and financial resources. In total 103 kms of roadsides were planted with trees of assorted species, while district forestry staff raised awareness on sustainable forestry management using radio talk shows. Masindi District developed a District tree planting policy, which was officially launched by the district chairperson on 15th March 2017. A revenue of UGX. 361 million was collected accruing from forest products trade, with Arua and Wakiso districts together contributed to over half of this revenue.

9.2.3 Management of Central Forest Reserves

The following achievements were made in the management of Central Forest Reserves (CFR), as implemented by National Forestry Authority: an income of UGX 20.4 billion was realized against a projected 28.4 billion (72%) in FY2016/17. In total 306 km of forest boundary were opened and marked with pillars out of the planned 269 in 17 CFRs (116.3% performance) and a total of 636 ha of new forest plantations were established in various CFRs, corresponding to a performance of 72.7%. Restoration planting of 351 ha was carried out in various CFRs (56% performance). There was also enrichment planting of 1,500 ha done in Mabira CFR. NFA's ecotourism sites in Mpanga, Mabira, Budongo and Kalinzu CFRs were kept operational and received 11,358 tourists. In total 1,554 kg tree seedlings were supplied to NFA nurseries and 1,483 kg sold to private nurseries.

The National Tree Seed Centre and regional nurseries produced 15,404,483 tree and fruit seedlings out of the 16,688,318 targeted, out of which 6 million were for distribution under the Community Tree Planting Programme (CTPP). Three Collaborative Forest Management (CFM) agreements were signed with communities; this means there are now in total 54 CFM countrywide. Road equipment was acquired for opening and maintaining forest roads.

⁶⁷ Arua, Busia, Kaberamaido, Kibuku, Buhweju, Buyende, Kaliro, Kapchorwa, Kasese, Kyenjojo, Maracha, Mityana, Mubende, Namayingo, Namutumba, Rakai, Wakiso, Manafwa, Kween, Rukungiri, Kisoro, Sembabule, Kumi, Zombo, Masaka, Budaka, Bugiri, Rubirizi, Mukono, Kamuli, Tororo, Ibanda, Masindi, Pallisa, Pader, , Kyankwanzi, Bundibugyo

⁶⁸ National Population Council, Northern Uganda Social Action Fund (NUSAF 3), Justice Law and Order Sector (JLOS), Joint Energy and Environment Project (JEEP), Cudwell, Lake Victoria Environment Management Project (LVEMP) II, Generation Challenge Programme (GCP), Université Catholique du Graben (UCG), Farm Income Enhancement and Forestry Conservation Project (FIEFOC), Environmental Protection, Food Security and Economic Development (EPFOSE) / Salvation army project, United Nations High Commissioner for Refugees (UNHCR), United Nations Food and Agriculture Organization (FAO), and World Bank, Alliance One, Sebei Diocese, World Wide Fund for Nature (WWF), International Centre for Research in Agroforestry (ICRAF), International Union for Conservation of Nature (IUCN), Danish Refugee Council, Red Cross, and World Vision.

⁶⁹ Pinus spp, Eucalyptus spp, Maesopissemmini, Tectonagrandis, Bathedevia spp

9.2.4 Forestry education and research

Nyabyeya Forestry College is the only technical forestry college offering both diplomas and certificates in forestry and related courses. A total of 247 qualified in the certificate and diploma programmes. To enhance career development, over 300 students mainly from Makerere University have been trained during their recess programme. 18 hectares of forest has been established and over 100 ha maintained.

The National Forestry Resources Research Institute (NAFORRI) carried out research in the following fields:

- biological control of key forest pests and diseases of economic importance,
- empirical evidence on profitability and contribution of farm forest plantations to household income and livelihood strategies; information e.g. on growth performance of clonal eucalyptus and profitability should inform policy and future investment decisions,
- enhancement of silviculture for improving forest productivity,
- utilization of indigenous tree species for increased land productivity,
- improved forage production and utilization for increased productivity of Uganda's smallholder dairy systems,
- enhancing commercialisation of forest products,
- utilization of biomass energy technologies and bio-fuels for domestic and industrial use, and
- broadening use of waste for briquette fuel to provide environmental services as well as income to farming households.

9.2.5 Private sector engagement

UTGA is a Members organization that gives a voice to over 450 small, medium and large scale Private Growers in Uganda. It is a lobby group for effective policy and action, and for an enabling environment that supports growers to establish & manage plantations, access quality inputs, tools and services at competitive terms and strives to obtain markets for Members' wood. The association aims to create public awareness on tree growing; share information and promote learning. Some achievements realized by UTGA include the lobbying for the lifting of the Presidential ban on land allocation in CFRs that has been in place for 10 years was done and the President finally agreed to lift this ban. The National Forestry Authority (NFA) has since advertised for investment in these CFRs. The testing and validation of the Draft National Forestry Stewardship Council Standard was carried out at Global Woods in Kikonda. Forest owners, their managers/supervisors together with the UTGA technical team were trained. Internal assessments were carried out against the National Standard and a roadmap to acquiring a group certificate in 2018 has been designed and is being followed.

9.2.6 Key projects

Reducing Emissions from Deforestation and Forest Degradation (REDD+)

The overall development objective of this project is to design a socially and environmentally viable national strategy for reducing emissions from deforestation and forest degradation.

Key achievements over the period under review included:

- A draft National REDD+ Strategy and Action Plan was finalized. The Draft Strategy discusses the eight strategic options⁷⁰ for addressing drivers of deforestation and forest degradation as well as description of implementation arrangements and requirements (budget and capacity needs).

⁷⁰ Climate smart agriculture, Sustainable fuel-wood and (commercial) charcoal use, Large-scale commercial timber plantations, Rehabilitation of natural forests in the landscape, Energy efficient cooking stoves, Integrated wildfire management, Livestock rearing in Cattle Corridor, and Policy, legal and Institutional environment)

- Establishing Uganda's Forest Emission Reference Level: the establishment of Uganda's Forest Emissions Reference Level (FERL) was completed and submitted to United Nations Framework Convention on Climate Change as per requirement.
- The design of a mechanism for sharing REDD+ benefits (also referred as Benefit Sharing Arrangement (BSA)) was completed.
- A draft report of the assessed Social and Environmental issue related to REDD+ was finalized and draft framework for managing likely negative Social and Environmental impacts was finalized.
- Designing a mechanism for managing grievances associated with implementation of REDD+ Strategy implementation (also referred as Feedback and Grievances Redress Mechanisms) was completed.
- The capacity at national, sub national levels and among sectors for REDD+ Strategy Implementation was further strengthened involving 1000 people. Capacity for forest inventory and data management in NFA and UWA was further strengthened through training and provision of tools/equipment and software's for inventory, data analysis and management. Other capacity building efforts included benefit sharing arrangements, feedback and grievances mechanisms, assessment of social and environment impacts of REDD, development of emission reference levels, and REDD safeguards.
- Data on status and trends in forestry resources in Uganda was updated and Uganda's forest cover maps depicting the status of forest cover as at 2015 prepared and disseminated.
- Approximately 387,600 seedlings were distributed to various individual farmers in various districts including Manafwa, Kween, Bududa, and Mbale.
- Uganda's Forest Investment Plan (FIP) document was developed based on analytical studies and assessment of forestry issues in Uganda and inputs from of an extensive participatory process. The design of the Forest Investment Programme document was completed and endorsed on 9 June 2017. The total FIP cost, including co-financing and leveraged funding, is USD 234 million over 10 years.

Farm Income Enhancement and Forestry Conservation Project II (FIEFOC 2)

FIEFOC 2 mainly initiated project activities and completed the project implementation set up at MWE and Ministry of Agriculture Animal Industry and Fisheries, and the 5 district local governments (Kasese, Butaleja, Kween, Oyam and Nebbi) The multi-sectoral Project Steering Committee held two meetings in Kasese and Butaleja districts to among other items assess the performance of the Mubuku and Doho irrigation schemes rehabilitated in Phase 1, and state of preparedness of the District Local Governments and farmers for Mubuku 2 and Doho 2 irrigation schemes. Inception meetings were held with the District Local Governments (DLGs), initially with 5 DLGs where irrigation schemes infrastructure shall be constructed, and later with 34 DLGs in the catchment areas, to disseminate information on the project. In total 1,862,181 tree seedlings of various species were distributed to individual tree growers in various districts around the country.

Sawlog Production Grant Scheme (SPGS III)

The overall objective of SPGS is to support rural incomes through commercial tree planting by the private sector in Uganda while mitigating effects of climate change. SPGS Phase III was initiated to continue supporting tree establishment in addition to processing of phase II mature tree plantations; the project commenced in January 2016 and will end on the 31st December 2020 (60 Months). Main achievements include:

- the construction of three improved charcoal kilns and one fuel wood demonstration plantation under a bio-energy project in the cattle corridor districts and documentation of experiences in Mubende and Nakasongola.

- Technical backstopping was done of District Forest Services staff, tree farmers and supervisors of private tree plantations in forest management in 24 districts⁷¹. 137 community groups received training in woodlot establishment and a total area of 10,974 ha was committed for tree planting.
- Affirmative action for Karamoja region brought additional applicants on board committing an extra area of 2,000 ha to tree planting.
- Capacity was built in good aspects of commercial tree nurseries management resulting into certification of 66 nurseries.
- Forest contractors were visited and trained in contract management leading to certification of 36 members.

Enhancing Forest Tenure and Governance in Uganda

This project aims at supporting and facilitating the registration and declaration of private and communal forests in the 3 districts of Lamwo, greater Bushenyi and Masindi, and also to support printing and dissemination of forest management guidelines. Key project achievements include:

- (i) The registration of private and community forests by the FSSD and DLGs in collaboration with the civil society. A total of 56 Forest Management Plans were developed and 50 Private Forests were registered, as well as declaring 6 Community Forests.
- (ii) The preparation and publication of a legal instrument for declaration of community forests was prepared.
- (iii) The National Forestry and Tree Planting Regulations (NFTPR) were prepared, and officially launched on 29th November 2016.
- (iv) The State of Uganda's Forest Report 2016 was prepared and officially launched in November 2016.

Kalagala project support under the Water Management and Development Project

The Government of Uganda (GoU) entered into an indemnity agreement (IA) in July 2007 with International Development Association (IDA). This agreement states that the Bujagali Hydro Power Project (BHPP) has several environmental impacts including clearance of trees and shrubs, as well as loss of viable land for agriculture and forestry.

During the FY2016/17, procurement and distribution of 733,636 assorted tree seedlings⁷² to the farmers within Mabira Ecosystem in the districts of Kayunga, Buikwe, Mukono and Jinja was done. 300 farmers and 25 district staff in the districts of Kayunga, Buikwe and Jinja were trained.

Other achievements included restoration planting of about 1,500 ha, demarcation of 60km out of the 400km planned, review of Mabira Forest Management Plan, completion of ecological and socio-economic baseline study for Mabira Forest, the preparation of an M&E strategic plan for Mabira Forest including digital database, the demarcation of 50 km of riverbanks, and supply of 23,000 seedlings for afforestation.

9.2.7 Status and trends of key indicators

Five platinum indicators relevant to forest management were developed under the ENR Performance Assessment Framework.

Platinum indicator No. 1: Forests Coverage

A Measurement Reporting and Verification-MRV mechanism is being developed using both 2010 and 2015 spatial data. The results show that forest coverage in the country is now at **9%**.

⁷¹Adjumani, Amuru, Nwoya, Omoro, Gulu, Alebtong, Buikwe, Mukono, Masaka, Wakiso, Bukomansimbi, Sembabule, Hoima, Masindi, Rakai, Lwengo, Masindi, Tororo, Mbale, Soroti, Kumi, Serere, Amuria and Bukedea

⁷² Mahogany, Grafted oranges, Jack fruit, Terminalia spp, Grafted mangoes, Avocado, Pinus caribaea, Eucalyptus grandis, Maesopsis eminii, Grevelia robusta, Milicia excelsa, Cupressus lucitanica and Tectona grandis

Platinum indicator No. 2: % forest under strict nature reserve.

This indicator has remained at **12%**, although some of the areas have been subjected to illegal harvesting.

Platinum indicator No. 3: % survival of tree seedlings past year 3

The survival rate of the planting across the whole country is difficult to register given the participation of different players in tree planting with limited information sharing on progress. The average survival rate has been provided under SPGS (80%), NFA (80%), DFS (67.1%) and FIEFOC (75%) based on both monitoring and actual validation. Using a combination of these records, the average survival is at **75.5%**.

Platinum indicator No 4: % rural households that travel more than 1 km to collect firewood

Since the last household survey in 2006 at national level no such survey has been conducted to establish the baseline. However, validation of the results of FIEFOC project in the previous reporting period showed that the average distance covered in the project areas was 0.7km indicating that tree planting interventions could produce positive results in reducing the distances travelled to collect firewood at national level if tree planting is intensified across the country.

Platinum indicator No. 5: % forest reserves under management plans

Forest reserves with management plans are now **36%** of the total number of reserves.

9.2.8 Challenges and recommendations

The major challenge for forest management in Uganda is the continued loss of forest cover, from 24% in 1990 to 9% in 2015. The major challenges and recommendations are as below:

- (i) Encroachment and issuance of illegal titles in both Central and Local Forest Reserves. It is recommended that boundaries of these forests are re-opened and re- demarcated. Issuance of titles should also be halted.
- (ii) Illegal extraction of forest products on both private lands and in the reserves. It is recommended that tracking of timber be enhanced through instituting a bar coding and forge-proof licensing system.
- (iii) Inadequate funding and staffing for all forestry institutions
- (iv) Weak or insufficiently punitive legal framework, which is further exacerbated by political inference in the operations of all institutions.
- (v) Climate change/ weather changes resulting into seasonal weather changes, excessive drought, new pest and disease outbreaks which destroy seedlings and trees. It is recommended that proactive planning and timely release of funds for implementing tree planting and maintenance activities.

9.3 Environmental Management

At national level, environmental management is carried out by the Department of Environmental Sector Services Support (DESSS) and the National Environment Management Authority (NEMA). The MWE (through DESSS), is responsible for policy formulation, standard setting, inspection, monitoring, resource mobilisation, and overall coordination. NEMA is a semi-autonomous agency responsible for the regulatory functions and activities that focus on compliance and enforcement of the policy, legal and institutional frameworks. At district level, environmental management is overseen by the District Environment Office of the Natural Resources Department.

9.3.1 Achievements

Achievements by the institutions mentioned above is described by topic in the following sections.

Environmental Monitoring of Oil and Gas Activities

Oil and gas monitoring, surveillance and inspections were carried to ensure that all the activities are in line with Ugandan laws and regulations. Currently, Tullow PYT, China Offshore Oil Company (CNOOC) and TOTAL E&P are the three oil companies that have been granted production licenses to operate in the Albertine Graben. The main facilities visited during the inspections included King Fisher Oil Development Field, Kisinja Waste Consolidation Area, White Nile Consults Waste Treatment and Disposal Facility, Nyamasoga Waste Treatment and Disposal Facility, Ngara Waste Consolidation Area, Tangi Waste Consolidation Area, Bugungu Waste Consolidation Area, Jobi 1, 5 and 6, and Ngiri-1 and 5 well sites. A key finding is the poor state of the waste treatment facility of White Nile Consults. It was observed that the laboratory was inadequate and the sampling protocols not clear.



Figure 9.9 Torn polythene bags with toxic waste at the waste containment facility at King Fisher

MWE also participated in a multi-sectoral inspection resulting in the hand-over of six sites (Jobi 4, Jobi 5, Jobi E3/6, Rii 1, Bbegeri and Mpyo 1) from oil companies to government. This was part of the decommissioning plan after the exploration exercise. These sites have recovered well and have blended with the environment. The team rejected the handover of three sites (Mpyo2, Jobi E6/1, Jobi E2). These sites are still under rehabilitation and Total E&P, the operator, needs to monitor its restoration for at least one rainfall season and allow the restoration material take root. Furthermore, MWE participated in a capacity needs assessment carried out by UN-Environment in preparation for the new phase of Oil for Development Programme. The new training programme has included capacity needs for the environment sector; so far, 5 staff have commenced training.

Kalagala Sustainable Management Plan (KSMP)

Implementation of the Kalagala Offset Sustainable Management Plan (KOSMP) in the districts of Jinja, Kayunga and Buikwe continued. MWE demarcated 5.7 km of River Nile bank, around Kimaka, Mpumude division, Jinja district, resulting in a total of 65.7 km river bank demarcated since the Plan's launch in 2011. Post demarcation activities were undertaken as well, including community sensitisation on subsequent activities as well as painting of pillars to improve on their visibility. This has increased awareness among community members about the river bank boundaries and the laws related to their management. However, alternative livelihood options are needed for the communities that rely on those fragile areas for livelihood. Communities expressed discontent about the demarcation of river banks, while many called it 'land grabbing'.

Development of policies, laws and regulations

The **National Environment Management Policy** (1994) was reviewed and a draft policy to address new and emerging issues has been developed⁷³. NEMA coordinated the review of the legislative framework for environment management in Uganda through reviewing the **National Environment CAP153** (1995) and drafting a new bill and set regulations to address the new and emerging issues. The regulations being reviewed (developed) include EIA, Audit, Waste Management, Petroleum Waste, Noise and Vibrations, Air Quality, among others.

NEMA supported six District Local Governments⁷⁴ to develop bye-laws and ordinances for effective environmental compliance and enforcement in local governments.

Strengthening Environmental Compliance

⁷³ for review by Top Policy to be adopted by Policy Committee on Environment (PCE) for approval by the Cabinet

⁷⁴ Dokolo, Ngara, Isingiro, Ntungamo, Mitooma and Buhweju

NEMA contributes to effective enforcement of the law, regulations and standards by training 60 judiciary and Directorate of Public Prosecution staff on management of environmental crimes and court cases, and Environmental Police Force personnel on detection and prosecution of environmental crimes.

Furthermore, NEMA approved 962 EIAs (800 planned) for development projects in order to take care of environmental and social safeguards. A total of 1,341 (out of 1,200 planned) environmental inspections and audits were carried out, for which the environmental compliance levels range from 70 to 75%; compliance within the oil and gas sector is best (75%) due to the efforts of NEMA and the respective lead agencies.

NEMA has significantly restricted the approval of EIAs and issuance of permits in fragile ecosystems especially in wetlands due to the poor compliance by the developers (30% compliance level); for example out of the 353 EIAs approved in July-September 2017, only two projects were approved for fish farming in wetlands (0.56%). It is also noteworthy that the Kampala Pollution Control Taskforce, which is coordinated by KCCA in partnership with NEMA, Lead Agencies and the private sector, contributed to the improvement of compliance by facilities within Kampala through an awareness programme, compliance assistance, competitions and awards, which resulted into 80% compliance level by the companies that participated in this programme.

As noted earlier on, NEMA has sustained the systems and procedures developed in previous years to manage the environmental aspects of oil and gas to ensure the protection and sustainability of the environmental resources and values within the Albertine region. These systems and procedures include issuance of EIAs and permits for all oil and gas related activities, development and use of guidelines for the management of oil and gas wastes, development and implementation of the Environmental Monitoring Plan for oil and gas, use of the Environmental Sensitivity Atlas and the Strategic Environment Assessment for the Albertine Graben, building the capacity of local governments and the relevant MDAs, regular field-based, multi-sectoral and executive level environmental monitoring and inspections, and the ongoing development of the oil spill contingency plan.

High level environmental monitoring visits by the sector ministers and members of parliament have been organized in Lwera to check on sand mining, wetland restoration activities in the Lake Kyoga Basin, Isimba and Karuma hydropower dams, key industrial facilities, and Kigezi tea growing areas in order to complement the efforts of NEMA, Lead Agencies and local governments. The interventions of members of Parliament and sector ministers have contributed greatly to the improvement of compliance by the developers.

The restoration of critical and vital wetlands like Limoto in Kibuku and Pallisa Districts (Mpologoma-Limoto system) was supported, of which about 35km² is recovering. Furthermore, NEMA has worked closely with the district local governments, Resident District Commissioners (RDCs), the clergy and local communities with support from the Environmental Protection Force (EPF) in the protection of wetlands. Notably, the RDC Lira District has been appointed to coordinate and mobilize RDCs in eastern and northern Uganda to participate in environment protection while the Bishop of Soroti Diocese has been appointed to create awareness on the protection of the environment through his clergy and also during his pastoral work. This has proved successful in eastern and northern Uganda, where 80% of the wetlands like Abelet, Odukurun and Alere have recovered after being restored from cultivation, and have now regained their ecological functions and socio-economical values like water supply, fishing and livestock grazing.

Furthermore, NEMA carried out a quick-scan evaluation of the status of 525 wetlands in 58 District Local Governments; findings are that only 20% the enumerated wetlands are ecologically intact, while 80% have undergone land use change or are completely degraded and thus have lost their ecological values and socio-economic importance. Furthermore, the findings show that the common actions planned or taken by local governments are sensitisation and compliance monitoring, followed by demarcation, and then restoration; this while recommendations from local governments show that the Central Government (MWE) should take care of demarcation and restoration of wetlands as local governments and other partners focus on sensitisation and compliance enforcement. The actions taken, and recommendations made by local governments depict that demarcation and restoration are too expensive investments to be taken up by local government.

NEMA has also supported the restoration of threatened species especially the shea butter tree in northern and north-eastern Uganda where the Authority carried out enforcement and restoration activities to protect the

integrity of the shea butter tree⁷⁵. Notably, 227,489 ha of shea butter trees in Agago, Abim and Kaabong has been protected and NEMA plans to expand these interventions to the Northern and West Nile districts.

Other interventions to enhance environmental compliance include the development of the Wetland Atlases, and the ongoing tasks of cancelling land titles in wetlands.

Strategic environmental literacy, access to information and popular participation strengthened

Key interventions included the sensitisation and awareness programs for artisanal gold miners on better mining methods and practices (300 miners) in Mubende and Kayunga districts, and community sensitisation and engagement meetings for the protection of Lake Kyoga and the upper Nile catchment which are being degraded by rice growing and other human activities.

Furthermore, NEMA supported strategic public education and awareness programs on environmental sustainability through various radio and TV stations, specific publicity programs for media houses, public policy or thematic dialogues, the World Environment Day, workshops and seminars for stakeholders, public lectures in schools, institutions and public platforms. All these programs focused on the going concerns on the current environmental degradation related to new and emerging issues such as biodiversity loss or abuse of fragile ecosystems, climate change, electronic waste, oil and gas waste, solid waste and pollution.

NEMA has also supported school environment education programs (SEEP) through training of trainers (TOTs) in 200 schools⁷⁶, and education for sustainable strategy (ESD) in universities and tertiary institutions⁷⁷. The outcomes of these education programs have been the introduction of environment management in programs of these institutions, and community outreach activities/projects like water and soil conservation, tree planting to restore ecosystems, conservation and climate smart agronomic practices. Besides, the pupils and students who go through these programs become focal entry points for community-based environment education programs.

Moreover, NEMA promoted public awareness and education programs through the production and dissemination of information, education and communication (IEC) materials (worth over 10,000 copies) and publications like the National State of Environment Report (NSOER) for 2014, and the digitisation of the NEMA library.

Integration of ENR as a cross-cutting issue

NEMA has continued to support local governments to enhance decentralized environment management through integration of environmental values into the local government development planning processes. NEMA planned to mentor 20 District Local Governments targeting community level sensitisation programs which on environment conservation and livelihood, while 16 districts⁷⁸ were mentored and 540 community groups sensitised. The sensitisation programs focused on the responsibilities of local governments and the community (including mind-set change among the communities) to ensure sustainable use of environmental resources for both conservation and livelihood purposes. Besides, NEMA supported regional meetings for district leaders and officials to sensitise them on their roles and responsibilities in decentralised environment management. These regional meetings were organized in Tororo for eastern Uganda, Mbarara for the western region, Arua for west Nile, and Soroti Teso and Karamoja sub regions; 32 districts (328 leaders and officials) participated in these meetings. Furthermore, NEMA trained Local Environment Committees (LEC) in 7

⁷⁵ in Serere, Soroti, Dokolo, Amuria, Katakwi, Kaabong, Abim, Otuke, Lira, Alebtong, Pader, Agago and Gulu Districts.

⁷⁶ in Busia, Manafwa, Kapchorwa, Mbale Municipal Council, Kyegegwa, Kabarole and Ntoroko Districts.

⁷⁷ at Ndejje University, Nyabyeya Forestry College, Uganda Martyrs' University (Nkozi -UMU,) and Islamic University in Uganda (IUIU).

⁷⁸ Soroti, Kapchorwa, Abim, Arua, Nebbi, Maracha, Amuria, Bukwo, Kween, Bududa, Ngora, Kumi, Masindi, Buliisa, Manafwa and Kiryandongo

districts⁷⁹, where a total of 1,025 LECs were sensitised and trained on their roles in decentralised environment management.

At national level, NEMA has supported MDAs on the integration of environment management in sector planning processes through training programs on the development and use of environmental statistics and economic valuation of environment and natural resources (training on environmental accounting). These two training programs focused on the integration of ENR in the key sectors. The training focused on the sectors like water and environment, energy and development, agriculture, finance and planning, works and transport and key MDAs like OPM, NPA and UBOS.

9.3.2 Key programmes and projects

Population, Health and Environment

MWE in collaboration with the Ministry of Health, Ministry of Agriculture, Animal Industry and Fisheries, Ministry of East African Community and National Population Council Secretariat undertook joint monitoring. The monitoring was for activities implemented by Non-Governmental Organisations in Bwindi (Conservation through Public Health) and Mayuge (Ecological Christian Organisation (ECO)), and aimed at documenting activities related to population and environment that were implemented in project areas.

9.3.3 Contribution by Cross-Sectoral Projects

Water Management Development Project

Assess, survey and demarcate 350 km of the boundaries of Mabira and the associated Central Forest Reserves (CFRs) and mapping degraded areas within the CFRs: over the FY2016/17, in total 50 km of the external boundaries of the 5 Central Forest Reserves (CFRs) of Mabira were surveyed and demarcated with concrete pillars. 4,755 hectares (ha) of Mabira were mapped as degraded or understocked and 1,500 ha of these are under restoration. Stakeholder engagement at village level is on-going to ensure sustainability of the project in the long run, and ensure the demarcation activities are done without community interference.

Restore 1,500 ha of degraded areas within the Mabira CFRs and tend the plantings for 2 years: All 1,500 ha were planted and the survival rate of the planted trees was estimated at 70% by February.

Support communities within the Mabira ecosystem to grow 240 ha of trees both on small and commercial scale and high value crops on their land to improve their incomes: 450,000 seedlings were distributed to communities within the Kalagala Offset area to restore 240 ha of degraded areas and to encourage tree growing as an alternative income generating activity. The survival rate of the community trees is estimated at about 50%, which is lower than was expected. This is attributed to the drought of October to December, 2016.

Update baseline ecological and socioeconomic surveys of the 6 CFRs within the Mabira ecosystem, update 1 management plan and establish a digital database for Mabira: The social and ecological baseline study for the 6 CFRs were completed and the findings have been used to update their management plans

A digital database for Mabira has been created and will be linked to the Water Information System, which will be used to track changes in the health of the CFRs. A mechanism for monitoring the health of Mabira ecosystem was prepared to guide NFA to monitor the health of CFRs.

9.3.4 Status and Trends of Key Indicators

Platinum Indicator No 6: % developers complying with certificate of approval conditions

⁷⁹ Apac, Amolatar, Buhweju, Mitooma, Kiruhura, Pallisa and Kibuku

The platinum indicator for environmental compliance is defined as “% of developers complying with certificate of approval conditions”. An average of **70-75%** of inspected development projects was compliant with EIA approved conditions, as compared to 70% in the previous financial year.

Platinum indicator No. 7: % solid waste disposed of safely in the 12 municipalities

The platinum indicator for solid waste disposal is defined as “% of solid waste disposed of safely in the 12 municipalities”. The percentage safe disposal in the 12 municipalities is **65-70%**. Urban authorities are finding it difficult to maintain the facilities set up during the Environment Management Capacity Building Project 11.

9.3.5 Challenges

A key issue remains **inadequate funding**. The sector still remains grossly underfunded especially at local government level. The current conditional grant to districts is little (an average of 5 million per district per year) and it only caters for wetland related activities leaving other environmental components unfunded.

Oil and gas activities in the Albertine Graben require constant monitoring to prevent disasters. MWE relies on data provided by the oil companies, and is unable to verify or corroborate data received. In addition, capacity to monitor environmental issues in the oil and gas sector is still low. District Environment Officers, despite training on how to conduct inspection of oil and gas activities, are similarly constrained.

Low staffing level; About 40% of available positions are filled and there is a high employee turnover especially in the districts. The poorly facilitated staff look for better employment elsewhere and many are out of their duty stations pursuing further trainings.

Urban waste management; Urban authorities face challenges in ensuring the efficient and effective implementation of the Clean Development Mechanism (CDM) project for solid waste management. Ever since the end of World Bank funding, urban authorities are finding it difficult to maintain the facilities set up during the Environment Management Capacity Building Project 11, and this has not rolled to those areas that did not benefit from the projects.

Community resistance; some community members have resisted the planting of pillars to demarcate the river Nile banks. Some pillars were uprooted and in some cases the communities express dissatisfaction.

9.3.6 Recommendations

To curb the mentioned challenges, the following recommendations can be given. First of all, Government of Uganda needs to consider recruiting more staff for environment management at all levels. Existing positions should be filled and also regional offices should be established. Continuous environmental education/awareness programs are required and increased access to environmental information. MWE must strengthen operations of EPPU at District level, posting and facilitating more officers to carry out enforcement operations. The institutional and financial sustainability of the CDM project needs to be addressed by both NEMA and the urban authorities. Finally, communities around river banks and other fragile ecosystems need to be sensitised and supported to undertake alternative income-generating activities that are not destructive to the environment.

9.4 Meteorology (Weather and Climate)

This section describes the highlights of UNMA performance of meteorological services in the FY2016/17 as described per strategic objective in the Uganda National Meteorological Authority (UNMA)’s Business Plan.

9.4.1 Improved quality and quantity of meteorological services

UNMA became ISO Certified through the ISO 9001:2008 certification in Aeronautical Meteorology. It is competent in implementing the Quality Management Systems (QMS) after fulfilling the aeronautical meteorological requirements for Entebbe Airport.

Repairs have been carried out on the Upper Air station Hydrogen Generator, which has been non-functional since 2013. Operations have therefore resumed which means that UNMA can now monitor and provide upper air parameters such as wind speed, wind direction, atmospheric pressure that are crucial for the aviation industry. UNMA now conforms to the international standards for upper air functionality.

In FY2016/17, the Wind Shear Project that started in 2013 but stalled due to technicalities was restarted and is on course. The sites are in the final stages of preparation - after which engineers will come to install the sensors that will enable UNMA to measure wind speed gradient at the Entebbe International Airport.

All Synoptic Stations were equipped with smart phones. Entebbe International Airport Meteorological Station (Buku) was also fully rehabilitated and re-commissioned. This led to improved timely transmission of weather observations and Meteorological Terminal Aviation Routine (METARs) to the Centre from all synoptic stations at hourly intervals.

9.4.2 Awareness of the benefits of using meteorological services, information and products

UNMA carried out over 50 outreaches that included community sensitization and stakeholders' awareness creation. This involved working with different stakeholders, especially the local governments that facilitate the dissemination of weather and climate information to the farmers, political leaders who oversee implementation of government programs, civil societies involved in weather, climate related activities and partners/stakeholders that either consume or contribute to weather and climate. Stakeholders include commercial farmers, sugar manufacturers, Kampala City Capital Authority, UNRA, Ministries, Agencies and Departments who require weather information in their operations either directly or for advisory purposes.

Popularizing meteorology in schools was carried out in secondary schools in the districts of Luwero (6), Mpigi (7), Butambala (3), Masaka (8), Kabale (2), Ntungamo (3), Kabarole (2), Kyenjojo (2), Kyegegwa (2). Two school outreach programs were held in each of the five districts in the Eastern Region. This did not only avail meteorological education to the students but also provided an opportunity to understand the weather instruments and Meteorology in Schools booklets. The Programme is also availing the concept of the Meteorological-Climatological (Meteo-Clime) Club in the schools.

9.4.3 Improved accuracy and reliability of forecasts and advisory services

The September, October, November, and December (SOND) 2016 Greater Horn of Africa Climate Outlook Forum (GHACOF) was hosted by Uganda in August 2016. Three other Seasonal Climate Outlooks were issued on a quarterly basis throughout the year. These included December to February 2017 (DJF), March to May (MAM) 2017 and June to August 2017 (JJA) Climate Outlooks. 12 Monthly climate forecasts were also issued.

65,745 national, regional and international meteorological data exchanges have been carried out through various messages such as Synops, Metars, and Terminal aerodrome forecasts.

Assessment of rainfall performance is one of the major activities aimed at improving on the accuracy of the prediction models. This exercise is normally carried out by analyzing data from the field and also collecting extreme climate impacts that might come with the season. The main key findings from this assessment were as follows:

- Stakeholders reported poor distribution in terms of space and time of rainfall across the region. Therefore it was difficult to support agricultural activity without supplementary irrigation.
- Access to weather and climate information by the farmers is still a challenge and it is therefore difficult to align their planning based on the forecast. However, it was established that some district officials are receiving weather information but do not have funds to disseminate it to lower local governments and farmers.

The assessment helped to understand user needs which will in turn help UNMA to improve on its services.

Feedback on utilization of meteorological forecasts and impacts of severe weather conditions was carried out in 60 districts across the country.

9.4.4 Status and trend of key indicators

Platinum indicator No. 8: Rainfall observation network coverage

The platinum indicator for meteorology is defined as “% meteorological rainfall observation network coverage of the country”. This indicator was not measured. Rainfall stations are located according to the 16 homogeneous climatological zones as represented in Figure 9.10. There are 100 rain gauges in Uganda, of which 34 regularly report.

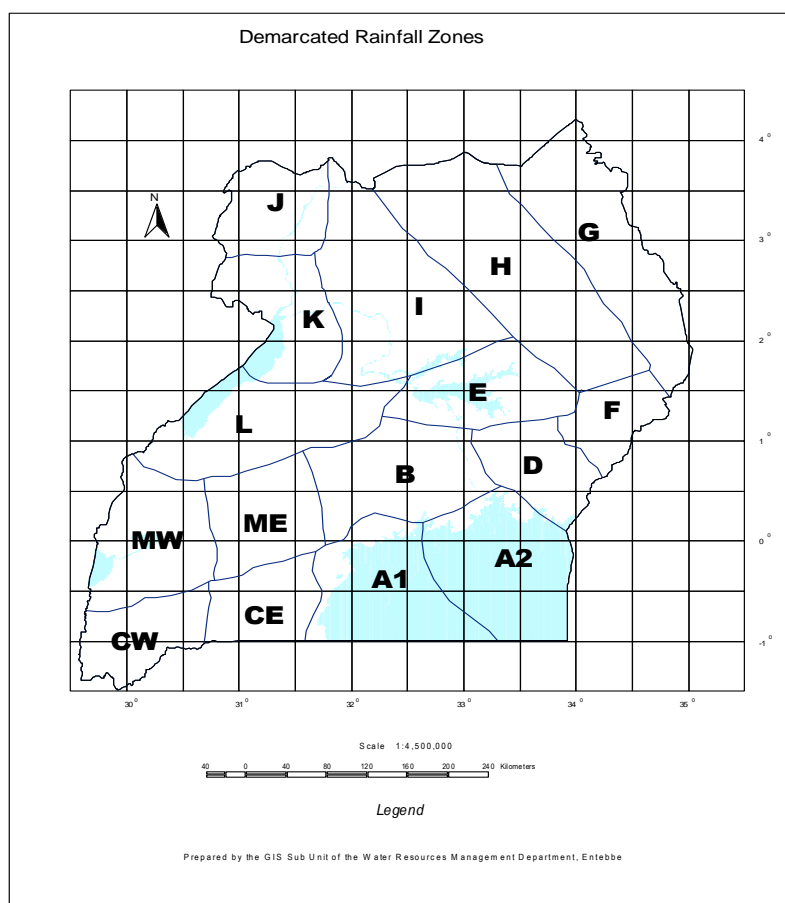


Figure 9.10 Demarcated 16 rainfall zones in Uganda

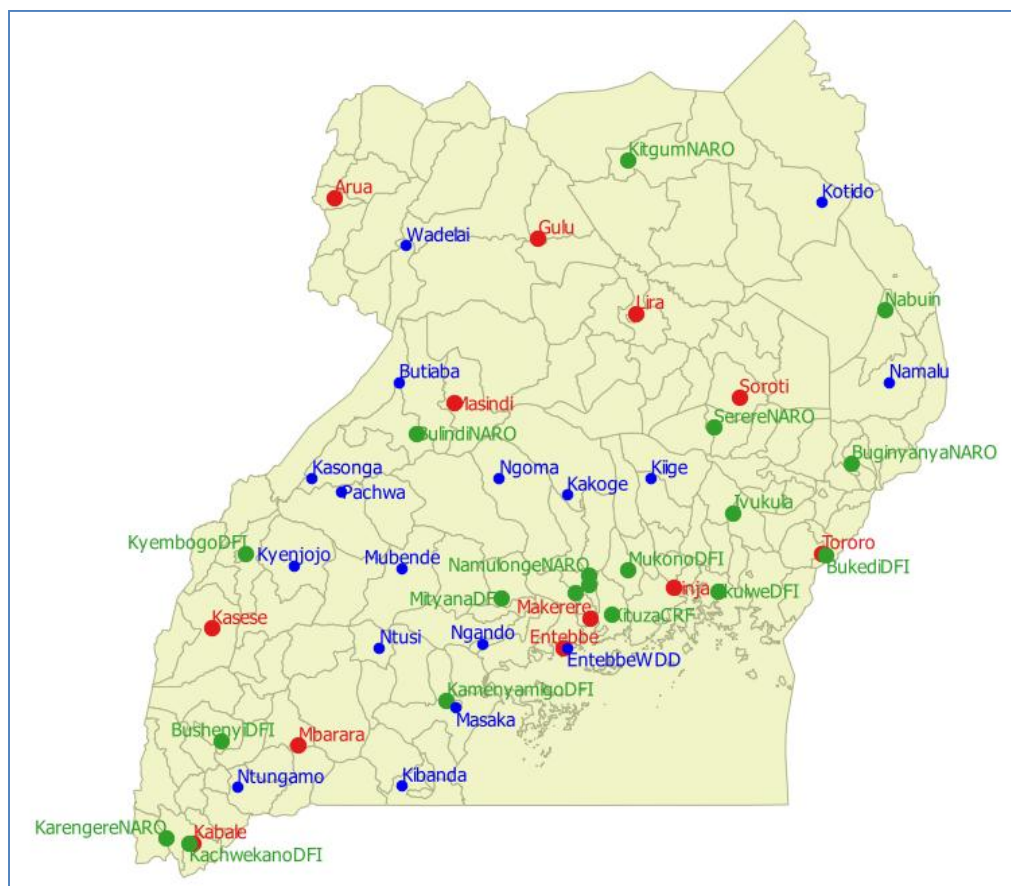
New Sector Performance Indicator No. 31: Operational weather stations

The New Sector Performance Indicator 31 measures the “% weather and rainfall observation stations operational and submitting data throughout the year”. This indicator has not been measured as yet. The following information contributes to its measurement:

Functionality of a station is measured by the realization of its data at the center. Any station that takes more than a month without sending data to the Centre is considered non-functional. However, some stations may be running without communication facilities to send the data in time.

On average at least 10 out of 12 synoptic stations are registered on the Global Telecommunication System. Hence there has been improvement of data flow. 30 out of 48 manual stations, (all 12 synoptic; 9 out of 17 Hydromet and 9 out 19 Agromet) are functional.

By June 2017 coverage of Automatic Weather Stations (AWS) had improved from 10% to 26% against the NDPII target of 40% by 2019/2020, as a result of an additional 32 AWSs of the ADCON type. As mentioned, out of 100 rain gauges only 34 regularly report. These are at the 48 major Synoptic, Hydromet and Agromet stations.



- Hydromet Stations 9 out of 17 working
- Synoptic Stations 12 out of 12 working
- Agromet Stations 9 out 19 working

Figure 9.11 Network of major manual weather stations

New Sector Performance Indicator 32: Functionality of early warning systems

The New Sector Performance Indicator 32 measures the “% of districts with functioning early warning systems”. UNMA supports districts by establishing functional weather stations which generates weather data that is used in producing early warning information. Currently 32 districts out of 115 districts have functioning weather stations which translates into **28%** coverage.

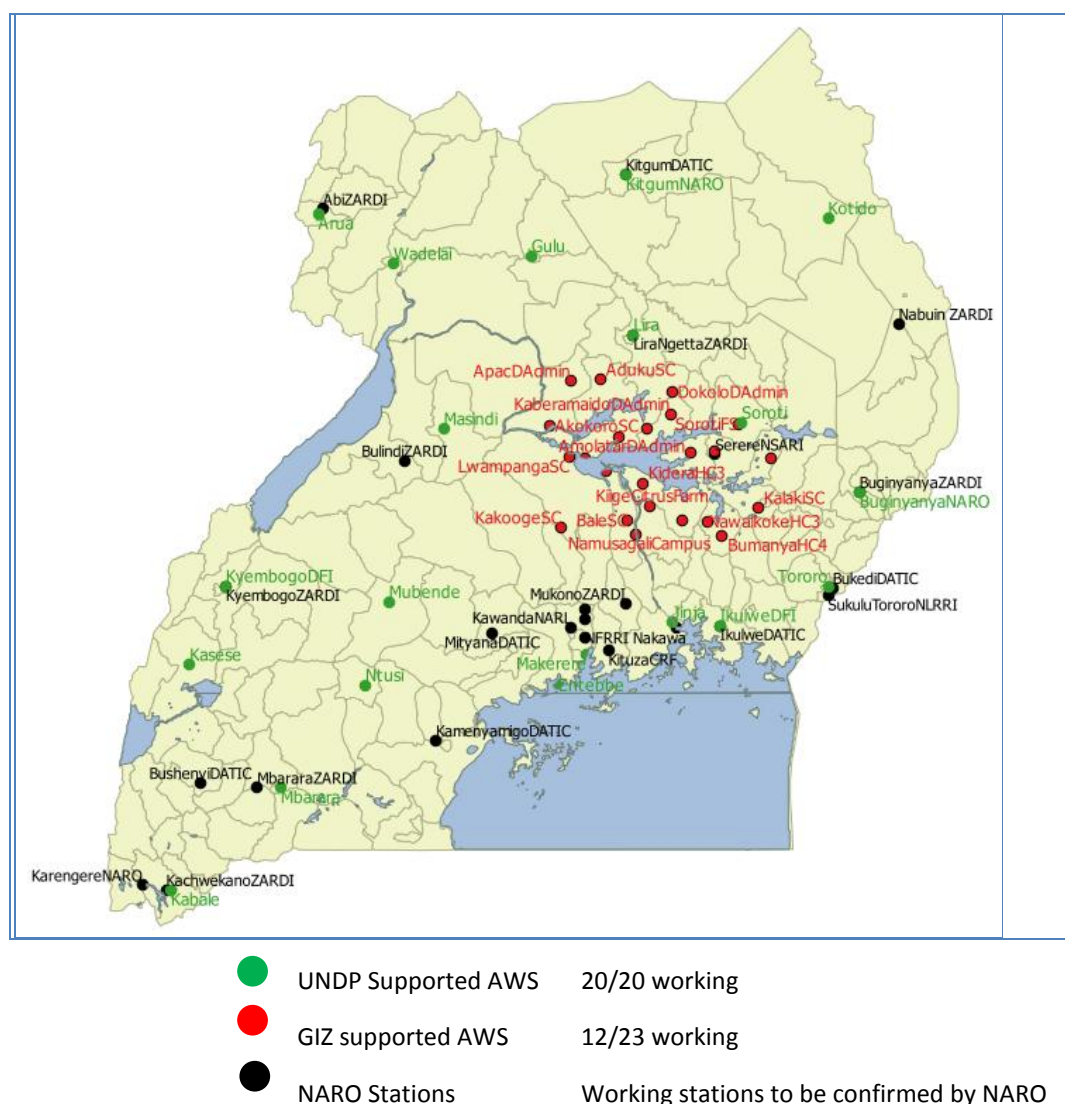


Figure 9.12 Network of Automatic Weather Stations

9.4.5 Challenges

Challenges in the sub-sector include:

Inadequate Network of stations: Some of the observation instruments are outdated and the coverage is inadequate. Since the purchase of weather equipment, for example the Weather Radar, is expensive, separate funding needs to be identified to acquire such equipment.

Breakdown of Equipment: The field weather observing station network has continued to seriously deteriorate due to frequent breakdown of equipment without replacement, hampering accurate monitoring of weather and climate. Additional funds need to be provided so as to overhaul and automate the weather observing system in line with the current National Development Plan II (NDPII) recommendations.

10 CLIMATE CHANGE

10.1 Introduction

MWE's Climate Change Department (CCD) coordinates Uganda's implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol (KP). Four thematic areas have been highlighted under the CCD's 5 year strategic plan: develop institutional capacities for climate change management in Uganda, establish the knowledge base for climate change mitigation and adaptation, operationalize the climate change policy, and coordinate, initiate and monitor climate change implementation activities in Uganda. Reporting on achievements will be made in this chapter for each of these thematic areas.

10.2 Achievements in FY 2016/17

10.2.1 Development of institutional capacities for climate change management in Uganda

As part of the process of formulating a **National Climate Change Law**, the Principles of the climate change bill were approved by Cabinet on 7/06/2017. A consultancy firm was procured to support the process of formulating the climate change law

A Ugandan government delegation participated in the 22nd UNFCCC Conference of the Parties (**COP**) in Marrakech in November 2016, as facilitated and supported by the Climate Change Department, in terms of issuing and printing the government's position paper, and organising preparatory thematic group meetings. During the COP22, a universal declaration was adopted for fast-tracking climate action in the most vulnerable countries, which include Uganda. The Commissioner of the Climate Change Department was nominated to chair the Accreditation Panel of Adaptation Fund Board and was also nominated as a member of the Adaptation Fund Board. Uganda's head of the Adaptation, Loss and Damage Thematic Working Group was nominated for the Least Developed Countries (LDC) Selection Committee. The Ugandan delegation successfully lobbied the Green Climate Fund (GCF) to approve a large project for climate resilience in Uganda.

Uganda was selected as one of 10 countries to participate in the Gender-Responsive Nationally Determined Contributions (NDC) implementation component of the Low Emissions Capacity Building (LECB) Programme.

A delegation from the government of Uganda participated in the forty-sixth sessions of the United Nations Framework Conference on Climate Change (UNFCCC) Subsidiary Body for Implementation (SBI 46) and Subsidiary Body for Scientific and Technological Advice (SBSTA 46) as well as the third part of the first session of the Ad Hoc Working Group on the Paris Agreement (APA 1-3) in May 2017, in **Bonn**, Germany, as supported by the Climate Change Department.

The national **Green House Gas (GHG) inventory system** housed at the offices of the CCD was launched in September 2016. The system will help the country to (i) identify the sectors, sources, and activities that are responsible for greenhouse gas emissions, (ii) understand emission trends, (iii) quantify the benefits of activities that reduce emissions, (iv) establish a basis for developing an action plan, (v) track progress in reducing emissions, and (vi) set future emissions goals and targets.

The Climate Change Department in collaboration with the National Planning Authority developed the national **Green Growth Development Strategy** (GGDS) for Uganda through a multi stakeholder consultative process.

10.2.2 Establishment of the knowledge base for climate change mitigation and adaptation

The development of a web-based **National Knowledge Management System** (KMS) for the National Climate Change Resource Center is a work in progress; and to date prototypes of an E-learning platform, E-library, discussion fora, social media section and webinar have been completed.

10.2.3 Operationalisation of the Climate Change Policy

During the financial year, MWE secured approval from Climate Investment Fund (CIF)' Board for Uganda's Pilot Programme for Climate Resilience (PPCR). MWE' Climate Change Department developed an Action Plan for the

period of FY2017/18 -2020/21. This Action Plan will help to operationalize and guide the implementation of the National Climate Change Policy.

10.2.4 Coordination and monitoring of climate change implementation activities

The third **National Climate Change Actors Landscape** was developed and updated. This is a web-based database that is useful for mapping all stakeholders involved in the climate change field, and in what thematic areas and geographical locations they are operating. It plays an important role in ensuring that stakeholders/actors do not duplicate efforts.

Climate Change **Baseline Surveys** were conducted in 32 District Local Governments⁸⁰. The objective was to highlight the climate change impacts in different districts and update the district climate change profiles. With this information, climate change action planning and implementation in the respective district local governments can be focused to areas of the most priority.

MWE built the capacity of six national institutions on the use of the overall National Climate Change Performance Measurement Framework⁸¹. 100 members of the media (editor, sub-editors, producers and reporters) were trained in reporting on climate change issues in the country.

Finally, a national **Climate Change Forum** with 50 representatives from government ministries, departments and agencies and representatives from the civil society and academia was launched in June 2017. This forum developed the terms of reference for officers assigned to coordinate climate change issues in government ministries, departments and agencies.

10.3 Contributions and Achievements of Projects

10.3.1 The Low Emission Capacity Building (LECB) project for Uganda

Phase one of the LECB project was officially concluded and closed on 31st December 2016. The project was extremely successful and all the planned targets were achieved. The Project focused on strengthening Uganda's technical and institutional capacity in the development of Green House Gas (GHG) inventory systems and Nationally Appropriate Mitigation Actions (NAMAs) with in-built Measuring, Reporting and verification (MRV) systems. The following milestones were achieved: (a) Launch of Uganda's Greenhouse Gas (GHG) Inventory System, and (b) Development of Nationally Appropriate Mitigation Actions (NAMAs).

Uganda prioritised four sectors, namely agriculture, energy, transport and waste to initiate the process of developing Nationally Appropriate Mitigation Actions (NAMAs) projects. The status of the work carried out in FY 2016/17 is as follows:

- (i) A NAMA proposal on fuel efficiency has been finalized.
- (ii) The Integrated Waste Management and Biogas Production NAMA concept, is finalizing its baseline study for implementation.
- (iii) Green Schools NAMA spearheaded by the Ministry of Energy and Mineral Development applied and received funding from the NAMA facility to carry out the preparation phase of project implementation.

The Climate Change Department in collaboration with the National Planning Authority developed the National Green Growth Development Strategy (GGDS) for Uganda through a multi stakeholder consultative process.

⁸⁰ Arua, Yumbe, Adjumani, Koboko, Rubirizi, Ntungamo, Kanungu, Rukungiri, Gulu, Kitgum, Pader, Kole, Mbarara, Bushenyi Rakai, Kihuhura, Masaka, Agago, Nebbi, Nwoya, Kanungu, Kabale, Kisoro, Alebtong, Kileleshwa, Tororo, Kiryandongo, Kibaale, Masindi, Jinja, Mukono, Mubende, Kiboga

Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Uganda Bureau of Statistics (UBOS), Ministry of Finance, Planning and Economic Development (MoFPED) National Planning Authority (NPA) Ministry of Local Government (MoLG) and the Office of the Prime Minister (OPM).

10.3.2 Additional funding through UNFCCC's water and sanitation project

Baseline studies were done for 4 National Adaptation Programs of Actions (NAPA)'s priority interventions including community tree growing, water and sanitation, drought adaptation and knowledge dissemination.

A video documentary of the projects implemented under the additional funds for the water and sanitation project was produced showcasing success stories and lessons learnt.

The national standard climate change indicators and indicator reference sheets were developed.

The capacity of 40 technical officers in the agriculture sector was built in the use of the sector National Adaptation Plan (NAP) and the guidelines for mainstreaming climate change into the agriculture sector.

10.4 New Sector Performance Indicators on Climate Change

10.4.1 Indicator No. 33: % change in direct and indirect greenhouse gas emissions

Data will be collected from the Ministry of Energy and Mineral Development, Ministry of Works and Transport, Ministry of Forestry sector and Ministry of Agriculture.

The activities to be undertaken to measure indicator will include capacity building of key category sectors, developing data sharing MoUs and protocols, data collection by sectors, holding sector specific quarterly meetings, sector data entry and inventorying, quality control/quality assurance of sector data sets and modelling and projections of emissions levels and trends

Formula for calculating indicator: The Tier 1 Database of the IPCC National Greenhouse Gas Inventories Programme has inbuilt formulas that can automatically calculate the emissions.

10.4.2 Indicator No. 34: % change in budget expenditure for climate change adaptation measures of ministries and local governments

Data sources will be the Ministry of Finance Planning and Economic Development and Ministry of Local Government financial progress reports.

Activities to be undertaken to measure the indicator include building the capacity of MDAs and LGs to mainstream and report CC interventions, developing data collection templates and data sharing MoUs and protocols and collecting and analysing data from financial progress reports of MDA and LGs

The formula for calculating the indicator is

$$\frac{\text{Expenditure on adaptation of the entity}}{\text{Total expenditure of the entity}} \times 100$$

10.4.3 Indicator No. 35: % change in Uganda's climate change vulnerability index.

A vulnerability index is a measure of the exposure of a population to some hazard. Typically, the index is a composite of multiple quantitative indicators that via some formula, delivers a single numerical result.

Data sources include; Office the Prime Minister, UNMA, MDAs and LGs

Activities to be undertaken to measure the indicator will include collecting data, conducting stakeholder consultative meetings, carrying out GIS data collection/mapping, develop district/regional vulnerability profiles and maps and compiling national vulnerability assessment report, developing a composite vulnerability index database for Uganda.

Formula for calculating the indicator: $((\text{Current year vulnerability index} - \text{Previous year vulnerability index}) \times 100) \div \text{Previous year vulnerability index}$.

10.5 Lessons learned, challenges and recommendations

Lessons learnt over the reporting period are first of all that the operationalization of the CCD is not yet completely achieved, and requires staffing gap filling in accordance with the public service procedures. Secondly, the coordination of multiple stakeholders requires an enabling law, to define clearly enforceable roles and responsibilities for MDAs, LGs and the private sector.

Challenges have been acquiring of climate change data from stakeholders and mainstreaming climate change into stakeholders' actions. Overall, there is a funding challenge with the impending ending of the earmarked funding to climate change because of the ending of the Joint Water and Environment Sector Support Programme.

The development of the legal framework (National Climate Act), will accord legal powers to MWE's CCD to access greenhouse gas related information from all sectors. In the meantime, CCD is pursuing working relations with key sectors on a case by case basis. Recruitment of permanent staff to fill the vacant positions at CCD in line with Public Service procedures is recommended. The recruited staff should be inducted in climate change to enable them effectively perform the duties assigned to them. The existing staff at CCD should be trained further to enable the Department effectively carry out its mandate of coordinating, supervising and reporting on climate change activities in the country. Finally, not only should the sector lobby for increased budget support under the government of Uganda funding, but MWE should pursue a strategy to mobilise climate financing from international sources.

11 CROSS CUTTING ISSUES

This chapter presents issues that touch on general principles such as gender equality, human rights, and inclusion of people infected with HIV/AIDS, disabled people, the poor as well as children. During this financial year, the sector implemented a number of activities of cross-cutting nature as indicated in the following paragraphs.

11.1 Gender Mainstreaming

The Uganda Gender Policy, 1997 (Revised 2007), and the Second National Development Plan (NDP 11) 2015/16 – 2019/20 mandate all development institutions to promote gender equality and women empowerment while executing programmes and activities. The Ministry of Water and Environment (MWE) developed a Water and Sanitation Gender Strategy in 2003 (revised in 2010 and 2017) and an Environment and Natural Resources Gender Strategy in 2015 to guide gender equality and women empowerment efforts in the sector. During the review period, a number of activities have been undertaken to promote gender mainstreaming as indicated in the following sections.

1.1.1 Capacity building initiatives

MWE has continuously built the capacity of stakeholders in gender mainstreaming to ensure that gender concerns in the sector are addressed in budgeting, planning, implementation and monitoring of water and environment activities. During the financial year, capacity building efforts were geared towards ensuring that the capacity of ENR staff is enhanced in gender mainstreaming. At the ministry level, 49 staff from ENR departments and agencies had their capacity built in gender mainstreaming. At the local government level, 147 staff from 49 districts⁸² benefited from the capacity building initiatives. The areas covered during the workshops included introduction to gender concepts, gender in the national and international framework, gender analysis, and gender and equity budgeting. The workshops were undertaken with support from the Ministry of Gender, Labour and Social Development (MoGLSD).

11.1.1 Gender and equity budgeting assessment

Gender and equity budgeting ensures Ministries, Departments and Agencies (MDAs) efficiently allocate resources to meet the different needs and interests of men, women, youth, children with special needs, ethnic minorities, older persons, the rural poor, marginalized groups and disadvantaged regions or locations.

Uganda's Equal Opportunities Commission (EOC) undertakes an annual assessment of Sector Ministerial Policy statements (MPS) for gender and equity budgeting compliance in accordance with Article 32(3) of the 1995 Constitution of the Republic of Uganda (as amended), Section 14 and 15 of the Equal Opportunities Commission Act, 2007 and Section 9 (6) (a) and (b) of the Public Finance Management Act, 2015 (PFMA). The assessment is designed to facilitate sustainable inclusive growth and development as provided for by the 17 Sustainable Development Goals and the second National Development Plan (NDP II) 2015/16-2019/20. The EOC has to put a minimum score before the MoFPED can issue a certificate of clearance to the MPS of any MDA.

⁸² Ibanda, Isingiro, Kirihiira, Ntungamo, Kanungu, Bushenyi, Rukungiri, Sheema, Mitooma, Buhweju, Kisoro, Kibaale, Mbarara, Rubirizi, Agago, Alebtong, Amolotat, Amuru, Apac, Dokolo, Gulu, Kitgum, Kole, Lamwo, Lira, Nwoya, Otuke, Oyam, Pader, Kyankwanzi, Kalangala, Kampala, Kayunga, Kiboga, Luwero, Lyantonde, Masaka, Mityana, Mpigi, Mukono, Nakaseke, Nakasongola, Rakai, Ssembabule, Wakiso, Kalungu, Gomba, Butambala, and Buikwe

A report⁸³ from EOC for the MPSs of FY2016/17 and 2017/18 for the Ministry as well as the three sector agencies indicates that only the Ministry of Water and Environment and Uganda National Meteorological Authority met the minimum score of 50%. The National Environment Management Authority (NEMA) and National Forestry Authority (NFA) did not meet the minimum score of 50% having scored 18%, and 29%, respectively. NEMA and NFA therefore need to revise their planning and budgeting process in order to ensure that the needs of the poor and disadvantaged are addressed. A further analysis of the assessment indicates that MWE registered a decline from 59% in FY 2016/17 to 51% in FY2017/18, while UNMA registered an improvement from 40% in FY 2016/17 to 50% in FY2017/18.

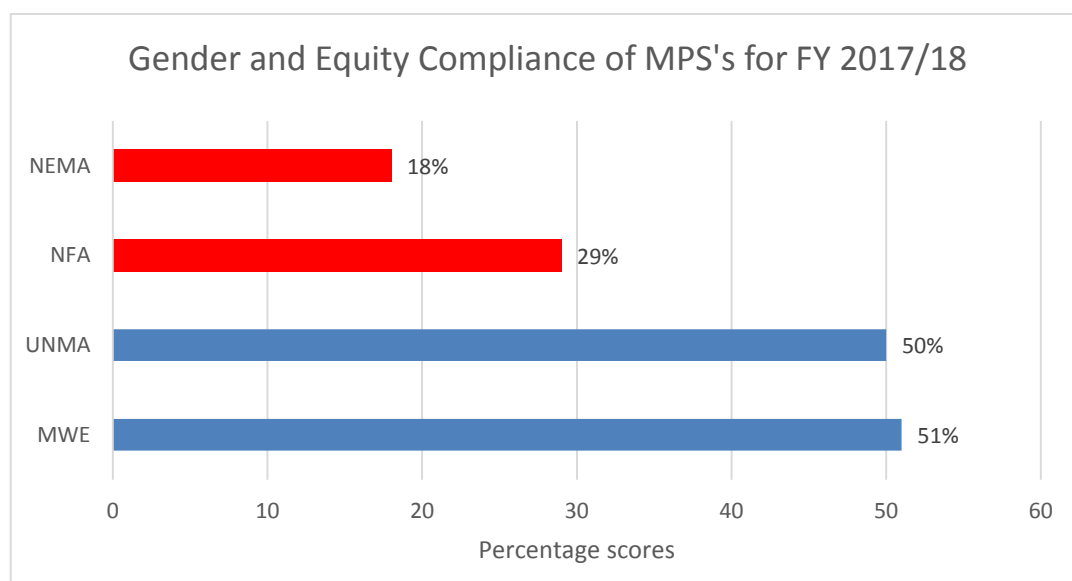


Figure 11.11 Gender and equity compliance of the sector

11.1.2 Golden Indicator No. 10: Gender mainstreaming in rural water supply and sanitation

The golden indicator for gender mainstreaming in rural water interventions is “*Percentage of Water and Sanitation Committees (WSC) with at least one woman holding a key position*”. Key positions on WSCs include Chairperson, Vice Chairperson, Secretary and Treasurer.

Data from MWE’s Water Supply Data Base indicate that the percentage of WSC with women in key positions has remained **86%** in FY 2016/17.

⁸³ Assessment results on compliance of 136 MPS’s with Gender and Equity for FY 2017/18- eoc.co.ug

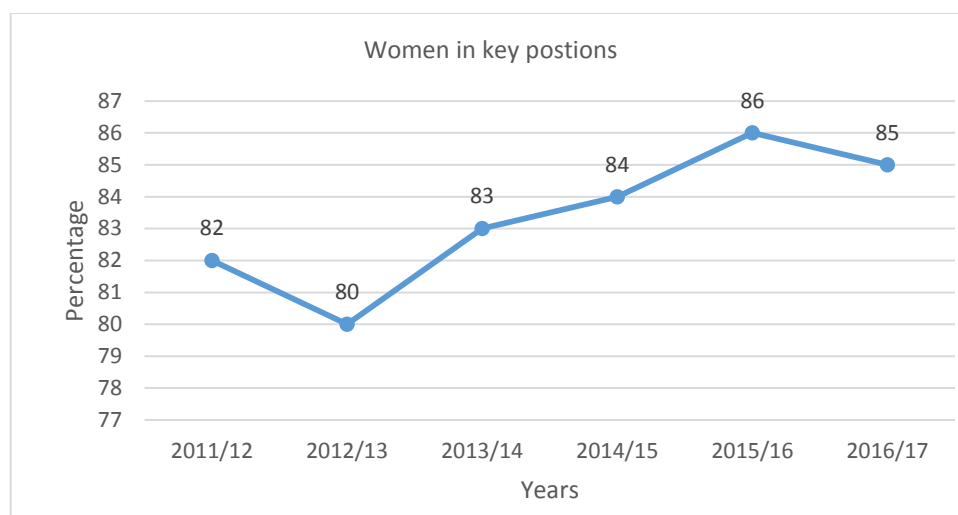


Figure 11.2 Percentage of WUCs with women in key positions

11.1.3 Gender position of staff

Ministry staffing

Records from the MWE, Finance and Administration department indicate that the Ministry has 332 established staff of which 115 (35%) are female. A gender analysis by management position indicates that there are 38 staff in a top management position of which 15% (6) is female, indicating a slight increase of women representation at top management level⁸⁴ from 14% at June 2016 to 15% at June 2017. At middle management level, there are 112 staff of which 20% (22) are female. The operational level has the highest number of female representation with female staff constituting 54% of employees under this category. The gender analysis of the staffing level is indicated in detail in Table 11.1.

Table 11.1 Gender analysis in MWE by position

Staff level	Female		Male	
	No.	%	No.	%
Top Management	6	15%	32	85%
Middle Management	22	20%	90	80%
Operational	42	54%	36	46%
Support	39	40%	59	60%
Total	109		217	

A comparison of female representation of staffing for a period of four years (2014 to 2017), shows that the female number of employees have not increased considerably over the years as indicated by a 1% annual increment of female employees for the last four years. The details are indicated in the figure 3 below.

⁸⁴ Positions in U1 salary scale including Assistant Commissioners, Commissioners, Directors, Under Secretary and Permanent Secretary

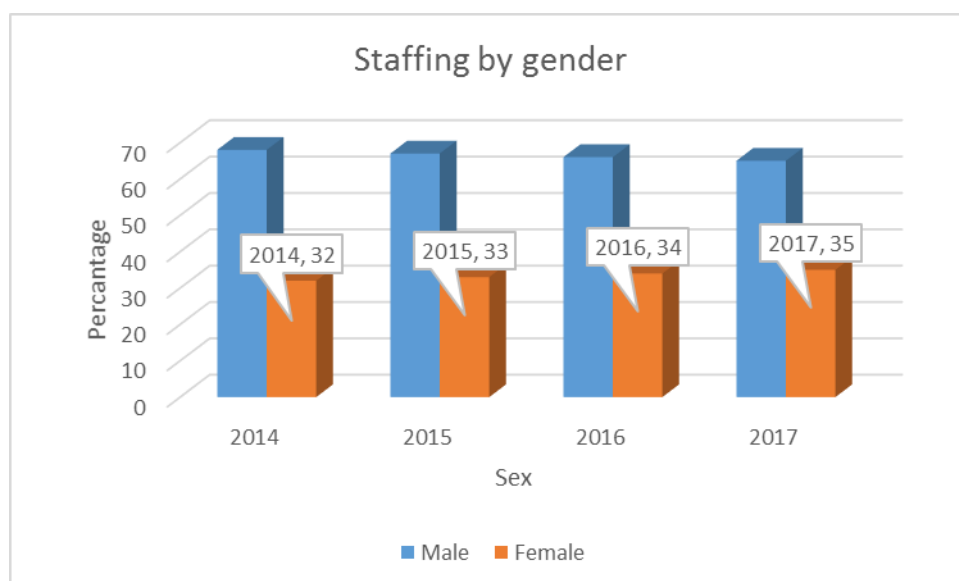


Figure 11.3 Trends in overall gender representation in MWE

A further comparison of female representatives for the last four years indicates a declining representation of women in top management positions from 23% in 2014 to 15% in 2017. Details are indicated in figure 4 below.

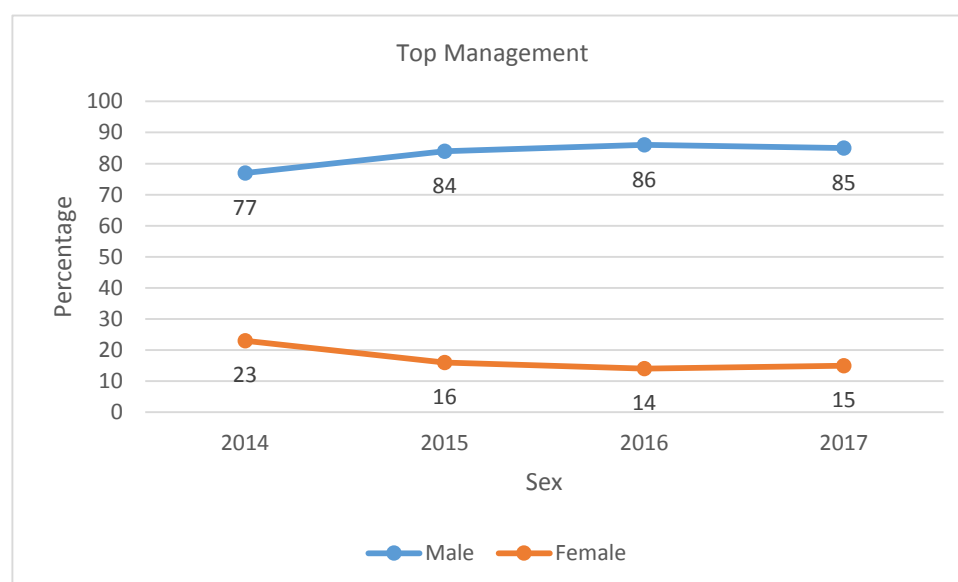


Figure 11.4 Gender analysis by top management positions

District level Staffing

At the district level, female staff is under-represented in the District Water Offices (DWOs). A gender analysis of the position of District Water Officers across 115 Districts indicates that there are only 3 female District Water Officers, in the districts of Kibaale, Kibuku and Lamwo.

The implication of the above staffing position is that women and children issues may be under-represented in managerial and technical level positions, and yet they bear the biggest burden in cases of inadequate water and sanitation coverage.

The gender imbalance is however attributed to differences in education and skills sets, gender stereotypes that associate technical ability with the male gender. MWE has undertaken some measures to encourage the recruitment of female staff at the ministry and regional level by awarding extra points to women seeking for work on contract basis. MWE however lacks control in the recruitment of permanent/ established staff at the Ministry and district level.

11.1.4 Water and sanitation gender impact study

During FY 2016/17, MWE undertook a gender impact study in 10 districts⁸⁵ to examine the impact of water and sanitation delivery to women, men and other disadvantaged groups. The recommendations of the findings and recommendations of the gender impact study have guided the revision of the water and sanitation gender strategy. The key highlights of the study findings are indicated in Box 11.1. A detailed report can be accessed on the ministry website (www.mwe.go.ug).

Box 11.1 Gender impact study – main findings

Distance and access to water points: From the sample of 10 districts, the majority of the households (85.0%) obtained water at a distance of less than 1,000 meters. A total of 10.2% collected water from a source which was 1-2kms away from their homes, while for 4.8% of all households, the source was beyond 2 kms' distance.

Distance and economic/ income generating activities: Analysis of the data in the 10 districts reveals that with less than 500 m to the water points, household members particularly women are far more likely to engage in economic/income generating activities (IGAs). Households that collected water from a distance of < 200 meters and 200-500 meters were about 5 times ($p = .013$) and 6 times ($p = .004$) respectively more likely to engage in IGAs than those who collected water from a distance of more than one kilometer.

Distance and school attendance: Qualitative data analysis of the 10 districts supports widespread assertions of reduction in cases of absenteeism and reporting late to school by children as a result of reduced distance and time spent on water collection, except when some girls were menstruating due to lack of appropriate sanitary facilities.

Prevalence of water and sanitation related diseases: The study results reveal a positive correlation between distance to a water source and prevalence of WATSAN related diseases. The WATSAN related disease prevalence among households that collected water within < 200 meters was reported at 26.8% while households that collected water > 1000 meters had an average reported prevalence of 40.9% in the last six months preceding the study. The same relationship is also noted in the prevalence of WATSAN related diseases and type of water source. WATSAN disease prevalence for households that collected water from a safe water source stood at 26.6% and while prevalence for households that collected water from an unimproved source stood at 45.7% in the last six months preceding the study.

Gender mainstreaming and functionality of water sources: The Revised Water and Sanitation Gender Strategy (2010) was, among others, aimed at improving governance of water sources by promoting the appointment of women on key positions on water and sanitation committees. The results of this impact study show that majority of water sources with women holding a position of chairperson were found to be functioning normally/fully functional (81.2%), whereas those water sources where men occupied a similar **positions only half (54.1%) would be functioning normally.**

Study recommendations:

- Mainstreaming gender in the WSS sub-sector should begin with Strategy dissemination.
- The capacity in both the local governments and the centre needs to be strengthened and skills improved in gender analysis, planning, budgeting and monitoring.
- Training in gender mainstreaming especially at central level should also target mid and top level management to ensure better appropriation of resources towards mainstreaming gender.
- Community sensitization needs to be strengthened and conducted regularly in order to ensure presence of both men and women in planning and management of water and natural resources for sustainable use.
- Study results have shown cases of women participating in income generating activities (IGAs) including Village Savings and Loan Associations as well as Savings And Credit Co-Operatives (SACCOs), while young people are also increasingly participating in IGAs that are water related—brick laying, car/motor cycle washing etc. These two groups, however, tend to lack basic management skills in running economic enterprises. In order to stimulate economic empowerment and skills development, the new Water and Sanitation Gender Strategy should have an objective on skills enhancement and economic empowerment of women.

⁸⁵ Nwoya, Moyo, Kabarole, Isingiro, Budaka, Mayuge, Mukono, Sembabule, Abim and Kaabong.

11.1.5 Gender mainstreaming in forestry

In view of the critical need to ensure that national REDD⁸⁶-Plus strategies address social safeguards, particularly the recognition of the rights and interests of women and other vulnerable groups, IUCN, in collaboration with the Ministry of Water and Environment developed a REDD+ gender strategy. The strategy is to guide the integration of gender issues and gender mainstreaming as a whole in the implementation of REDD+ strategy in Uganda.

11.1.6 Gender mainstreaming initiatives in climate change

MWE's Climate Change Department (CCD) undertook the following gender-related activities in FY 2016/17:

1. The CCD organised and conducted gender thematic meetings to identify and develop gender issues for negotiations at the Conference of the Parties (COP22) to the UNFCCC⁸⁷ in Marakesh. This formed part of Uganda's position paper.
2. The CDD developed and submitted to the UNFCCC Secretariat the elements for the extension of the Lima Work Program on gender, focusing on enhancing gender balance and women participation in the UNFCC delegations, boards and bodies. Most of Uganda's proposed elements were adopted and the program was extended for another 3 years.

11.1.7 Sanitation facilities for school children and people with disabilities

Poor sanitation in schools contributes to low school attendance and high dropout rates especially for the girl child. In a bid to enhance sanitation in schools, Water Supply Development Facility (WSDF)-North, WSDF-Central and WSDF-South West constructed 12 sanitation facilities in 6 schools in the towns of Buyamba (2), Kainja (2), Kashaka-Bubaare (2), Nsiika (2) Kalongo (1), Amacha (1), Gombe and Kyabadaza.

In order to further improve privacy and to promote dignity of the girl child, WSDF –South West is promoting the construction of shower rooms on sanitation facilities and a urinal for girls as shown at Bukurongo Primary School in Kainja, Nshozi Primary School in Kashaka- Bubaare town, Buyamba Church of Uganda Primary School in Buyamba and Nsiika Town Council Primary School in Nsiika town. In addition to the above, all the sanitation facilities constructed for primary schools in WSDF- South West have a provision for a stance for people with disabilities.

11.1.8 Sanitation facilities for the urban poor

In the Sector's bid to cater for sanitation for the urban poor, 7 public sanitation facilities were constructed in the towns of Kiko, Kalongo, Amach, Buvuma, Gombe, Kyabadaza and Migeera. The sanitation facilities are located in highly populated areas like markets in order to enhance access to sanitation of the poorest members of the community. The new facilities have separate stances for men and women. All the public sanitation facilities constructed have access ramps for wheel chairs and wide doors to enable entry for the disabled.

11.1.9 Sanitation facilities for poor households in towns

Sanitation facilities have been constructed by the WSDFs for poorest members of the community including the disabled, widows, the elderly, child-headed and women-headed households. A total number of 25 Ecosan sanitation facilities were constructed in the 5 towns of Kiko, Kashaka-Bubaare, Nsiika and Amach. The

⁸⁶ Reducing carbon Emissions from forest Destruction and Degradation

⁸⁷ United Nations Framework Convention on Climate Change

constructed sanitation facilities also act as demonstration facilities. It is envisaged that other households within the community will adopt the demonstrated technology.

11.1.10 Water kiosks for the poor

MWE's Pro-Poor Policy (2006) calls for establishment of kiosks or public taps for urban poor people who cannot afford ordinary house/ yard connections and can only access water through public water kiosks. During the reporting period, 85 new kiosks and public stand pipes were established in 11 towns⁸⁸ in the northern, central and western region. The reason for establishing public water points is to ensure that the poor do not pay more for water than other better served people.

11.1.11 District initiatives to support the disadvantaged

A review of district quarterly reports 2016/17 indicates that only 5 districts⁸⁹ undertook special projects to support the disadvantaged as is indicated in Table 11.2.

Table 11.2 District support to the disadvantaged

District	Type of group / individual supported	Nature of Support	individuals / institutions supported
Buyende	Pupils with disability	Construction of separate stance for the disabled with ramps	1 primary school
Manafwa	Pupils	Construction of Water facilities	5 primary schools
Kabale	People with disabilities (PWD)	Tap stand near the home	10 people
Kween	Health centres	Provision of Rainwater Harvesting Facilities	11 Health Centres
Kaberamaido	870 pupils	Construction of deep borehole	1 primary school
	Elderly persons and 10 PWDs' households	Provision of RWHTs	10 households

11.2 HIV/ AIDS Mainstreaming

11.2.1 MWE

In a bid to further strengthen HIV/AIDS mainstreaming efforts, new guidelines were developed. These include an HIV/AIDS Trainer's Manual and a participants' handbook for the trainees. The documents are intended to be used by sector staff and stakeholders to build the capacity of their staff in mainstreaming HIV/AIDS in sector programmes and activities.

11.2.2 Water and Sanitation Development Facilities' HIV/AIDS initiatives

Partnerships and collaboration

In line with the Water and Environment HIV/AIDS Strategy, the WSDF-N signed a memorandum of understanding (MoU) with the AIDS Information Centre (AIC), a leading HIV/AIDS service provider in Lira District. The AIC agreed to provide support to communities by undertaking HIV/AIDS support activities in forms of sensitization, condom distribution, and voluntary counselling and testing. As a result of this initiative, community members in WSDF-N project areas and WSDF staff accessed HIV/AIDS services including condoms, voluntary counseling and testing and prophylaxis treatment.

Within the region covered by WSDF-Central, HIV/AIDS awareness campaigns have been undertaken for communities with support from local health centers in the towns of Gombe, Nyamurunda, Kyabadaza and

⁸⁸ Buvuma, Nyamurunda, Migeera, Ssunga, Kainja, Kiko, Kashaka-Bubaare, Nsiika, Buyamba, Amach and Kalongo

⁸⁹ Buyende, Manafwa, , Kabale, Kween and Kaberamaido.

Buvuma. The partnerships help the sector / WSDF to access HIV/AIDS services from established and competent organizations.

Sensitization on HIV/AIDS

Community awareness meetings on HIV/AIDS were conducted in 17 towns⁹⁰ where water supply systems are under construction. The HIV/AIDS awareness meetings targeted community members and staff for water works construction firms including casual laborers, plumbers and technicians. The objective of the awareness and sensitization initiatives was to ensure that community members and staff of contracted firms do not engage in risky sexual behaviour that is likely to lead them to getting infected with HIV/AIDS.

Voluntary Counseling and Testing

WSDF-North with support from AIC undertook Voluntary Counseling and Testing (VCT) for 709 people including 287 females and 422 males. The VCT was carried out in the towns of Loro Pacego (102), Pabbo (83), Palabek (73), Palogo (85), Mucwini (85), Lagoro (48), Namukora (66) and WSDF offices (25). The HIV positive community members were provided with prophylaxis and referred to nearest health centers for enrollment on comprehensive treatment and care.

11.3 Key Recommendations

The capacity in both the local governments and at MWE needs to be strengthened and skills improved in gender and equity budgeting to ensure that sector investments in water and environment target the poorest and most disadvantaged populations.

Skills enhancement and economic programmes for the poor and disadvantaged need to be supported and up-scaled for purposes to improve the livelihoods of disadvantaged community members.

⁹⁰ Nyamuranda, Gombe, Kyabadaza, Buvuma, Loro, Pacego, Pabbo, Palabek- Ogili, Paloga, Mucwini, Lagoro, Namukora, Kainja, Kiko, Buyamba, Kashaka-Bubaare, Kambuga

12 CIVIL SOCIETY ORGANISATIONS IN WATER AND SANITATION

12.1 Overview

This section presents Civil Society Organisations (CSOs) contribution to the water, and environment subsector during FY 2016/17. Data presented is based on reports from 76 CSOs out of the active 150 members under the Uganda Water and Sanitation Sector NGO Network (UWASNET), as compared to 112 members reporting for the previous financial year. This reflects a decline in rate of CSOs reporting largely as a result of failure to access funding during the report period.

12.2 CSO investments in WASH

During the FY 2016/17, CSOs made a total investment of UGX 38.39 billion in the areas of water supply, sanitation and hygiene promotion, community management, water for production and integrated water resources management.

The highest level of investment was made in water supply (UGX 21.03 billion). Investment in sanitation amounted to UGX 11.6 billion, in community management UGX 3.92 billion, in integrated water resources management (IWRM) UGX 1.55 billion and in Water for Production UGX 0.29 billion. Figure 1-2 reflects total investment for the last four years.

Having risen from UGX 37.9 billion in FY3013/14 to UGX 49.31 billion in FY 2014/15, the total investments by CSOs have gradually declined to UGX 44.4 billion in FY2015/16 and to UGX 38.39 billion in FY2016/17. This reflects the declining accessibility to funding by the CSOs.

12.2.1 Investments in water supply

Investment in water supply by technology is reflected in Figure 12.3 while Figure 12.4 presents percentages of investment by technology.

By far the highest investments were made in borehole construction, totalling to UGX 12.29 billion. This constituted 58% of the total water supply investment. Other key investments in water supply include rainwater harvesting to the tune of UGX 2.49 billion, constituting 12%, shallow well construction at UGX 1.5 billion (7%), construction / extension of gravity flow schemes at UGX 1.29 billion (6%), borehole rehabilitation and repairs at UGX 1.26 billion (6%), and extension/construction of pumped and piped water systems at UGX 1.04 billion (5%). Figure 12.5 and Figure 12.6 show distribution of investment in domestic and institutional

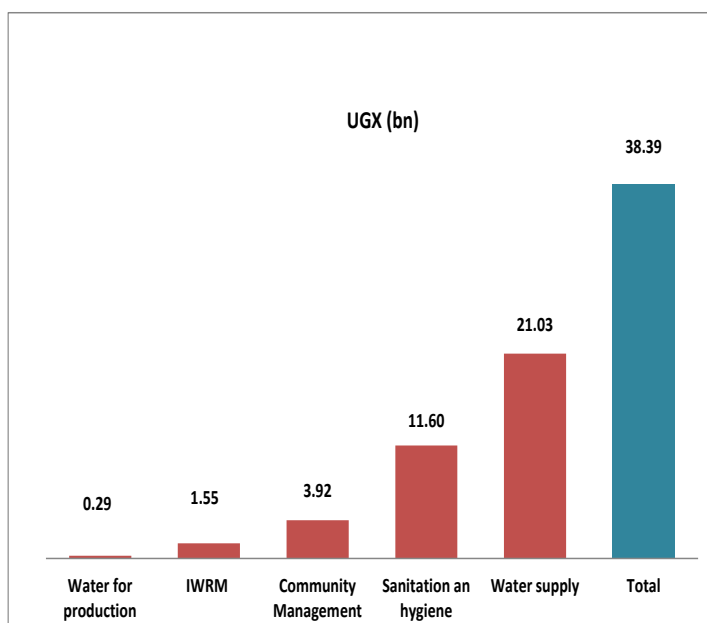


Figure 12.1 Total investments FY 2016/17 (UGX bn)

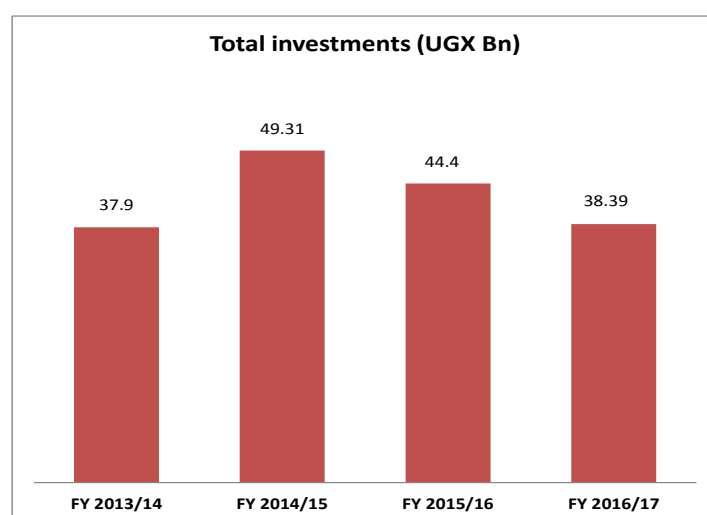


Figure 12.2 CSO Total investments for period FY 2013/14 to FY 2016/17

water supplies. Domestic water supply attracted most investments, at UGX 18.49 bn, constituting 88% of the total investment in water supply, while institutional water supply had an investment of UGX 2.54bn (12%).

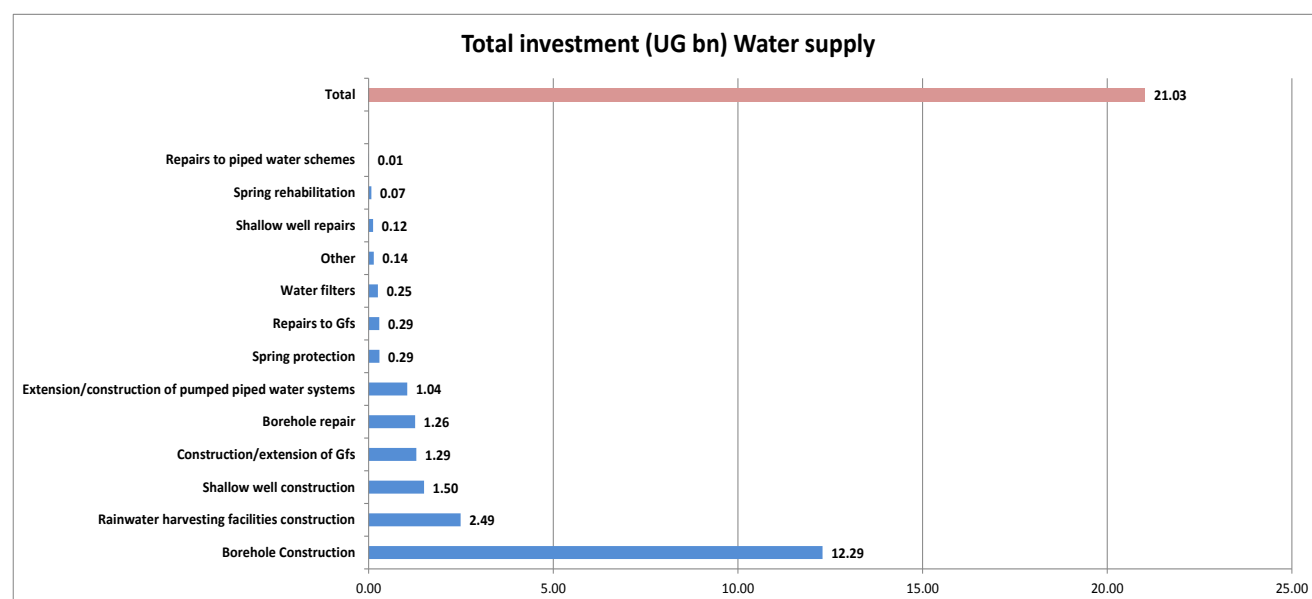


Figure 12.3 Investment in water supply by technology

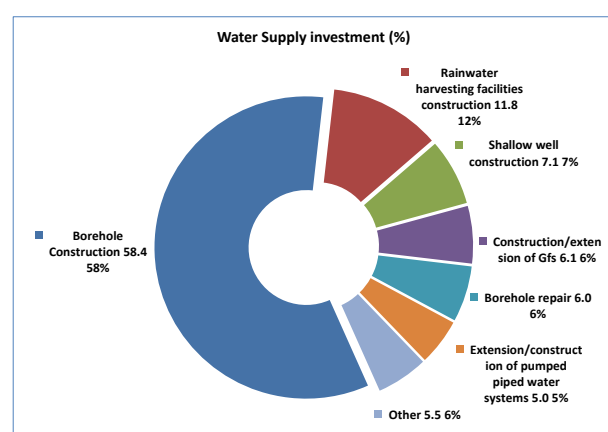


Figure 12.4 Water supply investment by technology (%)

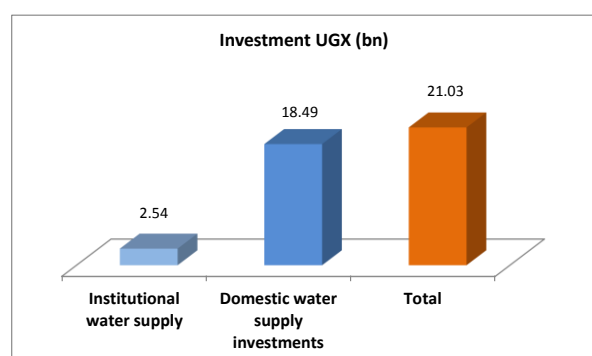


Figure 12.5 Investment domestic and institutional water supply (UGX bn)

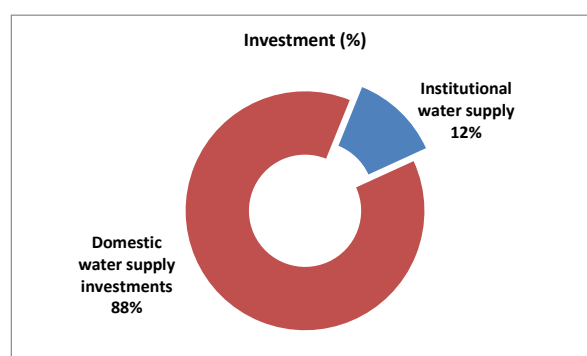


Figure 12.6 Investment domestic and institutional water supply (%)

12.2.2 Investments in sanitation and hygiene

Figure 12.7 and Figure 12.8 reflect investment in sanitation and hygiene components in terms of actual investments (UGX billion) and as percentage of the total sanitation and hygiene investment.

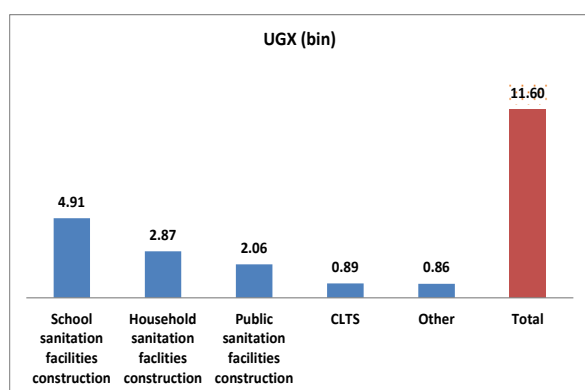


Figure 12.7 Investment in sanitation & hygiene (UGX)

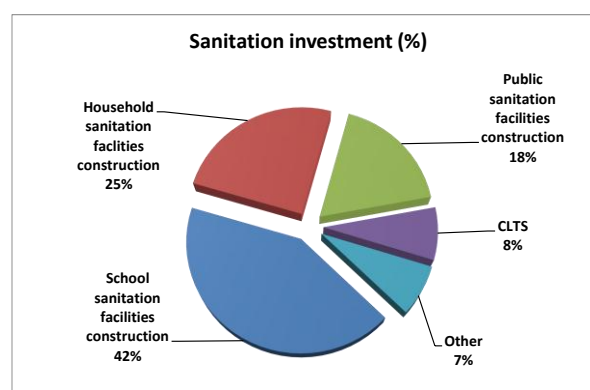


Figure 12.8 Investment in Sanitation and hygiene (%)

The highest investment was in construction of school toilet facilities (UGX 4.91 billion), constituting 42% of the total sanitation and hygiene investment. Investment in the construction of household toilets amounted to UGX 2.87 billion (25%); and UGX 2.06 billion (18%) for public sanitation and hygiene facilities. Community Led Total Sanitation (CLTS) which is largely a 'software' activity had an investment of UGX 0.89 billion. Many NGOs are adapting the CLTS approach that targets attaining Open Defecation Free (ODF) environments. The category of 'Other' (UGX 0.86 billion) include sanitation products, e.g. sanitation platforms (sanplats), slabs, and cleaning/rehabilitation of drainage channels.

12.2.3 Investments in community management

CSOs engage in a wide range of activities that include preparing communities to receive and maintain water and sanitation facilities. Activities include, among others, conducting community meetings, formation and training for community-based management system, and the establishment and capacity building of community management structures including Water and Sanitation Committees (WSCs), school and community health clubs and Village Health Teams (VHTs). **Error! Reference source not found.** presents investments in community management.

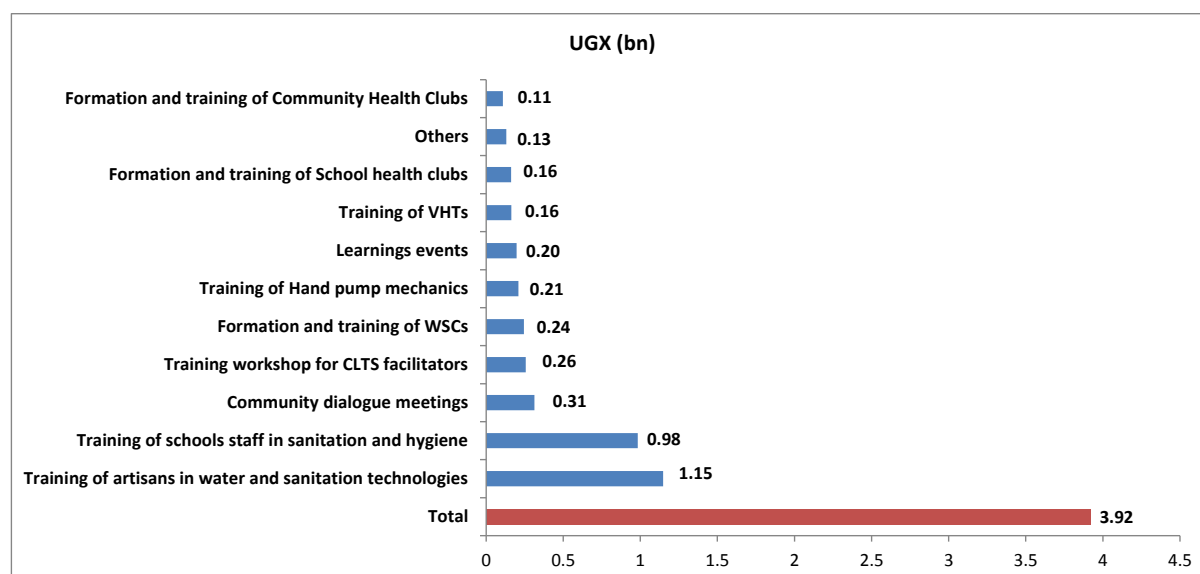


Figure 12.9 Investment in Community Management

Under community management, highest investments were in training of artisans in water and sanitation technologies (UGX 1.15bn), and training of school staff in sanitation and hygiene (UGX 0.98bn).

12.3 Access to Improved Water Supply (Golden Indicator No.1)

CSOs have continued to develop new water sources, thereby contributing to government efforts in improving access to safe water sources. Figure 12.10 reflects the number of new water sources constructed by CSOs during FY 2016/17.

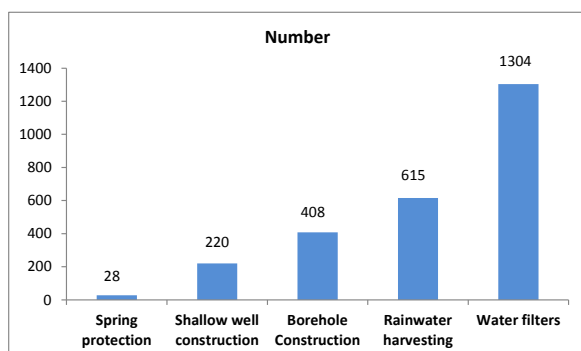


Figure 12.10 New water sources constructed

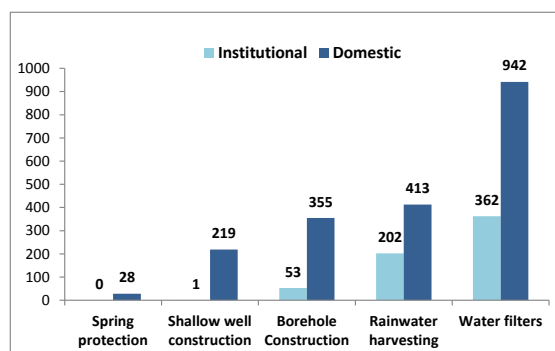


Figure 12.11 New water-sources (No.) by technology

New water sources (**Error! Reference source not found.**) include 28 (No.) springs; 376 (No.) shallow wells; 408 (No.) boreholes, 618 (No.) rainwater harvesting facilities and 1,304 (No.) water filters installed. These numbers are disaggregated into institutional and domestic water sources in **Error! Reference source not found.**

12.4 Functionality of Water Supplies (Golden Indicator No.2)

CSOs undertake a number of activities that relate to functionality of water supply sources. These include, among others: formation and training of Water User Committees (WUCs), training of hand pump mechanics (HPM), and formation and supporting associations of hand-pump mechanics.

12.4.1 Formation and training of WUCs

In the FY2016/17, 1,797 WSCs/WUCs were formed while 1,547 WSCs/WUCs were trained in basic record keeping, proper water source maintenance, simple leadership skills, generation and updating of water source user registers, collecting and management of maintenance/user fees. Improved ownership of the water facilities by the water users is evidenced by the water users keeping the water source environments clean.

As a result of development of WUCs, functionality of water sources increased thereby contributing to WASH facilities' coverage in the communities. Preventive maintenance activities are often a priority with activities like greasing of handpumps and cleaning of the water source environment. Proper accountability for the funds collected at the water sources contributes to the willingness to pay user fees. In liaison with local authorities, water source management committees have generated by-laws governing the use of water facilities. Village Savings and Loan Associations have been formed contributing to proper management of user fees. More water source committees have registered with area water boards.

12.4.2 Hand Pump Mechanics

CSOs recognize the important role of hand-pump mechanics (HPMs) in the functionality of water supplies. A total of 308 HPMs have been trained by CSOs. Reports from the districts where HPMs have been trained indicate a reduction in downtime of the hand-pumps of water sources. Increase in number of HPMs in some locations has led to competition resulting in a reduction in HPM service fees thereby lowering costs for repairs. HPMs are encouraged to form associations and bid for contracts. There has been improved capacity of HPMs in lobbying for contract. The HPM Associations are getting contracts from districts through competitive bidding. Furthermore, there has been enhanced representation/participation of HPMs in District Water and Sanitation Committees.

Box 12.1 Village Savings and Loan Association (VSLA), the driver for O&M - Lira District

Introduction

Link to progress (LTP), an international NGO with has as main objective to improve the lives of the poor rural population in Northern Uganda through provision of safe water, sanitation and hygiene carried out consultative meetings on ways to improve water source maintenance with the different stakeholders including the Ministry of Water and Environment, district local government, sub-county leaders and selected community members.



Aromo P7 borehole with well-organised VSLA Group

Staff were trained in the set up of Village Savings and Loan Associations (VSLA). The training equipped the staff to carry out an assessment of the boreholes, revamp the water source committees, form VSLA groups, and carry out baseline surveys, while refresher trainings of the water user committees and VSLA leaders were also done on both operation & maintenance and VSLA concepts. This provided the committees with knowledge and skills in O&M and preventive maintenance of their boreholes, record and financial management, sanitation and hygiene awareness, and ensured that all the boreholes remained functional. VSLA kits were distributed to all the VSLA groups.

Initial major repairs, where needed, were done on the boreholes of water user committees that were part of the program. Besides, the sub-county hand pump mechanics were also trained.

Results

The O&M fee contribution by the water users has increased; the average O&M contribution is now more than UGX 1.2 million. The communities see the VSLA as a guarantee for the safety of their money. By-laws have been set, contributing to the collection of funds for O&M. Through the loan scheme, VSLA members have been able to construct houses, buy seeds for cultivation, and capital for small businesses.

Lessons learnt

The integration of VSLA has been a driver for effective O&M, as water users know that their money is safe, which increases their willingness to pay. The engagement of the sub-county extension staff and community leaders has increased the level of follow up and monitoring. This has improved the O&M of boreholes in the area and the general household sanitation, hygiene and cleanliness of the water points. The VSLA has also brought people together to discuss their problems. The groups found solutions on their own, they cooperate among themselves and are obedient to each other.

Recommendations

The district and sub-county authorities should follow up communities with VSLA and give them priority to benefit from government programme as they are already in organised groups.

Sub county authorities should support the VSLAs and WSC groups to deal with people who do not want to pay back their loans.

12.5 Integrated Water Resource Management (IWRM)

Civil Society Organisations continue to promote the protection of water catchment areas through a number of activities, among others through the promotion of rainwater harvesting in a bid to reduce surface run-off while storing water for consumption and use. Organisations like Living Water International conduct Environmental Impact Assessments before construction of gravity flow schemes, communities are sensitised on proper land use and management, and destructive practices such as bush burning are discussed. Other CSOs' activities have included training on issues of climate change, water catchment conservation techniques, formation and

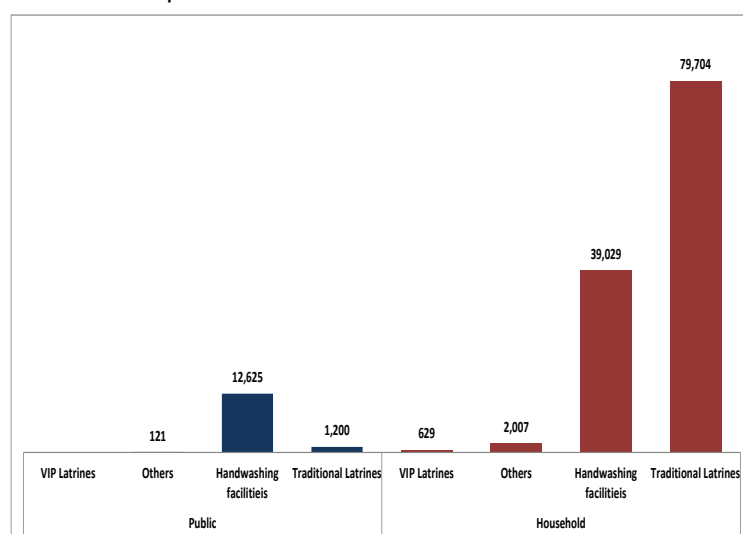
training of tree nursery groups, tree seed distribution, introduction of fish farming in paddy areas and rice fields to supplement household incomes and nutrition. Through CSOs' intervention, stakeholders in the Rwenzori region were mobilized to have dialogues and plan actions that will enable implementation of the Semuliki and Mpanga River Catchment Management Plans.

12.6 Sanitation and Hygiene Promotion

A number of initiatives were undertaken in the promotion of sanitation and hygiene, including mobilisation and education of communities towards construction of sanitation and hygiene facilities at household level, and addressing sanitation and hygiene among vulnerable groups, at public places, and at institutions.

12.6.1 Construction of sanitation and hygiene facilities

Figure 12.12 presents sanitation and hygiene facilities constructed at household level and at public places like markets and parks.



Most sanitation construction activities of CSOs were at household level, with the traditional pit latrine (79,704 No.) and hand washing facilities (39,029 No.) being the most constructed facilities. For public facilities, hand washing facilities constituted the highest number of facilities constructed.

Figure 12.13 Household sanitation and hygiene facilities constructed (%) and Figure 12.14 Public sanitation and hygiene facilities constructed (%) reflect the percentages of sanitation and hygiene facilities against the total number of facilities developed.

Figure 12.12 Sanitation and hygiene facilities construction at household and public places

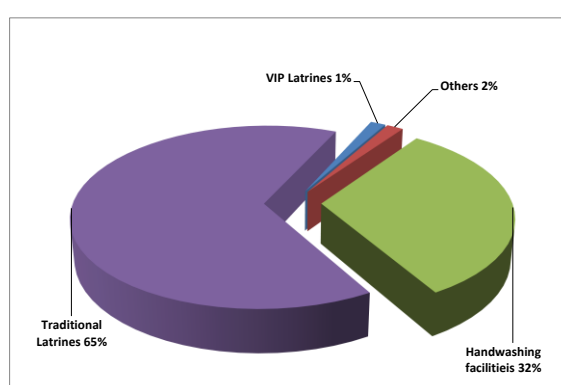


Figure 12.13 Household sanitation and hygiene facilities constructed (%)

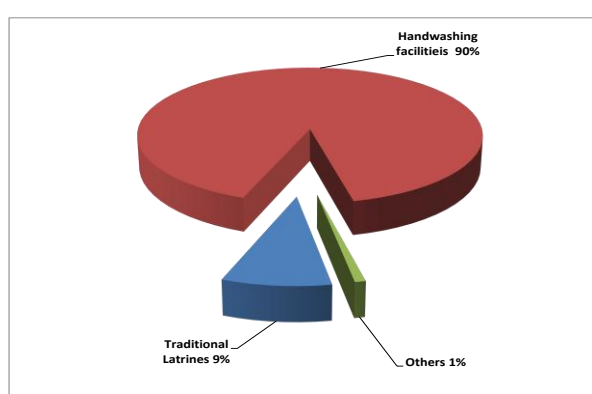


Figure 12.14 Public sanitation and hygiene facilities constructed (%)

Figure 12.13 shows that traditional latrines constituted 69% of the total number of facilities constructed at household level while hand washing facilities accounted for 22%. For public facilities handwashing facilities constituted 90% while traditional latrines constituted 9%.

12.6.2 Application of CLTS in sanitation and hygiene promotion

Community Led Total Sanitation (CLTS) is being adapted by more and more CSOs as an approach to promote adoption of hygiene behaviour and moving households to construct and use latrines. CLTS builds on creating shame and disgust and discussions centre on the notion that individuals, families and whole communities end up eating their own faeces unknowingly; thus calling for individual and community action to undertake activities and adopt behaviours geared to stop the eating of faeces. The CLTS process involves triggering of communities, making follow-ups, and conducting a verification exercise towards declaring the village open defecation free (ODF).

During FY 2016/17, 3,290 CLTS facilitators were trained, while 1,609 villages were triggered; of these 706 villages (44%) were declared ODF.

Box 12.2 Vision of Healthy Village (VHV) Approach

The VHV approach, implemented by By LifeWater International (LI) helps to intensively engage all stakeholders to bring about lasting behavioural change in the community. It is a holistic approach that allows all stakeholders to participate in the different aspects of achieving improved sanitation and hygiene at both household, community and school levels. This is done in collaboration with partners, including Kaliro District Local Government, WASH Facilitators from Nawaikoke, Budomero and Nansololo Sub-Counties, City Team International, a government aided primary school and churches in the area.

There are four general stages in a VHV program, and they overlap rather than follow a simple progression. The stages reflect the different focuses of the program by different actors and/or at different stages.

Stage 1: Open Defecation Free through CLTS

The first stage is for a community, inspired by Community-Led Total Sanitation (CLTS), to become open Defecation-free (ODF). Once a community becomes ODF, the focus shifts to encouraging households to become Healthy Homes.

Stage 2: Healthy Homes

The second stage is for households to become certified as Healthy Homes. After a household achieves Healthy Home status, it will receive some tangible form of recognition by the project staff and community leaders/representatives (e.g., certificate, coloured flag). Progress toward becoming a Healthy Home will be monitored monthly by WASH Facilitators. Criteria for Healthy Home status include the presence of safe drinking safe water, safe storage of water, improved latrine, handwashing facility, drying rack, and a clean compound.

Stage 3: Healthy Communities

The third stage is designation as a Healthy Community. Once a community becomes a Healthy Community, they will receive some sort of recognition by project staff and community leaders/representatives. Criteria include ODF certification, 90% of households are certified as Healthy Homes, functioning water committee (if community is connected to a water point) and a clean environment.

Stage 4: Healthy Schools

Alongside the Healthy Homes and Healthy Communities aspects, LifeWater works with primary schools in target areas to become certified as Healthy Schools after achievement of the following criteria: the presence of a safe water source, appropriate latrines, handwashing facilities, active school WASH club, and a clean environment.

Key outcomes

- Attained 10 Open Defecation Free (ODF) communities, 2,179 Health Homes, 10 Health Communities, 23 water points, over 67 Functional Water Committees and one Healthy School.
- School management structures have been fully engaged in contributions towards the drainable latrine construction, and with active bank accounts for operation and maintenance of these WASH facilities.
- 20 Teachers trained, 5 WASH clubs formed in schools and are able to facilitate daily hygiene parades, learnt the sanitation anthem for the first time, composed sanitation and hygiene songs, poems and other skits and pass on this information to the rest of school pupils.
- Improved community ownership of new water facilities following the sector guidelines on capital contribution and collection of operation and maintenance fees and opening up bank accounts before a water source is put in place.



Demonstrating components of a healthy home



Registered and certified home with a sticker

1.5.3 School sanitation and hygiene promotion

Supporting schools for improved sanitation and hygiene continues to be a major activity for over 50% of CSOs in Water and Sanitation and Hygiene (WASH) intervention. School WASH activities include construction of WASH facilities, training in O&M of school WASH facilities, formation and training of School Health Clubs, and training in Menstrual Hygiene Management

A number of sanitation and hygiene facilities were constructed at schools. **Error! Reference source not found.** presents sanitation and hygiene facilities constructed in schools.

Table 12.1 Sanitation and hygiene facilities constructed

Facility	Category of user	Number
Latrine stances	boys	16,973
	Girls	445
	Female teachers	24
	Male teachers	36
	Pupils with disabilities - male	57
	Pupils with disabilities - female	48
Hand washing facilities	All	301
Urinal and washrooms	All	55
Rainwater harvesting for handwashing	All	47

Table 12.1 shows that construction of latrines was the major activity followed by construction of hand washing facilities. A total of 17,583 latrine stances were constructed. For sustainability of facilities, and support to school sanitation, 2,291 school teachers were trained on school WASH.

School health clubs continue to be a strategic structure for promoting good hygienic practices like hand washing, taking the lead in constructing tippy taps, safe water chain, and good menstrual hygiene by driving the sanitation and hygiene agenda within schools and the surrounding communities. In the FY 2016/17, 355 health clubs were formed and trained with support from CSOs. Schools with health clubs were empowered to strengthen the clubs as good sanitation providers and to promote behavioural change towards good hygiene practices.

Interventions in school WASH have had a number of positive results. Existence of health clubs and health patrons has enhanced monitoring the sustainability of behaviour change and self-monitoring of progress in WASH. CSOs facilitate the health clubs to draw up an action plan on hygiene and sanitation activities to work as a monitoring framework for the clubs' planned activities with the help of their school management.

12.7 Community Dialogue Meetings

A key element in community dialogue meetings is to improve awareness on roles and responsibilities and improve coordination among stakeholders. Results from community dialogue meetings on WASH include increased responsiveness of service providers, increased community vigilance, and community WASH issues voiced out and addressed. During FY 2016/17, CSOs conducted 2,008 dialogue meetings. As a result of community dialogues, community WASH structures have engaged in lobbying and advocacy, mobilization of resources for operation and maintenance of water sources and public sanitation and hygiene facilities, data collection and reporting on non-functionality of water sources.

12.8 Cross-Cutting Issues

12.8.1 HIV/AIDS mainstreaming

For most CSOs, activities include sensitization of communities on non-discrimination of vulnerable groups and representation of persons living with HIV/AIDS on Water Source Committees. Drama activities have been organized to sensitize about HIV/AIDS in relation to WASH activities. Vulnerable people with HIV/AIDS have been also been supported with construction of water jars. This has led to increased knowledge on HIV/AIDS,

and prevention of the spread of infection. Discussions with communities include the link between sanitation and hygiene and opportunistic infections. The affected and infected people need to live in a clean and healthy environment if they are to avoid infections. This has led to increased awareness on home-based care and hygiene promotion practices. Easy access to WASH facilities has reduced the long journeys by the girl child to fetch water and this has reduced the rape cases which, in some communities, were the main cause of the spread of HIV/AIDS and unwanted pregnancies.

12.8.2 Coordination and collaboration

CSOs have continued to collaborate with various ministries and their agencies, local governments and development partners. Within the districts of operations, most CSOs are members of the district water and sanitation coordination committees (DWSCCs), attend the DWSCC quarterly meetings and share quarterly and annual reports with the Local Government. This collaboration and coordination between CSOs and local government has led to improved information, non-duplication of services in WASH and prevention of conflicts of interest in WASH activities.

Various CSO are jointly working on various projects/interventions. In collaboration with UNICEF, WaterAid Uganda has developed a year project to support its efforts in coordination and integration of WASH in the sectors of health, nutrition and education. Basing on this WaterAid will continue to convene sectors to influence them to consider WASH as a critical element in driving Uganda's economic development ambition. Water For People (WFP) worked with Joint Effort to Save the Environment (JESE) to support a school WASH programme. Meetings have been held with officials of Kenya Water Trust Fund to learn about how to start up a similar trust in Uganda, having realized the need for a Water Trust in Uganda. A Water Trust is aimed at financing water and sanitation services for the poor and underserved communities in rural and urban areas including provision of conditional and unconditional grants.

12.8.3 Recommendations

The following recommendations are made:

- Target to improve water service levels and not just access to the water point. This will involve looking at issues related to distance, quality, quantity and sustainability of water supply.
- Government should invest more in sensitization of communities on climate change and its effects where emphasis is put on the sustainable use of the environment to avoid extreme manifestations of climate change effects. Protection of the environment, through agro-forestry and environment education in schools and communities should be given priority.
- Communities and civil society should identify and propose new approaches that would maximize safe reuse and minimize environmental hazards, support government efforts to balance local needs with wider environmental concerns and focus on the needs of the unserved.
- To facilitate improvement of sanitation and hygiene for all people, approaches like CLTS, and micro credits for sanitation should be promoted and adopted countrywide.
- Improve availability and dissemination of WASH-related government policies and guidelines. WASH actors are recommended to do more simplification and dissemination of policies and guidelines.

13 CIVIL SOCIETY ORGANISATIONS IN ENVIRONMENT AND NATURAL RESOURCES

13.1 Background

An annual assessment of investments, targets, achievements, outputs and major issues that affect Performance of the Environment and Natural Resources Civil Society Organisations was undertaken, based on submission of performance reports from 34 member organisations of the ENR CSOs Network, and therefore not a complete reflection of all CSOs operating in the sector.

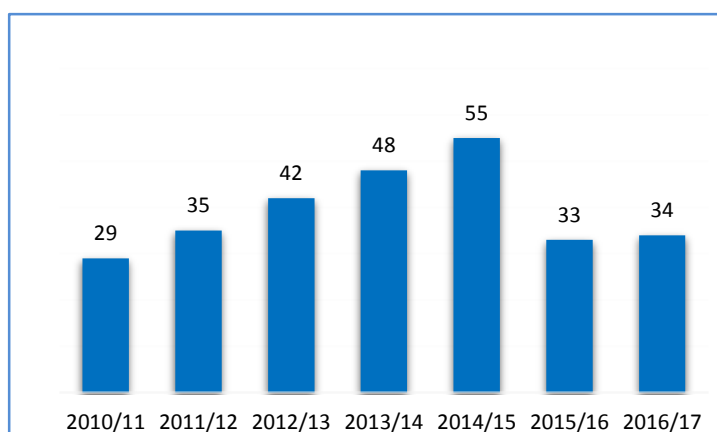


Figure 13.1. Trend in number of CSOs included in the ENR CSO performance report

13.2 ENR CSOs Financial Contributions

This FY, there has been a slight increase in contribution (by 10.3%) from CSOs from USD 4,279,282 in FY 2015/2016 to USD 4,721,909 in FY 2016/2017. Figure 2 shows reported income to ENR CSOs since FY2010/11.

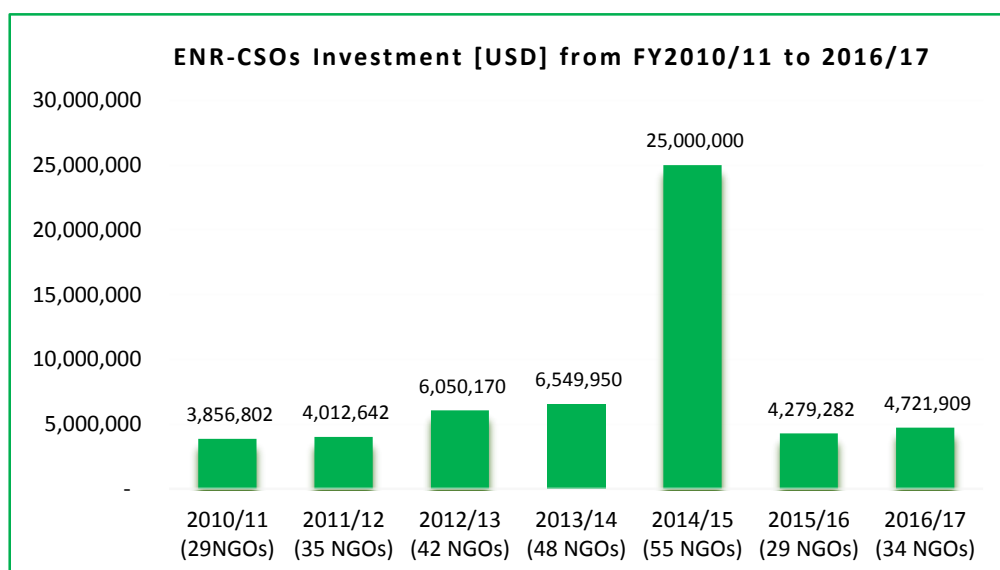


Figure 13.2. Investments by the ENRCSOs for the past 6 years

Three categories of ENR CSOs, being Community Based Organisations (9%), Local NGOs (71%) and International NGOs (20%) contributed to this report. Figure 3 shows that most resources are spent in the Central and Western Region. Eastern and Northern Uganda receive least funding through ENR CSOs. There is a decline in resources spent on national level initiatives and processes. Forestry continues to be the sub-sector where relatively most resources are spent whereas a decline is shown for the wetland sub-sector. ENR CSOs spent the majority of their resources on Forestry (48%), Environment (18%) and governance (17%).

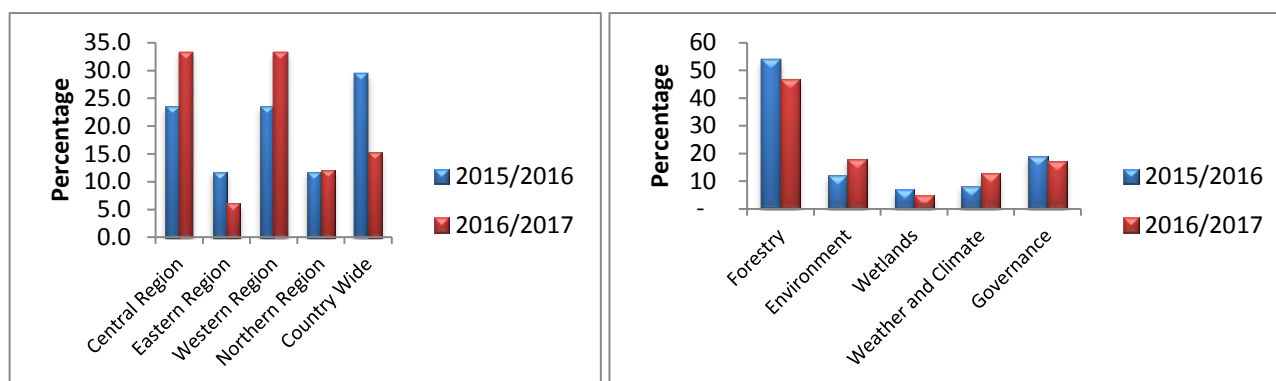


Figure 13.3. (Left) Regions and (Right) Themes covered by ENR

CSOs 2016/17

13.3 General Achievements

The ENR CSOs reviewed the Draft Climate Change Bill and undertook consultations with the private sector actors, farmer groups, selected communities and special interest groups.

ENR CSOs undertook stakeholder consultations that informed the development/finalization of the Forest Investment Program (FIP) and the Strategic Program for Climate Resilience. Uganda's FIP aims to empower countries to address the drivers of deforestation and forest degradation both inside and outside of the forest sector to achieve the triple win of being good for forests, good for development and good for the climate.

ENR CSOs participated in the 22nd Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 22), November 7-18, 2016. ENR CSOs supported government of Uganda in pushing forward with the Paris Agreement on climate change. ENR CSOs also organised National and Regional Post-COP 22 meetings to inform Ugandans about what transpired in Marrakech and have been engaged in drawing a road map ahead of COP 23 in Bonn.

The CSOs co-sponsored the 11th International Community-Based Adaptation Conference held in Kampala organised by International Institute for Environment and Development-(IIED) and hosted by Ministry of Water and Environment and the Makerere University Centre for Climate Change Research and Innovation. The conference brought together researchers, practitioners, governments, development partners, and CSOs in Community Based Adaptations to discuss and agree on most appropriate approaches and practices that put communities at the centre to adapt to climate change impacts.

ENR CSOs supported MWE, FSSD and NFA in the development of benefit sharing guidelines that specify how local communities and local government shall benefit from the exploitation of Central Forest Reserves (CFRs). These guidelines are based on the premise that development and implementation of an incentive-based Benefit Sharing system makes it economically more attractive to stakeholders and therefore enhances sustainable forest management.

Members of the Standard Development Group, which is part of the Uganda Forestry Working Group, finalised the process of developing the National Forest Standards based on the Forest Stewardship Council standard, criteria and indicators. Based on this, the Uganda Bureau of Standards is currently developing national standards that will guide utilisation of forest products across the country.

Civil Society Organisations engaged the National Forestry Authority and national level stakeholders on a number of illegalities including among others illegal land titling in Central Forest Reserves, degazettement of Bugoma Central Forest Reserve for sugar cane production, and illegal activities in Zoka Central Forest Reserve, among others.

Under the theme 'Mountains for our Future', civil society organisations lead by Albertine Rift Conservation Society (ARCOS), supported by Uganda's Ministry of Water and Environment organised the World Mountains

Forum in Mbale that highlighted key issues affecting mountain ecosystems and communities in Africa, notably poverty, climate change, food insecurity and land degradation.

A review of Chinese investment in the land use sector was undertaken, with specific reference to Chinese Investments in forestry, works and agriculture. The research undertaken will inform policy advocacy and lobbying particularly on civic engagement and planning, environmental compliancy, payment for ecosystem services, biodiversity offsets and sustainability.

A study on elimination of illegal timber on the market was undertaken, addressing loopholes along the entire value chain. Community Forest Monitors were supported in Kalinzu and Imaramagambo Forest Reserves to strengthen the capacity of resource use groups and community forest management groups to monitor and report illegalities in close collaboration with the responsible entities (Uganda Wildlife Authority and National Forestry Authority).

ENR CSOs have supported government in the process of developing the National REDD+ Strategy particularly in establishing consultations and participation structures, development of communication and awareness materials, developing initial ideas on feedback and grievances redress mechanisms, implementing strategic environmental and social assessments and contributions towards benefit sharing arrangements.

ENR CSOs supported district local governments in addressing challenges relating to mainstreaming climate change in the district development planning process but also in influencing other sectors such as agriculture, lands, water and infrastructure to integrate concerns of degradation and environmental abuse in their sector plans.

13.4 CSO Achievements in Forestry Sub-Sector

Tree planting initiatives: A total of **1,059,660** assorted tree seedlings were distributed by CSOs and planted in different areas of the country including Hoima, Lamwo, Serere, Lira, Mpigi, Butambala, Mityana, Nakasongola and Masindi districts. At a conservative spacing of 3*3 meters, these are estimated to have covered approximately 950 hectares. This is a contribution towards attainment of the 5 platinum indicators. The tree planting interventions were mainly targeting forest dependent communities, Collaborative Forest Management groups, private forest owners, farmer associations/ organizations, women groups and local communities.

Collaborative Forest Management efforts: Two CFM groups in Lamwo district have been supported to establish livelihood-enhancing options (apiary and commercial tree nursery). The two groups are in the final stages of signing CFM agreements with the National Forestry Authority.

CSOs also supported Kiyanga and Ndangara CFM groups in Kalinzu Central Forest Reserve and two women groups (Kyaterekera and Namirembe) in Kibaale District with a total of 380,000 seedlings. These benefited approximately 1,200 people, while approximately 300 hectares of degraded areas were restored. The CSOs also supported nature-based enterprises for livelihood improvement for communities around Bwindi, Kalinzu, Rwenzori and Bugoma Forest Reserves.

CSOs also supported the implementation of CFM processes in the Central Forest Reserves of Kibego, Ibambaro and Mpanga. A CFM agreement was signed around Mpanga and the local community was allocated 100 hectares of land for tree growing.

Forest Management Plans: CSOs supported the development and completion of five forest management plans for private forest owners (4 in Masindi and 1 in Buliisa District).

Information sharing: The ENR CSOs designed 10 information packages (including films, posters, radio programs and leaflets) and established two information platforms targeting a variety of audiences all aimed at reaching out to over 10 million people. The packages disseminated good practices such as the Community Environment Conservation Fund (CECF) that is a mechanism for forest landscape restoration, policy briefs on the Trees for Global Benefits mechanism; the Agoro-Agu Socio Economic Baseline report and a number of communication and awareness materials on REDD+ designed by a consulting consortium of Wildlife Conservation Society, IUCN, Environment Alert and Tree Talk Plus.

Forestry in the media: ENR CSOs engaged the media to expose cases of corruption in the forestry sector, which has led to a number of investigations including the committee that was instituted by NFA to investigate corruption scandals. Investigative research/journalism conducted by ENR CSOs and the media on forestry-related illegal activities including issuance of land titles in central forest reserves (Banda, Kajjansi, Namanve, and Kimaka among others), proposed sugarcane investments in Bugoma CFR and illegal timber cutting in Zoka CFR were undertaken and media reports published.

Forestry and ICT: The ENR CSOs enhanced the capacity of 60 community-based monitors from 8 community groups (including some collaborative forest management groups) in Rubirizi, Bushenyi, Kalangana, Mpigi and Butambala districts with skills and knowledge to monitor and report forest and wildlife illegalities using ICT. As a result, there has been an improvement in community identification and reporting on illegal activities regarding forestry and wildlife, and improved relations between the communities and responsible duty bearers resulting in joint patrols and community policing.

13.5 CSO Achievements in Wetlands Sub-Sector

The single contribution to the wetlands sub-sector came from the International Union for Conservation of Nature (IUCN) by way of facilitating communities in Mutu and Akileng Parishes in Agago and Amuria Districts, respectively to demarcate 25 kilometres of river and wetland boundaries within their parishes as a measure of reducing wetland and riverbank encroachment. In addition, IUCN supported Community Environment Conservation Funds (CECF) to 27 villages the two Parishes

Within the Upper Nile Water Management Zone, ENR CSOs were involved in setting up catchment management committees for the Aswa and Albert Nile sub-catchments.

13.6 CSO Achievements in Environment Sub-Sector

Over 50 farmers in Bwondah and Mayuge Districts were supported with equipment and tools to use for integrated approaches to environment conservation, surface rainwater harvesting, and water retention on farm.

In Nakasongola, Masindi, Mubende, Karamoja, Bwonda, Buikwe, Wakiso, Hoima, Buliisa, and Lake Victoria shore-line districts, ENR CSOs conducted capacity building sessions on proper management of natural resources, participatory market research, avoiding pollution, avoiding degradation of water catchment systems, water harvesting techniques, artisanal mining, the use of energy saving cook stoves and reducing emissions due to deforestation and forest degradation, targeting women and youth.

13.7 CSO Achievements in Weather and Climate Change Sub-Sector

As part of the initiative to improve food security in the climate change era, ENR CSOs promoted the establishment of fruit tree orchards such as planting of 134,000 mango fruit trees both in Luweero – Kikyusa Sub-County and Buikwe in Najjembe Sub-County and supporting 27,000 people with agro-pastoral drought tolerant and adaptable crop/seed varieties under farmer groups in Nakapiripirit and Napak Districts.

A number of climate smart agriculture approaches were rolled out through farmer field schools in Rubirizi, Buhwezu, Mitooma and Sheema Districts. Farmers have been exposed to agronomic practices that are environmentally friendly to the environment. In Moyo, Yumbe, Adjumani, Masindi, Kiryandongo, and Nakasongola, Nakaseke, Kiboga, Mubende, Luweero and Sembabule Districts, ENR CSOs supported the process for mainstreaming climate change action planning in the District Development Plans as well as the District Environment Action Plans by way of popularising the climate change mainstreaming guidelines and harmonising them with the district development planning process. This engagement resulted into establishment of District Climate Change Task Force teams that oversee climate change mainstreaming in district development plans.

13.8 Governance as Cross-cutting Issue

A series of advocacy engagements have been held throughout the financial year by the different CSOs and some have been documented as detailed here under.

Illegal land titling in CFRs; ‘The Bugoma CFRs Challenge’ - This issues brief (together with land titling cases in Banda CFR, Kajjansi CFR, Namanve CFR, Nonve CFR) was disseminated to key stakeholders and informed a petition that was prepared and submitted to the land inquiry commission over matters of illegal land titling with critical recommendations.

Community access to justice; the Karamoja perspective – This addressed concerns of women, youth and disabled persons and supported the establishment of a referral system working with the Justice Law and Order Sector (JLOS) and the Uganda Association of Women Lawyers (FIDA) in Moroto to periodically provide Legal Aid Services and address issues necessitating legal redress and increasing access to legal aid for affected persons in artisanal mining in Karamoja.

State of the nation on natural resources: Dialogue meetings were organized to address the emerging crisis in the forestry sector, land acquisition and management challenges, resettlement and rehabilitation, Chinese investments in the land use sector, eminent evictions and their implications for development.

Petitions: Forest Program partners prepared a petition and submitted it to the Prime Minister, Rt. Hon. Dr. Ruhakana Rugunda. The Petition addressed issues of forest illegalities, land titles in central forest reserves (See: http://www.newvision.co.ug/new_vision/news/1437650/agricultural-productivity-key-saving-uganda-forests).

Climate change concerns: ENR CSOs and CAN-U supported MWE to collect views for the Climate Change Bill and presented a position paper on the status quo and the stand of Uganda in the international level climate change debate, ahead of the 22nd Session of the Conference of Parties (COP22) in November, Marrakech.

National consultative forum on forestry: ENR CSOs supported the Forest Sector Support Department to convene the National Forestry Consultative Forum on 14th March at Hotel Africana as part of the activities celebrating the World Forestry Day. This served as a platform for discussion of concerns on illegalities in the forest sector.

Engagement on land matters: Engagements with commission of inquiry on land matters was done in 2017 by the Uganda Forest Governance Learning Group that prepared a memorandum on the effectiveness of Uganda’s forest institutions and the issues of human settlement in forest reserves. This memorandum was submitted to the Commission of Inquiry into land acquisition and management on 30th May 2017.

Chinese investments in the land use sector: ENR CSOs, led by ACODE, in partnership with the Embassy of the People’s Republic of China in Uganda organized a high level policy dialogue on social and environmental accountability and enhancing Chinese investments in Uganda on 25th April, 2017. As a result, some Chinese investors are working towards environmental compliance and development/implementation of civic engagement plans and corporate social responsibility modalities.

13.9 Challenges and Recommendations

The sector continues to grapple with common challenges like limited funds to deliver the mandate, low implementation and enforcement efforts, escalating levels of corruption (characterised by increasing numbers of land titles in wetlands and forest reserves), lack of technical frontline staff (environment officers, forest officers, wetland officers), pressure from other land uses (urbanisation, agricultural expansion, extractives industry) and the bureaucracies in government processes (such as the delay in enactment of the National Environment Act and its related regulations, and the Climate Change Bill) .

Some of the cross-cutting recommendations include continuous sensitization and capacity building of the masses across all thematic areas, inclusive stakeholder consultations and networking and improved data collection and information sharing. Most importantly, it is recommended to invoke presidential involvement in raising awareness for environment and natural resources management at all levels.

14 GOOD GOVERNANCE IN WATER AND ENVIRONMENT

14.1 Monitoring Good Governance in the Water and Sanitation Sub-sector

Last year, the sector revised its reporting framework and incorporated good governance indicators. 10 indicators were prioritized from the 16 indicators that were reported as work in progress in last year's Sector Performance Report. They were tested to evaluate the mode of reporting, quality of available data and better understanding of the associated governance issues linked to the underlying processes that are indicated by each indicator. The governance principles assessed are accountability, transparency and participation.

The indicators will be evaluated annually, and measures that will aim at improving the results of these indicators will be drafted in the Updated Good Governance Action Plan and sector undertakings where necessary. The indicators shall also support the Civil Society and Development Partners in targeting their support to most critical areas of governance in the sector.

14.2 Overview of Indicator Values from Piloting Phase in FY2016/17

The performance of the 10 good governance indicators is reported hereunder and reflects the outcome of an intense collaboration the custodians of each indicator and the task force of the Good Governance Working Group (GGWG). After the indicator, in between brackets the New Sector Performance Indicator number is provided, as developed in 2016, see also Section 1.4 of this Sector Performance Report).

Table 14.1 Reporting of the governance indicators in the annual Sector Performance Report 2017

				Target	Performance				Remark and proposed action/ submission to action plan
Indicator		Governance Principle	Entity	16/17	16/17	15/16	14/15	13/14	
1	% Implementation of the previous year’s audit recommendations of financial statements (NSPI 37)	Accountable for the funds and resources	MWE	TBS	DNYP	DNYP	DNYP	DNYP	Data not yet forwarded
			NWSC	80%	85.7%	91.5%	89%	89%	Generally good performance
2	Average weighed procurement performance (NSPI 38)	Accountable to procurement procedures	MWE	TBS	N/A	84.7%	81%	N/A	Generally good performance
			NWSC	TBS	DNYP	DNYP	DNYP	DNYP	Data not yet forwarded
3	% Districts’ budgets that reflect CSOs’ contributions (NSPI 39)	Transparency in financial planning	Rural	TBS	Not yet reported	N/A	N/A	N/A	Rural department will create fields for collecting the required data
4	% of annual budget allocations, budget releases and actual expenditures in relation to sector funding needs’ priorities (NSPI 40)	Accountable to Sector Investment Plans and Budgets	Rural	TBS	N/A	N/A	N/A	N/A	There was no Sector Investment Plan for FY2016/17 and 2015/16, though currently under development. The other difficulty is in comparison between planning and reporting on actual performance.
			Urban	TBS	N/A	N/A	N/A	N/A	
			Regulation	TBS	N/A	N/A	N/A	N/A	
			WfP	TBS	N/A	N/A	N/A	N/A	
			Sanitation	TBS	N/A	N/A	N/A	N/A	
			WRM	TBS	N/A	N/A	N/A	N/A	

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				Target	Performance				Remark and proposed action/ submission to action plan
Indicator		Governance Principle	Entity	16/17	16/17	15/16	14/15	13/14	
5	% of Water User Committees/ Water Boards/ Environmental management, Water Catchment management Committees with women holding key positions (NSPI 36)	Participation of women in key decision making	Small towns	DNYF	DNYF	67%	67%	63%	Performance is still low & stagnant
			Rural	DNYF	DNYF	86%	84%	83%	Better performance as compared to other departments
			WfP	DNYF	DNYF	73/48 %	73/48 %	69/45 %	Performance is still low but improving
			CMC	TBS	Not yet reported	N/A	N/A	N/A	Water Resources department will create fields for collecting the required data M to start reporting on this
6	% of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area (NSPI 4)	Equity and inclusive water provision to the poor	NWSC	100%	Not yet reported	N/A	N/A	N/A	Urban department will create Urban water department will create fields for collecting the required data a fields for collecting the required data.
			Small towns	100%	Not yet reported	N/A	N/A	N/A	
7	NWSC’s Customer Satisfaction Index	Accountability to customers	NWSC	80%	84%	88%	78.4 %	81%	Generally good performance
8	Percentage of gazetted water authorities and districts whose performance is published annually by the Regulation body (NSPI 42)	Transparency of gazetted water schemes and districts	WURD	100%	DNYF	45%	58%	63%	Some utilities report to Umbrella Organizations. There is need to forward reports to WURD for better analysis of the performance
9	% of water for production facilities with actively functioning Water User Committees (NSPI 6a)	Participation of users in the management of WfP facilities	Valley tank	100%	84%	82%	73%	69%	There is a steady increment though at very low magnitude
			Dams	100%	71%	70%	48%	45%	
10	% of permit holders complying with permit conditions (NSPI 20)	Accountability of permit holders to permit conditions	WRM	100%	DNYF	72%	68%	64%	There is a steady increment though at very low magnitude

TBS = To Be Set

N/A = Not Available

DNYF = Data not yet forwarded

14.3 Description and Analysis of Governance Indicators' Performance

14.3.1 % Implementation of the previous year's audit recommendations of financial statements

The objective of the performance tracking is to ensure implementation of outstanding recommendations so as to enhance stewardship of public resources and thus provide improved accountability to the sector

The audit report of MWE for the FY2015/16 indicated a low performance on the implementation of audit recommendations. From the reports analysed, it is clear that although there are attempts to address the audit recommendations, there are some recommendations that continue to appear in the recommendation list every year. An example is the nugatory expenditure and accumulated payables. The corresponding explanation for this continued low performance is delayed remittance from MoFPED that leads to interests and other extra surcharges.

The SPR of 2016 indicates NWSC performance of 91.5% adherence to audit recommendations.

14.3.2 Average weighed procurement performance, MWE

The objectives of the procurement performance tracking are to review and assess if the procurement and disposal practices were conducted in a manner that complied with provisions in the Procurement and Disposal Act and Regulations and resulted in Value for Money or the optimal benefits for the intended beneficiaries.

The performance result of MWE in the Public Procurement and Disposal of Public Assets Authority (PPDA)'s procurement audit report of FY2015/16 of 84.7% was a result of a high average compliance score of 94% for procurement systems, procurement processes and a disposal average performance score of 78.5 %.

Table 14.2 Performance result of MWE in FY2015/16, PPDA

MWE	Performance level	FY 2016/17	FY 2015/16	FY 2014/15	FY 2013/14
Performance Rating:	%		%	%	%
Highly Satisfactory	90-100	Report expected January 2018		81 %	
Satisfactory	60-89		84.7 ⁹¹		
Unsatisfactory	30-59				
Highly Unsatisfactory	0-29				

Based on the PPDA audit findings and recommendations, the following actions have been taken:

- After failure to establish a system of assessing market prices prior to preparing estimates, PPDA recommended that a mechanism for establishing market prices in accordance with PPDA Act should be put in place. The departments have therefore been instructed to carry out market survey before raising requisitions. PPDA has issued additional guidelines on market price fluctuations to make them clearer and allow up to 15 % above market price.
- User departments were observed not to have initiated procurements as per the procurement plans, consequently affecting scheduled timelines. PPDA recommended that the procurement plan should always be updated. A final updated procurement plan will be issued to which departments should adhere. Departments should consistently and timely raise requisitions and submit amendment to work plans.
- Procurement and Disposal Unit (PDU) does not have adequate budget and resources to carry out its functions and doesn't have enough record keeping space. This poses a risk of contracting non-compliant providers and compromising on the level of transparency and accountability, respectively. PPDA

⁹¹ The performance level rating scoring measurement scale has been revised in a way that performances require higher percentage scoring to qualify for a certain category of satisfaction. For example, the percentage scoring was 81 % in FY 14/15 which qualified for a highly satisfactory rating. The annual ratings are thereby not directly comparable.

recommended to allocate budget and enough space to PDA to ease its work. MWE is searching for additional funds for facilitation and will provide sufficient space in the new office block.

- Failure to perform within the planned timelines has been extensive. PPDA recommended that contract implementation time to reduce variations should be observed. MWE has therefore developed a tracking tool to assist contract managers in timely contract signing and implementation which also can improve request for fund releases.

14.3.3 % Districts' budgets that reflect CSOs' contributions

The number of districts has kept increasing. As per end June 2017⁹², the country registers registered 115 districts. Out of these, 111⁹³ have NGOs' interventions. However, there is still minimal incorporation of CSO's contribution in the districts' work plans and budget. This indicator has not been reported this year. The Rural Water and Sanitation Department and UWASNET are still working on the necessary requirements to ensure that this data is collected starting from the next year.

14.3.4 % of annual budget allocations, budget releases and actual expenditures in relation to sector funding needs' priorities

The objective of the indicator measurement is to align actual annual spending with budget allocations and SSIP, SDP and NDP priorities and needs. The Public Financial Management Act, 2015 demands that the annual budget shall be consistent with the National Plan. This shall improve the accountability of sector and MoFPED to harmonise with SIPs and budgets.

The sector had no Sector Investment Plan (SIP) for the FY2015/16 and 2016/17 to guide budget implementation, but the sector is in the process of updating it for the period 2017-2021. The analysis for these years could not be made.

14.3.5 % of Water User Committees/ Water Boards/ Environmental management, Water Catchment management Committees with women holding key positions

Reports from the respective departments indicate an increasing number of women in key positions on water user committees. The positions considered to be key include, Chairperson, Vice chairperson, Secretary and Treasurer. The positive trend could be attributed to people's changing perception to recognize women as partner agents in development. In catchment management committees, the situation needs to be monitored carefully.

14.3.6 % of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area

The tool to be used in collecting data for this indicator (UPMIS) is still under development. There is therefore no information this year. However, the Sector Performance Report 2016 reported an average tariff charged at PSP of UGX 150 per 20 liter container which is three times higher than the tariff at house hold connections. This implies exclusive service delivery where the poor are discriminated by price.

14.3.7 NWSC's Customer Satisfaction Index

Customer Satisfaction Index (CSI) is an average of all the various attributes of NWSC services that are believed to contribute to customer satisfaction. These are water reliability, water pressure, water quality, timely and accurate water bills, responsiveness in resolving complaints, responsiveness in effecting new connections,

⁹² In 1986, Uganda had 33 districts which had increased to 81 districts by 2008. The districts increased to 111 (excluding Kampala) by 2011. Four new districts i.e. Rubanda, Omoro, Kagadi and Kakumiro started operating in FY2016/17. Six more districts will take effect in FY2017/18.

⁹³ UWASNET CSO Performance Report 2017; Amolatar, Buvuma, Omoro and Rubanda Districts do not have NGO support

customer care, convenience of bill payment process and office ambience. Although there is increasing CSI percentages, there are persistent comments from the customers concerning unreliable and intermittent water supply, poor/low water quality, untimely delivery and inaccurate bills, high response time to complaints, customer care, inconvenience during the bill payment process, irregular updates on services and plans.

14.3.8 Percentage of gazetted water Authorities and districts of which performance is published annually by the Regulation body

Table 14.3 Reporting performance per water supply entity, current and previous three years

		Target	Performance			
		2016/17	2016/17	2015/16	2014/15	2013/14
Small towns	No. of gazetted	-	127	77	116	116
	Reporting	127	48	34	67	73
NWSC		1	1	1	1	1
Total No. of authorities				78	117	117
Total No. of reporting authorities				35	68	74
% of reporting			38%	45%	58%	63%

The objective of the measurement is to improve transparency on water services and to some extent also accountability on sector investments which shall translate into better services.

The Water Utility Regulation Department (WURD) aims at informing the public about the general performance of all gazetted water schemes including towns under the management of NWSC and small towns. There is a reducing trend in the number of gazetted water authorities reporting to WURD. This is partly attributed to some towns that have been transferred to NWSC (already an authority) and other towns which report directly to Umbrella organisations. Hence, it is noticeable the WURD has not been able to generate sufficient awareness and enforcement to improve reporting. This reduces transparency of the level and quality of water services in the country.

14.3.9 % of water for production facilities with actively functioning Water User Committees

All facilities under community management have user committees. However, only 82% of the Valley tanks and 70% of the Dams had functioning Committees by end of FY2015/16.

14.3.10 % of permit holders complying with permit conditions

The percentage of complying permit holders improved from 68% to 72% as reported in the Sector Report of 2016. However, these are sample results from only 65% of the total number of permit holders. There is need to have a bigger sample for accurate representation. Secondly, the conditions of a permit need to be made public to all sector players, including the procedures of acquiring a permit and the process of monitoring compliance.

14.4 Other Actions Outside Indicator Scope

14.4.1 Smooth change of chairmanship

The inception of the GGWG in 2006 brought in a chairperson who served diligently until March 2017, when the WESWG recommended the elevation of the GGWG chairmanship to the level of Under Secretary. This was to ensure that the decisions of the GGWG are respected at all levels in the sector. Given the busy schedules of the Under Secretary, the operationalization of the group has been delegated to the Principal Assistant Secretary, Mr. Otulu Daneil Nikie.

14.4.2 Water Integrity Forum – Addis Ababa

In May 2017, a group of 10 members from the Ugandan water sector took part in the Water Integrity Forum that was hosted by the Ministry of Water, Irrigation and Electricity, Ethiopia and the Water Integrity Network.

The forum, which was organized to raise awareness, enhance political will and policy alignment, and promote multi-stakeholder engagement for good governance and integrity in the water sector resulted into the following action areas.

Table 14.4 Action areas resolved during the Water

Thematic Area	Action Areas that were resolved	Lead Institution
Integrated Urban Water Management	Develop integrity components in already existing plans and government structures	Global Water Partnership
Community Involvement	Holding dialogues between right holders and duty bearers	KEWASNET
Equitable water distribution (Water Permits)	- Recognizing, documenting indigenous water rights and management systems - Assessing scope of storage capacity expansions	IWMI
Monitoring Integrity (The indicators)	- Development of M&E indicators with links to existing systems - Enforcement and incentives (compliance mechanisms)	WIN, GGWG
Water Infrastructure and integrity	- Widening information access - Involvement of all stakeholders - Transparent budgeting and financing	IWMI
Building Capacity for Integrity	Coordinate and leverage capacity building processes and resources working towards a Capacity building hub, anchored in East African Countries and at regional level.	SIWI

14.4.3 Update of the Good Governance Action Plan

The Good Governance Action Plan (GGAP) 2014-2017 has come to an end with good performance as here described.

Table 14.5 Performance on implementation of actions in GGAP 2014-2017

Level of performance	No	Percentages	Remarks
On course	10	37%	To continue into the GGAP
Complete	8	30%	To be taken out
Recurrent actions	6	22%	To be taken out and placed in the ToR of the GGWG
Stagnant	2	7%	To be taken out. These actions should be taken on by the LGs
Not yet done	1	4%	To be done next year
Total No. of actions	27	100%	

The updating of the Good Governance Action Plan will be annually with the objective to improving the results of the governance indicators. This means that the Good Governance Working Group will put more focus on actions that aim at improving the indicators.

14.5 Challenges and Recommendations

The challenges of good governance in the sector are the related to the need for a strong permanent good governance secretariat, financing and technical support. The recent technical support to the secretariat has come to an end, as the contract of the Good Governance Advisor has ended in August 2017.

Strengthening the Secretariat; there is need to appoint a permanent staff to the group with roles included in the job description of this appointed staff so that the actions under the GGWG are part of the assignments to be reported by the selected staff. This will not only motivate the secretary but will also enable accountability of the time allocated to GGWG. In the same manner, Development Partners should find a way of providing technical support to the secretariat in terms of reviewing TORs of governance related activities, reviewing reports from consultants, analyzing performance, etc. Both the ministry and the development partners should identify a funding stream for operationalizing the actions of the GGWG.

Updating the GGAP by use of the indicators; The GGWG has developed a new format for developing the governance action plan through implementation of the governance indicators. The focus of the group is towards the improvement of the results of the governance indicator. This is different from the previous format, where the GGAP has been developed after series of studies and surveys that could inform on a wide range of critical areas that needed concern. The format aims at targeted resourcing and financing and also enables the governance group to rate their performance with identified and measureable performance.

15 CRITICAL ISSUES FOR SECTOR DIALOGUE

15.1 Changes in Development Partner Support

The Joint Water and Environment Sector Support Programme (JWESSP 2013-2018) is coming to an end at closure of financial year 2017/2018. A no-cost extension of 12 months (ending 30th of June 2019) is envisaged to complete planned activities to ensure sustainability of programme achievements. At the same time it is planned to develop a JWESSP - Phase II, a successor to the ongoing programme to start in July 2017. The main changes in development partner support refer to the fact that (i) some partners are substantially ending their support to the sector (or changing their areas of support) and (ii) future funding arrangements are going to allow less flexibility.

The design of the JWESSP Phase II therefore intends to include both, projects that use joint financing arrangements as well as individual projects that contribute to overall sector coordination and monitoring and capacity development. It is important to continue to include the Environment Subsector and Climate Change and to channel/mobilise more funds for these activities, and to provide a basis for mainstreaming across all sector initiatives. The MWE and its Development Partners should design this programmatic framework to maximise coordination, harmonisation and alignment principles to the extent possible.

15.2 Underfunding

Underfunding is a cross-cutting sector challenge and affects (i) the fulfilment of core functions of the sector (such as technical support to districts or water quantity and quality monitoring) as well as (ii) the adaptation capacity to new challenges (such as industrialisation or climate change). Efforts to invest and maintain infrastructure are largely outstripped by rapid urbanisation and population growth rates. This leads to a situation where the targets as given under the Second National Development Plan and Presidential Directives (e.g. one water source per village) are unlikely to be achieved with the current funding levels. Against the background of a growing interest in individual projects rather than programmatic approaches as far as external funding sources are concerned, it remains unclear how the Strategic Sector Investment Plan between 2018 and 2030 will be implemented in a balanced manner across thematic and geographic areas.

Technical Support Units (TSUs) have always been funded by external support, and they are not part of the established government-funded structure. Their current support under the JWESSP is ending by June 2018, and ways need to be found for continued technical support to the district local governments to minimise the capacity gaps at district level.

Similarly, there is uncertainty of WSDFs' future funding, while they are regarded as essential to achieve sub-sector targets and maintain implementation capacities for new investments for water and sanitation in small towns and rural growth centres. The four WSDFs are supported by different Development Partners through JWESSP's Joint Partnership Fund. The support to WSDF-SW and WSDF-E under the EU MDG Initiative is managed under a delegation arrangement by the Austrian Development Agency (ADA). Although the financing agreement for WSDF-SW was ending in November 2016, it was extended to finish up all the agreed construction interventions under the agreement now ending November 2017. The Government of Germany supporting WSDF-N and East through its German Development Bank, KfW, is phasing out their support in 2020. The African Development Bank is supporting WSDF-C under WSSP Phase II which started in the financial year 2016/17. Phase III – Strategic Towns Water Supply and Sanitation (2017-2021) with support for all WSDFs is under preparation.

Whereas the GoU/MWE and Development Partners (DPs) have been implementing a Joint Water and Environment Sector Support Programme (JWESSP) over the 5-year period 2013-2018, Uganda's funding architecture is changing in recent years with a move from programme-based implementation to bilateral project-type implementation. It is therefore very likely that in the short and medium-term, implementation will be mainly through bilateral projects.

The implications for WSDFs are that: (i) for financing of future WatSan projects WSDFs will have to develop reasonable capacity in acquisition and project development based on strong coordination; (ii) to match the demand for reporting and evaluation systems of different donors, the WSDFs will have to develop an efficient data bank and related reporting system; and (iii) to create high efficiency WSDFs will have to increase coordination with other departments .

The ENR sub-sector still remains grossly underfunded especially at district local government level. The current conditional grant to districts is little (an average of UGX 5 million per district per year) and it only caters for wetland related activities leaving other environmental components unfunded. For example, oil and gas activities in the Albertine Graben require constant monitoring to prevent disasters, whereas District Environment Officers, despite training on how to conduct inspection of oil and gas activities, are constrained.

15.3 Fulfilment of Green Climate Fund and Adaptation Fund requirements

It has become evident that with the current trend in reduction sector donor funding in form of grants and increase in loan financing, there is a need for the sector to exploit alternative financing sources like the Green Climate Fund and the Adaptation Fund for funding its projects. Both funds are designed to finance concrete climate change projects/programs based on the national priorities of individual developing countries. Funds can be obtained through seeking a direct access window using a National Implementing Entity (NIE). The Ministry of Water and Environment (MWE), as one of the suitable NIEs, has already submitted its applications to the Adaptation Fund Secretariat, and Green Climate Fund, respectively for accreditation. It should be noted that accreditation will be accessed in fulfillment of the requirements such as fiduciary risk principles and standards, environmental and social safeguards, gender policy etc.

In order to expedite the accreditation process the ministry needs to come up with an action plan with the following key deliverables

- Development of an Environment and Social Safeguard Policy
- Development of a Grievances Redress Mechanism to address the complaints about environmental and social harms caused by the projects.
- Develop an independent Integrated Internal Controls System (COSO) for the ministry including a specific Fraud Management Policy, Internal Audit Charter, Audit Committee Charter and Strategic Risk Management Business Plan to govern the Risk Assessments at Project, Department levels etc.

15.4 Transformation of Umbrella Organisations to Water Utilities

The Umbrella organisations were gazetted as Water Authorities in July 2017. It will be a main focus of work for 2017/18 to establish the new governance, financial management and monitoring systems and conduct related capacity building.

In the medium term the gazettelement is expected to secure the institutional sustainability of the Umbrellas, which currently still depend on donor funding to cover their operational costs. In the short term, however, the Umbrellas will be challenged by a double mandate, to be fulfilled with very limited human and logistical resources. In addition to the direct operational responsibility for the schemes where the Umbrellas are gazetted as Water Authorities they will also be expected to continue providing support to all the other piped water supply schemes within their region.

The Water Utilities will commence using the existing human and logistical resources. However, a minimum of additional input will be needed during the start-up phase. This includes the recruitment of commercial officers, procurement of basic needs for the schemes taken over (such as motorcycles for scheme operators, IT equipment, installation of billing and cashless/mobile payment systems, procurement of water meters), as well as funding for training and stakeholder engagement activities. Many of the schemes also need infrastructure rehabilitation investments.

15.5 Community Mobilisation

Community mobilization activities having been greatly affected by the reduction of the software budget following the categorization of software as a non-wage recurrent expenditure, as indicated in the District Water and Sanitation Conditional Grant Guidelines for FY 2016/17. At the same time, there is an insufficient recurrent budget in the District Water Grant (current 8% vs recommended 14%), which therefore greatly undermines community mobilization activities

MWE and stakeholders should explore possibilities of having a clear cut budget to cater for software activities under the District Water and Sanitation Conditional Grant.

15.6 New Sector Performance Indicators

Monitoring sector performance using the new/revised agreed monitoring indicators is a critical sector issue for the coming year. For some of the revised / new sector indicators' baselines, data collection and computation methods need to be established. Some of MWE's departments and sector agencies have started by establishing baselines, data sources, and computation methods as shown in this report; however, many sub-sectors are not yet owning their own set of new sector performance indicators.

All semi-autonomous agencies and NWSC need to recognise the new indicators and report on related performance with effect from 2017/18FY. The Sector Performance Measurement Committee should hold regular meeting throughout the year to coordinate and guide efforts of all departments and semi-autonomous agencies and NWSC.

15.7 Cancellation of Titles in Wetlands and Forest Reserves

The time is right for implementation of the Cabinet directive for cancellation of all illegal titles issued in wetlands and forest reserves and related removal of all encroachers in wetlands and forest reserves. This requires a strategy with a clear timeframe and adequate resources allocation for implementation and enforcement, involving key stakeholders at all levels.

Annex 1. Information Sources and References

Annex 1.1 Information Sources

Issued by	Document/Database	Year of Issue	Useful Data for SPR
UBOS	mid-year population projections by sub-county for all the districts in Uganda for the period 2015-2018	2017	Population Data for Urban Councils and Rural Sub-Counties
NEMA	State of Environment Report	2012	Information on environment and natural resources
MWE	Water and Sanitation Sub-Sector Investment Plan (SSIP)	2009	Investments
UBOS	National Population And Housing Census 2014	2014	Access
District Local Governments	District Water & Sanitation Situational Analysis Reports	2017	Access, functionality, investment, equity and gender
MWE	WSDB Database and NWSC-MIS Database	2017	Access, functionality, equity, gender, outputs, investment, WfP, performance, compliance and water quality
UWASNET	NGO Group Performance Report for 2015/16	2017	NGO Inputs and Performance
Environmental Alert	CSO Report for Environment and Natural Resources	2017	NGO Inputs and Performance

Annex 1.2 References

Kaggwa, R., Hogan, R., and Hall, B., 2009. Enhancing Wetlands' Contribution to Growth, Employment and Prosperity

Ministry of Water and Environment (MWE), 2016. Consultancy to Facilitate the Review Process of the Water and Environment Sector Performance (Measurement) Monitoring Framework

Ministry of Water and Environment (MWE), 2017. Water and Environment Sector Development Plan 2015/16-2019/20.

Annex 2. Overview of the Sector Institutional Framework

The Water and Environment Sector consists of the water and sanitation sub-sector and the environment and natural resources sub-sector. The water and sanitation sub-sector comprises water resources management and water development. The environment and natural resources sub-sector comprises environmental management; management of forests and trees; management of wetlands and aquatic resources; and climate, weather and climate change.

In July 2008, the Water and Sanitation Sector Working Group (WSSWG) merged with the Environment and Natural Resources Working Group (ENRWG) to form the Water and Environment Sector Working Group (WESWG). The WESWG provides policy and technical guidance for the sector and comprises representatives from key sector institutions.

National Level

The **Water Policy Committee (WPC)** was established under the Water Act Cap 152 and Water Resources Regulations (1998) of Uganda to assist and advise the Minister of Water and Environment and to promote inter-Ministerial and inter-sectoral coordination over a wide range of water resources management and development issues. The WPC provides an avenue for promoting IWRM at national level and guiding the strategic management and development of water resources of the country. The WPC also coordinates the preparation of national water quality standards; and mediations and undertakes conflict resolution between national authorities on water resources matters.

The Policy Committee on the Environment was established by the National Environment Act Cap 153 as a sub-committee of cabinet. It is chaired by the Prime Minister and consists of ten ministers responsible for natural resources; agriculture and fisheries; finance and economic planning; education; health; land, housing and urban development; local Government; gender and community development; wildlife; and trade and industry. The Policy Committee on Environment provides policy guidance and oversight to the National Environment Management Authority (NEMA). It also harmonises the sectoral roles and responsibilities over the range of environmental issues across its jurisdiction. The committee plays a critical role in integrating environmental considerations into the policies, plans and programmes of the respective sectors and sub-sectors under its jurisdiction.

The Ministry of Water and Environment (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. MWE has three directorates: Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA). The mandate of the MWE regarding **sanitation and hygiene** activities is stipulated in the Memorandum of Understanding that was signed by MoH, MoES, and MWE. The role of MWE is limited to development of public sanitary facilities and promotion of good practices of hygiene and sanitation in small towns and rural growth centres.

The current mandate for **WfP** facilities in Uganda is shared between MWE and other Ministries. With respect to water for agricultural development, MWE is responsible for “off-farm” activities while Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is responsible for “on-farm” activities. “Off-farm” refers to development of water sources and transmission (bulk transfer to farm gates) while “on-farm” refers to irrigation infrastructure, water use and management. Regarding water for energy, MWE works with Ministry of Energy and Mineral Development; for water for industry, MWE produces water to the industries’ premises, while Ministry of Tourism, Trade and Industry (MoTTI) is responsible for water use and management in the industries.

Directorate of Water Resources Management

The Directorate of Water Resources Management (DWRM) is responsible for developing and maintaining national water laws, policies and regulations; managing, monitoring and regulation of water resources through issuing water use, abstraction and wastewater discharge permits; Integrated Water Resources Management (IWRM) activities; coordinating Uganda's participation in joint management of transboundary waters resources and peaceful cooperation with Nile Basin riparian countries.

While the traditional institutional arrangements for water resources management have been centralised, de-concentration of these functions to regional and local levels has been initiated. Thus, institutional arrangements for management of water resources in Uganda now exist at three levels, namely the national level (DWRM and WPC, mentioned above), the regional and transboundary level, and the local level.

Transboundary Level Institutions such as Lake Victoria Basin Commission (LVBC) and Nile Basin Initiative (NBI) under which parts of Ugandan fall. LVBC is a legal entity, linked to the East African Community (EAC), responsible for the sustainable management of the water resources of Lake Victoria basin. Similarly, the Nile Basin Initiative is a transitional institutional arrangement responsible for sustainable management and development of the Nile basin water resources. Some 98% of Uganda lies within the Nile basin and the active participation of Uganda in the Nile Basin Initiative activities is therefore key to the sustainable management and development of Uganda's water resources.

Directorate of Water Development (DWD) is responsible for providing overall technical oversight for 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 Sewerage and Water for Production. The Regulation Department of MWE ensures adherence to set standards of service established by the sector for water supply, currently restricted to piped water supplies in the country. The type of regulation being exercised by the department is "Regulation by Contract". This is realised through Performance and Management Contracts with Water Authorities. is regulating urban water supply services.

The MWE, through its **Urban Water and Sewerage Department**, is responsible for overall coordination, policy formulation, setting standards, inspection, monitoring, technical back-up and initiating legislation. It also directly oversees and supports water supply and sanitation service delivery in all water supply areas that are not gazetted for management by the National Water and Sewerage Corporation.

The National Water and Sewerage Corporation (NWSC), established as a Public Utility operating on a commercial basis, is traditionally responsible for water supply and sewerage services in the large towns. However, in recent years numerous small towns and rural growth centres have been gazetted for management by NWSC, with a further increase from 110 to 170 towns/supply areas during 2015/16.

Service delivery and asset management in water supply areas outside the jurisdiction of NWSC is the responsibility of Local Governments. Normally these are appointed as Water Authorities and receive performance contracts which require them to appoint a Water Board and contract a Private Operator (company) for day-to-day management of the water scheme. Currently, approximately 50 small towns and rural growth centres have actually sub-contracted scheme management to a private operator. Others manage their water supply directly or have contracted an individual Scheme Operator.

Traditionally, the Urban Water and Sewerage Department (UWSD) takes care not only of gazetted urban areas but also of piped water systems supplying rural growth centres. For effective operations it has set up two sets of regional deconcentrated units:

4 Water and Sanitation Development Facilities (WSDFs) for the implementation of new water supply and sanitation schemes and major rehabilitations

6 Umbrella Organisations for supporting the operation and maintenance of existing piped water infrastructure.

The four WSDF Branches plan, finance and implement new water and sanitation projects in Northern, Eastern, Central and South Western Uganda, from their headquarters located in Lira, Mbale, Wakiso and Mbarara, respectively. The districts covered by each of the WSDF Branches are listed in Annex 6.1. WSDFs have delegated procurement and accounting authorities and operate following a common Operations Manual. Mobilisation and design activities are partly contracted out and partly done by in-house staff, as appropriate, whereas construction works are always carried out by private contractors. After completion, some of the larger WSDF schemes are handed over to NWSC whereas the others are handed over to local authorities (for management responsibility) and Umbrella Organisations (for O&M support). The WSDF model is currently under threat as apart from AfDB the current funding arrangements will not be available beyond 2016/17.

The Umbrella Organisations (UOs) have been set up to provide O&M support to the local Water Authorities/Boards, and thereby improve the functionality, financial viability and sustainability of small piped water schemes. The six regional Umbrellas are based in Kabale (South-West), Kyenjojo (Mid-West), Wakiso (Centre), Lira (North), Mbale (East) and Moroto (Karamoja), respectively. Umbrellas provide technical and management support, training, advocacy and advisory audit services, water quality monitoring; as well as financial and technical support for major repairs and scheme extensions. Umbrella Organisations have regional elected Executive Committees, while permanent staff has been appointed as MWE staff in 2016. This reflects the fact that Umbrellas are almost entirely financed by public sources (GoU and DOPs) and that they are now expected to support all piped water schemes in their areas of intervention, not only their subscribed members.

The Water and Environment Sector Liaison Department is mandated to ensure effective planning, coordination and management of the Water and Environment sector.

Directorate of Environmental Affairs (DEA) is responsible for environmental policy, regulation, coordination, inspection, supervision and monitoring of the environment and natural resources as well as the restoration of degraded ecosystems and mitigating and adapting to climate change. DEA comprised the three departments of Environmental Support Services (DESS), Forestry Sector Support Department (FSSD), and Wetlands Management (WMD). DEA works in collaboration with the National Environmental Management Authority (NEMA), the Uganda National Meteorological Authority (UNMA), and the National Forestry Authority (NFA).

Under the National Forestry and Tree Planting Act, 2003, **NFA** is mandated to manage Central Forest Reserves (CFR) in partnership with private sector and local communities; advisory, research and commercial services on contract; supply of quality seeds; and national forest inventory and other technical services. **FSSD** is charged with formulation and oversight of appropriate policies, standards, and legislation for the forest sector; coordination and supervision of technical support and training to local governments; inspection and monitoring of local governments; monitor NFA using a performance contract; coordination of the National Forest Plan (the sector's investment plan) and cross-sectoral linkages; resource mobilisation for the sector; and promotion, public information and advocacy for the sector.

Climate Change Unit (CCU) was created in 2008, directly under the office of the Permanent Secretary within MWE. The main objective for the establishment of the CCU is to strengthen Uganda's implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. In FY 2013/14, the Climate Change Unit has been upgraded to Climate Change Department.

The National Water and Sewerage Corporation (NWSC) is a parastatal that operates and provides water and sewerage services in 66 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 revenue surplus for infrastructure improvements and new investments.

The National Environment Management Authority (NEMA) is responsible for the regulatory functions and activities that focus on compliance and enforcement of the existing legal and institutional frameworks on environmental management in Uganda. NEMA's mandate covers both green and brown issues of environmental management. It oversees the implementation of all environment conservation programmes and activities of the relevant agencies both at the national and local Government level.

The National Forestry Authority (NFA) is responsible for sustainable management of Central Forest Reserves (CFRs), supply of seed and seedlings, and provision of technical support to stakeholders in the forestry sub-sector on contract. NFA is a semi-autonomous business entity and generates most of its own revenues and finances its activities, i.e. NFA's support is contingent upon payment for its services.

A number of other line ministries have important roles in the sector as described briefly below.

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 spearheads agricultural development. This includes the on-farm use and management of water for production (irrigation, animal production and aquaculture).

The Ministry of Lands, Housing and Urban Development was created in June 2006 and is responsible for the management of land affairs including physical planning, surveys and mapping, valuation, land registration, urban development and housing as well as the Uganda Land Commission.

Uganda Wildlife Authority under Ministry of Tourism, Trade and Industry (MTTI) manages the forests in National Parks and Wildlife Reserves, especially under the Uganda Wildlife Act, 1996 (CAP 200).

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

The Uganda Water and Sanitation NGO Network (UWASNET) is a national network organisation established in 2000 to strengthen the contribution of NGOs/CBOs in achieving the Water and Sanitation Sector goals. By June 2014, the Network had a membership of 235 NGOs and CBOs. There is a strategic framework for cooperation between local Governments and NGOs for water and sanitation. It guides Local Governments and NGOs on how to jointly plan and implement community mobilisation/software activities with respect to water supply and sanitation. It also provides guidance to districts on how to procure NGOs to undertake software activities.

ENR Civil Society Organisations (CSOs) are active in service delivery and advocacy for sustainable forest sector development. They work especially at the grassroots levels, mobilising and sensitising local people, supporting active local participation in managing forests and trees, providing forestry advisory services, and advocating for the concerns of the underprivileged in national development processes. Most of the local NGOs/CBOs working in the forestry sub-sector operate under an umbrella organisation, the Uganda Forestry Working Group (UFWG), with Environmental Alert housing UFWG's Secretariat. An estimated 200 Civil Society Organisations (CSOs) are involved environment and natural

resources. ENR CSOs are organised under a network that is hosted by Environment Alert. By, membership stood at 120 member organisations.

De-Concentrated Level

In response to the increasing number of districts and the need to provide support to local government, MWE have established a number of deconcentrated entities which are outlined in brief below:

Water Sector Development Facility (WSDF)

WSDF branch offices are currently established in Mbarara (South West); Lira (North); Mbale (East) and Wakiso (Centre). Each office is headed by a senior staff member of the Urban Water and Sanitation Department. In two cases (South West and North) the branch offices are supported by contract employed staff financed through the JPF. The branch office carries out all the contract management functions of the UWSD, including procurement. Simplified functions include:

Implementation management:

- Zonal level planning and scheme identification
- Feasibility study and detailed design of piped schemes where financed through MWE
- Tendering, procurement and supervision of construction contracts
- Financial management and reporting

Capacity building:

- Support to Town Councils for water authority function, establishment of water and sanitation boards and selection/appointment of private operators
- Support to UOs

The head of the WSDF branch office is delegated as the accounting officer for the funds under their responsibility. A government bank account is set up to receive funds and enable local disbursement. In two branch offices, a separate bank account has also been set up to receive DP funds from the JPF.

The WSDF branch office in South West has piloted different approaches to the management and supervision of investments in Small Towns and RGCs and developed an interim operations and procedures manual that has now been adopted by MWE as a national manual.

Technical Support Units (TSU)

TSUs were established in 8 locations in 2002 with a ninth being established for Karamoja in 2009. At present there are approximately 35 professional staff employed in the 9 units. The TSUs were established to build capacity at the districts following decentralisation of rural water supply and sanitation and the channelling of government grants to the sub-sector via the DWSCG. Simplified functions of the TSU include:

- Quality assurance
- Monitoring of adherence to guidelines, standards
- Capacity building of local governments
- Planning, budgeting and reporting
- Procurement and contract management
- Financial management and reporting
- Software activities implementation including establishing management structures at user levels
- Sanitation and hygiene promotion
- Support to record keeping, management information systems including the WATSUP
- Promotion of coordinated capacity building including inter-district efforts
- Promotion of effective private sector use
- Support to local governments and NGOs in service provision and IWRM

The TSUs were intended to be temporary and to gradually withdraw from well performing districts. The TSU functions were originally contracted out to private sector companies and/or NGOs but more

recently the staff have been hired on individual contracts by the MWE and paid through the JPF. Over time, TSU's roles have also expanded to provide support to RGCs and also water resources and water for production.

Umbrella Organisations (UOs)

Umbrellas Organisations are Uganda's model to support local Water Authorities, Water Boards and scheme operators in providing sustainable piped water supply services. They were created in recognition of the fact that often local capacities are insufficient to ensure effective asset management, preventive maintenance, sufficient revenue collection and water quality monitoring. The model, which had been successfully piloted in South West Uganda since 2001, was subsequently rolled out and covers today all regions of Uganda. The six regional Umbrella Organisations are based in Kabale (South West), Kyenjojo (Mid-West), Wakiso (Centre), Lira (North), Mbale (East), and Moroto (Karamoja).

To add...: Umbrellas provide O&M support to the local Water Boards and scheme operators. The local technical, managerial and financial capacities are often not sufficient to ensure effective maintenance and sufficient revenue collection for sustainable service delivery. The Umbrella Organisations step in by providing advice and support. They help to restore functionality in emergency situations and to implement repair works and scheme extensions; provide training to local Water Boards; promote payment for water services (water metering); conduct advisory financial audits; and monitor drinking water quality through regular sampling.

UOs currently provide their services free of charge, using public GoU and JPF funding, but do not subsidise the direct costs of day-to-day O&M, which are financed by the schemes' locally collected revenue.

Since 2015 the Central Umbrella is also active in faecal sludge management, by ensuring cess-pool emptier operations at the regional level.

It is planned to reorganise the UO Secretariats as deconcentrated government units for O&M support under the MWE/UWSSD. Under this new arrangement the bottom-up structures of the UOs (General Assembly, Executive Committee) will continue to exist as "Umbrella Associations of Water Boards" whereas day-to-day support operations will become a government responsibility.

Water Management Zones

WMZ offices are operational in the 4 WMZs (Victoria, Albert, Kyoga and Upper Nile). The main purpose of the WMZs is to de-concentrate WRM closer to where action is needed in order to mobilise local community efforts and other stakeholders to achieve catchment-based IWRM and to ensure effective coordination with other water resources related activities being implemented at district level such as environment, forestry and water supply.

Simplified functions are shown include:

- Zonal assessment of permit applications;
- Zonal compliance monitoring
- Regional level laboratory services
- Zonal monitoring and data management;
- Zonal water resources mapping, assessment and planning;
- Contribution to national assessments, planning and coordination including environmental impact assessments and international waters
- Support to catchment stakeholders in a local water resources management

WMZs are supposed to be a permanent operational arrangement for effective water resources management and development. Catchment-based Water Resources Management (WRM) activities have been mainly undertaken on a pilot basis and thus the WMZ offices are not yet fully operational.

District Level

Local Governments (Districts, Town Councils, sub-Counties) are empowered by the Local Governments Act (2000) to provide water services and manage the Environment and Natural Resource base. Local Governments, in consultation with MWE appoint and manage private operators for urban piped water schemes that are outside the jurisdiction of NWSC. The District Water Offices manage water and sanitation development and oversee the operation and maintenance of existing water supplies in the District.

The District Environment Office is responsible for the environment and natural resources. District Forest Services of local Governments (LGs/DFS) manage Local Forest Reserves (LFRs); carry out support and quality control of forest extension for private and community forests; develop and enforce bye-laws; strengthen forestry in production and environment committees and district development plans; as well as land administration, surveying, and approval of Community forests; among others.

Local Governments receive funding from Central Government in the form of Conditional Grants as follows:

- District Water and Sanitation Development Conditional Grant (DWSDCG).
- Environment and Natural Resources Conditional Grant to cover forestry, wetlands and lands was established in 2004. Although funds for forestry were allocated for FY 2004/05, it was not accessed and has subsequently ceased. There is limited funding for wetlands management under the grant.

Local Governments can also mobilise additional resources for water and environment related activities.

The District Environment Committee coordinates the activities of the district councils relating to the management of the environment and natural resource base.

District Water and Sanitation Coordination Committees (DWSCCs) have been established in all districts. The committee provides a platform for coordinating and overseeing the activities of the water and sanitation sector in the Local Governments and strengthens collaboration across sectors and between different players. The DWSCC comprises all political leaders, relevant district departments (District Water Office, the Planning Office, the District Directorate of Community Based Services, the District Finance Office, the District Directorate of Health Services, and the District Education Office), NGOs and development partners at the Local Government Level.

Private Sector

Private sector firms undertake design and construction in water supply and sanitation under contract with 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. Private Forest Owners, including Local Communities with registered forests, are legal forest management authorities. In addition, the private sector plays an important role in terms of commercial tree plantation development as well as promoting wood based industries and trade.

Community Level

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

With respect to the environment and natural resources, over the years, community members have been encouraged to form user groups at local level, i.e. Beach Management Units (BMUs), Forestry Resource User Group, Land Committees and Environment Committees. These structures are intended to enable oversight of the environment and natural resources at the lowest level.

Annex 3. Formulas Used for Calculating Indicators in MIS

Annex 3.1 Access

1. Calculate the number of people served based by multiplying the number of sources per type with the number of users given for each type in Table 1.2.

- a. For Point water Sources

$$\text{PopPWS} = PS * 200 + SW * 300 + DBH * 300 + KSK * 150 + YTF1 * 150 + RHTsmall * 3 + RHTbig * 6$$

Where PWS= Point Water Source, Pop=population, PS=protected spring, SW=shallow well, DBH = deep borehole, KSK=kiosk, YTF=yard tap for public use, RHT=rainwater harvesting tank

- b. For Piped Schemes

$$\text{PopPS} = HC * 6 + IC * 100 + (YTF2 - YTF1) * 24$$

Where: Pop=population, PS=piped scheme, HC=house connection, IC=institutional connection, YTF=yard tap for public use

- c. For NWSC served areas a total population served figure is provided by NWSC on scheme level (PopServedNWSC). The covered sub counties, resp. counties were identified and the served population was assigned/apportioned if needed.

2. Calculate the total number of people served on SC level. If NWSC provided data it is assumed that it took over the piped scheme and the piped scheme data is not considered.⁹⁴

$$\text{total served}_{NWSC \text{ subcounty}} = \text{PopPWS} + \text{PopServedNWSC}$$

$$\text{total served}_{other \text{ subcounty}} = \text{PopPWS} + \text{PopPS}$$

3. Divide the number of served people by the total population on sub county level. If the result is higher than 95% it is capped (capped is assumed maximum access which is 95%, so if ratio below is >95% still 95% will be reported).

$$\text{Access SC} = \frac{\text{total number of people served according to 2.}}{\text{total population}}$$

4. Calculate the capped population served on county level. This only occurs if capping takes place, otherwise the values from 2 will summed up on county level. If NWSC provided data for a Municipality it is assumed that it serves the entire county and the data calculated with the WSDB is ignored.⁹⁵

$$\text{total served}_{NWSC \text{ county}} = \text{sum(SC population)} * 95\%$$

⁹⁴ On sub-county level the population served by point water sources is added to the population served from NWSC. This can lead to slightly higher population served because Kiosks and Tap Stands providing water from the NWSC scheme are counted in both data sets.

⁹⁵ This can lead to lower population served because there might be people in a county which still depend on rural water supply/point water sources. They are not counted here.

$$\text{total served}_{\text{other county}} = \text{sum}(\text{SC population} * \text{Access SC})$$

5. On district level the population served based on capped access is summed up:

$$\text{Access District} = \frac{\text{sum}(\text{total served}_{\text{county}})}{\text{sum}(\text{SC population})}$$

Where: Pop=population, PS= piped scheme, HC=house connection, IC=institutional connection, YTF=yard tap for public use, SC=sub county

Annex 3.2 Functionality

Functionality is the number of functioning improved water sources divided by the total number of improved water sources. Only point water sources are considered (all beside of dams or valley tanks). A separate WfP Functionality is calculated considering dams and valley tanks only. On district level the calculation is done twice counting sources from urban and rural sub-counties separately. With this method a rural and an urban functionality on point sources is calculated. This urban functionality as calculated through the WSDB is different from the golden indicator “urban functionality” which is described and is provided by the urban department.

Formula

1. count all functional PWS
2. count all PWS
3. calculate ratio

$$\text{Functionality} = \frac{\text{Sum of functional point water sources}}{\text{sum of functional} + \text{sum of non functional pws}}$$

Sources marked as “Functional (not in use)” (Fniu) are considered as functional if the downtime is less than 5 years or not specified.

Annex 3.3 Equity

Equity determines the deviation between the numbers of persons per improved water point at sub-county level. Therefore the sub-county and district population is divided by the number of sources in that sub-county resp. district. The equity is then the difference between the district and sub-county ratios. National and district equity are also based on sub-county level and give the average of considered sub-counties.

Formula

- count all point water sources per rural SC
- count all point water sources in rural SC per district
- count all population of rural SC per district
- calculate sub-county equity

$$\text{Equity SC} = \left| \frac{rPopDistrict}{\text{sum of district PWS}} - \frac{PopSC}{\text{sum of SC PWS}} \right|$$

- calculate district equity

$$\text{Equity district} = \frac{\text{sum of all district's sub county equities}}{\text{total rural sub counties in the district}}$$

- calculate national equity

$$\text{Equity national} = \frac{\text{sum of all sub county equities}}{\text{total rural sub counties}}$$

Remarks

- Only rural sub-counties are considered, hence population and sources are only counted from those sub-counties.

- Sub-counties with only one or two sources are not considered, these are new sub-counties. The new sub counties are not yet part of the set of administrative units that are being used in the database, and including these sub-counties with very low number of sources (high equity) would create an unrealistic picture.
- District Equity is the simple average of SC equity figures and not the difference from district average to national ratios.

Annex 3.4 Management

The management indicator gives the percentage of communally managed water sources (PS, SW, and DBH) in rural areas with a functioning Water Source Committee

Formula

1. count all springs, boreholes and shallow wells which are
 - a. functional
 - b. in a rural SC
 - c. communally managed
 - d. and where a WSC is established
2. of those sources count the ones which have a functioning WSC (the WSC collects fees or undertakes repairs or holds meetings or cleans environment/sanitation around the source)
3. calculate the ratio

$$\text{Management} = \frac{\text{total communally managed sources with a functioning WSC}}{\text{total communally managed sources with established WSC}}$$

Remarks

- Only springs, boreholes and shallow wells are considered. RHT, PSP, KSK and YTF1 were taken out in 2013 calculation.
- Only functional (in use) sources are considered
- Only rural sub-counties are considered
- Only communally managed sources are considered
- Only sources with a WSC are considered. In the 2010 Atlas all communally managed sources were considered.
- As functional WSC only WSC were considered which collect fees, undertake repairs or hold meeting. This was changed in 2015 to also consider WSC as functional if they clean the environment/sanitation around the source only.

Annex 3.5 Gender

The gender indicator is restricted to communally managed water sources in rural areas and gives the ratio of WSCs with at least one woman in a key position versus the total number of functional WSCs in the same area

Formula

1. count all springs, boreholes and shallow wells which are
 - a. functional
 - b. in a rural SC
 - c. communally managed
 - d. and where a WSC is functional
2. of those sources count the ones which have a women in a key position of the WSC
3. calculate the ratio

$$\text{Gender} = \frac{\text{total communally managed sources with a woman in a key position}}{\text{total communally managed sources with a functional WSC}}$$

Remarks

- Functional water sources that are not used are not considered.
- Gender was calculated from sources with any established WSC in 2010. This was changed in 2013 to be calculated from sources with functioning WSC only. Both gender indicators are calculated in the database.
- As functional WSC, only WSCs were considered which collect fees, undertake repairs or hold meeting. This was changed in 2015 to also consider WSC as functional if they clean the environment/sanitation around the source only.

Annex 4. Financial Sector Performance FY2016/17

On-Budget Funding Amount [UGX bn] and Performance - Trends 2008/09-2016/17				
Financial Year	Budget	Release	Expenditure	% Released
2009/10	238.44	205.66	191.02	86.3%
2010/11	256.43	200.25	187.25	78.1%
2011/12	281.57	244.01	225.33	86.7%
2012/13	308.27	203.70	198.47	66.1%
2013/14	439.09	386.19	347.96	88.0%
2014/15	444.65	345.72	325.70	77.8%
2015/16	560.95	399.24	396.40	71.2%
2016/17	688.68	442.25	401.38	64.2%

Off-Budget Funding Amount [UGX bn] and Performance - Trends 2008/09-2016/17				
Financial Year	Budget	Release	Expenditure	% Released
2009/10	79.68	64.35	62.75	97.5%
2010/11	207.77	84.61	84.61	100.0%
2011/12	207.77	84.61	84.61	100.0%
2012/13	73.70	70.01	70.01	100.0%
2013/14	103.66	91.37	91.37	100.0%
2014/15	401.55	401.55	401.55	100.0%
2015/16	344.17	328.57	328.57	95.5%
2016/17	54.93	54.93	0.99	100.0%

Overall Sector Finance [UGX bn]						
		Budget	Release	Payments	% Released	% spent
On-Budget	WSS	797.00	613.60	583.05	77.0%	95.0%
	ENRS	157.27	89.33	80.31	56.8%	89.9%
	SPS	30.72	26.75	27.41	87.1%	102.5%
	Conditional Grants to LG	58.73	58.64	51.37	99.8%	87.6%
	Conditional Grants to KCCA	0.01	14.64	14.64	146440.0%	100.0%
	Total (On-Budget)	1,043.73	802.96	756.78	76.9%	94.2%
Off-Budget	WSS	38.39	38.39	38.39	100.0%	100.0%
	ENRS	16.54	16.54	16.54	100.0%	100.0%
	Total (Off-Budget)	54.93	54.93	54.93	100.0%	100.0%
Overall Total	WSS+KCCA & CGs	894.13	725.274	687.451	81.1%	94.8%
	ENRS	173.81	105.868	96.851	60.9%	91.5%
	SPS	30.72	26.745	27.405	87.1%	102.5%
	Total (On + Off-Budget)	1,098.66	857.89	811.71	78.1%	94.6%
Percentage On-Budget		95%	94%	93%		
Percentage Off-Budget		5%	6%	7%		

Annex 5. Rural Access, Functionality and Equity per District, June 2017

District	Access [%]	Functionality [%]	Equity
Abim	85	75	129
Adjumani	93	90	47
Agago	95	70	16
Alebtong	94	70	31
Amolatar	89	82	37
Amudat	49	75	46
Amuria	83	94	50
Amuru	89	79	47
Apac	76	79	47
Arua	77	86	414
Budaka	87	95	55
Bududa	73	91	73
Bugiri	63	93	149
Buhweju	51	94	84
Buikwe	77	89	78
Bukedea	68	91	61
Bukomansimbi	85	86	10
Bukwo	77	86	64
Bulambuli	75	85	103
Buliisa	71	75	115
Bundibugyo	60	74	86
Bushenyi	93	90	48
Busia	80	94	49
Butaleja	64	90	51
Butambala	95	78	30
Buvuma	36	89	874
Buyende	39	91	136
Dokolo	89	81	53
Gomba	87	74	51
Gulu	92	75	38
Hoima	65	84	179
Ibanda	61	79	389
Iganga	67	94	74
Isingiro	39	97	81
Jinja	77	85	182
Kaabong	84	74	106
Kabale	92	85	46
Kabarole	77	83	89
Kaberamaido	82	87	43

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District	Access [%]	Functionality [%]	Equity
Kagadi	61	79	406
Kakumiro	36	83	520
Kalangala	57	90	58
Kaliro	50	94	330
Kalungu	91	82	16
Kamuli	77	89	90
Kamwenge	78	84	60
Kanungu	90	93	64
Kapchorwa	78	93	61
Kasese	62	79	139
Katakwi	93	93	30
Kayunga	71	86	77
Kibaale	70	84	127
Kiboga	84	70	71
Kibuku	70	91	98
Kiruhura	43	87	93
Kiryandongo	77	84	93
Kisoro	43	89	151
Kitgum	95	59	11
Koboko	82	90	58
Kole	75	80	96
Kotido	78	72	155
Kumi	82	86	47
Kween	85	91	65
Kyankwanzi	59	83	554
Kyegegwa	35	74	198
Kyenjojo	69	77	151
Lamwo	95	78	22
Lira	94	84	18
Luuka	78	97	89
Luwero	69	84	91
Lwengo	76	79	53
Lyantonde	47	93	58
Manafwa	71	95	97
Maracha	91	84	27
Masaka	78	78	77
Masindi	93	88	32
Mayuge	54	88	205
Mbale	68	86	123
Mbarara	77	94	18
Mitooma	92	92	35

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District	Access [%]	Functionality [%]	Equity
Mityana	74	66	123
Moroto	77	80	142
Moyo	94	81	38
Mpigi	84	71	63
Mubende	35	87	374
Mukono	71	86	269
Nakapiripirit	64	73	111
Nakaseke	83	73	101
Nakasongola	75	80	104
Namayingo	58	79	363
Namutumba	59	87	153
Napak	81	61	78
Nebbi	68	75	89
Ngora	85	89	45
Ntoroko	83	68	89
Ntungamo	81	82	83
Nwoya	78	76	600
Omoro	93	75	20
Otuke	93	83	40
Oyam	73	90	80
Pader	95	80	31
Pallisa	66	94	94
Rakai	44	78	75
Rubanda	65	94	51
Rubirizi	69	95	48
Rukungiri	93	86	22
Serere	85	94	35
Sheema	85	88	74
Sironko	83	92	52
Soroti	91	88	37
Ssembabule	37	87	61
Tororo	62	86	90
Wakiso	49	83	224
Yumbe	44	80	105
Zombo	85	83	59

Annex 6. Water Sources Constructed in FY2016/17 using the District Water and Sanitation Development Conditional Grant

Admin Unit	Point Water Sources																		Piped Water Systems					
	Protected Springs			Shallow Wells			Deep Boreholes			Rainwater Harvesting Tanks			Dams			Valley Tanks			PSP/ Kiosk, Tap stands			YT	HH	IC
	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	N	Tot	F	NF	Tot			
	F			F			F			F			F			F	F		F					
Abim	11	1	12	21	9	30	272	85	357	12	14	26	1	2	3	0	0	0	2	0	2	511	511	9
Adjumani	36	5	41	62	12	74	575	69	644	41	2	43	0	2	2	0	0	0	45	12	57	1,306	25	42
Agago	10	9	19	93	52	145	671	213	884	47	51	98	10	3	13	1	0	1	33	36	69	0	0	0
Alebtong	303	62	365	108	109	217	263	92	355	13	24	37	3	2	5	0	0	0	8	27	35	0	0	0
Amolatar	4	0	4	6	5	11	364	64	428	11	20	31	10	1	11	0	0	0	6	0	6	24	4	1
Amudat	2	0	2	7	2	9	135	38	173	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Amuria	14	18	32	73	48	121	687	21	708	1	4	5	5	4	9	1	0	1	4	1	5	0	0	0
Amuru	125	10	135	55	27	82	378	102	480	14	8	22	0	0	0	0	0	0	4	32	36	0	0	0
Apac	25	8	33	126	33	159	619	90	709	146	35	181	2	0	2	22	6	28	17	2	19	292	0	9
Arua	958	83	1,041	103	35	138	942	194	1,136	117	44	161	0	0	0	5	1	6	75	12	87	0	0	1
Budaka	149	4	153	17	5	22	515	24	539	13	9	22	1	1	2	0	0	0	1	7	8	280	19	13
Bududa	486	33	519	4	0	4	11	3	14	36	11	47	0	0	0	1	0	1	311	39	350	1	1	1
Bugiri	196	16	212	152	15	167	496	24	520	126	14	140	0	0	0	0	0	0	39	5	44	763	32	109
Buhweju	242	8	250	23	3	26	2	0	2	33	3	36	0	0	0	0	0	0	88	11	99	0	0	0
Buikwe	810	42	852	160	33	193	140	52	192	72	3	75	1	0	1	0	0	0	39	20	59	44	3	10
Bukedea	201	10	211	120	29	149	182	13	195	6	7	13	1	1	2	0	0	0	13	0	13	334	7	19
Bukomansimbi	137	13	150	268	9	277	90	4	94	250	7	257	1	0	1	8	1	9	138	1	139	333	4	11
Bukwo	97	6	103	10	4	14	3	0	3	5	1	6	0	0	0	0	0	0	274	12	286	0	0	0
Bulambuli	276	32	308	58	11	69	84	10	94	15	3	18	0	0	0	0	0	0	200	71	271	0	0	0
Buliisa	26	10	36	43	52	95	103	23	126	6	9	15	0	0	0	0	0	0	102	1	103	30	3	11
Bundibugyo	185	42	227	0	0	0	5	3	8	23	13	36	0	0	0	0	0	0	610	108	718	100	50	60
Bushenyi	662	92	754	117	21	138	16	5	21	60	3	63	1	0	1	3	0	3	181	9	190	0	60	0

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Admin Unit	Point Water Sources									Piped Water Systems														
	Protected Springs			Shallow Wells			Deep Boreholes			Rainwater Harvesting Tanks			Dams			Valley Tanks			PSP/ Kiosk, Tap stands			YT	HH	IC
	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	N	Tot	F	NF	Tot			
Busia	220	22	242	69	26	95	452	74	526	30	13	43	2	0	2	0	0	0	50	10	60	1,447	101	87
Butaleja	3	0	3	29	8	37	429	50	479	6	0	6	0	0	0	0	0	0	0	1	1	287	6	12
Butambala	237	20	257	166	69	235	42	21	63	37	5	42	1	0	1	0	0	0	25	4	29	175	13	3
Buvuma	27	0	27	45	7	52	47	4	51	12	3	15	0	0	0	0	0	0	22	0	22	0	0	0
Buyende	0	0	0	7	1	8	412	41	453	24	4	28	2	0	2	7	4	11	8	0	8	0	0	0
Dokolo	130	27	157	131	34	165	257	21	278	11	10	21	0	0	0	0	0	0	13	2	15	120	289	10
Gomba	85	9	94	211	72	283	112	39	151	82	20	102	11	0	11	9	1	10	34	6	40	0	44	10
Gulu	161	20	181	133	15	148	632	60	692	48	23	71	0	0	0	0	0	0	1	10	11	0	0	0
Hoima	631	13	644	426	106	532	326	83	409	59	54	113	0	1	1	0	0	0	50	1	51	39	5	7
Ibanda	139	26	165	127	19	146	10	10	20	39	2	41	0	0	0	0	0	0	335	39	374	1,690	197	80
Iganga	154	5	159	271	37	308	646	27	673	34	21	55	0	0	0	0	0	0	111	0	111	736	5	12
Isingiro	63	1	64	184	12	196	121	29	150	3,408	12	3,420	10	5	15	20	0	20	275	5	280	449	10	70
Jinja	348	3	351	296	123	419	327	46	373	39	17	56	0	0	0	0	0	0	6	0	6	1,869	1,012	1,054
Kaabong	0	1	1	26	2	28	368	119	487	2	0	2	1	0	1	4	0	4	2	0	2	0	0	0
Kabale	1,078	123	1,201	8	0	8	65	34	99	555	27	582	0	0	0	1	6	7	1,389	312	1,701	10	12	7
Kabarole	432	63	495	519	112	631	45	19	64	139	18	157	0	0	0	0	0	0	320	66	386	1,119	17	94
Kaberamaido	22	12	34	52	34	86	399	39	438	12	15	27	2	0	2	0	0	0	7	0	7	20	2	1
Kalangala	25	0	25	47	21	68	1	1	2	107	4	111	0	0	0	0	0	0	60	3	63	256	6	29
Kaliro	1	1	2	29	1	30	460	17	477	11	11	22	0	0	0	0	0	0	1	0	1	404	69	0
Kalungu	34	92	126	242	110	352	33	36	69	127	2	129	0	0	0	1	0	1	110	36	146	1,122	123	37
Kampala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kamuli	19	2	21	413	74	487	725	67	792	43	16	59	0	0	0	1	0	1	23	7	30	1,750	51	78
Kamwenge	428	61	489	613	23	636	60	14	74	148	22	170	0	0	0	0	0	0	442	41	483	505	0	0
Kanungu	993	73	1,066	43	9	52	31	39	70	100	17	117	0	0	0	4	6	10	543	66	609	198	40	21
Kapchorwa	274	44	318	0	0	0	4	3	7	8	5	13	0	0	0	0	0	0	224	56	280	488	121	72

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Admin Unit	Point Water Sources																		Piped Water Systems					
	Protected Springs			Shallow Wells			Deep Boreholes			Rainwater Harvesting Tanks			Dams			Valley Tanks			PSP/ Kiosk, Tap stands			YT	HH	IC
	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	N	Tot	F	NF	Tot			
Kasese	694	38	732	57	6	63	64	15	79	90	10	100	0	0	0	0	0	0	1,993	196	2,189	1,265	4	92
Katakwi	2	0	2	65	4	69	494	32	526	12	10	22	8	1	9	2	0	2	50	0	50	203	37	30
Kayunga	72	7	79	219	58	277	495	69	564	34	5	39	1	1	2	6	2	8	62	8	70	1,158	46	85
Kibaale	656	62	718	696	59	755	354	53	407	244	38	282	0	0	0	0	0	0	18	1	19	399	7	70
Kiboga	58	28	86	96	56	152	94	26	120	60	42	102	6	0	6	5	2	7	93	12	105	83	10	10
Kibuku	41	1	42	30	7	37	354	28	382	8	7	15	0	0	0	2	0	2	5	6	11	791	17	53
Kiruhura	5	0	5	147	19	166	149	79	228	1,171	29	1,200	70	3	73	80	6	86	148	1	149	59	117	45
Kiryandongo	15	5	20	250	40	290	301	47	348	6	5	11	0	1	1	16	5	21	4	0	4	1,072	24	28
Kisoro	418	40	458	0	0	0	4	2	6	393	26	419	0	0	0	1	0	1	242	10	252	1,198	742	71
Kitgum	2	0	2	12	12	24	710	311	1,021	70	208	278	4	4	8	0	0	0	6	4	10	489	168	245
Koboko	225	34	259	82	14	96	269	17	286	9	4	13	0	0	0	0	0	0	33	2	35	150	9	5
Kole	180	44	224	204	24	228	219	47	266	16	67	83	6	2	8	0	1	1	18	3	21	0	0	0
Kotido	0	0	0	1	1	2	244	173	417	34	4	38	17	16	33	13	3	16	34	24	58	269	7	19
Kumi	162	7	169	126	48	174	295	31	326	23	13	36	3	2	5	1	0	1	0	2	2	577	100	84
Kween	238	18	256	2	0	2	53	9	62	11	1	12	0	0	0	0	0	0	122	18	140	0	0	1
Kyankwanzi	22	1	23	143	17	160	197	7	204	89	11	100	2	1	3	32	0	32	60	0	60	347	0	0
Kyegegwa	59	14	73	153	62	215	69	45	114	48	23	71	1	0	1	4	1	5	48	0	48	2	0	0
Kyenjojo	423	88	511	496	166	662	136	72	208	98	21	119	0	0	0	0	0	0	107	22	129	307	14	16
Lamwo	26	0	26	9	4	13	604	110	714	4	15	19	10	3	13	0	1	1	1	3	4	0	0	0
Lira	487	90	577	320	134	454	295	114	409	32	23	55	3	2	5	0	0	0	16	14	30	3	0	1
Luuka	125	4	129	188	7	195	380	8	388	13	1	14	2	0	2	2	0	2	0	0	0	0	0	0
Luwero	16	0	16	414	19	433	535	21	556	102	14	116	1	0	1	39	0	39	53	3	56	2,490	145	157
Lwengo	64	45	109	282	164	446	142	82	224	612	9	621	7	5	12	5	0	5	29	4	33	885	9	29
Lyantonde	0	0	0	18	8	26	79	22	101	349	4	353	0	11	11	5	9	14	29	1	30	0	0	0
Manafwa	791	11	802	14	2	16	267	25	292	63	10	73	0	0	0	1	0	1	140	16	156	664	16	32

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Admin Unit	Point Water Sources																		Piped Water Systems						
	Protected Springs			Shallow Wells			Deep Boreholes			Rainwater Harvesting Tanks			Dams			Valley Tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	
	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	N F	Tot	F	NF	Tot				
Maracha	372	50	422	65	11	76	218	56	274	45	20	65	0	0	0	0	0	0	61	18	79	248	1	26	
Masaka	116	18	134	262	130	392	41	18	59	56	4	60	1	0	1	1	0	1	1	0	1	0	0	0	
Masindi	384	17	401	487	45	532	214	42	256	64	9	73	1	1	2	32	7	39	13	3	16	0	0	2	
Mayuge	246	25	271	282	54	336	332	50	382	7	4	11	0	0	0	0	0	0	60	0	60	3	0	3	
Mbale	565	15	580	39	6	45	276	40	316	35	9	44	0	0	0	0	0	0	377	83	460	0	0	0	
Mbarara	392	75	467	65	27	92	102	54	156	2,839	27	2,866	16	4	20	8	1	9	813	67	880	0	0	0	
Mitooma	820	66	886	115	9	124	14	6	20	81	2	83	0	1	1	3	0	3	229	32	261	0	11	10	
Mityana	86	28	114	295	158	453	266	51	317	403	65	468	1	1	2	1	4	5	193	7	200	2,136	0	84	
Moroto	2	1	3	3	0	3	260	75	335	3	7	10	0	6	6	4	0	4	0	0	0	42	5	37	
Moyo	23	12	35	24	8	32	408	115	523	72	15	87	0	0	0	0	0	0	176	29	205	611	88	38	
Mpigi	226	40	266	407	121	528	62	39	101	86	11	97	0	0	0	0	0	0	13	14	27	1,187	0	105	
Mubende	55	23	78	396	39	435	194	7	201	109	10	119	7	1	8	64	0	64	75	5	80	230	0	0	
Mukono	594	53	647	236	62	298	342	59	401	151	21	172	2	1	3	0	0	0	114	26	140	248	14	18	
Nakapiripirit	5	4	9	21	13	34	231	77	308	16	8	24	1	1	2	11	2	13	70	23	93	0	0	0	
Nakaseke	9	0	9	245	72	317	293	71	364	144	43	187	0	0	0	17	3	20	66	1	67	320	10	16	
Nakasongola	1	0	1	25	13	38	272	117	389	102	49	151	5	0	5	146	9	155	380	80	460	583	32	31	
Namayingo	17	19	36	117	44	161	188	30	218	79	33	112	0	0	0	3	0	3	19	2	21	0	0	1	
Namutumba	61	2	63	96	4	100	349	21	370	12	8	20	0	0	0	0	0	0	2	0	2	325	6	19	
Napak	5	1	6	1	0	1	227	170	397	25	16	41	1	0	1	3	0	3	2	0	2	0	0	0	
Nebbi	137	47	184	56	40	96	555	131	686	57	37	94	1	4	5	1	4	5	59	1	60	897	0	38	
Ngora	6	0	6	120	4	124	193	3	196	12	1	13	4	0	4	0	0	0	18	0	18	0	0	0	
Ntoroko	39	29	68	45	20	65	42	6	48	10	12	22	0	0	0	0	0	0	89	11	100	0	0	0	
Ntungamo	717	83	800	370	95	465	153	121	274	104	22	126	1	0	1	3	1	4	439	62	501	542	30	63	
Nwoya	68	9	77	18	30	48	283	73	356	8	11	19	0	0	0	0	0	0	6	11	17	0	0	0	
Otuke	20	13	33	45	21	66	299	38	337	9	10	19	1	1	2	0	0	0	13	0	13	0	0	0	

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Admin Unit	Point Water Sources									Piped Water Systems														
	Protected Springs			Shallow Wells			Deep Boreholes			Rainwater Harvesting Tanks			Dams			Valley Tanks			PSP/ Kiosk, Tap stands			YT	HH	IC
	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	N	Tot	F	NF	Tot			
Oyam	218	8	226	310	49	359	446	57	503	32	23	55	0	0	0	0	1	1	8	5	13	134	0	0
Pader	19	0	19	38	14	52	786	191	977	33	24	57	1	0	1	1	0	1	31	8	39	0	0	0
Pallisa	283	17	300	62	20	82	591	20	611	17	3	20	1	0	1	0	0	0	20	10	30	0	0	0
Rakai	60	24	84	203	169	372	159	105	264	947	162	1,109	3	0	3	8	1	9	34	11	45	1,639	80	170
Rubirizi	168	12	180	55	8	63	6	0	6	212	4	216	0	0	0	0	0	0	194	10	204	356	43	62
Rukungiri	1,172	140	1,312	62	21	83	36	28	64	289	42	331	1	0	1	0	0	0	434	64	498	812	157	96
Serere	26	7	33	239	28	267	594	18	612	13	13	26	0	1	1	0	0	0	2	0	2	351	16	39
Sheema	314	69	383	129	27	156	17	22	39	132	6	138	0	0	0	0	0	0	520	74	594	582	0	84
Sironko	438	33	471	15	3	18	76	13	89	28	4	32	1	0	1	3	0	3	471	44	515	1,364	42	75
Soroti	83	20	103	142	23	165	550	57	607	56	20	76	4	5	9	1	0	1	34	2	36	0	0	0
Ssembabule	0	0	0	86	54	140	102	55	157	599	20	619	10	4	14	24	13	37	8	1	9	266	6	16
Tororo	230	3	233	28	0	28	698	58	756	64	0	64	0	1	1	0	0	0	3	0	3	263	11	39
Wakiso	841	135	976	941	361	1,302	282	57	339	512	40	552	2	0	2	0	0	0	796	67	863	792	59	51
Yumbe	25	15	40	73	48	121	548	96	644	19	11	30	0	0	0	0	0	0	24	4	28	302	17	39
Zombo	822	113	935	30	8	38	109	30	139	26	16	42	1	0	1	0	0	0	92	33	125	0	0	0
Total	24,905	2,885	27,790	15,985	4,219	20,204	30,174	5,744	35,918	17,227	2,048	19,275	272	106	378	637	101	738	15,511	2,229	17,740	43,346	4,942	4,215

Annex 7. Rural Water Grant (DWSDCG) Budget, Release, Expenditure

No.	District	Release [UGX]	Expenditure [UGX]	Performance [%]
1	Abim	266,617,263	204,757,340	77%
2	Adjumani	292,650,501	288,406,911	99%
3	Agago	337,705,419	319,237,056	95%
4	Alebtong	294,684,165	292,955,425	99%
5	Amolatar	315,670,335	315,640,952	100%
6	Amudat	550,051,889	101,228,016	18%
7	Amuria	400,338,714	35,056,616	9%
8	Amuru	293,238,435	286,535,760	98%
9	Apac	629,544,665	623,257,608	99%
10	Arua	937,079,837	935,773,959	100%
11	Budaka	295,566,699	295,566,699	100%
12	Bududa	538,160,554	538,160,760	100%
13	Bugiri	656,260,958	656,260,957	100%
14	Buhweju	426,637,255	426,520,035	100%
15	Buikwe	371,997,288	371,395,023	100%
16	Bukedea	385,655,421	385,388,649	100%
17	Bukomansimbi	253,863,058	253,863,823	100%
18	Bukwo	345,783,791	354,156,063	102%
19	Bulambuli	414,032,376	405,287,376	98%
20	Buliisa	420,446,054	514,785,259	122%
21	Bundibugyo	565,372,579	561,306,428	99%
22	Bushenyi	259,409,295	259,060,948	100%
23	Busia	516,609,402	488,536,770	95%
24	Butaleja	548,030,000	548,094,150	100%
25	Butambala	203,480,775	202,021,266	99%
26	Buvuma	341,347,287	337,300,142	99%
27	Buyende	622,269,882	615,989,660	99%
28	Dokolo	349,494,917	332,059,800	95%
29	Gomba	338,678,615	341,590,347	101%
30	Gulu	239,931,556	101,901,711	42%
31	Hoima	762,105,477	542,943,817	71%
32	Ibanda	360,004,672	360,003,144	100%
33	Iganga	698,212,521	657,782,735	94%
34	Isingiro	630,167,206	612,217,140	97%
35	Jinja	612,428,482	612,428,431	100%
36	Kaabong	431,265,294	90,393,089	21%
37	Kabale	420,601,979	420,601,984	100%
38	Kabarole	576,947,542	576,947,542	100%

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No.	District	Release [UGX]	Expenditure [UGX]	Performance [%]
39	Kaberamaido	413,360,324	413,360,324	100%
40	Kagadi	616,637,246	57,499,280	9%
41	Kakumilo	592,638,174	39,403,744	7%
42	Kalangala	253,514,655	200,877,000	79%
43	Kaliro	523,288,669	524,682,821	100%
44	Kalungu	243,704,882	226,283,411	93%
45	Kamuli	739,671,770	449,535,044	61%
46	Kamwenge	592,913,093	46,231,559	8%
47	Kanungu	378,229,174	367,118,100	97%
48	Kapchorwa	243,065,524	243,065,504	100%
49	Kasese	722,279,033	722,279,000	100%
50	Katakwi	264,308,115	289,508,018	110%
51	Kayunga	684,029,803	243,261,523	36%
52	Kibaale	409,664,499	409,664,499	100%
53	Kiboga	241,944,486	241,813,780	100%
54	Kibuku	501,266,290	501,271,711	100%
55	Kiruhura	653,057,566	652,834,868	100%
56	Kiryandongo	368,264,618	368,265,000	100%
57	Kisoro	568,688,590	566,388,590	100%
58	Kitgum	277,262,270	222,635,113	80%
59	Koboko	249,325,028	274,230,325	110%
60	Kole	354,948,788	348,502,652	98%
61	Kotido	405,104,969	258,545,467	64%
62	Kumi	365,355,368	365,015,297	100%
63	Kween	413,036,943	412,733,159	100%
64	Kyankwanzi	451,607,278	453,456,644	100%
65	Kyegegwa	608,192,612	608,197,463	100%
66	Kyenjojo	608,917,874	597,363,523	98%
67	Lamwo	248,192,025	244,087,156	98%
68	Lira	420,881,359	418,802,007	100%
69	Luuka	387,647,330	387,647,260	100%
70	Luwero	669,019,837	664,577,837	99%
71	Lwengo	456,868,792	453,889,696	99%
72	Lyantonde	421,124,339	99,612,708	24%
73	Manafwa	636,500,096	656,964,992	103%
74	Maracha	256,343,721	317,670,104	124%
75	Masaka	375,123,101	319,108,890	85%
76	Masindi	272,253,365	273,388,880	100%
77	Mayuge	692,850,769	692,173,986	100%
78	Mbale	694,215,129	691,249,577	100%
79	Mbarara	518,726,806	518,449,106	100%

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No.	District	Release [UGX]	Expenditure [UGX]	Performance [%]
80	Mitooma	273,293,339	273,293,261	100%
81	Mityana	524,191,870	524,202,002	100%
82	Moroto	292,434,152	296,397,919	101%
83	Moyo	236,837,170	78,057,442	33%
84	Mpigi	327,697,201	316,950,856	97%
85	Mubende	686,139,380	686,138,047	100%
86	Mukono	785,142,969	658,975,348	84%
87	Nakapiripirit	610,854,807	590,345,535	97%
88	Nakaseke	353,972,700	353,896,960	100%
89	Nakasongola	418,614,920	414,854,920	99%
90	Namayingo	595,541,714	600,034,096	101%
91	Namutumba	577,956,354	562,891,507	97%
92	Napak	392,197,654	-	0%
93	Nebbi	662,842,486	608,323,549	92%
94	Ngora	274,197,691	193,497,842	71%
95	Ntoroko	214,415,659	213,898,130	100%
96	Ntungamo	707,188,014	579,449,765	82%
97	Nwoya	396,504,590	387,932,613	98%
98	Omoro	263,655,446	263,662,446	100%
99	Otuke	398,105,705	414,950,000	104%
100	Oyam	650,919,210	627,860,082	96%
101	Pader	285,989,593	282,502,702	99%
102	Pallisa	689,969,661	689,169,996	100%
103	Rakai	715,033,565	342,545,080	48%
104	Rubanda	560,767,301	446,996,681	80%
105	Rubirizi	325,086,482	324,573,129	100%
106	Rukungiri	418,158,734	418,126,934	100%
107	Sembabule	631,676,068	630,484,068	100%
108	Serere	518,726,101	522,636,263	101%
109	Sheema	219,974,441	210,703,616	96%
110	Sironko	380,390,341	328,431,003	86%
111	Soroti	311,938,896	302,929,069	97%
112	Tororo	766,299,667	761,534,459	99%
113	Wakiso	800,914,117	800,911,755	100%
114	Yumbe	666,743,750	81,436,723	12%
115	Zombo	309,261,780	279,091,649	90%
Total		52,939,999,998	46,174,744,456	87%

Districts that have not submitted annual reports: Amudat, Amuria, Gulu, Kaabong, Kagadi, Kakumiro, Kamwenge, Kayunga, Kotido, Lyantonde, Napak, Ngora, Rakai and Yumbe

Annex 8. Urban water supply

Annex 8.1 Urban Water Supply - New Sector Performance Indicators

Current Golden Indicator	New indicators	Definition, data sources and calculation methods	Status: Issues to be clarified, work to be done to start monitoring
Access to/use of safe water			
GI 1 (urban): Access: % of people within 200m of an improved water source	1. Basic water: Percentage of population using an improved drinking water source <i>based on SDG 6.1.1 (basic water)</i> <i>comparable to current Golden Indicator and NDP targets, but calculation method needs to be improved</i>	Infrastructure data (water points, connections) to be combined with UBOS census (2014) and household survey data (every 5 years max.), with annual updates based on the completion data of construction projects. Data sources: 1. Water Atlas (for water points) 2. Project data (WSDFs etc.) on new projects 3. NWSC connection data 4. UPMIS connection data	<ul style="list-style-type: none"> • Calculation method to combine the data sources yet to be defined, • Detailed, disaggregated census data to be obtained from UBOS • List of Town Boards to be obtained as these are considered as urban • Data entry in UPMIS to be completed a.s.a.p. • Request NWSC to provide disaggregated data for urban and rural areas
	2. Safely managed water: Percentage of population using safely managed drinking water services located on premises <i>based on SDG-6.1.1 (safely managed water)</i>	Formula: % safely managed = (% on premises) * (% functionality) * (% complying with WQ standards) to be calculated separately for NWSC and small towns/piped water (from UPMIS) Data sources as above (basic water) and in addition: 5. UPMIS data on functionality and water quality 6. NWSC water quality data 7. In future: Service quality data from Regulation	<ul style="list-style-type: none"> • Details of the calculation method to combine access, functionality and water quality by linking UBOS, UPMIS and NWSC data yet to be developed • Clarify whether the adequacy of quantity (litres per day) can be incorporated • Other data/clarifications needed as above: <ul style="list-style-type: none"> - UBOS data - List of Towns Boards - Data entry in UPMIS - NWSC to provide disaggregated data
Equity & pro-poor			
<i>Existing Equity indicator (Golden Indicator 7) is only applicable for rural areas</i>	3. Percentage of villages with a source of safe water supply <i>Indicator to monitor the implementation of the Presidential directive that each village should have a source of safe water supply</i>	Formula: Number of villages with an improved water point divided by total no. of villages Water Atlas GIS analysis using list of villages provided by UBOS Data sources: <ul style="list-style-type: none"> • Water Atlas • NWSC block mapping 	<ul style="list-style-type: none"> • Details of the method yet to be developed • Check to which extent Water Atlas data can be used reliably for urban areas • Method to be discussed with NWSC

Current Golden Indicator	New indicators	Definition, data sources and calculation methods	Status: Issues to be clarified, work to be done to start monitoring
<i>Currently no pro-poor indicator</i>	<p>4. % of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area</p> <p><i>To be calculated separately for Small Towns and NWSC</i></p> <p><i>Indicator proposed by Good Governance working group</i></p>	<p>Data on prices paid by consumers at public standposts/water kiosks in small towns is available in UPMIS.</p> <p>Data for NWSC towns are currently not available. Actual selling prices by water vendors at public water points are not being monitored.</p>	<ul style="list-style-type: none"> • Details of the calculation method yet to be developed • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS • Data collection for NWSC towns to be agreed with NWSC; currently UPMIS does not hold information for NWSC towns
O&M / sustainable management			
GI 2 (urban): Functionality: Ratio of actual to required hours of water supply	<p>5. Functionality: % piped water service availability</p> <p><i>To be calculated separately for Small Towns and NWSC, possibly also for rural piped water schemes</i></p>	<p>Formula: Service availability = 100% minus (% non-functional schemes) minus (% days without water of all other schemes) minus (% of dry connections)</p> <p>Data on non-functional schemes and days without water available from UPMIS</p> <p>NWSC information not in UPMIS, to be obtained separately</p>	<ul style="list-style-type: none"> • Clarify whether rural piped water schemes should be included in the indicator • Details of the calculation method to be defined • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS • Data collection for NWSC towns to be agreed with NWSC; currently UPMIS does not hold information for NWSC towns
GI 9 (urban): Management: % of water points with actively functioning Water & Sanitation Boards	<p>6. Management – piped schemes: % of piped water schemes with formal contract-based management structure</p> <p><i>To be calculated for Small Towns and possibly also for rural piped water schemes</i></p>	<p>Percentage of schemes with one of the following management arrangements:</p> <ul style="list-style-type: none"> • Directly Managed by an Umbrella Organisation • Managed by gazetted Water Authority with a valid contract and a formally established and active Board • Managed by NWSC (small towns) <p>Data are available from UPMIS.</p>	<ul style="list-style-type: none"> • Clarify whether rural piped water schemes should be included in the indicator • Clarify whether/how small towns managed by NWSC should be included in the indicator • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS
<i>Currently no indicator on operational efficiency</i>	<p>7. % Non-revenue water</p> <p><i>To be calculated separately for Small Towns and NWSC (PC5 target),</i></p>	<p>Formula: Water billed divided by water produced</p> <p>Aggregated from the totals of all small towns / NWSC towns</p>	<ul style="list-style-type: none"> • Clarify whether rural piped water schemes should be included in the indicator, or reported separately • Data entry in UPMIS to be completed

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Current Golden Indicator	New indicators	Definition, data sources and calculation methods	Status: Issues to be clarified, work to be done to start monitoring
	<i>possibly also for rural piped water schemes</i>	Data sources: <ul style="list-style-type: none"> • UPMIS for small towns • Annual NWSC reports 	
<i>Currently indicator non included in sector performance monitoring framework</i>	8. Customer satisfaction NSWC's Customer Satisfaction Index	Weighed Customer satisfaction score weighed over 7 service attributes (reliability, water quality, billing, responsiveness to complaints, customer care etc.). Source: NWSC	<ul style="list-style-type: none"> • Consider developing a similar indicator for non-NWSC towns
<i>Currently no indicator on financial sustainability</i>	9. Financial Sustainability: Ratio between total revenue collection and O&M costs <i>To be calculated for Small Towns and possibly also for rural piped water schemes</i>	Total revenue collection divided by total O&M costs Threshold for "financial sustainability" to be defined Data source: UPMIS	<ul style="list-style-type: none"> • Threshold for "financial sustainability" to be defined • Alternatively the percentage of towns with financially sustainable management ("breaking even") could be indicated • Clarify whether rural piped water schemes should be included in the indicator, or reported separately • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS
Investment efficiency			
GI 3 (urban): Average cost per beneficiary of new water and sanitation schemes (USD)	10. Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD) <i>No change</i>	Total cost of schemes (design, construction and software) divided by total design population Source of information: WSDF and other UWSD project reports	<ul style="list-style-type: none"> • Sanitation components not to be considered • Clear guidelines for allocation of overhead costs (including WSDF staff costs) needed • Need to distinguish between new schemes, extensions and rehabilitations
Drinking water quality			
GI 5 (urban): Water Quality: % of water samples taken that comply with national standards <i>Currently available for large towns (NWSC) only, and only based on E.coli and colour</i>	11. Drinking water quality: % of water samples taken that comply with national standards <i>To be calculated separately for Small Towns and NWSC, possibly also for rural piped water schemes</i>	Number of samples complying with standards divided by total number of samples taken. Data on samples taken by Umbrellas and scheme operators are available in UPMIS. Data for NWSC towns to be provided by NWSC.	<ul style="list-style-type: none"> • Clarification: Should compliance be based on E. coli alone or on other parameters as well? Which ones? • Additionally the percentage of towns/ systems where water quality samples were taken should be indicated • Clarify whether rural piped water schemes should be included in the indicator, or reported separately

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Current Golden Indicator	New indicators	Definition, data sources and calculation methods	Status: Issues to be clarified, work to be done to start monitoring
			<ul style="list-style-type: none"> • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS
Gender			
GI 10 (urban): % of Water User committees/ Water Boards with women holding key positions	12. % of Water User Committees/Water Boards with women holding key positions <i>No change</i>	Data for small towns and rural piped schemes available in UPMIS	<ul style="list-style-type: none"> • Clarify whether rural piped water schemes should be included in the indicator, or reported separately • Data entry in UPMIS to be completed • Automated calculation of the indicator to be implemented in UPMIS

Annex 8.2 WSDFs: Districts of Operation

To bring services close to the target communities and to ensure equity in the decentralising process, WSDFs are established as four regional Branches: WSDF North (Lira), WSDF Centre (Wakiso), WSDF South-West (Mbarara) and WSDF East (Mbale). All WSDF Branches have delegated procurement and accounting authorities, implement close to local government and operate following an approved Operations Manual (2014). Note that this table already include the new districts as per 1 July 2017.

WSDF	Location	No. of Districts	Names of Districts
WSDF-North	LIRA	25	Adjumani, Agago, Alebtong, Amolatar, Amuru, Apac, Arua, Dokolo, Gulu, Kitgum, Koboko, Kole, Lamwo, Lira, Maracha, Moyo, Nebbi, Nwoya, Omoro, Otuke, Oyam, Pader, Pakwach, Yumbe, Zombo
WSDF-East	MBALE	41	Abim, Amudat, Amuria, Budaka, Bududa, Bugiri, Bukedea, Bukwo, Bulambuli, Busia, Butaleja, Butebo, Buyende, Iganga, Jinja, Kaabong, Kaberamaido, Kaliro, Kamuli, Kapchorwa, Katakwi, Kibuku, Kotido, Kumi, Kween, Luuka, Manafwa, Mayuge, Mbale, Moroto, Nakapiripirit, Namayingo, Namisindwa, Namutumba, Napak, Ngora, Pallisa, Serere, Sironko, Soroti, Tororo
WSDF-Central	WAKISO	27	Buikwe, Bukomansimbi, Buliisa, Butambala, Buvuma, Gomba, Hoima, Kagadi, Kakumiro, Kalangala, Kalungu, Kayunga, Kibaale, Kiboga, Kiryandongo, Kyankwanzi, Luwero, Lwengo, Masaka, Masindi, Mityana, Mpigi, Mubende, Mukono, Nakaseke, Nakasongola, Wakiso
WSDF-South West	MBARARA	28	Buhweju, Bundibugyo, Bunyangabu, Bushenyi, Ibanda, Isingiro, Kabale, Kabarole, Kamwenge, Kanungu, Kasese, Kiruhura, Kisoro, Kyegegwa, Kyenjojo, Kyotera, Lyantonde, Mbarara, Mitooma, Ntoroko, Ntungamo, Rakai, Rubanda, Rubirizi, Rukiga, Rukungiri, Sheema, Ssembabule

Annex 8.3 Status of implementation of water supply projects as per end June 2017 for the four WSDFs

WSDF North:

- Completed/technically commissioned: Kalong, Amach
- Under construction: Pacego, Loro, Pabbo, Namukola, Mucwini, Paloga, Palabek-Ogil, Lagoro,
- Completed / ongoing procurement: -
- Completed design: Namasale, Bibia, Elegu, Zombo T.C ,Acholibur, Rackoko, Agago T.C
- Ongoing design: Apala, Iceme, Alangi, Kati, Palenga, Alero, Parabong, Omoro, Abia, Bar-jobi, Olilim, Ngai, Lacekocot, Paimol-Wipolo shrine and Mucwini-Janani Luwum memorial site
- FSM: Designs are ongoing for Loro and Apac

WSDF Central:

- Completed/technically commissioned: Kiboga, Katuugo, Kakooge, Nyamarunda, Migeera, Buvuma
- Under construction: Gombe, Kyabadaza, Kabembe, Kalagi, Nagalama, Zigoti, Ssekanyonyi, Namulonge, Kiwenda, Bugoigo, Walukuba, Kabwoya, Kyakatwanga, Nyamarwa , Kayunga, Busana
- Completed/ ongoing procurement: Nakasongola, Kikunyu, Kiyindi, Kiwoko, Butalangu
- Completed design: Ngando, Lwengo T/C, Katovu, Kyazanga, Lukaya, Butenga, Buyoga, Kakindu, Kasawo, Butemba, Kikandwa, Mbirizi, Kapeeka and Kagadi.
- FSM facility completed: Kayunga.

WSDF East:

- Completed/technically commissioned: Kagoma
- Under construction: Ocapa RGC, Kyere RGC, Nakapiripirit TC, Namagera, Bulegeni, Iziru, Kapelebyong, Buyende and Kasambira
- Busedde-Bugobya
- Completed/ongoing procurement: 6 schemes
- Completed design: 16 schemes
- Ongoing design: 8 schemes
- FSM: Kamuli - ongoing procurement

WSDF South-West:

- Completed/technically commissioned: Sanga, Kaliro, Nyahuuka and Kasagama
- Under construction: Sanga, Nyahuka, Kasagama, Kaliro, Nyeihanga Extension, Nyahuka Extension, and Mpagango, and source development to serve Kambuga system
- Completed / ongoing procurement: 6 schemes
- Completed design: 8 schemes
- Ongoing design: 5 schemes
- FSM: Rakai and Ishongororo.

Annex 8.4 Activity & Gender Composition of Water Boards in STs and RGCs, June 2017

Umbrella Region	No. of schemes analysed	% of schemes with actively functioning Water Boards (WSSBs)	Gender		
			Total no. of WSSB members	% Female WSSB members	% of WSSBs with women holding key Positions
South-West	66	76%	491	30%	80%
Mid-West	71	41%	403	30%	76%
North	93	77%	365	35%	82%
Karamoja	44	50%	161	52%	97%
Central	100	94%	495	n/a	86%
East	71	73%	467	36%	76%
Uganda	445	72%	2382	34%	82%

Annex 8.5 Strategic priority areas for NWSC for FY2017/18

SPA1: SMART Systems, Business Continuity and Infrastructure Growth	SPA2: Financial Growth and Sustainability	SPA3: Customer and Stakeholder Delight	SPA4: Productivity and Capacity Development
<ul style="list-style-type: none"> • Establish and implement an asset management system that enhances business continuity and supply reliability while optimizing the cost of acquisition and management of the infrastructure, • Implement systematic NRW reduction measures and initiatives that adequately respond to the multifaceted components and causes of NRW. • Increase service coverage through systematic takeover of towns, carryout a baseline survey on water sewerage service coverage, continuous network expansion and intensification as well as proactive growth of the customer base with social equity considerations, • Implement capital projects to increase coverage and water supply reliability within the agreed costs and timeframes, • Establish a cost effective risk management framework to enhance business continuity in NWSC, • Undertake programs and initiatives to strengthen the sewerage services function and increase sewerage services coverage and compliance to the effluent standards. 	<ul style="list-style-type: none"> • enhancing viability through growth of customer base (especially in the new towns), • optimizing operations and improving supply reliability, • Value-for-money investments through competitive procurements and focus on financially viable projects • continuously exploring options for income diversification, • establishing frameworks that will effectively enable increase in annual revenue, • undertaking measures to ensure that the organisation upholds good governance principles and practices, • Adopting ICT driven systems to promote operational efficiency and service delivery effectiveness. 	<ul style="list-style-type: none"> • ensuring environmental protection to promote sustainability of raw water sources, • undertaking Corporate Social Responsibility (CSR) initiatives that effectively promote the NWSC brand and have lasting impacts, • increased customer satisfaction and responsiveness, • continuous and focused stakeholder engagement for improved NWSC responsiveness, • review of the NWSC Tariff to cater for the "poorest of the poor" • improved staff satisfaction to enhance staff motivation, productivity and talent retention. 	<ul style="list-style-type: none"> • ensure sustained staff skills development to increase NWSC's capacity for efficient and effective service delivery, • undertake Research and Development initiatives for effective process, service delivery and performance improvement, • introduction and implementation of performance driven staff remuneration program in all areas of operation, • establish a business process re-engineering culture for sustainable continuous improvement as well as adopt multi-pronged initiatives to enhance staff productivity. <p>Specific emphasis will be put on the following;</p> <ul style="list-style-type: none"> • Aggressive implementation of the 100% Service Coverage Acceleration Project (SCAP100) aimed at increasing service coverage and supply reliability to our customers in the various areas of operation. • Continuous improvement of staff welfare through better facilitation such as uniforms and staff medical care and timely payment of gratuities to staff • Improvement of staff engagements by putting emphasis on career growth and its nexus to business growth and how the latter spurs staff competitiveness and therefore improves promotion opportunities for staff • Continued internal and external collaboration for common understanding of the various performance improvement plans

Annex 9. Water for Production – New Sector Performance Indicators

Theme	Proposed indicator <i>blue: new indicator</i>	Reference to SDGs, NDP II etc.	Current Golden Indicator	Definition Calculation method	Data source(s) and availability	Responsibility for monitoring ("custodian" of the indicator)	Challenges / matters for discussion
Water Storage capacity	15. Cumulative Water for Production Storage Capacity (million m ³)	NDP II: B.3.3 Storage capacity for water for production (million m ³)	6. Cumulative Water for Production Storage Capacity (million m ³) – <i>no change</i>	Storage capacity of last year plus capacity added during the year from all stakeholders	MWE WfP database Ministry of Energy MAAIF DLGs	DWD / WfP Department	Data collected at District level – update data irrespective of the actors
water use potential	16. Irrigation: Proportion of irrigation potential developed	SDG 6.4		The ratio of irrigated area developed over the total irrigable area	MWE WfP database MAAIF	DWD / WfP Department	
Actual water use	17. a Irrigation: Proportion of actual water use abstraction to total irrigation water requirement	from SIP 2009	-	Proportion of actual water use to total Irrigation systems water requirement	MWE WfP, MAAIF and Irrigation Cooperatives Potentially irrigated land: NBI report / Irrigation Master Plan	WfP	
	17. b Water Use Efficiency – Irrigated Agriculture Change in water use efficiency over time	SDG 6.4		Gross Value Added by Irrigated agriculture per volume of water used (USD/m ³)	UBOS MAAIF MWE/WfP	MWE/WfP	

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Theme	Proposed indicator blue: new indicator	Reference to SDGs, NDP II etc.	Current Golden Indicator	Definition Calculation method	Data source(s) and availability	Responsibility for monitoring ("custodian" of the indicator)	Challenges / matters for discussion
O&M / sustainable management	18. WfP Functionality: % of water for production facilities that are functional at time of spot-check	NDP II		% of water for production facilities i.e. Earth dams and Valley tanks that are functional at time of spot-check	WfP Dept.; data to be updated by data from District Water Offices	DWD / WfP Department	
	19. WfP Management: % of water for production facilities with actively functioning Water User Committees/Irrigation Cooperatives			Number of facilities with actively functioning Water User Committees /Irrigation Cooperatives divide by total number of facilities multiplied by 100	WfP Dept.; data to be updated by District Water Offices?	DWD / WfP Department	<ul style="list-style-type: none"> • Distinction by type of WfP facility necessary • Data collection and calculation method to be clarified

From other ministries:

Actual Water Use	16.a Livestock: Proportion of actual water use for Livestock to the potential Livestock watering systems capacity	SDG 6.4		(Actual Nr of livestock) x (water requirement per TLU/head) divided by (total volume of water provided)	WfP database, MAAIF database UBOS (cattle census)	DWD / WfP Department	
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Actual Water Use	16.b Water Use Efficiency – Industries Change in water use efficiency over time	SDG 6.4		Gross value added by industries per volume of water used (USD/m ³)	UIA Min. of trade, Industries and Cooperatives UBOS FAO AQUASTAT	DWD / Wfp Department	
	16. c Water Use Efficiency – Services Change in water use efficiency over time	SDG 6.4		Gross value added by Services per volume of water used (USD/m ³)	NWSC DWD/MWE/UWSD UBOS	DWD / Wfp Department	

Clarification on the newly proposed water for production indicator 17.b water use efficiency

Water Use Efficiency

16. b Industries

16. c Services

17. b Irrigated Agriculture

This indicator is defined as the value added overtime of all sectors divided by the volume of water withdrawn. It tracks change in water use efficiency over time. It provides information on the efficiency of the economic and social usage of water resources, i.e. value added generated by the use of water in the different main sectors of the economy, and the distribution network losses.

Computation of indicator 6.4.1

The change in water use efficiency was computed based on the following formula;

The indicator is computed as the sum of the three sectors; Irrigated agriculture, Industry and services, weighted according to the proportion of water withdrawn by each sector over the total withdrawals. In formula:

$$WUE = A_{we} \times P_A + I_{we} \times P_I + S_{we} \times P_S$$

Where

- WUE = Water use efficiency
- A_{we} = Irrigated agriculture water use efficiency [USD/m³]
- I_{we} = Industrial water use efficiency [USD/m³]
- S_{we} = Services water use efficiency [USD/m³]
- P_A = Proportion of water withdrawn by the agricultural sector over the total withdrawals
- P_I = Proportion of water withdrawn by the industry sector over the total withdrawals
- P_S = Proportion of water withdrawn by the service sector over the total withdrawals

The computing of each sector is described below.

Water use efficiency in irrigated agriculture is calculated as the agricultural value added per agricultural water withdrawn, expressed in USD/m³.

In formula:

$$A_{we} = \frac{GVA_a \times (1 - C_r)}{V_a}$$

Where:

- A_{we} = Irrigated agriculture water use efficiency [USD/m³]
- GVA_a = Gross value added by agriculture (excluding river and marine fisheries and forestry) [USD]
- C_r = Proportion of agricultural GVA produced by rain fed agriculture [-]
- V_a = Volume of water withdrawn by the agricultural sector (including irrigation, livestock and aquaculture) [m³]

The C_r coefficient can be estimated as follows:

C_r can be calculated from the proportion of irrigated land on the total arable land, as follows:

$$C_r = \frac{1}{1 + \frac{A_i}{(1 - A_i) * 0.375}}$$

Where:

A_i = proportion of irrigated land on the total arable land, in decimals
0.375 = generic default ratio between rainfed and irrigated yields

Water efficiency of industry (including power production) industrial value added per unit of industrial water withdrawn, expressed in USD/m³.

In formula:

$$I_{we} = \frac{GVA_i}{V_i}$$

Where:

- I_{we} = *Industrial water use efficiency [USD/m³]*
- GVA_i = Gross value added by industry (including energy) [USD]
- V_i = Volume of water withdrawn by the industries (including energy) [m³]

Industrial water withdrawal (V) is collected at country level through national records and reported in questionnaires, in units of m³/year (see example in AQUASTAT http://www.fao.org/nr/water/aquastat/sets/aq-5yr-quest_eng.xls). Industrial value added is obtained from national statistics, deflated to the baseline year 2015.

Services water supply efficiency is calculated as the service sector value added (ISIC 36-39 and ISIC 45-99) divided by water withdrawn for distribution by the water collection, treatment and supply industry (ISIC 36), expressed in USD/m³.

In formula:

$$S_{we} = \frac{GVA_s}{V_s}$$

Where:

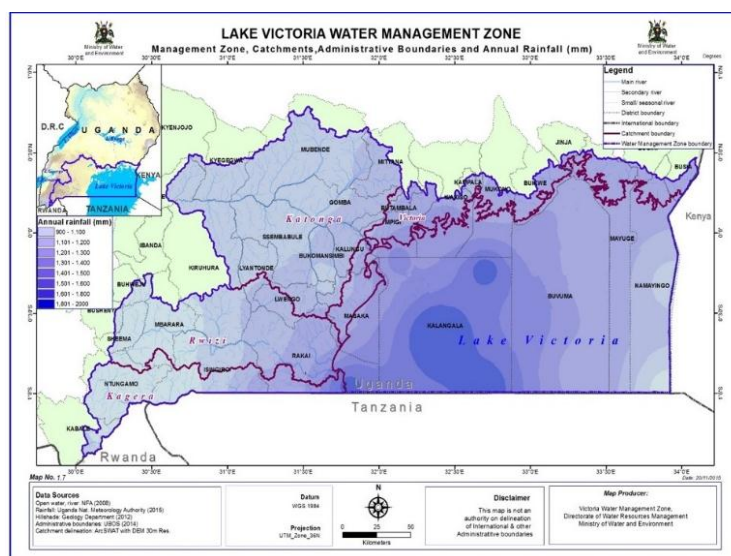
- S_{we} = *Services water use efficiency [USD/m³]*
- GVA_s = Gross value added by services [USD]
- V_s = Volume of water withdrawn by the service sector [m³]

Annex 10. Catchment management interventions in FY2016/17

Annex 10.1 Victoria Water Management Zone

Improved Water Resources Management at the Water Management Zones

The knowledge base for Victoria Water Management Zone has been developed to aid decision making. All available water resources data has been processed into information products and all other thematic layers which have implications on water resources have also been processed into information products.



Integrated Catchment based Water Resources planning

1. Development of Katonga Catchment Management plan under Lake Victoria Environmental Management Project II (LVEMP II) has started.
2. **Establishment of Catchment Management Organizations (CMO).** During the reporting period, the CMO for Katonga Catchment constituting of the Catchment Stakeholders Forum, Catchment Management Committee was established. The Katonga CMO is being chaired by the District Chairperson Mubende. Already existing CMOs in VWMZ are the ones for Rwizi Catchment and Maziba Sub-Catchment.
3. Stakeholders' engagements. Eleven stakeholders' meetings aimed at planning, allocation, development and management of water resources in VWMZ were held at hotspot areas as well as intervention sites. Key stakeholders were relevant local governments and resources users at the hotspots, and intervention sites were selected with the objective of achieving the intended goal and its sustainability.



Showing Pollution Levels of Lake Kachera due to anthropogenic activities (left) and Honourable Minister of Water and Environment sensitizing communities on dangers of pollution of waters in Kiruhura

Implementation of catchment based water resources management plans

Full landscape restoration interventions at two hotspot micro-catchments of Rubara in Nsiika- (Buhweju District), and Masyoro in Kyangyenyi (Sheema District) in upper Rwizi catchment have been implemented. A wide range of soil and land management interventions have been implemented through construction of biophysical structures to increase the water retention capacity of the catchment and subsequently reduce flash floods and landslides. The biophysical structures constructed include check dams at gully trails to control the water speed upstream and downstream, 3 km of stone bands, 2.5 km of soil band and grass bands and several infiltration and percolation pits.



Biophysical structures for catchment management in Masyoro (left) and resulting benefits to the gravity flow scheme (right)

Annex 10.2 Kyoga Water Management Zone

Integrated Catchment-based Water Resources Planning

During this reporting year, the KWMZ focused on stakeholders' awareness raising, development of catchment management plans (CMP), and establishment of catchment management organizations (CMO) for various catchments and initiation of implementation of CMPs.

Mpologoma, Victoria Nile / Lumbuye Catchments - Preparation of Mpologoma, Victoria Nile/Lumbuye catchment management plan was completed, and both the CMPs and the CMOs are in place.

Lokok and Lokere Catchments - Development of Catchment Management Plans (CMPs), and establishment of Catchment Management Organizations for Lokere and Lokok catchments was achieved, and non-regret measures were implemented in Moroto, Kotido, Napak and Amuria Districts.

Implementation of Catchment based Water Resources Management Plans

Awoja Catchment Management Plan

Implementation of Awoja CMP which involved various stakeholders is ongoing. A tree nursery of 41,000 seedlings in support of Okoboi Primary School and the surrounding community was established in an effort to restore its catchment through afforestation.



Launch of tree planting campaign in which 25,000 seedlings were given out to the communities to plant, and a tree nursery at Okoboi Primary School

Middle Malaba Sub Catchment Management Plan

As part of the implementation of the middle Malaba Sub Catchment Management plan (SCMP), Kyoga Water Management Zone supported Water Resources and Environment Management groups in Osukuru, Mella and Kwappa Sub-Counties in Tororo District with the set-up of a tree nursery in each sub-county.

Implementation of the Mpologoma, Victoria Nile/Lumbuye CMPs is underway and started with capacity building of stakeholders. The first category to benefit from this capacity building were Catchment Management Committee members who were taken on a Study Tour of Mpanga and Semliki catchments in Albert Water Management Zone.

Annex 10.3 Albert Water Management Zone

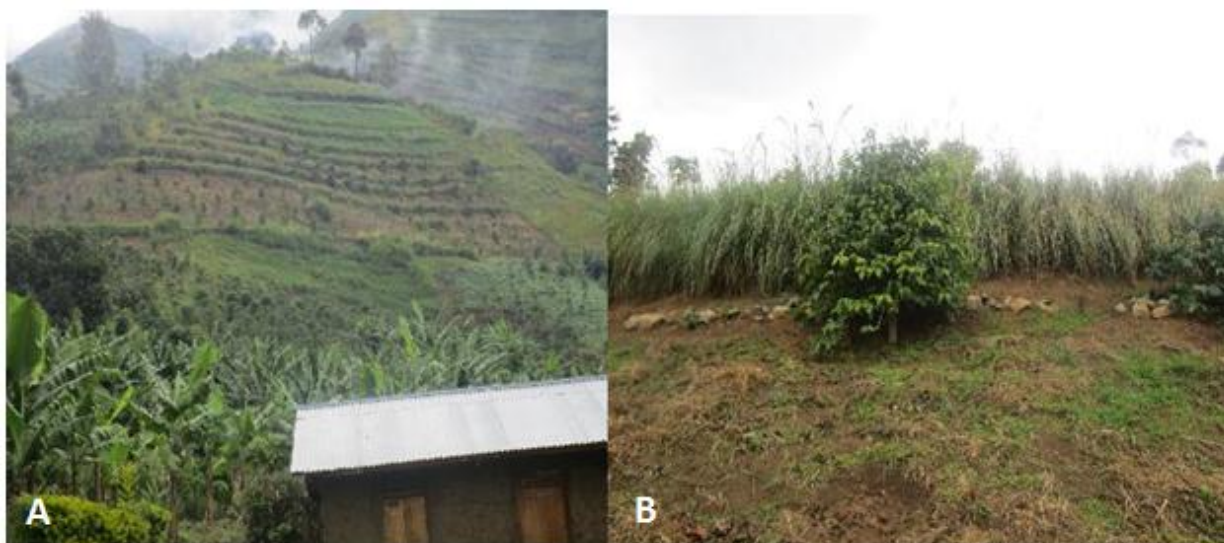
During this reporting year, the AWMZ has implemented interventions mainly through framework contracts with technically competent organisations (Kigezi Diocese, TAB logistics, Mubuku Integrated Farmers Association, Joint Effort to Save the Environment, Patricos Limited and Tooro Botanical Gardens).

Implementation of Catchment Management Plans

Mpanga Catchment

The zone has continued to carry out various interventions and remedial measures identified in the Mpanga CMP in an effort to protect River Mpanga Catchment, including training of stakeholder groups and beneficiary community members in soil and water conservation measures in the upper catchment – Kabarole, nursery bed preparations for both local and improved tree varieties and afforestation in the mid catchment - Kyenjojo and conservation and demarcation of two wetland systems through restocking with fish fingerlings in the lower Mpanga Catchment - Kamwenge.

Training of stakeholder groups and beneficiary community members in soil and water conservation measures took place in Nyakitokoli Village in Fort Portal. This resulted increased knowledge in controlling of erosion and reduce sediment loads from the degraded steep slopes through promotion of terracing, placement of soil bunds hence protection of water resources from siltation.



Picture A showing an overview of the established terraces and Picture B showing a zoomed part of the stabilized slope with stone bunds and vetiver grass.

Nursery beds were prepared for both local and improved tree varieties for afforestation in the mid catchment of Karagura Sub-County in Kyenjojo and Fort Portal Municipality. Reforestation has since been embarked on in this region, and over 10,000 seedlings that were raised by the local communities are being replanted onto their privately owned land with the support from the WMZ.

The AWMZ in partnership with Joint Environment Save Environment (JESE) undertook restoration of Mutamba wetland system in Kamwenge. The excavated ponds in Mutamba wetland system were completed and restocked with fish fingerlings. The first harvest of mature fish was done in March 2017 and the ponds have since been restocked. The created Village Saving Scheme was consolidated, which has seen its membership rise to more than 112 people. Creation of a local drama group in the area has led to increased visibility and increased awareness on the importance of the wetland system on the micro climate in the area. The wetland system has been regenerated through the active participation of the local communities in demarcating the wetland system and enforcing the bylaws that were formed by them; this has increased the sense of ownership and membership by the local communities to the ongoing interventions in the area.

Semliki Catchment

The Albert Water Management Zone (AWMZ) has continued carrying out catchment based water resources management in the Semuliki Catchment. A final draft of the Catchment Management plan was presented to the catchment stakeholders' forum in 2017 who later on approved it. A CMC was formed from the broader range of stakeholders and was mandated in overseeing the implementation of the plan in the catchment. Interventions include (i) the restoration of the degraded watershed in Mubuku-Nyamwamba sub-catchment, and the Semliki Catchment in Karusandara, a sub-county that is prone to floods that cause displacement of people and destruction of property and crops, (ii) planting of tree seedlings (*musiizi* and grafted fruit trees) and bamboo along the river banks, and demarcation of the buffer zone so as to minimize the adverse effects of flooding, and (iii) training of water user groups in river bank restoration, soil and water conservation and planting of woodlots along the degraded watershed.

The communities are fully engaged in the supervision and sustainable management of the trees and bamboo that were planted during the restoration activities. Management of these interventions is majorly done by the water user groups and the land owners.

Kiiha Sub-Catchment

The IWRM initiatives in Kiiha Sub-catchment which falls in Hoima and Masindi Districts have been implemented under the Water Stewardship arrangement. A joint partnership between the Ministry of Water and Environment, Kinyara Sugar Limited and GIZ was set up in order to address the shared water resources risks in the Kiiha catchment. The partnership's goal is to address said risks in the Kiiha watershed through collective action of all stakeholders and increase sustainable access to water for the communities.

Environmentally degraded hotspots within Kiiha catchment were identified for possible interventions aimed at restoration programs, community sensitization on good environmental management practices. These hotspots were categorised in terms of watershed integrity, water quality and quantity issues, clean water access, sanitation and hygiene issues, Socio-economic and cultural issues, and watershed governance issues. The following was achieved:

A stakeholders' forum for Kiiha was conducted and was aimed at informing the stakeholders on the stewardship program and seeking their views on activities in the catchment. Identification and mapping of all stakeholders in the catchment was completed. A catchment Management Committee (CMC) was formed and constitutes 31 members. Quick win measures for immediate interventions in Kiiha were identified and implementation will start in August 2017. The first Kiiha CMC meeting was held resulting in a consensus of the committee on selection of interventions for implementation in the catchment. Identification and mapping of environmental hotspots in the catchment was completed. As pilot areas for implementation of quick win measures, Kisalizi and Kinyara – Kabango were chosen.



The instituted Kiiha Catchment Management Committee (left) and map showing identified hot spots in Kiiha catchment



Plate A Showing brewing activities in Kisalizi Wetland and Plate B&C showing the degraded wetland at Kyabagenyi in Kinyara Estate due for restoration

Ruhezamyenda Catchment

Ruhezamyenda catchment is one of the most densely populated regions in Uganda with over 300 people per square kilometre and an altitude up to 2,200m above mean sea level. In this catchment, environment and water resources are quickly being degraded in search for food, water and energy. The AWMZ through Kigezi Diocese Water and Sanitation Programme (KDWSP) implemented CBIWRM activities in Rubaya micro catchment (upstream), including contour banding, energy saving stoves and sand bags damming of the gullies. This was found to be one of the most successful community conservation projects, and the neighbouring communities are replicating the innovations. Below are the achievements during this reporting period:

- The excess water that had devastated the community was retained in the hill slope farms through soil conservation channels, increasing soil moisture and reducing erosion hence siltation of the wetlands and rivers.
- The gullies were rehabilitated using soil check dams and have eventually levelled reducing the risk of landslides and increasing arable land. Calliandra, elephant grass and sugar canes were planted along the soil conservation channels and treated gullies.
- The established committees have developed alnus, cedrella, and griveria tree nurseries and re-forestation has been embraced in form of agro-forestry and natural demarcation of wetlands/river buffer zones. Sustainable utilization of wetlands like harvesting mature vegetation for crafts and grazing has been embraced.
- Two local brew distilleries (Mugandu and Kahungye) were supported with demo improved energy saving stoves and soak away for effluent treatment. The stoves can heat 24 containers at a go, reducing the daily energy consumption/demand to 25%. In addition, 18 households were supported with household energy saving stoves. Both the commercial and household stoves were constructed using local materials and by trained community artisans.



Interventions carried out in Rubaya this FY 2016/17

Replication has already started with one distillery constructed in a neighbouring community after the project closure.

Lessons learnt from the Rubaya interventions are:

- Community involvement in the management structures and actual implementation is a very effective way to ensure ownership and buy in.
- Ensuring minimal interruptions of community setup by supporting improved alternatives rather than introduction of completely new innovations is a good entry point for conservation.
- Use of low cost technologies and locally available materials ensures sustainability and replication of conservation activities.
- Engaging the existing local leadership in catchment management structures leads to acceptability and sustainability of IWRM projects.
- Accountability is key in terms of physical/practical interventions, and time-bound activities show value for money which is difficult with software interventions like awareness raising.
- IWRM is a continuous process that requires a lot of time for buy in from the local populace.
- The involvement of faith-based organisations like Kigezi Diocese is instrumental in mobilising communities for positive results.

Annex 10.4 Upper Nile Water Management Zone

Catchment based IWRM Implementation in Opejal

The Ministry of Water and Environment through the Directorate of Water Resources Management (DWRM) developed a Catchment Management Plan (CMP) for Aswa catchment. It undertook rapid hotspot micro-catchment baseline assessments within the Aswa catchment where Opejal Parish was identified as one of the most degraded hotspots.

Restoration and capacity building initiatives were undertaken under this project. Restoration measures include training in soil and water conservation interventions, landscape restoration, river/stream bank restoration and stabilization, support availability and access to micro-credits, promote public awareness and attitude change towards better farming methods, improving other agronomic practices, establishing a platform for sharing information and raising awareness on available adaptation mechanisms to climate change, and training of communities in bye-law formulation and natural resources management.

Furthermore, during the reporting period, Upper Nile Water Management Zone implemented the “Micro Catchment-Hotspot Restoration and Capacity Building” project in Opejal pParish, Okwang Sub-County, Otuke district. The project is aimed at restoring the degraded landscape within the project implementation area and build capacity of communities in water and natural resource management using the catchment based IWRM approach.

During the financial year, the project raised and distributed over 160,000 seedlings including timber species and fruit trees to communities in 21 villages for landscape restoration, trained the elected committees together with the general community on their roles and responsibilities, Community Environment Conservation Fund (CECF) management, pay back mechanism, and development of CECF rules and regulations, disbursed CECF fund (UGX 42,000,000) to 21 villages in Opejal parish for livelihood improvements, facilitated radio talk shows and spot messages on water and natural resources management, facilitated exchange visits for at least 460 community members within the Aswa catchment to learn best practices, and developed Information, Education and Communication (IEC) materials.

Challenges and recommendations

Generally, the assignment went on as planned with a few challenges.

- (i) IWRM is a relatively recently introduced concept in Uganda, and hence there were limited sources of information to refer to for a clear comparison and understanding of the subject matter at hand. Visual aids as well as other IEC material is very relevant when undertaking consultations to get all stakeholders abreast with the issues of discussion especially at lower levels where the levels of awareness are usually relatively very low.
- (ii) There is no clear engagement strategy for the district and sub-county and Catchment Management Committee (CMC) members to take forward monitoring of activities within the parish in case the project ends. MWE through DWRM should thus develop robust strategies to engage these stakeholders to follow up on the communities beyond the lifespan of the project.
- (iii) There is need to create strong linkages between lower level initiatives like these and the broader higher level actions like implementation of actions in the Catchment Management Plans (CMPs), involvement of the CMCs in the implementation of actions on the ground. This will ensure an integrated approach towards water and environmental management within the catchment
- (iv) There is need to scale up interventions and best practices from the micro-catchment to catchment level. MWE together with other partners should work together to ensure implementation of interventions at scale for meaningful impact to be realized

Lessons learnt

Awareness building is best done through a process of continuous engagement, lessons learnt and information sharing. It is therefore important that communities are engaged in these processes right

from the beginning to the end to ensure constant flow of information on ongoing government programs. The need to engage communities in all steps of processes that directly impact on their resources to reduce high level of speculation, insecurity and misconception. Information sharing is very vital to ensure flow of information from up to down and down to up stakeholders.

The radio is a powerful tool that should be used to disseminate information on water and environmental management as it has a wider coverage beyond the project area. Interactive radio programmes are therefore effective in taking forward messages to the broader public

Learning visits within and beyond the catchment are valuable in providing participants with first hand experiences on success stories elsewhere. The learning visits catalysed Opejal community members to successfully implement the project within their area.

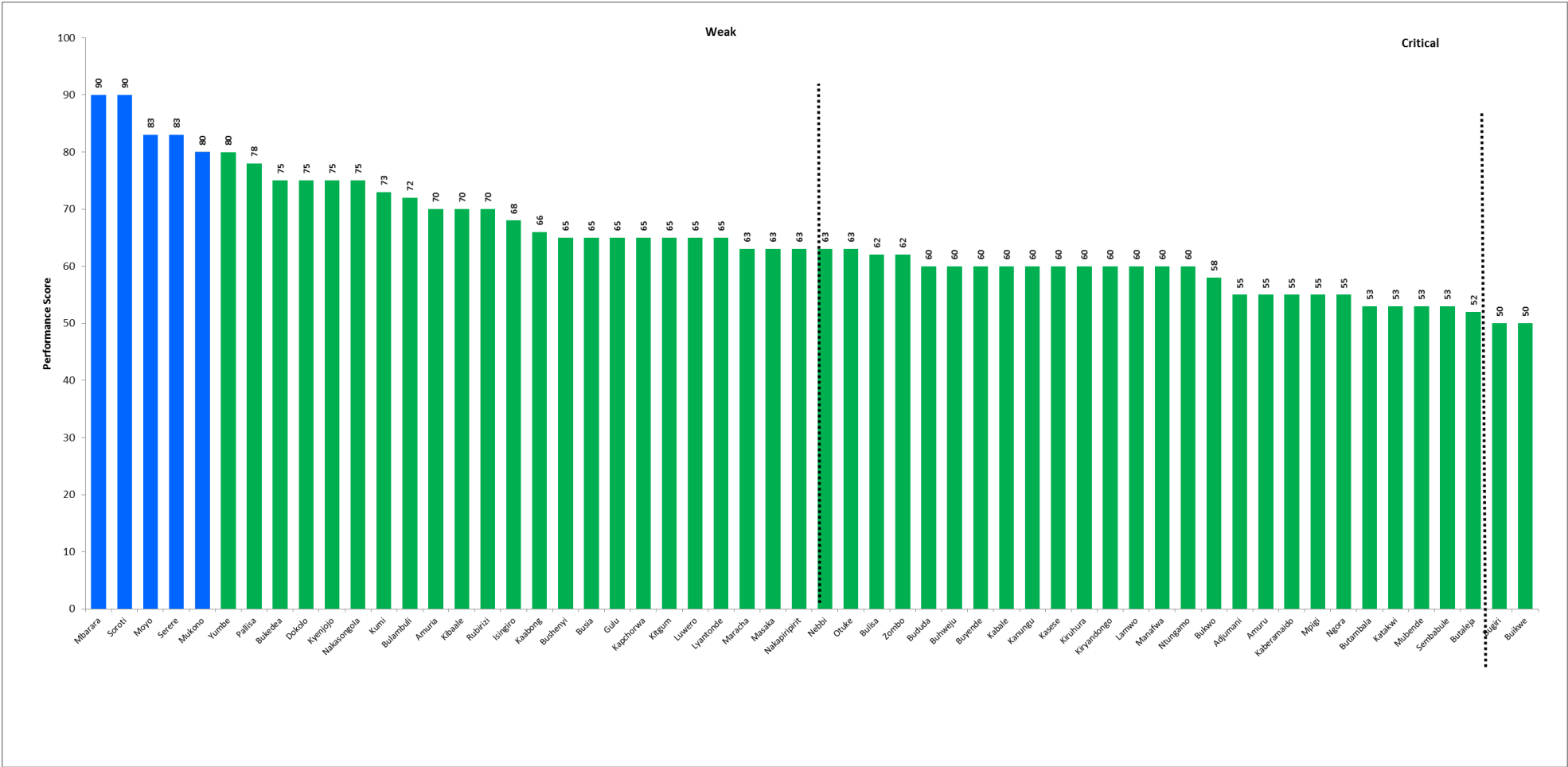
Promotion of private sector involvement in water resources management

Promotion of the public –private partnership arrangement in water resources management provides opportunities for leveraging technical and financial resources from the non-traditional sources thus supplementing the resources available from Government and Development Partners to upscale implementation of catchment based water resources management. During the reporting period the following was realized through private sector involvement from Hima Cement Limited, Tronder Power Limited (now Bugoye Hydro Ltd) and Tibet Hima Mining Company Ltd through their Corporate Social Responsibility (CSR) program. The support resulted in the following:

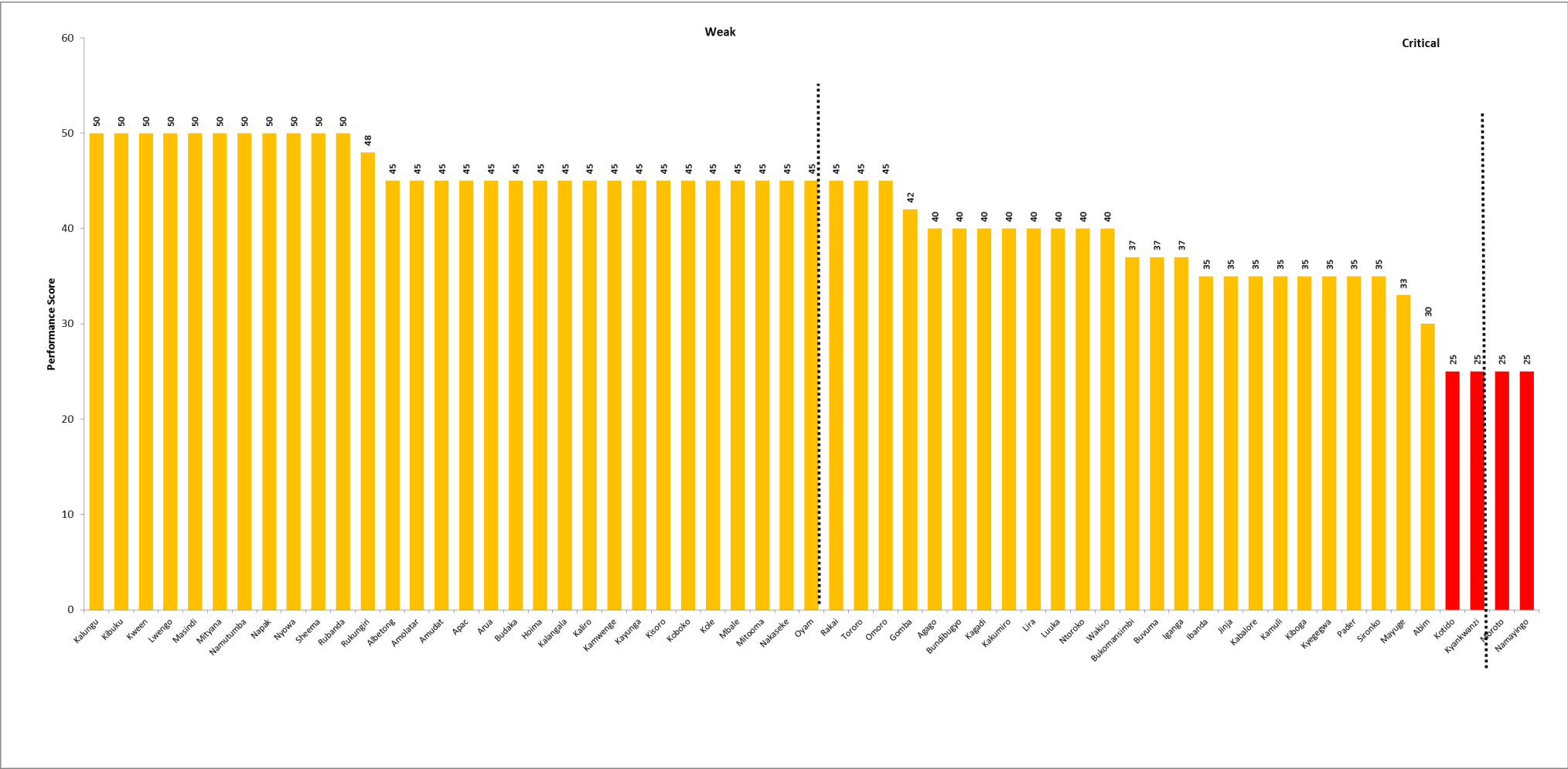
- planted 53,317 tree seedlings covering an estimated 100 hectares of land
- constructed 0.8 km contour trenches to support water and soil conservation and improve land productivity in the catchment
- restored 3km on Semliki river bank
- trained and strengthened 8 water User Groups (5 in Mubuku-Nyamwamba catchment and 3 in Semliki catchment)
- three preliminary studies, namely i) Payment for Eco Systems hydrology and agronomic study ii) socio-economic study and iii) economic study for Rwenzori Mountains National Park were undertaken. The studies provide information for developing the PES scheme and engaging the private sector to financially support long-term conservation of the Rwenzori ecosystem
- based on the economic study for RMNP, an advocacy brief was developed as tool to rally the support of the private sector companies identified within the Rwenzori landscape and beyond
- Regarding the legal and institutional frameworks, PES provisions have been drafted and incorporated in the National Environment Policy (NEMP), National Environment Act (NEA) and Regulations. This is a big milestone incorporating PES in national policy framework
- developed by-laws for Semliki riverbank management
- Provision of clean water for domestic use and training on WASH in Rwebisengo and Rweramure sub counties in Semliki catchment

IWRM initiatives in Nsambye sub-catchment in Bulisa District: A stewardship program was initiated in Nsambye sub-catchment spearheaded by GIZ and involving Total Exploration and Production Oil Company and Bulisa District Local Government. The sub-catchment faces a number of challenges that watershed degradation, institutional weaknesses, lack of awareness and political will in sound environmental management. The most prominent emerging issue in the area is the possible effect of the petroleum development and production on both the surface and groundwater resources.

Annex 11. District Sanitation & Hygiene Benchmarking, June 2017



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Max				PROCESS				INTERMEDIATE OUTCOME						OUTCOME				100	
					10		10		15		25		15		10		15		
					2.5%		10,000 UGX		1:40		77%		50%		Required		Required		
					>=3% = 10		Top 10 - 10		<=40, 15		>70% = 25		>=50% = 15		>=51 = 10		>=51 = 15		
					2% = 5		11th to 20th - 7		41-50 = 10		50-69% = 20		23-49% = 10		21 to 50 = 8		21 to 50 = 10		
	1% = 3		21st to 30th - 3		51-60 = 5		25-49% = 15		10-22% = 5		1 to 20 = 5		1 to 20 = 5						
	<1% = 0		>=31 - 0		>61 = 0		<24% = 0		<9% = 0		Nil = 0		Nil = 0						
#	District	Reporting	Submitt ing Annual Report	Avg Increase in HH San Cvg (20012- 17)	SCORE	Financial Efficiency:S oftware Cost per HH Toilet	Financial Efficiency Rank	SCORE	Pupil:Latr ine Stance Ratio	SCORE	% HH San Cvge	SCORE	% HW Coverage	SCORE	# of ODF villages	SCORE	%age of worked in villages that are ODF	SCORE	GRAND SCORE
1	Abim		Yes	19.8	10	7027	26	0	65.0	0	61.0	20		0		0	0%	0	30
2	Adjumani		Yes	0.2	0	5705	29	0	68.0	0	84.2	25	57.6	15	9	5	25%	10	55
3	Agago		Yes	25.7	10	497	57	0	54.0	5	66.5	20	20.6	5		0	0%	0	40
4	Albetong		Yes	7.5	10	0	69	0	86.0	0	80.5	25	25.0	10		0	0%	0	45
5	Amolatar		Yes	12.3	10	0	70	0	64.0	0	85.0	25	36.0	10		0	0%	0	45
6	Amudat		Yes	16.0	10	18661	9	10	38.0	15	21.0	0	4.0	0	1	5	8%	5	45
7	Amuria		Yes	29.2	10	91679	2	10	75.0	0	86.0	25	56.0	15	12	5	5%	5	70
8	Amuru		Yes	14.6	10	231	65	0	58.0	5	72.8	25	72.2	15	0	0	0%	0	55
9	Apac		No	11.1	10	0	71	0	86.0	0	80.3	25	30.1	10		0	0%	0	45
10	Arua		Yes	6.6	10	-316	78	0	110.0	0	73.0	25	35.0	10		0	0%	0	45
11	Budaka		No	-7.3	0	3200	33	0	64.0	0	72.7	25	25.2	10	267	10	0%	0	45
12	Bududa		Yes	12.0	10	-2327	106	0	100.0	0	76.0	25	21.0	5	20	5	100%	15	60
13	Bugiri		Yes	-2.5	0	2604	35	0	0.0	15	80.5	25	23.3	10		0	0%	0	50
14	Buhweju		Yes	45.8	10	24010	7	10	43.0	10	88.0	25	21.0	5		0	0%	0	60
15	Buikwe		Yes	11.6	10	831	50	0	0.0	15	75.0	25		0		0	0%	0	50
16	Bukedea		Yes	21.0	10	25132	6	10	40.0	15	86.0	25	55.0	15		0	0%	0	75
17	Bukomansimbi		Yes	-20.2	0	13099	15	7	80.0	0	68.8	20	35.0	10		0	0%	0	37
18	Bukwo		Yes	22.1	10	7895	23	3	90.0	0	82.2	25	17.3	5	7	5	35%	10	58
19	Bulambuli		Yes	17.0	10	9702	18	7	200.0	0	81.0	25	34.0	10	20	5	100%	15	72
20	Bulisa		Yes	7.0	10	9217	20	7	40.0	15	68.0	20	40.0	10		0	0%	0	62
21	Bundibugyo		Yes	2.7	5	3105	34	0	74.0	0	72.5	25	29.0	10		0	0%	0	40
22	Bushenyi		Yes	3.7	10	4471	32	0	55.0	5	94.7	25	52.6	15	229	10	0%	0	65
23	Busia		Yes	11.7	10	1614	39	0	47.0	10	89.0	25	50.7	15	4	5	0%	0	65















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24	Butaleja		Yes	16.0	10	13334	14	7	90.0	0	81.0	25	34.0	10	0	0	0%	0	52
25	Butambala		Yes	7.0	10	8899	21	3	74.0	0	68.0	20	37.0	10	1	5	10%	5	53
26	Buvuma		Yes	16.1	10	9554	19	7	75.0	0	38.0	15	12.0	5		0	0%	0	37
27	Buyende		Yes	6.2	10	2089	36	0	190.0	0	85.4	25	31.3	10	8	5	40%	10	60
28	Dokolo		Yes	12.0	10	16887	11	7	74.0	0	90.0	25	65.0	15	50	8	38%	10	75
29	Gomba		Yes	2.5	5	11244	16	7	100.0	0	55.0	20	27.0	10		0	0%	0	42
30	Gulu		Yes	14.8	10	17985	10	10	68.0	0	76.8	25	11.0	5	6	5	30%	10	65
31	Hoima		Yes	20.0	10	766	52	0	100.0	0	91.0	25	40.0	10		0	0%	0	45
32	Ibanda		Yes	-5.2	0	1882	37	0	85.0	0	84.1	25	30.0	10		0	0%	0	35
33	Iganga		Yes	0.0	0	13870	13	7	85.0	0	69.0	20	25.0	10		0	0%	0	37
34	Isingiro		Yes	13.6	10	7169	25	3	63.0	0	93.6	25	42.6	10	13	5	52%	15	68
35	Jinja		Yes	-9.1	0	876	49	0	54.0	5	70.1	25	20.3	5		0	0%	0	35
36	Kaabong		Yes	7.7	10	7835	24	3	67.0	0	30.0	15	50.0	15	34	8	170%	15	66
37	Kabale		Yes	3.3	10	-1527	97	0	56.0	5	96.0	25	23.0	10	10	5	21%	5	60
38	Kabalore		Yes	-6.9	0	-2618	108	0	65.0	0	85.0	25	28.0	10		0	0%	0	35
39	Kaberamaido		Yes	26.7	10	30595	5	10	63.0	0	89.7	25	30.0	10		0	0%	0	55
40	Kagadi		Yes	68.9	10	-100	76	0	68.0	0	68.9	20	26.3	10	0	0	0%	0	40
41	Kakumiro		Yes	78.0	10	-19	74	0	78.0	0	78.0	25	20.4	5	0	0	0%	0	40
42	Kalangala		Yes	10.2	10	-1338	94	0	39.0	15	69.0	20		0		0	0%	0	45
43	Kaliro		Yes	6.2	10	-739	86	0	68.0	0	74.2	25	31.6	10		0	0%	0	45
44	Kalungu		Yes	6.5	10	-708	85	0	64.0	0	92.5	25	51.7	15		0	0%	0	50
45	Kamuli		Yes	-15.8	0	791	51	0	146.0	0	70.2	25	38.0	10		0	0%	0	35
46	Kamwenge		Yes	10.7	10	467	58	0	75.0	0	82.0	25	28.0	10		0	0%	0	45
47	Kanungu		Yes	3.0	10	-663	84	0	75.0	0	94.0	25	57.0	15	8	5	13%	5	60
48	Kapchorwa		Yes	4.9	10	-3945	112	0	65.0	0	72.9	25	50.0	15	8	5	40%	10	65
49	Kasese		Yes	7.4	10	332	62	0	90.0	0	85.4	25	35.0	10	8	5	47%	10	60
50	Katakwi		Yes	6.4	10	-1102	88	0	72.0	0	76.3	25	39.8	10	21	8	0%	0	53
51	Kayunga		Yes	10.4	10	518	56	0	75.0	0	72.4	25	31.2	10		0	0%	0	45
52	Kibaale		Yes	18.3	10	104093	1	10	60.0	5	86.3	25	40.6	10	1	5	8%	5	70
53	Kiboga		Yes	-9.6	0	-608	80	0	45.0	10	60.0	20	10.6	5		0	0%	0	35
54	Kibuku		Yes	6.0	10	0	72	0		15	81.6	25		0		0	0%	0	50
55	Kiruhura		Yes	9.0	10	938	46	0	50.0	5	92.0	25	44.0	10	2	5	18%	5	60
56	Kiryandongo		Yes	2.1	5	966	45	0	64.0	0	74.1	25	30.5	10	17	5	71%	15	60
57	Kisoro		Yes	24.1	10	709	53	0	85.0	0	78.4	25	23.0	10		0	0%	0	45
58	Kitgum		Yes	7.8	10	-1751	100	0	42.0	10	60.3	20	25.5	10	12	5	39%	10	65
59	Koboko		Yes	5.0	10	901	48	0	80.0	0	78.0	25	31.2	10		0	0%	0	45
60	Kole		Yes	11.0	10	0	73	0	62.0	0	78.0	25	43.0	10		0	0%	0	45
61	Kotido		Yes	12.8	10	-3138	110	0	58.0	5	21.4	0	8.0	0	2	5	8%	5	25
62	Kumi		Yes	23.0	10	263	64	0	72.0	0	88.0	25	73.0	15	41	8	513%	15	73

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63	Kween		Yes	16.1	10	-899	87	0	52.0	5	84.9	25	19.8	5	6	5	0%	0	50
64	Kyankwanzi		Yes	-5.0	0	-611	81	0	68.0	0	59.0	20	15.6	5		0	0%	0	25
65	Kyegegwa		Yes	-10.6	0	457	59	0	77.1	0	79.0	25	43.4	10		0	0%	0	35
66	Kyenjojo		Yes	8.4	10	1692	38	0	60.0	5	86.0	25	45.8	10	94	10	70%	15	75
67	Lamwo		Yes	23.3	10	-3370	111	0	60.0	5	59.3	20	32.0	10	19	5	37%	10	60
68	Lira		Yes	-2.1	0	4599	31	0	0.0	15	80.0	25		0		0	0%	0	40
69	Luuka		Yes	6.5	10	-1979	102	0	117.0	0	65.6	20	31.0	10		0	0%	0	40
70	Luwero		Yes	-13.0	0	341	61	0	0.0	15	77.0	25	32.0	10	10	5	42%	10	65
71	Lwengo		Yes	-2.0	0	-5422	113	0	0.0	15	76.0	25	45.0	10		0	0%	0	50
72	Lyantonde		Yes	4.0	10	-2426	107	0	0.0	15	89.0	25	58.0	15		0	0%	0	65
73	Manafwa		Yes	7.2	10	-1320	93	0	112.0	0	81.6	25	28.2	10	18	5	25%	10	60
74	Maracha		Yes	30.0	10	-83053	114	0	98.0	0	88.0	25	61.0	15	22	8	13%	5	63
75	Masaka		Yes	-0.4	0	6601	27	3	43.0	10	84.6	25	33.3	10	11	5	44%	10	63
76	Masindi		Yes	12.7	10	-1576	98	0	58.0	5	79.0	25	35.0	10		0	0%	0	50
77	Mayuge		Yes	0.8	0	8233	22	3	80.0	0	68.0	20	36.0	10		0	0%	0	33
78	Mbale		Yes	18.0	10	423	60	0	140.0	0	78.0	25	25.0	10	0	0	0%	0	45
79	Mbarara		Yes	4.9	10	936	47	0	30.0	15	98.9	25	60.0	15	51	10	98%	15	90
80	Mitooma		Yes	10.6	10	628	54	0	120.0	0	93.9	25	38.0	10		0	0%	0	45
81	Mityana		Yes	0.7	0	331	63	0	55.0	5	88.7	25	30.1	10	6	5	20%	5	50
82	Moroto		Yes	6.8	10	-2199	104	0	53.0	5	15.4	0	1.7	0	5	5	20%	5	25
83	Moyo		Yes	15.2	10	-1114	90	0	43.0	10	92.4	25	58.3	15	32	8	59%	15	83
84	Mpigi		Yes	9.1	10	-385	79	0	65.0	0	68.1	20	45.0	10	6	5	40%	10	55
85	Mubende		Yes	2.4	5	177	67	0	71.0	0	83.5	25	20.5	5	26	8	23%	10	53
86	Mukono		Yes	10.0	10	191	66	0	0.0	15	92.0	25	42.0	10	5	5	83%	15	80
87	Nakapiripirit		Yes	25.6	10	-1233	91	0	55.0	5	34.3	15	24.6	10	25	8	100%	15	63
88	Nakaseke		Yes	4.1	10	1376	41	0	65.0	0	84.4	25	33.1	10	0	0	0%	0	45
89	Nakasongola		Yes	10.8	10	-113601	115	0	24.0	15	86.8	25	59.2	15	3	5	13%	5	75
90	Namayingo		Yes	-3.5	0	1011	43	0	76.0	0	61.5	20	17.8	5		0	0%	0	25
91	Namutumba		Yes	11.8	10	-1877	101	0	60.0	5	84.1	25	23.0	10		0	0%	0	50
92	Napak		Yes	6.1	10	-2022	103	0	52.0	5	24.7	15	11.0	5	6	5	24%	10	50
93	Nebbi		Yes	5.0	10	6443	28	3	100.0	0	80.0	25	40.0	10	12	5	23%	10	63
94	Ngora		Yes	9.0	10	-1354	95	0	52.0	5	86.0	25	50.7	15	0	0	0%	0	55
95	Ntoroko		Yes	22.3	10	-2727	109	0	60.0	5	67.5	20	13.0	5		0	0%	0	40
96	Ntungamo		Yes	3.9	10	1587	40	0	50.0	5	95.6	25	23.9	10	4	5	4%	5	60
97	Nyowa		Yes	11.6	10	-642	83	0	49.0	10	74.8	25	12.9	5		0	0%	0	50
98	Omoro		Yes	73.0	10	-118	77	0	54.0	5	73.0	25	10.0	5		0	0%	0	45
99	Otuke		Yes	19.0	10	-625	82	0	77.0	0	71.0	25	22.0	5	24	8	60%	15	63
100	Oyam		Yes	0.0	0	-1112	89	0	96.0	0	80.1	25	36.1	10	4	5	15%	5	45
101	Pader		Yes	9.0	10	1203	42	0	50.0	5	51.0	20		0		0	0%	0	35

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102	Pallisa		Yes	15.8	10	19943	8	10	67.0	0	81.4	25	31.0	10	31	8	100%	15	78
103	Rakai		Yes	-0.4	0	-1467	96	0	55.0	5	84.0	25	65.0	15		0	0%	0	45
104	Rubanda		Yes	92.0	10	-1291	92	0	62.0	0	92.0	25	25.0	10	2	5	4%		50
105	Rubirizi		Yes	12.4	10	-1693	99	0	45.0	10	88.5	25	28.8	10	10	5	22%	10	70
106	Rukungiri		Yes	1.3	3	558	55	0	60.0	5	98.9	25	51.1	15		0	0%	0	48
107	Sembabule		Yes	5.0	10	4941	30	3	67.0	0	70.0	25	17.0	5	5	5	20%	5	53
108	Serere		Yes	22.6	10	33541	4	10	90.0	0	87.7	25	59.9	15	30	8	60%	15	83
109	Sheema		Yes	11.1	10	-2300	105	0	54.0	5	92.3	25	30.1	10		0	0%	0	50
110	Sironko		Yes	-6.0	0	-75	75	0	82.0	0	72.0	25	34.0	10		0	0%	0	35
111	Soroti		Yes	17.5	10	40799	3	10	50.1	5	87.2	25	63.1	15	56	10	175%	15	90
112	Tororo		Yes	9.7	10	999	44	0	68.0	0	83.0	25	34.4	10		0	0%	0	45
113	Wakiso		Yes	0.7	0	98	68	0	69.0	0	89.7	25	58.0	15		0	0%	0	40
114	Yumbe		Yes	14.6	10	15011	12	7	69.0	0	81.6	25	50.8	15	50	8	63%	15	80
115	Zombo		Yes	15.1	10	10006	17	7	84.0	0	87.0	25	44.0	10	15	5	21%	5	62

Annex 12. Achievements by District Forestry Services, FY2016/17

No.	District	No of seedlings planted	Approximate area planted	Survival percentage	Area of LFR managed [ha]	Area of LFR Planted/re stored	Area of CFR Planted/ restored	Area of forest gazetted	people trained in efficient energy technologies	Length of road planted with trees	Nursery supported and size	Sources of funds
1	Arua	300,000	11,000	0	321	321	0	0	0	0	0	
2	Budaka	40,000	30	0	32	5	0	0	0	0	4	DDEG (GOU)
3	Bududa	65,000	58	70	0	0	0	0	0	0		
4	Bugiri	6000	5	0	0	0	90	0	20	0	1	Local Revenue, Conditional grant, DDEG
5	Buhweju	345,675	230	70	0	0	0	0	16	0	0	Local Revenue
6	Bundibugyo	8302	75	70	0	0	0	0	0	9	5	DDEG, UCG, LR,
7	Busia	33,539	30	87	0	0	0	0	287	17	3	DDEG, National Population Council, NUSAF3
8	Butalejja	427,125	186.4	60	0	0	0	0	50	0	0	World Vision, FIEFOC, DLG
9	Buyende	0	0	0	0	0	0	0	40	4	2	DDEG, Unconditional Grant, Conditional Grant-NRS and Local Revenue
10	Ibanda	466,620	291	80	15	15	6	13	8	0	11	Local Revenue
11	Kabarole	155,540	140	50	15	0	0	0	0	0	NIL	Local Revenue
12	Kaberamaido	0	0	0	12	0	250	2000	0	30	0	
13	Kaliro	103,953	40	60	5	0.5	0	0	400	0	2 nurseries of each 50,000 seedlings capacity	DDEG (main source), ENR non wage grant
14	Kalungu	57,067	52	85	54	0	0	0	487	0	0	LVEMP II Programme, NFA and UETCL

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No.	District	No of seedlings planted	Approximate area planted	Survival percentage	Area of LFR managed [ha]	Area of LFR Planted/re stored	Area of CFR Planted/restored	Area of forest gazetted	people trained in efficient energy technologies	Length of road planted with trees	Nursery supported and size	Sources of funds
15	Kamuli	45000	40.5	76	9	4	0	0	0	0	0	ENRs grant, DDEG & LR
16	Kapchorwa	209,479	120	80	0	0	0	0	350	2	23	District LG,IUCN,REDCROSS,SEBEIDIOCESE, JILOS,ICRAF and JEEP.
17	Kasese	32405	20	40	78	0	0	0	0	2	3	Government & Development partners
18	Kiboga	500,000	320	68	0	0	0	0	74	0	5	Green Charcoal Project
19	Kibuku	12,000	9	70	8	0	0	0	0	0	0	DDEG (District Discretionary Equalisation Grant)
20	Kisoro	14,073	8	30	0	6	0	0	0	2	2 (.25)	DDEG & Partners
21	Kumi	5,000	3	0	1	1	0	0	0	0	1	NFA, KDLG,NEMA,
22	Kween	48,250	42.53	38.2	0	0	0	0	0	0	0	NUSAF 3, RED CROSS, IUCN OWC and local revenue
23	Kyankwanzi	32,000	20	45	0	0	0	0	45	1	0	LRR, World Vision, DDEG
24	Kyenjojo	345,000	154	85	8	4	150	0	0	0	9	KDLG,Cudwell,NFA
25	Manafwa	110,899	85.3	75	28	5.5	0	0	40	4.5	100,000 seedl. per year	DDEG,FIEFOC, EPFOSE/Salvation army project.
26	Maracha	40,000	20	0	0	0	0	0	0	0	0	
27	Masaka	28,784	38	70	124	0	0	13,185	184	0	6	LVEMP & Local revenue
28	Masindi	120,000	100	75	0	0	0	0	0	0		

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No.	District	No of seedlings planted	Approximate area planted	Survival percentage	Area of LFR managed [ha]	Area of LFR Planted/re stored	Area of CFR Planted/restored	Area of forest gazetted	people trained in efficient energy technologies	Length of road planted with trees	Nursery supported and size	Sources of funds
29	Mityana	47,000	27	80	0	0	0	0	0	10	0	LG management and service Delivery Program (LGMSDP), LVEMP II project, Uganda Road Fund
30	Mubende	1,141,100	1027.1	70	85	77	0	0	105	4	7 nurseries with 350,000 seedlings	GCP, central government transfers and Local revenue
31	Mukono	110,000	100	75	57	0	0	0	5	0	1 tree nursery	Local revenue/DDEG. CUDWELL industries (private-DFS partnership)
32	Namayingo	22000	17	70	0	0	0	0	53	15	1	LR/DDEG
33	Namutumba	15,000	12	80	0	0	0	0	0	0	28(10,000)	Local Revenue and partnerships
34	Pader	150,000	135	65	55	5	0	0	10	0	8/1ha	DDEG, PRIVATE, LOCAL REVENUE
35	Palisa	15,000	12	70	39.2	0	0	0	0	0	0	PRDP, Local revenue & NGO support
36	Rakai	615366	2380.482454	60	6	31	0	0	15	0	9	LVEMP II and fauna and flora international
37	Rubirizi	13,286	11.9	58	0	0	0	0	21	1.5		
38	Rukungiri	200,000	180	85	7	7	0	0	20	0	7	
39	sembabule	3,000	2.7	10	0	0	0	0	0	0	0	local revenue

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No.	District	No of seedlings planted	Approximate area planted	Survival percentage	Area of LFR managed [ha]	Area of LFR Planted/re stored	Area of CFR Planted/restored	Area of forest gazetted	people trained in efficient energy technologies	Length of road planted with trees	Nursery supported and size	Sources of funds
40	Tororo	145,000	110	75	50	40	300	430	400	10	12	PRDP, Local revenue & NGO support
41	Wakiso	118,585	47.434	81.2	130	0	0	0	80	0	1	L/R, UCG, DDEG
42	Zombo	114728	103.3	70	3.2	0	26	0	0	0	1	DDEG
	Total	6,261,776	17,284		1,142	522	822	15,628	2,710	112		

Annex 13. Investments by CSOs in water supply, sanitation and water resources management in FY2016/17

Name of NGO	Districts	Expenditure (UGX)
Abarilela Community Development Organization		
Acholi Child and Family Programme Working With Support From Child Fund	Gulu, Kitgum and Kagogo	79,665,500
Action Africa Help (AAH)		
Action Against Hunger	Kiryandongo, Yumbe, Arua, Kaabong, Adjumani	1,441,435,000
Action for Rural Women's Empowerment (ARUWE)	Kyankwanzi, Kiboga, Wakiso	74,453,500
Action For Slum Health And Development		
Action Line For Development (ALFOD)		
African Agency for Integrated Development (AAID)		
African Community Technical Service		
African Evangelistic Enterprise Uganda	Kampala	779,992,022
African Medical and Research Foundation (AMREF)		
AFRICARE		
Agency For Accelerated Regional Development(AFARD)	Nebbi, Zombo, Arua, Maracha, Yumbe, Moyo, Adjumani	121,480,000
Agency For Capacity Development		
Agency For Community And Development Welfare		
Agency for Cooperation in Research and Development(ACORD)	Mbarara, Kiruhura, Isingiro	154,723,000
Agency For Integrated Rural Development		
Agency For Integrated Rural Development (AFIRD)	Wakiso	
Albertine Interventions For Development (AID)	Ntoronko	58,190,500
All Nation Children's Care		56572000
Alliance For Youth Achievement		
Allied Support For Rural Empowerment And Development(ASURED)		
AMREF Health Africa		
Ankole Diocese		

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Name of NGO	Districts	Expenditure (UGX)
Apac Town Community Association	Apach Town Council	325000
Appropriate Revival Initiative for Strategic Empowerment (ARISE)		
Aquafund International (U) LTD		
Arbeiter-Samariter Bund (ASB)		
Arua Rural Community Development (ARCOD)		
Association For Social Economic Development		
Association of Uganda Professional Women in Agriculture and Environment (AUPWAE)		
AVSI FOUNDATION		
Ayivu Youth Effort For Development		
Bogoriet Tap Kaa Riwo		
Brick by Brick	Greater Masaka districts, Mitooma District	99,023,980
Buganda Cultural And Development Foundation (BUCADEF)		
Build Africa Uganda		
Bukedea Development Foundation		
Buso Foundation		
Busoga Trust	Jinja, Mpigi, Nakaseke, Luwero, Namutumba, Iganga, Mayuge, Luuka, Bugiri, Kamuli	431,060,530
Busoga volunteers for community development (Buvocod)		
Butakoola Village Association for Development (BUVAD)	Kayunga	93,432,700
Buvuma Islands LV & Community Protection Association (BULVECPA)		
Bwindi Mgahinga Conservation Trust(BMCT)		
Canadian Physicians For Aid And Relief (CPAR)		
Care International		1,300,000

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Name of NGO	Districts	Expenditure (UGX)
Care International –Lira		
Caritas Arua Diocese		
CARITAS Gulu diocese	Kitgum	83,742,600
Caritas Kasanaensis		
Caritas Kasese	Kasese	34,700,000
Caritas Kiyinda Mityana	Mubende, Mityana, Kyankwanzi and Gomba	
Caritas Lira		
CARITAS Masaka Diocesan Development Organisation (MADDO)	Masaka, Rakai, Bukomansimbi, Kalungu, Lwengo, Lyantonde, Kalangala, Sembabule	29,031,000
CARITAS Mbarara	Ibanda, Rubirizi, Isingiro	18,350,000
CARITAS Mityana SDD		
CARITAS Nebbi		
Catholic Relief Services(RCS)		
CEFORD		
Centre For Governance & Economic Development (CEGED)	Arua, Yumbe, Adjuman, Koboko, Moyo, Nebbi, Zombo	120,000,000
CESVI		
CESVI UGANDA (Kaabong Field Office)		
Child Fund International - Uganda Program	Busia, Mbale, Sironko, Bulambuli, Butaleja, Budaka, Kibuku, Pallisa, Kumi, Kampala, Kyankwanzi, Apac	275,677,783
Children Vision Uganda (CVU)		
Christ the King Health Support Care Centre For The Needy		43,730,000
Christian Children Fund		
Christian Engineers In Development		
Christian Women and Youth(CWAY) Development Alliance		
Church Of Uganda -Karamoja Dioceses Development Alliance		
Church of Uganda Teso Dioceses Planning and Development Office (COU-TEDDO)		

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Name of NGO	Districts	Expenditure (UGX)
Ciforo Women's Association		
Clear Water Initiative		
Community Based Health Care Programme		
Community Based Options for Social Welfare Responses (Open Palm COWESER)		
Community Development Action		
Community Efforts For Child Empowerment(CECE)		
Community Empowerment for Rural Development (CEFORD)		
Community Health Concern		
Community Initiative for the empowerment of vulnerable people (CIFOVUP)		
Community Integrated Development Initiatives(CIDI)	Kampala, Katakwi, Napak, Bulisa, Amuria	1,284,266,139
Community Shelters Uganda (CSU)		
Compassion International		
Concern World Wide		
Conservation And Development Of Peoples Initiative (CODEP)		
Conservation Effort For Community Development (CECOD)		
Cooperazione Internazionale		
Development Foundation For Rural Areas (DEFORA)	Kyenjojo. Kabarole, Kamwenge, Kyegegwa, Ntoroko	62,392,200
Deliverance Church Uganda - J.O.Y Drilling Program		
Divine Waters Uganda	Lira, Alebtong	245,700,000
Drop In The Bucket		
Ecological Christian Organisation		
Efforts Integrated Development Foundation		
Emesco Development Foundation	Kibaale , Kagadi and Kakumiro	694,235,660
Environmental Teachers Association (ENVITA)		

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Name of NGO	Districts	Expenditure (UGX)
Fairland Foundation		
Faith Action Development Organisation –Teso (FADO-T)		
Faith Based Efforts Integrated Development Foundation		
FARD		
Fields of Life	Mubende, Butaleja, Nakapiripit, Moroto, Kotido, Nakasongola, Luwero, Nakaseke, Amudat, Kumi, Namutumba, Arua	2,243,428,923
FIRD Kotido		
Fontes Foundation		
Former Seminarians Initiative For Development (FOSID)		
Foundation for Rural Development (FORUD)		
Gabula Attude Women's Group		
General Relief Services (GERES)	Tororo	13,050,000
Gisoro Twibuke Association (GTA)		
Global Aim	Adjumani, Moyo	4,735,000
Goal Uganda		
GOAL-Bugiri		
Good Hope Foundation For Rural Development		
Good Samaritan Community Development Projramme	Kisoro	15,680,000
Grassland Foundation		
Health Counterpart International (HCI)		
Health through Water and Sanitation (HEWASA) Programme, DSSD CARITAS Fort Portal	Kabarole, Kyenjojo, Kyegegwa, Bundibugyo, Ntoroko, Kasese, Mubende, Kiboga, Luwero, Masindi, Kibaale, Hoima, Buliisa, Kiryandongo, Ibanda, Bushenyi, Kiruhura	865,271,210
Healthy Environment For All (HEFA)		
HEWASA CARITAS FORTPORTAL		982,160,100
Hope for Orphan (HOFO)		
Hope for Youth		
HORIZONT3000		

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Name of NGO	Districts	Expenditure (UGX)
HOW Uganda		
Institute For International Cooperation And Development		
Integrated Family Care Support Uganda (IFACASU)		
Integrated Family Development Initiatives (IFDI)		
Integrated Health And Development Organization		
Integrated Rural Development Initiative		
International Aid Services	Arua, Pader, Agago, Abim	535,980,522
International Lifeline Fund	Apac & Lira	957,057,100
International Rescue Committee		
IRC Uganda	Kabarole, Ntoroko	163,017,000
J.O.Y Drilling Deliverance Church Uganda	Gulu, Dokolo, Alebtong, Otuke, Kole, Luwero, Moyo, Mbarara	400,910,000
Jinja Area Communities Federation (JIACOFE)	Jinja, Kamuli, Mayuge	14,204,000
Jinja Diocese To Save Environment		
Joint Efforts to Save the Environment (JESE)	Kabarole, Kyenjojo, Kamwenge, Ntoroko, Kyegegwa	713,207,010
Kagadi Women And Development Association (KWDA)		
Kagando Rural Development Centre (KARUDEC)	Kasese	98,091,500
KALI	Kasese, Kamwenge	31,000,000
Kampala Area Federation of Communities With Funding From Child Fund International		
Kamuli Community Development Foundation	Kamuli, Kaliro	47,890,005
Kamwokya Community Health And Environmental Association (KACHERA)		
Kaproron PHC Programme		
Karambi Action for Life and Development		
Karamoja Agro-pastoral Development programme		
Karamoja Dioceses Development Services		
Kasanga PHC/CBHC		
Katosi Women Development Trust (KWDT)	Mukono	350,596,500

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Name of NGO	Districts	Expenditure (UGX)
Kibaale Youth and Women Development Agency		
Kibuka Rural development Initiative		
Kigezi Diocese Water and Sanitation Programme	Kabale	1,290,440,360
Kinkizi Diocese Integrated Rural Development Programme		
Kirinda Youth Environment Management and Poverty Alleviation Program Uganda (KYEMPAPU)		
Kisenyi Community Health Workers Association (KICHWA)		
Kisomoro Tweyombeke Farmers Association		
Kitovu Mobile Aids Organisation		
Knowledge Support And Research Centre, KSRC		
Kokwech Agro Based Youth Project		
Kokwech Agro Based Youth Project (KABYP)		
Ktosiga Community Christian Association for Development (KACCAD)		
Kumi Human Rights Initiative		
Kyakulumbye Development Foundation		
Kyera Farm Training Centre		
Kyetume Community Based Health Care Programme (KCBHCP)		
Kyosiga Community Christian Association for Development (KACCAD)		
Lango Child And Community Development Federation		
Lifewater International	Kaliro	541,450,445
LINK TO PROGRESS	Lira, Oyam, Kole, Alebtong, Amuria, Otuke, Apac, Pader, Nwoya	1,029,000,326
Literacy Action and Development Agency	Kanungu, Mitooma, Rukungiri	354,160,000
Livelihood Improvement Program Of Uganda (LIPRO UGANDA)	Bushenyi and Mbarara	207,600,000
Living Water International Uganda	Ibanda, Kiruhura, Ntungamo	1,641,500,000
Lodoi Development Fund		

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Name of NGO	Districts	Expenditure (UGX)
Lutheran World Federation, Katakwi Sub Program		
Maganjo Farmers Association (MAFA)		363,062,500
Makondo Health Centre		
Mariam Foundation Centre		
Masiyompo Elgon Movement for Intergral Development		
Mbale Area Federation of Communities		
Mbarara District Farmers Association		
Medical Assistance Programme (MAP)		
Medicine Sans Frontieres Holland (MSF-H)		
Mission For Water		
Mpolyabigere RC		
Mt Elgon Christian Development Foundation		
Mubende Rural Development Association		
Mukono Multipurpose Youth Organisation (MUMYO)	Mukono	124,003,500
Multi-Community Based Development Initiative Ltd		
NAGONGERA YOUTH DEVELOPMENT PROGRAMME		
Nagongera Youth Development Programme	Tororo	10,177,000
National Association for Women's Action in Development		
National Association For Women's Action In Development(NAWAD)	Wakiso, Mukono, Nwoya, Amuru, Kiruhura, Mbarara	-
National Association of Professional Environmentalists (NAPE)		
Nature For Life Conservation Initiatives(NALCO)		
Ndeeba Parish Youth Association(NPYA)	Kampala	7,440,000
Needy Kids Uganda		
Needy Kids Uganda Now Center For Economic Empowerment Uganda(CEEU)	Yumbe,Arua	164,400,000
Network For Holistic Community Development (NEFHCOB)		

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Name of NGO	Districts	Expenditure (UGX)
Network for Water and Sanitation(NETWAS) Uganda	Kabarole, Ntungamo, Kyenjojo, Mayuge, Mpigi, Kampala, Masaka, Lira, Nebbi	52,500,000
Ngeenge Development Foundation (NDF)	Kapchorwa, Kween, Bukwo	22,485,000
Ngonge Development Foundation		
Noah's Ark Children's Ministry (NACMU)		
North Ankole Diocese Rainwater Harvest (NADS)		
North Kigezi & Kinkizi Dioceses Water and Sanitation Programme (NKKD WASTSAN)	Rukungiri and Kanungu	772,676,000
Nutricare International Limited (CBO)		
Off To Mission		
OPEN PALM COWESER		
Organisation for Development and Solidarity (ODS)		
Orungo Integrated Development Organisation(OIDO)		
Oxfam GB-Uganda		
PACHEDO		137,527,000
PAG-Soroti Mission Development Department		
Paidha Water And Sanitation Association		
Pakele Women's Association		
Pakwach Development Forum		
Pamo Volunteers		
Participatory Rural Development Organisation (PRDO)		
Partners In Community Transformation(PICOT)	Koboko	7,000,000
Pentecostal Assemblies of God-Planning and Development Secretariat Kumi (PAG-PDS KUMI)	Kamuli, Lira, Alebtong, Luwero, Tororo	19,300,000
Plan international Uganda		
Programme For Accessible Health, Communication And Education (PACE-formerly PSI Uganda)		
Protos-Uganda		
Rakai Counsellors' Association (RACA)		
Rakai-CBHP		

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Name of NGO	Districts	Expenditure (UGX)
Relief International Uganda		
Rotary Club Of Kalisizo	Masaka, Rakai, Kalungu, Bukomansimbi	151,072,000
Rotary Club Of Masaka		
Rukungiri Women Integrated Development Foundation (RWIDF)	Rukungiri, Mitooma	107,825,50
Rural Community Strategy For Development (RUCOSDE)		
Rural Country Development Organization		
Rural Country Integrated Development Association (RUCIDA)		
Rural Gender And Development Association		
Rural Health Care Foundation Uganda		
Rural Initiative for Community Empowerment West Nile(RICE-WN)	Maracha, Koboko	69,275,023
Rural Initiative For Community Empowerment West Nile (RICE-WN)		
Rural Welfare Improvement For Development (RWIDE)		
Rwenzori African Development Foundation		
Rwenzori Youth Concern Association (RYCA)		
Safe Water Works Association (SAWA)		
Safer World International		
Samaritans International Relief	Nakapiripirit, Napak, Moroto, Kyegegwa, Oyam, Apac, Yumbe	2,041,760,000
Samaritan's International Relief		
Samaritan's Purse International Relief		
Save the Vulnerable and Orphaned Children Initiative		
Shuuku Development Foundation		

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Name of NGO	Districts	Expenditure (UGX)
SNV Netherlands Development Organisation	Arua, Yumbe, Koboko, Maracha, Nebbi, Zombo, Moyo, Kabale, Kasese, Kamwenge, Kyenjojo, Bundibugyo, Kyegegwa, Kibaale, Mubende, Kole, Katakwi, Oyam, Kaberamaido, Budaka, Kampala, Kumi, Mbale, Soroti, Bukedea, Butaleja, Palisa, Mayuge, Jinja, Iganga, Kamuli, Busia, Buyende, Kaliro, Manafwa, Tororo, Bulambuli, Ngora, Bukwo, Bududa, Kween, Serere, Amuria, Sironko, Kiboga, Bugiri, Mpigi, Rakai, Masaka, Buikwe, Mukono, Wakiso, Kyankwanzi, Luweero, Lwengo, Bukomansimbi, Kalungu, Sembabule, Lyantonde, Butambala, Gomba, Mityana, Nakaseke, Kayunga, Namayingo, Bushenyi, Namutumba, Kitgum, Lamwo, Amuru, Adjumani, Pader, Agago, Maracha, Kiruhura, Mbarara, Ntugamo, Rukungiri, Sheema, Bushenyi, Isingiro, Kiryandongo, Kisoro, Masindi, Rubirizi, Mitooma, Buhweju, Ibanda, Kabarole, Gulu, Alebtong, Otuke, Lira, Manafwa, Kakumiro, Hoima, Kapchorwa, Apac, Dokolo	694,880,000
Sole Integrated Development Organisation (SIDO)		
Soroti Catholic Diocese Integrated Development Organisation (SOCADIDDO)	Amuria, Bukedea, Katakwi, Kaberamaido, Kumi, Ngora, Serere, Soroti	535,106,900
Sustainable Sanitation and Water Renewal Systems (SSWARS)		
TEMELE Development Organization (TEMEDE)		
Teso Environmental Sanitation And Hygiene Improvement Initiative		
The Environment And Community Development Organization		
Toro Development Agency (Kabarole)		
Tororo District NGO Forum (TONGOF)		
Two Wings Agro-forestry Network (TWAN)		
Uganda Association for social economic progress		
Uganda Cooperative Consultancy Firm		
Uganda Domestic Sanitation Services (UGDOSS)		
Uganda Environmental Education Foundation		
Uganda Japan Association (UJA)		
Uganda Muslim Rural Development Association (UMURDA)	Bugiri, Namayingo, Iganga, Busia, Tororo, Mbale, Manafwa, Bududa, Sironko, Butaleja, Kibuku, Palisa, Bukwo, Kween and Kapchorwa	1,791,700,600
Uganda Rainwater Association		
Uganda Red Cross Society		
Uganda Rural Development and Training Programme (URDT)		659,300,000
Uganda Society Of Hidden Talents		


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Name of NGO	Districts	Expenditure (UGX)
UMREF		
Union of Community Development Volunteers (UCDV)	Kampala, Wakiso, Nakaseke, Mpigi, Butambala, Gomba, Mityana, Masaka, Bukomansimbi, Kalungu, Lwengo, Rakai, Kyotera (Rakai), Mukono, Buikwe, Jinja, Iganga, Namutamba, Mbale, Tororo, Mbarara, Kabale	240,260,000
UWESO Masaka/Rakai		
Voluntary Action For Development(VAD)	Wakiso, Amuria, Napak	582,100,000
Water Aid Uganda	Kampala, Kibuku, Palisa, Napak, Nakapiripirit	1,540,640,000
Water For People, Uganda	Kamwenge, Soroti, Kitgum, Lira, Kampala	255,240,800
Water For Production Relief		
Water Missions Uganda		
Water School Uganda		
Water School Uganda - Eastern Region		
WaterAid Uganda		
Welthungerhilfe	Yumbe, Adjumani, Arua, Moroto, Napak, Nakapiripirit, Kabarole	3,866,833,739
Wera Development Agency(WEDA)	Amuria, Katakwi	37,873,000
Women Alliance and Children Affairs (WAACHA)	Iganga	50,500,000
Women Alliance and Children Affairs(WAACHA)		
World Vision – Buliisa		
World Vision – Hoima		
World Vision Bundibugyo		
World Vision Kaabong FFK/KLEP		
World Vision Uganda	Adjumani, Moyo, Yumbe, Arua, Koboko, Kibaale, Hoima, Buliisa, Kiboga, Nakasongola, Mpigi, Bundibugyo, Kamwenge, Buikwe, Oyam, Kole, Kotido, Kaabong, Abim, Bugiri, Busia, Soroti, Amuria, Tororo, Butalejja, Mbale	5,271,965,000
YES Busia		
Youth Alive		
Youth Development Organisation (YODEO)		
Youth Environment Service (YES)	Busia District	32,000,000
Youth Initiative For Development Association (YIFODA)		
Youth Social Work Association Uganda (YSA)		
ZOA Uganda		

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Name of NGO	Districts	Expenditure (UGX)
Total		38,392,812,677


Key to colours

 No report submitted for FY 2016/17

 Report submitted for FY 2016/17

Key to colours

 No report submitted for FY 2016/17

 Report submitted for FY 2016/17