



THE REPUBLIC OF UGANDA

Government of Uganda  
Ministry of Water and Environment

# **Water and Environment Sector Performance Report 2019**



## Foreword

Water is vital for life and livelihoods and supports diverse and important ecosystems in wetlands, lakes, rivers, estuaries and the sea. It is essential that there is enough water, of the right quantity and quality, for people, businesses, agriculture and the environment both now and in the future. This sometimes requires balancing competing demands and needs.

The 11<sup>th</sup> Water and Environment sector Performance report 2019 provides evidence on investments, targets, achievements, and challenges for the sector during the financial year 2018/19.

As of June 2019, the percentage of the rural population using an improved water source was estimated at 69% (compared to 70% in FY 2017/18). It is noted during the year under review the rural population increased by an estimate of 993,766 persons yet the new water supply interventions covered 50% of the population increase.

Access to safe drinking water in the urban water has increased to 79.1% (up from 74%) of the urban population (in large and small towns, and Rural Growth Centres using improved drinking water sources compared to 77% in June 2018). The water and sanitation services managed by National Water & Sewerage Corporation (NWSC) have now expanded to cover a total of 253 towns.

By the end of the FY 2018/2019, cumulative WfP storage capacity had increased from 39.832 million cubic meters in FY 2017/2018, to 41.12440 million cubic meters.

Other important achievements in the sector included Policy Reviews to account for national interest in trans-boundary water resources, the Cooperative Framework Agreement (CFA), for the sustainable management and utilization of the shared Nile basin water resources, was signed by six (6) countries (Ethiopia, Rwanda, Tanzania, Kenya, Burundi and Uganda). Cabinet approved Uganda's ratification of the CFA in June 2019 bringing the total number to five countries that have since ratified.

The percentage of Uganda's area covered by wetlands is estimated at 8.9%. A total of 734 hectares of wetlands were restored in the FY 2018/19 up from 487.4 hectares.

Over the years, Uganda's tree cover has immensely declined i.e. from 24% in 1990 to 12.4% in 2015. Forest plantations establishment has increased by 51480ha over the last 5 years, at a rate of 2.96%.

Inadequate financing to the sector remains a major challenge and affects the fulfilment of core functions. As a result, the targets under the Strategic Sector Investment Plan (2018-2030), the second National Development Plan and Presidential Directives (e.g. one water source per village) are unlikely to be met.

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 2018/19.

For God and my country



**Hon. Sam Cheptoris**

**Minister of Water and Environment**

## Executive Summary

### Introduction

This is the 11<sup>th</sup> Water and Environment Sector Performance Report (SPR). It presents the performance of the sector during the financial year (FY) 2018/19 in terms of investments, targets, achievements, outputs and challenges. It is based on Sector Performance Indicators. It covers water supplies, sanitation and hygiene, water for production, water resources management, environment and natural resources, climate change and cross cutting issues of gender, HIV/AIDS and governance.

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).

### Sector Finances

The total financing to the Sector including on-budget and off-budget resources was approximately UGX 1,939.12bn, out of which UGX 1,833.67bn was on-budget having been appropriated by Parliament for the Ministry of Water and Environment (MWE) and all the agencies; National Environment Management Agency (NEMA), National Forestry Authority (NFA), Uganda National Metrological Authority (UNMA) and National Water and Sewerage Corporation (NWSC). UGX105.45bn was off-budget. The donor On-budget allocation was UGX 825.52bn, representing 43% of the total funding envelope. The off-budget financing was provided by Civil Society Organizations (CSOs) both in the Water and Environment Sub-sectors.

The internally generated funds approved by Parliament as Appropriation in Aid (AIA) was UGX 560.12 bn; representing 28.9% of the Sector budget. In terms of releases, the total amount released to the Sector was UGX 1,864.39 bn; representing 96.1%. The Government (treasury) released UGX 417.75 bn representing 96.4%, Donors UGX 780.35bn (94.5%), AIA UGX 546.87bn (97.6%) and off-budget UGX 105.45bn (100%).

### Rural Water Supply

The main technology options used for water supply improvements in rural areas include deep boreholes (44.3%), shallow wells (23.4%), and protected springs (21%). Others include tap stands/kiosks of piped schemes and rainwater harvesting tanks (11%).

As of June 2019, the national safe water coverage in rural areas was estimated at **69%**. There was a decline from 70% as of June 2018. The percentage of rural villages with safe water supply stagnated at 66%. This was attributed to villages increasing more than the number of new new water facilities.

The functionality for rural water supplies remained the same (85%) as in FY 2017/18 .

The overall per capita cost for rural water supplies was USD 75 which was higher than USD 68 in FY 2017/18.

1,029 new boreholes were constructed and 356 rehabilitated. 30 solar powered mini schemes were completed. 81 piped water systems with 2,785 taps and 131 protected springs were constructed. 1,067 rainwater harvesting systems (ferro cement tanks, Plastic tanks and Communal) were installed.

The percentage of water points with functional water and sanitation committees was estimated at 89% in June 2019.

### Urban Water Supply

The population using an improved drinking water source in urban areas increased from 77% in June 2018 to 79% in June 2019. This increase was attributed to completion of water supply systems in Koboko, Rukungiri, Pallisa and Katwe – Kabatoro, and additional connections by Umbrella Water Authorities. Access to safely managed water (available on premises) was estimated at 57.2% compared to 20% in June 2018. 6,140 additional villages (local council 1s) in urban areas were provided with an improved water source.

Completed construction of 12 small towns water supply systems with 3,755 public stand posts (PSP) and 3,550 PSP in large towns.

Functionality of small towns and rural growth centres piped water supply systems increased from 93% in June 2018 to 94.3% in June 2019. As

of June 2019, large towns under NWSC had an average of 18 hours per day of service.

Non Revenue Water (NRW) decreased from 33.35% to 30.73% in large towns and to 33% in small towns and RGCs.

The average per capita investment cost for the new water facilities was USD 41 compared to USD 58 in FY 2017/18.

### **Water for Production**

The cumulative WfP storage increased from 39.32 million cubic meters in FY 2017/2018, to 41.124 million cubic meters; representing an increase of 4.6%.

The Ministry has completed construction of four (4) medium scale Irrigation schemes of Olweny in Lira District, Agoro in Lamwo District, Mubuku I in Kasese District and Doho I in Butaleja District.

Completed construction of thirty five (35) small scale Irrigation schemes in the Districts of Pallisa (1), Mayuge (1), Abim (1), Kamuli (1), Bukedea (1), Tororo (1), Katakwi (1), Bukwo (1), Soroti (1), Manafwa (2), Kibuku (1), Kaabong (1), Masaka (1), Gomba (1), Butambala (1), Kabarole (2), Ntoroko (1), Kamwenge (1), Kagadi (1), Kalungu (1), Wakiso (1), Adjumani (1), Zombo (1), Gulu (1), Omoro (1), Nwoya (1), Alebtong (2), Oyam (2), Pakwach (1), Arua (1) and Lira (1) increasing on crop production

Functionality of WfP facilities slightly increased from 86.7% in FY 2017/18 to 87.2% and 84% of WfP facilities had functional management systems.

### **Water Resources Management**

The average compliance to the permits (surface water, groundwater and waste water discharge) conditions increased to 73% from 72% in FY 2017/18.

A total of 1,107 water samples were collected in the year under review compared to 551 samples collected in the previous year. Compliance reduced to 59% from 64% in the previous year. Water safety by technology type was; 76% of boreholes, 24% shallow wells and 42% protected springs had safe water for drinking based on compliance to bacteriological safety or *E. coli*. A total of 772 samples were collected from large towns and small towns. The compliance levels with respect to *E. coli* for small towns was 93% while compliance level for large towns was 96%. A total of 122 industrial

wastewater discharge facilities were monitored countrywide in the year under review. Industries monitored included tanneries, dairies, beverages, fish processing, sugar processing, other food processing factories and pharmaceuticals. The findings show low compliance to Biochemical Oxygen demand (BOD) for sugar processing factories, tanneries and dairies at 35%, 36%, 40% respectively.

Trans-boundary organizations continued to be supported through financial contributions and providing technical guidance. These include the Nile Basin Initiative (NBI), Lake Victoria Basin Commission (LVBC), Global Water Partnership (GWP). Implementation continued of trans-boundary projects; Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project is implemented nationally by Uganda and Democratic Republic of Congo. 5 landing sites were under construction and the progress was Kitebere in Kagadi (65%), Mbegu in Hoima (69%), Dei in Pakwach (73%) and Rwenshama in Rukungiri (75%). Completed the construction of an office block and regional water quality laboratory in Fort Portal. Construction of 15 community sanitation facilities was at 95% and completed drilling of 20 boreholes. Commenced catchment restoration interventions (River Sebwe catchment in Kasese, River Tokwe and Humya catchment in Bundibugyo, River Semuliki catchment in Ntoroko) where 125,897 trees were planted, 13.5km of bamboo planted along Riverbanks and 6.7km of Riverbanks fenced.

Nyimur Multipurpose Water Resources Management and Development Project; Geo-technical investigations, Detailed Designs and Tender documents were completed. Sio-Malaba-Malakisi River (SMM) Basin Management Project secured a grant to a tune of USD 1.5 Million from the NEPAD.

### **Sanitation and Hygiene**

Most districts implemented Community Led Total Sanitation (CLTS) and Home Improvement Campaigns (HIC) to improve their sanitation and hygiene status.

According to district reports, access to some form of sanitation in rural areas reduced from 79% in FY 2017/18 to 77.2%. In urban areas, access to some

form of sanitation was 87.9%. Use of basic sanitation in rural areas was 16.6% and in urban areas 37.4%. Use of safely managed sanitation in rural areas was 7.1% and in urban areas was 42.8%.

The national standards recommend a pupil to stance ratio of 40:1 in schools. According to district reports, the national pupil: stance ratio reduced from 73:1 in FY 2017/18 to 71:1. Access to hand washing facilities in schools increased from 40% in FY 2017/18 to 42%.

District reports show that 22.9% of the rural population were practising open defecation and urban areas 12.1%.

### **CSOs Contribution to Water and Sanitation**

Civil Society Organizations (CSOs) investment in FY 2018/19 was UGX 69.13 bn. This was a reduction from UGX 91.02 bn in FY 2017/18. UGX 28.25 bn was invested in water supply and UGX 9.86 bn in sanitation and hygiene. UGX 18.83 bn was invested in WASH emergency interventions in refugee settlements and host communities in Arua, Adjumani, Ntoroko, Yumbe, Kiryandongo, Lamwo, Kyegegwa, and Moyo districts.

CSOs reported construction of 1,651 new water supply facilities and 2,495 rehabilitated. A total of 60,367 household sanitation facilities and 1,788 school latrine stances were constructed.

### **Wetlands Management**

In 1994, wetland coverage on the surface area of Uganda was 15.6%. However, over time this had been gradually reducing and is currently at 8.9%. This is attributed to expansion in Agriculture, industry and urbanisation. During the FY2018/19, 734.4 ha were restored up from 487 ha in FY 2017/18. 148 km of critical wetlands were demarcated. A total of seven (7) drainage basins have already been coded.

### **Forestry Management**

De-forestation remains the major challenge which has led to decline of forest cover from 24% in 1990 to 12.4% in 2015. Uganda has an average annual loss of natural forest of 2% per annum, one the highest in the world. Even when establishment of forest plantation is considered the overall net still remains high 1.4% per annum. Forest plantations establishment has increased by 5,1480ha over the last 5 years, at a rate of 2.96%.

1,452.6 hectares of new plantations were established in Mafuga, Mbarara, South Busoga, Lendu, Opit, Abera, Mwenge, Onekoeko and Lagute while 25,055.7ha were established by private investors in Central Forest Reserves (CFRs). 32,416,752 assorted seedlings were raised and distributed to public. Under district forest services, 9,693,045 tree seedlings were planted with an average survival rate of 66% on a total area of 9684.43 hectares (ha); and 1,524.9 ha of local forest reserves were planted.

### **Environmental Support Services**

Parliament passed the National Environment Bill 2017 and the Act became law March 2019.

NEMA approved and issued a total of 1,125 certificates to developers compared to 807 in FY 2017/18. 1,395 inspections were carried out and the findings show inadequate waste management practices, emissions to air, construction/expansion and operation of facilities without approvals from NEMA. Over 4000 ha of degraded ecosystems were restored.

### **Meteorology, Weather and Climate Services**

Seasonal forecasts were issued from June 2018 to May 2019 for all regions of the country. The first weather Radar was successfully installed in Kigungu-Entebbe. The procurement of the second Radar (Mwizi – Mbarara) is in advanced stages with equipment in shipment from Germany. Contract for the supply and installation of the third weather radar was signed and Letter of Credit opened.

The performance of manual weather station was at 60%, automated weather stations 93% and rainfall stations 40%. 13 staff members were trained in GIS, M&E and gender.

### **Climate Change**

Consultations were conducted on the draft Climate Change Bill. 9 staff members were trained on specialized critical skills. 6 out of 7 SPCR analytical studies were finalized in FY 2018/19 with all technical reviews, stakeholder consultations and validations conducted.

### **CSOs in Environment and Natural Resources (ENR)**

CSOs active in ENR reported a contribution of USD 4,317,560. This represents an increase of 57% from the previous year.

Investment in environment constituted 34%, forestry 28%, climate change 22%, Governance 9% and wetlands 7%.

### **Cross cutting issues**

The percentage of Water Source Committees (WSC) with women holding key positions remained at 85%. 35% of Catchment Management Committees (CMCs) had women holding key positions compared to 53% in FY 2017/18. This reduction was attributed to limited number of qualifying women to the key positions on the new committees formed. The Ministry undertook Voluntary Counseling and Testing (VCT) for 289 people including 143 females and 146 males. HIV/AIDS Voluntary Counselling and Testing (VCT) was carried out in the towns of Kiwoko, Butalangu, and Kayunga- Busana. 12 districts reported implementing HIV/AIDS related activities including condom distribution and capacity building.

### **Critical Issues for the Sector**

Inadequate financing to the sector remains a major challenge and affects the fulfilment of core functions. As a result, the targets under the Strategic Sector Investment Plan (2018-2030), the second National Development Plan and Presidential Directives (e.g. one water source per village) are unlikely to be met.

Capacity gaps in the sector remains a critical issue particularly in newly created local governments, Umbrella Authorities and the ENR subsector.

Subsidy for household sanitation remains critical for attaining full sanitation coverage. For the past two decades, government has maintained the policy of no subsidy for household sanitation. This policy has had varying successes with some areas attaining high basic sanitation coverage and others have remained behind.

In the FY2017/18, the sector commenced implementation of the sector performance measurement framework (2016). This resulted from revision of the 22 golden and platinum indicators to incorporate the Sustainable Development Goals and other emerging issues emanating from more stringent water quality requirements, human rights to water and sanitation, good governance and climate change. The sector is now reporting on 42 sector indicators

and is faced with some challenges are some of these indicators are completely new with no baseline. However with support from UNICEF, some of these indicators (WASH indicators) have been elaborated and further guidance on how they can be computed provided, with further support, the sector will eventually be in position to report on all of these indicators

### **Addressing Equity**

17 least served districts with less than 55% coverage require special attention. The majority of these districts fall in the dry cattle corridor with low surface and ground water potential and require expensive technologies like bulk piped water supply.

**WATER AND ENVIRONMENT SECTOR PERFORMANCE INDICATORS**

<b>Performance Indicators</b> (n/a = not applicable, ND = No Data)		<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
<b>Water Supply</b>					
1. Basic water: Percentage of population using an improved drinking water source	Rural	67%	70%	70%	69%
	Urban	71%	71%	77%	79%
2. Safely managed water: Percentage of population using safely managed drinking water services located on premises	Rural	n/a	ND	ND	ND
	Urban	n/a	ND	20%	57.2%
3. Percentage of villages with a source of safe water supply	Rural	n/a	64%	66%	66%
	Urban	n/a	ND	ND	ND
4. Percentage of towns with pro-poor facilities where people pay less or equal to the house connection tariff in the service area	STs	n/a	ND	38%	31%
	NWSC	n/a	ND	83%	ND
5. Functionality: rural: % of water sources functional at time of spot-check	Rural	86%	85%	85%	85%
	STs	n/a	92%	93%	94.3%
	NWSC	n/a	ND	ND	ND
6a. Management - rural: % of water points with actively functioning Water & Sanitation Committees	Rural	87%	88%	89%	89%
	STs	n/a	ND	ND	100%
6b. Management – piped schemes: % of piped water schemes with formal contract-based management structure	STs	n/a	ND	ND	33%
	NWSC	28%	31.3%	30.7%	30.73%
7a. % Non-revenue water (piped schemes)	STs	n/a	ND	42%	33%
	NWSC	28%	31.3%	30.7%	30.73%
7b. Customer satisfaction: NSWC’s customer satisfaction index	NWSC	88%	84%	85%	86%
8. Financial Sustainability: Ratio between total revenue collection and O&M costs	STs	n/a	ND	158%	79%
9. Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD)	Rural	32	32	68	75
	Urban	65.5	54	58	41
10. Drinking water quality: % of water samples taken that comply with national standards (Point water sources / Piped schemes)	Rural	41%	59%	64%	59%
	STs	n/a	ND	89%	93.3%
	NWSC	99%	99.6%	99.3%	99.6%
<b>Sanitation and Hygiene</b>					
11. Basic sanitation: Percentage of population using an improved sanitation facility not shared with other households	Rural	n/a	ND	ND	16.6%
	Urban	n/a	ND	36.3%	37.4%
12. Safely managed sanitation: Percentage of population using safely managed sanitation services	Rural	n/a	ND	ND	7.1%
	Urban	n/a	ND	26%	42.8%
13. Open defecation: Percentage of population practicing open defecation	Rural	n/a	ND	8%	22.9%
	Urban	n/a	ND	12.6%	12.1%
14. Hand washing: Percentage of population with hand washing facilities with soap and water at home	Rural	36%	37%	36.5%	36%
	Urban	39.1%	40%	39.6%	40%
Schools: Percentage of pupils enrolled in schools with basic hand washing facilities	Schools	34%	35%	40%	42%
<b>Water for Production</b>					



<b>Performance Indicators</b> (n/a = not applicable, ND = No Data)		<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
15. Cumulative Water for Production Storage Capacity (million m <sup>3</sup> )		37.2	38.9	39.3	41.124
16a. Irrigation: Proportion of irrigation potential utilized		n/a	ND	ND	ND
17a. Irrigation: Proportion of actual water abstraction to total irrigation water requirement		n/a	ND	ND	ND
18. WfP Functionality: % of water for production facilities that are functional at time of spot-check		84%	85%	86.7%	87.2%
19. WfP Management: % of water for production facilities with actively functioning Water User Committees		81%	83%	84%	84%
<b>Water Resources Management</b>					
20. Compliance with permit conditions: % of permit holders complying with permit conditions		72%	71%	72%	73%
21. Proportion of wastewater safely treated		n/a	ND	ND	79%
22. Proportion of bodies of water with good ambient water quality		n/a	ND	ND	ND
23. Water use efficiency: Gross Value Added by irrigated agriculture per vol. of water used [USD/m <sup>3</sup> ]		n/a	ND	ND	ND
24. Level of water stress: Water withdrawal as a proportion of available water resources		n/a	ND	ND	ND
<b>Environment and Natural Resources</b>					
25. % Uganda's land surface area covered by forest		10-11%	9%	9%	9%
26. % forest area under management plans		35%	36%	34%	34.4%
27. Proportion of population with primary reliance on clean fuels and technology		n/a	ND	ND	ND
28. % Uganda's land surface area covered by wetlands		10.90%	10.90%	10.9%	8.9%
29. % wetland area with approved management plans		11.30%	11.30%	ND	ND
<b>Meteorology and Climate Change</b>					
30. % urban solid waste safely disposed of or recycled in municipalities		65%-70%	65%-70%	24% - 52%	ND
31. % weather observation stations operational and submitting data throughout the year		n/a	ND	56%	60%
32. % of districts with functioning early warning systems		n/a	28%	29%	48%
33. CC Mitigation:		n/a	ND	ND	ND
34. CC Adaptation: % change in budgets for CC adaptation * ministries		n/a	ND	ND	ND
35 % change in Uganda's climate change vulnerability index		n/a	ND	ND	ND
<b>Cross-cutting Issues</b>					
36. Gender: % of Water User Committees/Water Boards/Environmental management/Water catchment management committees with women holding key positions	Rural	86%	86%	85%	85%
	Urban	67%	82%	ND	ND
	WfP	73%	73%	83%	75%
37. Auditing: % Implementation of the previous year's audit recommendations	MWE	n/a	ND	ND	88%
	NWSC	n/a	85.7%	86%	91%
	MWE	n/a	ND	77.0%	77.32%

<b>Performance Indicators</b> (n/a = not applicable, ND = No Data)		<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
38. Procurement: Average weighed procurement performance	NWSC	n/a	ND	80.1%	ND
39. CSOs' contributions: % Districts' budgets that reflect CSOs' contributions		n/a	ND	ND	ND
40. Adequacy of Sector Funding: % of sector funding needs (SIP) covered by actual budget releases	Subsector	n/a	ND	ND	ND
41. External Funding: % of sector expenditure covered by GoU budget	Subsector	n/a	ND	19%	ND
42. Reporting: % of districts and piped water schemes complying with reporting obligations	Rural	n/a	ND	ND	ND
	STs	n/a	ND	56%	41%

**Note:** ND denotes No Data; n/a denotes not applicable

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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 Rate<sup>1</sup>    USD 1 = UGX 3,700                    EUR 1 = UGX 4,400**

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<sup>1</sup> 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.

**Harmonisation:** the process of rendering approaches, systems or policies between Development Partners and Government coherent.

**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 sector will not necessarily raise the sector ceiling. Sector budget support will 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

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### 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 highlights the major challenges and strategic issues which effect performance.

The Sector Performance Report is based on the new sector performance indicators which replaced the golden and platinum indicators. A sector-wide approach to planning, implementation, reporting and accountability was first adopted in 2001, when several individual donor specific projects and reviews were phased out. 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 several 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 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.

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.

Section 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 development projects. 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). Section 3 provides a brief summary of the status of the undertakings agreed at the last JSR in 2018.

From Section 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 (Section 4) Rural Water Supply, (Section 5) Urban Water Supply, (Section 6) Water for Production, (Section 7) Water Resources Management, (Section 8) Sanitation and Hygiene, (Section 9) Environment & Natural Resources and (Section 10) Climate Change.

The remainder of the SPR describes progress on cross-cutting issues (Section 11), the contributions from Civil Society Organisation under Section 12 (Water and Sanitation) and Section 13 (Environment and Natural Resources), and progress of implementation of Good Governance activities in the sector (Section 14). Finally, Section 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 for Water and Sanitation Authorities;
- Four semi-autonomous agencies: (i) National Water and 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); and
- Communities who are the users.

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 1**.

## 2. SECTOR PLANNING, HUMAN RESOURCES DEVELOPMENT AND FINANCE

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### 2.1 Introduction

The section provides highlights of sector planning, monitoring and capacity building in the FY 2018/19.

### 2.2 Sector Planning Framework

The planning framework for the FY 2018/19 devolved from the Public Finance and Management Act 2015 which spells out the processes the government planning cycle. The water and environment sectors links its development goals and plans to the Sector Development plan 2015, Sector Strategic Investment plan 2017 that derive their main link from the second National Development plan (NDP II) covering the period 2015/16 – 2019/20 aimed at achieving Uganda’s Vision 2040 targets. The planning and budgeting framework in the sector is well spelled out with the Water and Environment Sector Working Group as the overall approving body for the sector’s budgets.

The Policy and Planning Department coordinates sector planning and budgeting process and then submits to the Water and Environment Sector Working Group (WESWG) for approval and submission to Parliament. The WESWG is chaired by the Permanent Secretary and co-chaired by two lead Development Partners one for the Water and Sanitation Subsector and the other for the Environment and Natural Resources (ENR) sub-sector. To enhance effective coordination, coordination, implementation and monitoring, the WESWG is supported by two major sub-sector working groups – Water and Sanitation (WSS) sub-sector and Environment and Natural Resources (ENR) sub-sector.

To support support the management of cross-cutting issue, the WESWG has other seven (7) functional sub-groups (FSG). These are: Finance, Good Governance, Sector Capacity Development, De-concentrated Structures, Sanitation, Catchment Management, and Climate Change Sub-Groups. This is aimed at enhancing effective and detailed review, participation by members in governance and oversight management of the sector. The FSGs draw representation from Development Partners in the WES, Civil Society Organisations, line Ministries, Departments and Agencies, private sector and Local Government representatives.

The planning framework nationwide is guided by the Government set procedures with Parliament of Uganda at the helm of approval and this is majorly spear headed by Ministry of Finance, Planning and Economic Development that manages the procedures and budget cycles through planning and budgeting circulars issues from time to time. Therefore upon approving of the sector budget by the Water and Environment Sector Working Group, this is submitted to MoFPED for quality assurance and adherence to the financing and budgeting guidelines as guided in the “budget call circulars” issued for the respective financial year and later submitted to Parliament in form of “Ministerial Policy Statement” for consideration and appropriation.

### 2.3 Budget for FY 2018/19

Since the FY 2016/2017, government has been promoting and emphasizing program based management hence the FY 2018/2019 sector budget was prepared based on program-Based Budgeting framework ensuring that the sector plans and budgets are linked and focus more on sector outcomes rather than outputs. In this regard, the Water and Environment sector budget is generally linked to sector outcome indicators as indicated in the summary above.

The guiding factors for the budget 2018/19 were; the sector Investment Plan, the Sector development plan and the NRM Manifesto pledges, and the multiyear projects carried forward from the previous

years. Some of the major focus of the budget in the year were solar mini micro irrigation systems aimed at boosting agricultural production and less reliance on weather, solar powered water supply systems to provide water supply to reduce distances and crowding of people on water points and increase efficiency in water supply at water points. Further focus was on construction of water supply point by targeting source per village, increasing water coverage targeting 100% coverage in service areas covered under National Water operations through 100% accelerated water service coverage project, catchment management planning and implementation, enhanced tree planting and forestry restoration through reclamation, replanting of the gazetted areas wetland restoration and maintenance of the critical wetlands national wide.

### 2.3.1 New Projects

In order to ensure that MDAs deliver on the development targets envisaged in Vision 2040, Government instituted and strengthen the Development Committee in its participation and ensuring that identification, preparation, appraisal, and implementation of public projects is critically undertaken by the sectors. In respect to this MoFPED issued guidelines to provide clarity and strengthen the link between the PIP and the NDP, avoid duplication of government interventions, improve coordination in order to harness synergies among MDAs and ensure that Cost Benefit Analysis (CBA) of intended projects is undertaken so that only those projects with the greatest benefit to welfare are implemented.

In the above respect, sector underwent the review of the existing projects together with Ministry of Finance, Planning and Economic Development and at the same time prepared new projects for financing in the FY 2019/2020 and the subsequent financial years.

It should be noted that the Water and Environment sector had a profile of 14 projects due for exiting at the end of the FY 2018/19 and these were presented for extension however a number were closed while others were given an extension to finalise pending project activities as indicated in table1 below:

Table 1:Exiting projects for the PIP 2019/20

Sr.N	Code	Project Name	Previous Status
1	1193	Kampala Water –L. Victoria Water and Sanitation Project	Extended for one year
2	1130	Water and Sanitation Development Project- C	Applied for phase II
3	169	Water for Production	Applied for phase II
4	1074	Water and Sanitation Development Project- N	Applied for phase II
5	1283	Water and Sanitation Development Project- SW	Applied for phase II
6	151	Policy and Management Support	Appealed
7	163	Support to Rural Water Supply and Sanitation	Extended for one year
8	164	Support to Small Towns Water Supply and Sanitation	Closed
9	168	Urban Water Reform	Extended for one year
10	165	Water Resources Management	Closed
11	1348	Water Management Zones Project	Extended for one year
12	1301	The National REDD-Plus Project	Extended for one year
13	1075	Water and Sanitation Development Project- E	Applied for phase II
14	1231	Water Management and Development Project	Applied for phase II

The DC project approval process is keenly followed and has been institutionalised to the extent that moving forward it a requirement that all externally financed projects must adhere and get approved through this system before financing agreement are signed or approved by Parliament of Uganda.

During the year, the sector prepared and approved five new projects and six other projects that transited to phase two of their implementation. These projects went through the project preparation and approval processes from the Finance and Projects subcommittee (PPC committee of the ministry), to the WESWG up to the Development Committee approval and hence their inclusion in the Public Investment Plan 2019/2020. The total value for these projects is approximately UGX 90.9bn annually under GoU counterpart funding. Details provided in Table 2.

Table 2: New projects approved into the PIP for the FY 2019/2020-2024 period(UGX)

Sr. N	Code	Sub Program Name	Go U	Ext. Fin	Total	Status
1	1524	Water and Sanitation Development Facility - East-Phase II	8.57	3.68	12.24	Approved for FY 2019/2020
2	1525	Water and Sanitation Development Facility - South Western-Phase II	8.57	0.00	8.57	Approved for FY 2019/2021
3	1529	Strategic Towns Water Supply and Sanitation Project (STWSSP)	0.90	25.94	26.84	Approved for FY 2019/2022
4	1530	Integrated Water Resources Management and Development Project (IWMDP)	7.44	177.61	185.05	Approved for FY 2019/2023
5	1531	South Western Cluster (SWC) Project	0.00	52.34	52.34	Approved for FY 2019/2024
6	1532	100% Service Coverage Acceleration Project - umbrellas (SCAP 100 - umbrellas)	4.41	0.00	4.41	Approved for FY 2019/2025
7	1533	Water and Sanitation Development Facility Central - Phase II	15.06	36.08	51.14	Approved for FY 2019/2025
8	1534	Water and Sanitation Development Facility North - Phase II	8.57	18.67	27.24	Approved for FY 2019/2025
9	1523	Water for Production Phase II	36.39	10.40	46.78	Approved for FY 2019/2025
10	1522	Inner Murchison Bay Cleanup Project	1.00	0.00	1.00	Approved for FY 2019/2025
11	1599	Karamoja Drought Resilience Project	0.00	25.70	25.70	Approved for FY 2019/2025
		<b>Total</b>	<b>90.90</b>	<b>350.42</b>	<b>441.32</b>	

Other projects under pipeline for respective review and approval already submitted to the Development Committee are as the status Table 3 below.

Table 3: Projects still under review

Sr.N	Project Name	Current Status
1	Strengthening Resilience of Ecosystems and Livelihoods in Albertine Rift (SRELAR)	Concept
2	LVWATSAN Phase II	Prefeasibility
3	National Wetlands Restoration Project Phase II	Profile
4	Irrigation Development and Climate Resilience	Concept
5	Forest Resources Development and Conservation Project (FREDCO)	Concept
6	Multipurpose Water Use Project in Hoima District	Concept
7	Trans boundary Water Management Project	Concept
8	Upgrade Of Meteorological Infrastructure And Systems For Efficient Services Delivery In Uganda- Project	Concept
9	Development of Institutional Capacity for Climate Proofing of Critical Infrastructure Investments in Uganda	Concept

### 2.3.2 Sector Monitoring and Reporting

Quarterly monitoring is mainstreamed with M&E officers attached to departments and project support specialists attached to specific projects as required by the respective funding agencies.

MWE's Policy and Planning Department coordinates monitoring and evaluation activities and produce the quarterly performance reports and annual performance report that are mandatory government reports for onward submission to office of the Prime Minister and Ministry of Finance, Planning and Economic Development.

The focus for the FY 2018/19 has been on project closure monitoring and evaluation reports that were an input to the new projects seconded for approval or for phase two funding. Project closure and evaluation reports were prepared for

- i. All Water and Sanitation Development Facilities
- ii. Water for production
- iii. Support to Rural Water and Sanitation Project
- iv. Water Management Zones project
- v. Water Management and Development Project
- vi. Lake Victoria Water and Sanitation Project

#### **Box 1: Key milestones from the project closure reports**

##### **Water Management and Development Project**

##### **Key milestones achieved under the Project**

- i. **Improved supply and access to safe water for communities** in Arua, Bushenyi, Gulu Katwe-Kabatoro (Kasese), Koboko, Rukungiri, Pallisa and Ngora-Kumi and Upper Sipi in Kapchorwa. Over 723,120 people in the above big and small towns are now having access to newly constructed and rehabilitated water supply. This has multiple outcomes on consistent supply of safe water, reduced distance and time spent on collecting water and improved community health.
- ii. **Investment in improved sanitation facilities through construction of public toilets, sewerage and fecal sludge facilities in urban areas.** The project invested in construction of sanitation and hygiene facilities in public places such as markets, schools, taxi/ bus parks and public offices to improve on community health and hygiene. Over 24,310 people are estimated to be having access to these improved sanitation facilities in Arua, Gulu, Koboko, Rukungiri, Ngora, Nyeru, Kumi, Katwe-Kabatoro and Kapchorwa (Upper Sipi) towns.
- iii. **Direct project beneficiaries:** The project has supported over 746,780 (projected to be 1,010,000 by October 2019) beneficiaries of which 52% are females. The Project's primary beneficiaries were local communities and consumers who are empowered through their participation in catchment based planning to identify, prioritize and support investments in water related infrastructure and services. In addition to receiving better access to water and sanitation, the communities' capacity is built in utilising improved water resource information systems during their participation. The secondary beneficiaries of the Project included local casual labourers, local governments through development of catchment action plans and improve the framework for decentralized management and development of water resources; and private operators who operate and manage small town water supplies.
- iv. **Improved water resources management and development in selected catchments.** Over 5,590 ha of land buffer land been restored through catchment and water source protection measures.
- v. **Installation of water quantity and hydro metrological monitoring stations** across the country: 16 surface water, 17 ground water and 8 weather stations.

- vi. 4 Catchment Water Resources Development and Management plans developed and operational i.e. Kyoga, Upper Nile WMZs, Albert Nile and Aswa.
- vii. **Restoration and demarcation of Mabira Central Forest Reserve.** Over 2447 ha of trees planted (660,000 seedlings), live boundaries planted/ demarcated and communities within the catchment sensitized to minimize encroachment.
- viii. **Financial performance** credit worth SDR 87.1million that was equivalent to USD 135 million was allocated to this project. By project closure date, the amount had depreciated to USD 122.32 and all these funds had been disbursed to the two designated project accounts (the MWE designated account and National Water and Sewerage designated Account). By the application deadline date, USD 121.60 million was recorded as total expenditure (99% of the loan) and the balance of USD 0.72 million was transferred back to the World Bank as un-utilised funds.
- ix. **Benchmark for design of two new projects within the Ministry.** The successful implementation of WMDP and positive lessons learned led to development of Integrated Water Management and Development Project and Irrigation Development and Climate Resilience Project.

**Some of the key lessons learnt during the WMDP Implementation include;** (1) Project readiness before loan acquisition is key ingredient for smooth implementation, (2) Environmental and social safeguards is a core element of project implementation. This requires adequate capacity building for implementers on World Bank modalities, (3) Commence major procurements early for quality and timely delivery of contracts, (4) Payments of contract taxes should be included as part of loan agreement to minimize delays, (5) compensations for land and crops to Sub Project Affected Persons need to be handled upfront to avoid delays in implementation, and (6) In building the engagement of local firms (Buy Uganda Build Uganda) in project implementation still challenging in terms of capacity to deliver.

**Key recommendations to further support the Project impact include:** (i) need to put in place a utility provider such as Umbrellas to manage smaller schemes well and ensure sustainable water and sanitation services at affordable costs to the beneficiaries, (ii) need for continuous engagements with beneficiaries especially in small towns like Upper Sipi on system operation and maintenance, (iii) need for additional efforts in conservation of the sub catchment to ensure sustainable water resources productivity to meet the various competing water demands.

#### Pictorial evidence of the installed instruments



## 2.4 Accreditation of the Sector for Adaptation funding

During the year, the Ministry continued with the review of its application for Adaptation and Green Climate funding to the sector. Having considered the recommendations of the Accreditation Panel, the Adaptation Fund Board at its thirty-third meeting held in April 2019, accredited the Ministry of Water and Environment as a National Implementing Entity (NIE) of the Adaptation Fund as per paragraph 38 of the Operational Policies and guidelines, for parties to access resources from the Adaptation Fund. In the same light, the Ministry of Water and Environment was accredited for Green Climate Fund in June 2019. The Ministry is now in the process of writing fundable proposals for both

AF and GCF, in line with the AF and GCF proposal writing templates. The Policy and Planning department will be the secretariat to both AF and GCF and approval will be done along the other established project approval channels instituted by the sector in harmony with the DC guidelines too.

## 2.5 Sector Capacity Development

Sector Capacity Development (CD) is planned and coordinated under the Policy and Planning Department of MWE. During the FY2018/19, key CD activities included development of costed CD plans for the Departments of Rural Water Supply, Water and Environment Sector Liaison Department, Water for Production and Environment Sector Support Services. Other activities included harmonization of the costed CD plans for the Water and Environment Sector, development of training manuals on water well borehole siting, drilling supervision and test pumping supervision, review of technical specifications and preparation of engineers estimates for the development of water well borehole sources. In collaboration with Makerere University, the Ministry developed a National Framework for Human Capacity Development (HCD) for Junior, Senior and Technician professionals in the Water and Sanitation sector in Uganda. In addition, short term performance improvement training interventions continued to be conducted for the sub sectors. Key achievements during the FY 2018/19 are highlighted in the following sections

### 2.5.1 Development of the CD Plans

Capacity Development Strategy (CDS) and the Capacity Development Plans (CDPs) for the Departments of Rural Water Supply, Water and Environment Sector Liaison Department, Water for Production and Environment Sector Support Services were finalized. The exercise of harmonizing the costed CD plans for the Water and Environment sub sectors into one document was also finalized. The next steps now are to embark on mobilization of resources for implementation of the CD plans during the next five years planning period.

### 2.5.2 Development of training manuals and guidelines

Operation and Maintenance of water and sanitation infrastructure was highlighted as one of the priority capacity gaps impacting on sustainability of water and sanitation services. In order to address the above, training manuals on water well borehole siting drilling supervision and test pumping supervision, review of technical specifications and preparation of engineers estimates for the development of water well borehole sources have been developed. Dissemination and training in the use of the manuals and guidelines will be implemented starting with the FY 2019/20.

### 2.5.3 National Framework for Human Capacity Development (HCD) for Water and Sanitation Professionals

The Ministry, in collaboration with Makerere University conducted a Sector-Wide Assessment Desk Study on Human Capacity Development (HCD) in the water and sanitation sector in Uganda. The study was commissioned by UNESCO and implemented under the NEPAD African Network of Centres of Excellence on Water Sciences and Technology (ACEWATER Phase II): Human Capacity Development (HCD) Component. The Sector-Wide Assessment Study identified key actors in HCD in the WATSAN sector in Uganda, defined priority capacity requirements with national counterparts through a multi-stakeholder participative approach; established an implementation framework together with a monitoring and evaluation structure for HCD for junior, technician and senior professionals in Uganda's water and sanitation sector. The framework provides operational guidelines and procedures for implementation of HCD for junior, technician and senior professionals in the water and sanitation sector in Uganda, with the overall objective of improving the quality of human resources and service delivery in the industry



#### 2.5.4 Institutional Strengthening and Capacity Development of Sector Personnel in Solar Water Pumping Technology

During the reporting period, the MWE signed a MoU with Engineers without Borders (EWB) – USA for Institutional Strengthening and Capacity Development of Water and Environment Sector Stakeholders for the overall management of water supply systems across the country. Steering Committee comprising representatives from the key technical departments and sector agencies has been constituted to operationalize the MoU, and a Solar Technical Working Group (STWG) comprising of a wide range of stakeholders has been established to develop a design manual for solar water supply pumping systems. The manual is intended to guide professionals in the design of PV pumping systems, a technology that is quickly being adopted in many parts of the country. So far, four (4) STWG meetings have been held the design manual is over 80% complete. Furthermore, EWB – USA is in advanced stages of partnering with the Engineers Registration Board (ERB) to roll out the design of Continuous Professional Development (CPD) module for solar water pumping technology. The engineers and technicians from MWE will be trained once the module is complete through the ERB approval processes.

#### 2.5.5 Other On-going CD Interventions

##### **Strengthening the capacities of the human resources for sustainability of sector services**

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 121 fresh graduates (74 male and 47 female) of not more than two years of field experience were admitted to the program, and 210 undergraduate students (95 male and 115 female) from local training universities and tertiary institutions were recruited for three months industrial training from June to August 2018.

##### **Skills Development of the Human Resources Project**

Under the Skills Development of the Human Resources (SDHR) project being implemented by the MWE with support from Enabel, short term capacity development interventions were conducted for staff of the MWE in the areas of Strategic Planning, Leadership and Management, Effective Communication Skills, Conflict resolution and management, Monitoring and evaluation as well Advocacy and Lobbying. Overall the project has achieved 67%( 44 of the 70 training activities) of the training planned for the total life of the project and registered 63%( 508 out of 802 trainees) participation of the trainees planned to be trained for the life cycle of the project.

#### 2.5.6 Capacity Development Interventions by Sector Agencies

##### **National Water and Sewerage Corporation (NWSC)**

The NWSC 5–Year Capacity Development (CD) Plan 2016–2021 is being implemented. The corporation prepares annual training calendars to operationalize the CD Plan. A mid–term review has just been completed to ascertain the time relevance and synchronize the CD Plan priority areas to the current needs of and to re-focus training activities to NWSC’s strategic objectives. It is also envisaged that the reviewed CD Plan will strengthen training interventions, maximize the impacts of training measures and provide useful tools for mobilizing CD resources.

The NWSC has successfully implemented 3 Training Calendars FY 2016/17, FY 2017/2018 and FY 2018/2019. Under the GIZ/Enhanced Water Security and Sanitation (ENWASS) programme, more CD support was provided to NWSC, with special focus on vocational training for Water Professionals (Component 3). During the FY 2018/2019, a total of 73 Refresher courses were held for staff at various levels, 1,659 staff trained, 281 shop-floor staff accredited with the Workers Practically Acquired Skills certificate provided by the Directorate of Industrial Training. Additional vocational training packages have been developed and certified these include modules for Customer Service Advisor and Water

Quality Technician. In order to streamline the costing of training a financing model was developed. Finally the tripartite MoU between MoWE, MoES and NWSC was renewed.

### **National Forestry Authority (NFA)**

During the reporting period, NFA conducted Short term performance improvement training interventions for 15 staff in Procurement and Contract Management, Gender and Equity reporting and budgeting for staff, Innovation, leadership and entrepreneurship development in times of uncertainties for 10 Senior managers, Basic Public Relations Practices for 106 middle managers in the professions of Accounting, forestry and administration, Performance Management and Performance appraisal for senior officers, and also provided on job hands on skills training for 144 students( fresh graduates and undergraduates) who pursued forestry related courses and other disciplines.

### **Uganda National Meteorological Authority (UNMA)**

Capacity-building in UNMA is a continuous activity with the aim of having a highly skilled competent and motivated workforce and continuously improving the service delivery of the Authority. The National Meteorological Training School (NMTS) which is under UNMA offers Certificate and Diploma courses in Meteorology and Agro-Meteorology to serve the country's and regional manpower requirements. In addition, staff of the Authority continue to pursue both short term and long term specialized training programmes that are aimed at professionalizing the human resources in the country. These included four (04) staff members i.e. three females and one male completed the Bachelor of Science Degree in Meteorology course from Makerere University in Academic year 2018/2019, One (01) female staff completed a MSc in Applied Meteorology course from Nanjing University of Information Science and Technology (NUIST), China. One (01) male staff completed a Masters in Atmospheric and Environmental Sciences from Hankuk University of Foreign Studies, S. Korea. One female in undergoing MSc. In Applied meteorology, climate and Management in the University of Reading, UK, Two (02) male staff are undergoing PhD studies one in Nanjing University of Information Science and Technology (NUIST), China and the other in University of Reading, UK.

## **2.6 Sector Finance**

### **2.6.1 Introduction**

Funding to the sector under the FY 2018/19 is classified into two categories depending on source of funds to the sector;

- i. On budget Funding (funds that are released from National treasury- MoFPED on a quarterly basis) which are appropriated by Parliament of Uganda to all MDAs including Appropriation in Aid (internally generated funds by MDAs that are spent at source).
- ii. Off-budget funding composed funds to the sector that do not go through the National Treasury or to the MDAs' directory. These are usually spent by the sector or funding partner themselves on behalf of the sector on agreed upon workplan, activities and outputs.

The section provides a highlight of funding to the sector in relation to the approved budget for the year in question, releases of the approved funds and in comparison to utilisation. The section further gives an overview of the various funding sources and their category of expenditures in the sector during the financial year 2018/19.

Funds to the sector are obtained from the Government appropriation through treasury releases to the Ministry, parastatals, agencies and local governments from GoU own collections, Government guaranteed Loans and Grants from development Partners and from other Civil Society Organizations (CSOs) and the private sector through direct funding and direct implementation in the beneficiary communities. Details in Table 4 below.

*Table 4: Funding Sources for the Sector 2018/19 in Billion Uganda Shillings*

	Funding Source	Approved Budget including (UGX Bn)	Released (UGX Bn)	% of budget Released
On budget	GoU	448.031	431.729	96.4%
	Donor	825.52	780.35	94.5%
	AIA	560.12	546.87	97.6%
Off- Budget	Off- Budget	105.45	105.45	100.0%
<b>Total</b>		<b>1,939.12</b>	<b>1,864.39</b>	<b>96.1%</b>

The operating sector budget for the FY 2018/19 was **UGX 1,939.12**. This budget included on- budget funding (funds released from the National treasury), off-budget funds to Water and environment activities by CSOs, under the umbrella of UWASNET (for water and sanitation CSOs) and Environmental Alert (for Environment CSOs) and Appropriation in Aid (funds raised by agencies). It should be noted that the above amount included supplementary budget of UGX 8.38bn to the sector (UGX 4bn for Kibaale Water supply and sanitation project, UGX 0.756bn for pension arrears and 3.627bn for Kalagala offset project). Thus the original budget rose from UGX **1,918.15bn** at the beginning of the financial year to **UGX 1,939.12bn**.

### 2.6.2 Strategic sector investment plan

The sector went ahead to review and update the SIP 15 in 2017 to include the ENR subsector based on the 24 sector indicators. It's estimated that UGX 5.10 trillion is required annually and increasing to 10 trillion by 2030 if the sector is to realise its set targets measured by above referred indicators. As reflected in the figure 1 below, the sector still has a huge funding requirement to meet her set goals amidst the ever growing population and huge service delivery demands.

Sector financing requirements

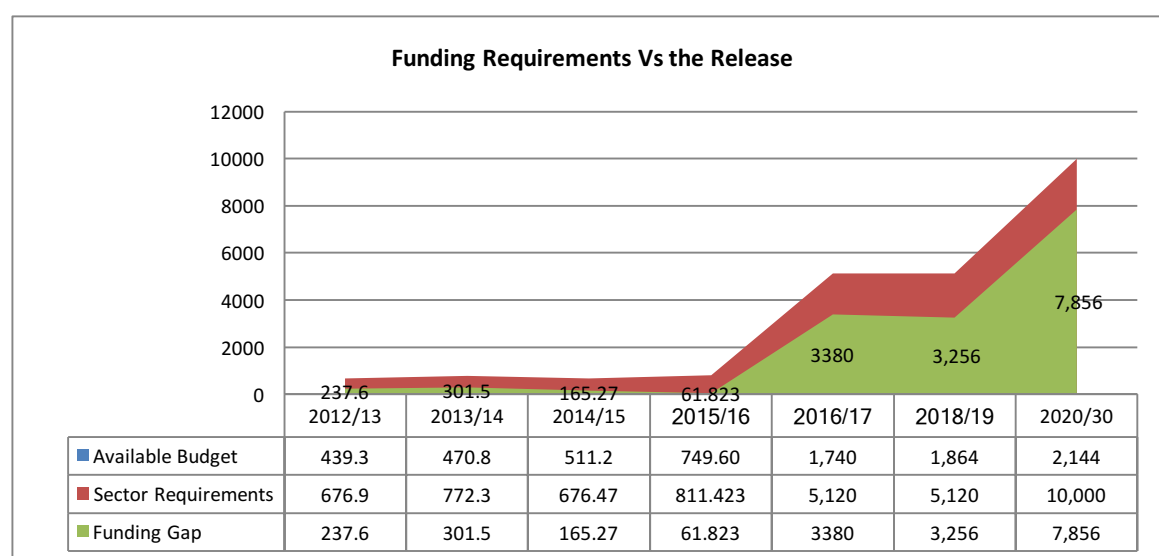


Figure 1: Sector financing Requirements

The funding gap is measured against the actual releases to the sector and the projections set in the strategic sector investment plan 2017. Funding needs to the sector were projected based on the sector targets like infrastructure investment and maintenance requirements, environment and natural resources restoration and management, climate change and weather and mapped to the financing trends by the different source of funding to the sector over years by both Government of Uganda and other sector development partners and the private players. It is no doubt that the sector still requires heavy financial requirements, effective and efficient utilisation of the available resources if it is to deliver on its mandate set in NDP II, Vision 20140 and SDG targets as indicated above.

## 2.7 Budget share by votes

The budget share by MDA is shown in figure 2 below.

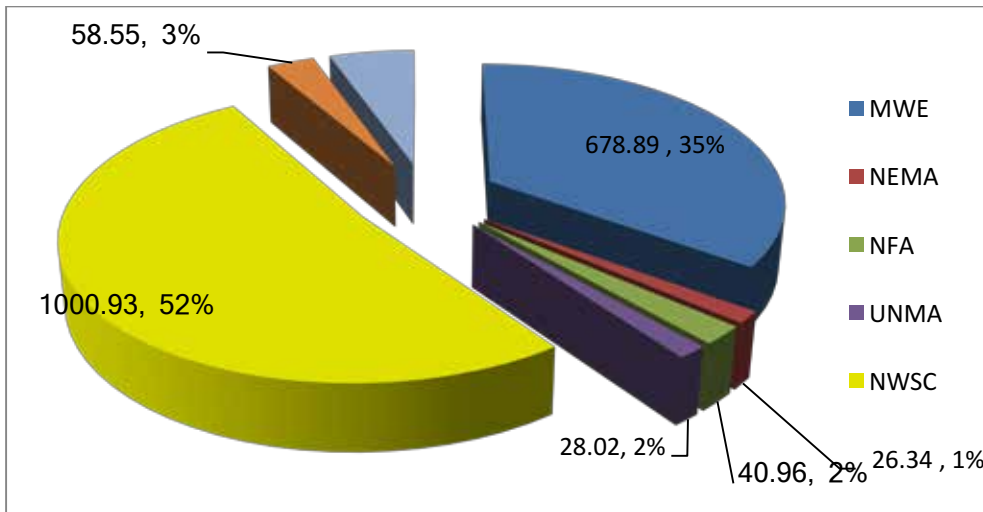


Figure 2: Sectoral budget by MDA FY 2018/19 as appropriated by Parliament

The operating sector budget for the FY 2018/19 was UGX 1,939.12bn and this was distributed as follows: Vote 019 allocated UGX 678.8bn (35%), Vote 0150 (NEMA) was allocated UGX 26.34bn (1.0%), Vote 0157 NFA was allocated UGX 40.96bn (2.0%), Conditional Grants totalled up to UGX 58.73bn (3.0%), NWSC budgeted for UGX 1000.9bn, This includes AIA collected by the entity and funds appropriated under vote 019 MWE for NWSC projects both External funding and GoU counterpart funds (52%) while UNMA was allocated UGX 28.02bn(2%) and the off budget figures totalled to UGX 105.45bn(5.0%).

A total of UGX 58.73 bn was appropriated as Conditional Grants to Local Governments and comprised of:

- District Water and Sanitation Development Conditional Grant for Rural Water: UGX 52.7bn
- Urban Water Operation and Maintenance Grant: UGX 2.50bn
- District Health and Sanitation Conditional Grant to selected districts: UGX 2.00 bn and
- Natural Resources Grant, more specifically Wetlands Conditional Grant: UGX 1.29bn.

Up to date the local government budgets have not increased despite recommendations and resolutions for increased budget allocations. Outputs derived from these limited funds allocated have continuously dwindled over years due to the high administrative costs characterized by ever increasing number of administrative units amidst constant budget allocation.

At the time of budget approval –May 2018, external financing contributed highly to the sectors budget amounting to 43% of the total sectoral budget. This high percentage funding from external funding above the previous years' trends is mainly due increased loan financing portfolio to the sector that also included supplementary loan to National Water and Sewerage Corporation amounting to US\$ 26.85m allocated for Kampala Sanitation project. This was an increase in share contribution from 19% (UGX 320bn) in FY 2017/18 to 43% (UGX 825.5bn) in FY 2018/19. Details are shown figure 3.

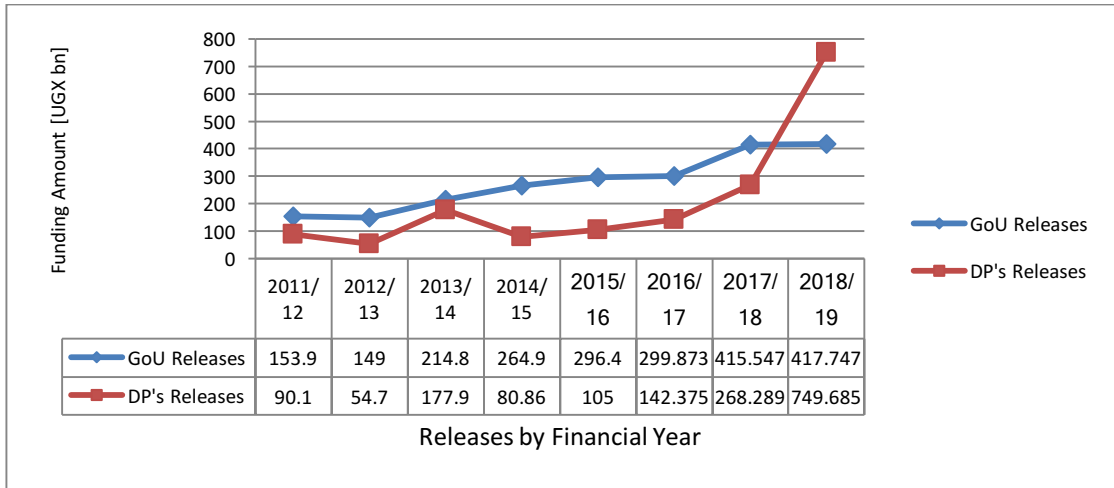


Figure 3: On Budget Trends in GoU/ DP Support in the Medium Term 2011/12-2018/19

GoU funding to sector shows slight increases from 415.5 in FY 2017/18 to 417.74 in FY 2018/19, while external financing also increased to UGX 749.7bn in the same year from UGX 268.3bn in FY 2017/2018. The increase was due to a supplementary budget to National Water and Sewerage Corporation for the Kampala Water and Sanitation project during the year.

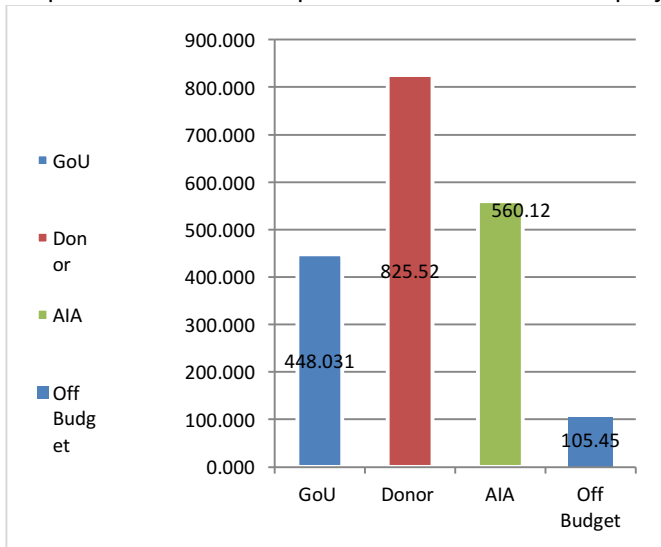


Figure 4: Sector funding by source: At Budget

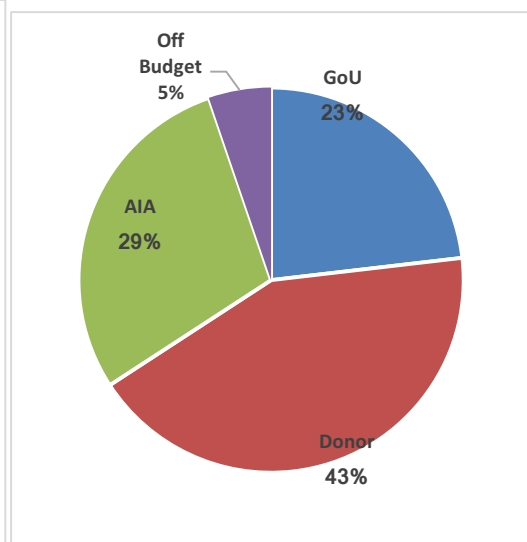


Figure 5: Sector funding by source at Release of funds

From the budget side, external financing contributed 43% of the sector's budget followed by appropriation in aid at 29%. However when compared in terms of actual disbursements to the budget, the picture changes and external financing reduced to 41% of actual releases, AIA contributed 30% while GoU still contributed 23% of the sector releases.

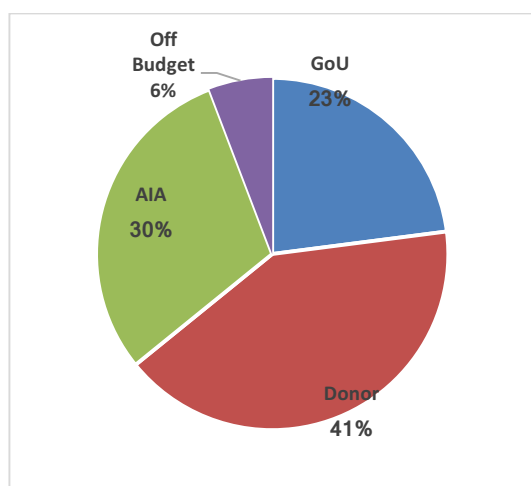


Figure 6: Sector funding by source at Release of funds

Funding requirements above are projected to the financing trends by the different sources funding to the sector over years and then mapped to the sector targets like infrastructure investment and maintenance requirements, environment and natural resources restoration and management, climate change and weather interventions by both Government of Uganda and other sector players. The sector still requires heavy support and effective and efficient utilisation of the resources if it is to deliver on its mandate set in NDP II, Vision 20140 and SDG targets as indicated above.

### 2.7.1 Budget Performance

Funds released to the sector on the overall against the approved budget stood at 94.6% which is a reduction from FY 2017/18 performance that stood at 96.3%. Reduced performance was due to less disbursement than the plan on external external financing side especially by Lake Victoria Water & Sanitation Project -II (KW-LVWATSAN -II) additional loan that has disbursed 7% to date as compared to the planned amount. This is mainly attributed to;

- Lengthy processes required for the acquisition of project sites for installations
- Relocation of utilities is required throughout the entire project corridor moreover the process of identifying the infrastructure and engaging the different utility owners is lengthy and complex.
- Delays in acquiring permits especially from KCCA
- Difficulty in obtaining search reports from the lands authority to certify true ownership of land before payment during verification of land ownership of some of the pap's.

Releases on the GoU component stood at 96.4 % which was an improvement from 92.2% in the FY 2017/18 of which 96.8% was spent while the donor release was at 94.5% against 96.1% utilisation. Details are shown in table 5.

Table 5: Budget performance in FY 2018/19

Source	Budget [bn UGX]	Released	Spent	% Released	% release spent
GoU	448.031	431.729	417.747	96.4%	96.8%
Donor	825.52	780.35	749.685	94.5%	96.1%
AIA	560.12	546.87	546.74	97.6%	100.0%
Off Budget	105.45	105.45	105.45	100.0%	100.0%
<b>Total</b>	<b>1939.12</b>	<b>1,864.39</b>	<b>1819.62</b>	<b>96.1%</b>	<b>97.6%</b>

Even though the government releases are in the distinction levels, in real terms its almost UGX 17.1bn which was not released. It should be noted that this is usually on the development component of the budget where commitments/ procurements had already been made based of the planned budget. This has continued to affect the sector performance on outputs and outcomes over years due to accumulated un paid certificates. This is so because the unpaid certificates make the first call on the subsequent year's funds releases thus reducing on that year's expected outputs. This aslo adversely affects the private sectors whose payments span over long payments before being paid hence crippling their financial resources and abilities.

Off budget component has continued to perform at a good levels with UGX 105.45bn realised during the year in question while external performance stood at 94.5 % of the budget.

Table 6: On Budget Performance 2018/19 by Votes less appropriation in Aid

Vote Fuction/Centre	Approved budget [bn UGX]	Released	Spent	% of Budget Released	% release spent
MWE	1,157.09	1,101.47	1,070.67	95.2%	97.2%
NEMA	14.60	14.37	14.15	98.4%	98.5%
NFA	16.77	15.67	15.47	93.4%	98.7%
UNMA	26.54	22.03	20.73	83.0%	94.1%
Grants to LG	58.55	58.55	46.42	100.0%	79.3%
<b>GRAND TOTAL</b>	<b>1273.55</b>	<b>1212.08</b>	<b>1167.43</b>	<b>95.2%</b>	<b>96.3%</b>

On budget allocations include both GoU contribution and external financing to the sector. During the year in focus, there was an improvement in disbursement of external financing compared to the previous year. However, the sector still needs to improve on loan disbursement plans and actual absorption. The projected disbursements some times are more than the actual utilisations levels on the ground.

## 2.7.2 Sector Funding as a Share of the National Budget

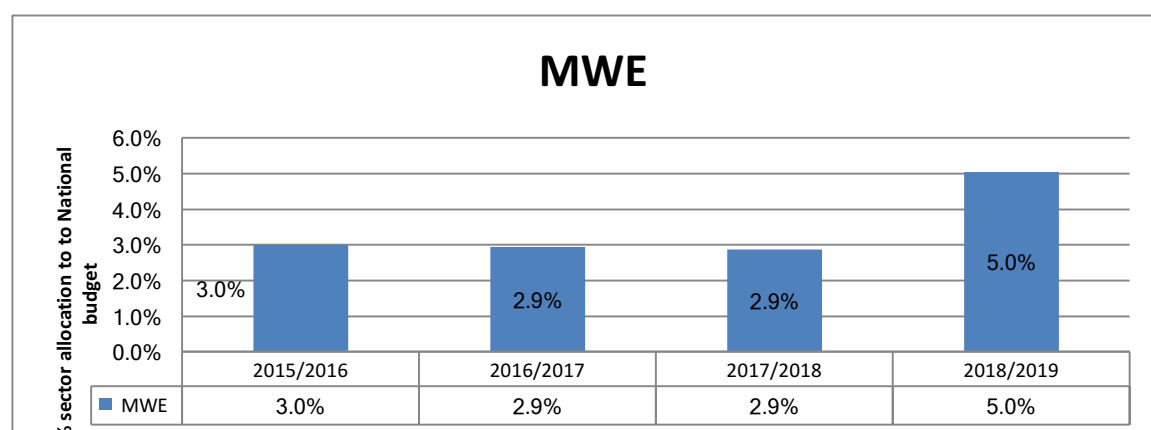


Figure 7: Trends in share of budget performance

The sector budget share to the National budget increased from 2.9% (UGX 639bn on budget funding against the National budget of UGX 22,002bn) in the FY 2017/18 to 5.0% (UGX 1,263bn on budget funding in the FY 2018/19 against the National budget of UGX 25,093bn). The increase was mainly due to the loans signed in the FY 2018/19 for the Kampala Lake Victoria Water and sanitation project as well as the supplementary loan for Kampala Sanitation projects under the National Water and Sewerage corporation.

Comparing the against the other major sectors , the sector's allocation stood below the allocation to the major sectors whose budgets also continue to take a big share over the increase national budget despite the fact that the water sector affects the economic growth of uganda's development exponentially as experinced in the quarterly economic outlook reports where Governor Bank of Uganda usaully explains that the " growth and inflation in the economy is a result of weather effects on the agricultural sector effecting the economy either way"

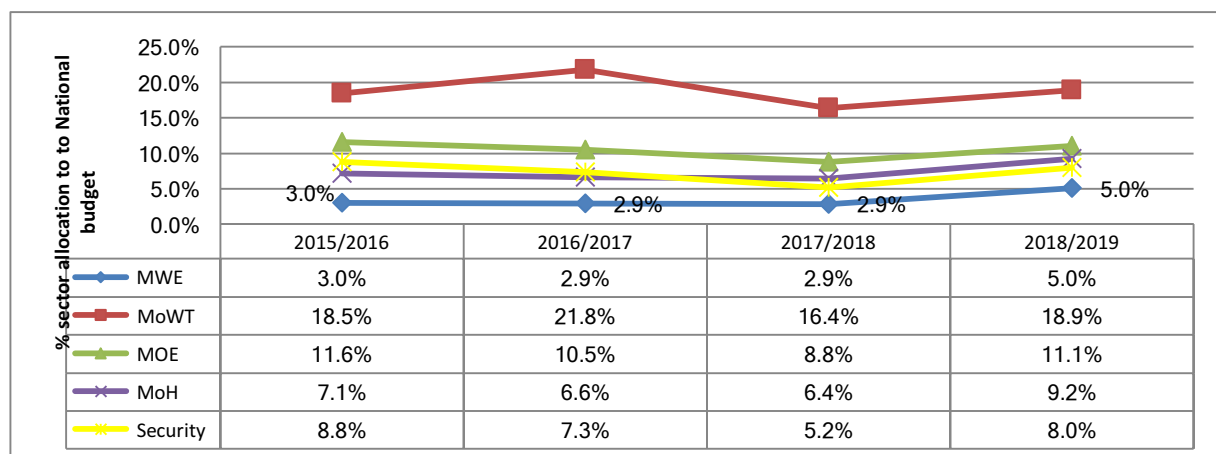


Figure 8: Trends in share on national budget by key sectors

From the Government’s development strategy of achieving structural transformation through increased industrial activity, with a focus on manufacturing, including value-addition in agro-processing, the study (economic study) recommends that effective water quantity and quality management are critical to achieve Uganda’s short- and long-term development goals. The analysis points out that, while currently Uganda’s most water-intensive sector is agriculture; the country’s most water-intensive products are in fact those from the manufacturing sector. Therefore the study and any one would conclude that as Uganda seeks to industrialize, water resources development and environmental management will be critical to ensure steady growth of industrial sectors.

Table 7: Performance of appropriation in Aid 2018/19

Vote Fuction/Centre	Budget	Release	% release spent
NEMA	11.73	10.93	93.1%
NFA	24.18	11.74	48.5%
UNMA	1.48	1.48	99.9%
NWSC	522.72	522.72	100.0%
<b>GRAND TOTAL</b>	<b>560.12</b>	<b>546.87</b>	<b>98%</b>

Appropriation in Aid performed at 98% which was a 1% reduction from last financial year’s 99%. NFA coolections performed below average for the 2<sup>nd</sup> year in a arow. The reasons advanced for the low performance were mainly due to

- Over 600m had been planned to be realized from the carbon credits however World Bank audit did verify the stocks in Rwoho-payment expected in October 2019.
- Over 1.806m was not received from UETCL awaiting for the same this financial year.
- Over 445m (4,450m3) in Rwoho not harvested and thinning in South Busoga and Achwa Range not done due to flooding of the market by private tree planters.



- The rock mass worth 600m in Keyo CFR has been anticipated for disposal but this did not take off.
- Suspended harvesting in Tropical Natural High Forests of Budongo and Itwara CFRs. This had been planned to bring in 800m.

**Seed and Seedlings**

- Seed importation that would have yielded 1.8bn was not done due to mismatch of release of funds and the rain seasons.
- Planned sales of seedlings (UGX1.7bn) were affected by delay in land allocation within CFRs

**Land Use fees**

- Annual tree planting fees of Ushs 5.3bn not collected due to late allocations affected by releases of funds.
- Planned fees worth over 500m due from Uganda Telecom were not collected as negotiations with the Administrators were still ongoing by end of the financial period.

**Off- budget**

The off- budget contribution is mainly from funds form the NGO and CBOs in the Water and Environment subsectors under the umbrella organisations i.e. UWASNET and Environment and Natural Resources Civil Society (ENR CSOs) respectively. This report documents contributions of Civil Society Organizations (CSOs) to the Water and Sanitation sub-sector in Uganda. It is based on reports from 127 CSOs that made submissions to the Uganda Water and Sanitation NGO Network (UWASNET) and 20 CSOs, from Environment and Natural Resources Civil Society (ENR CSOs) Network. This section highlights the CSO financial investments to the sector for the Financial Year 2018/19 as well as activities by key thematic area including trends against historical performance. Details of the physical performance are given in the detailed report. The ENR CSO contributions increased from U\$ 2.75m to 4.32m (UGX 16.3bn) in the FY 2017/18. This was attributed to the increased number of CSOs from 20 last year to 46 CSOs in the FY 2018/19.

Table 8: CSO Financing per subsector

Subsector	Agency	Budget	Release	Spent	% Release
Water supply subsector	UWASNET	69.13	69.13	69.13	100%
Environment and Natural Resources	CSOs	16.32	16.32	16.32	100%
<b>Total</b>		<b>85.45</b>	<b>85.45</b>	<b>85.45</b>	<b>100%</b>

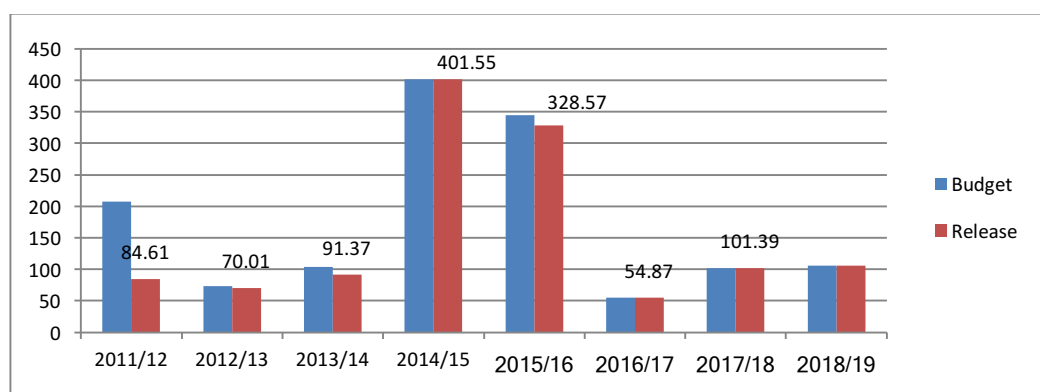


Figure 9: Trends in CSO financing: Planned and Releases

NGOs/CSOs have continued to make significant investments in water supply infrastructure as well as Natural resource contributions over years with a total investment of UGX 85.5bn in the FY 2018/19 up

from UGX 101.39bn in the FY 2017/2018. These funds have been invested in financing water supply infrastructure, like drilling of bore holes, piped water supply, sanitation, community management, water for production investment integrated water resource management, forestry services, wetland management and weather and climatic change activities.

Table 9: Sector Budget Performance by vote function including off budget by category in FY 2018/19

Vote Fuction/Centre	Budget Category		Approved budget [bn UGX]	Released	Spent	% of Budget Released	% release spent
VOTE 019 (MWE)	Recurrent Component	Wage	8.04	7.284	7.269	90.6%	99.8%
		Non-wage	14.6	13.918	13.876	95.3%	99.7%
	Development Budget	GoU	308.83	299.811	299.742	97.1%	100.0%
		Donor	825.52	780.35	749.685	94.5%	96.1%
		Arrears	0.102	0.102	0.102	100.0%	100.0%
	Vote 019 Total			<b>1,157.09</b>	<b>1,101.47</b>	<b>1,070.67</b>	<b>95.2%</b>
Vote 0150 (NEMA)	Recurrent Component	Wage	6.116	6.116	6.116	100.0%	100.0%
		Non-wage	7.573	7.573	7.374	100.0%	97.4%
	Development Budget	GoU	0.915	0.678	0.661	74.1%	97.5%
		AIA	11.731	10.925	10.925	93.1%	100.0%
	Vote 0150 Total			<b>26.34</b>	<b>25.29</b>	<b>25.08</b>	<b>96.0%</b>
Vote 157 (NFA)	Recurrent Component	Wage	5.40	5.40	5.40	100.0%	100.0%
		Non-wage	5.09	4.45	4.33	87.5%	97.2%
	Development Budget	GoU	5.88	5.41	5.36	92.0%	99.0%
		AIA	24.18	11.74	11.62	48.5%	98.9%
		Arrears	0.40	0.40	0.38	100.0%	94.1%
	Vote 157 (NFA) Total			<b>40.96</b>	<b>27.41</b>	<b>27.08</b>	<b>66.9%</b>
Vote 302 (UNMA)	Recurrent Component	Wage	7.41	7.41	6.39	100.0%	86.1%
		Non-wage	4.17	3.86	3.64	92.8%	94.2%
	Development Budget	GoU	14.96	10.76	10.70	71.9%	99.5%
		AIA	1.48	1.48	1.48	99.9%	99.9%
		Arrears	0.00	0.00	0.00	0.0%	0.0%
	Vote 157 (NFA) Total			<b>28.02</b>	<b>23.51</b>	<b>22.21</b>	<b>83.9%</b>
NWSC	Development Budget	AIA	<b>522.72</b>	<b>522.72</b>	<b>522.72</b>	<b>100.0%</b>	<b>100.0%</b>
Conditional Grants to LG	Rural Water Development	Devept	48.29	48.29	36.82	100.0%	76.3%
		Recurrent	4.47	4.47	3.80	100.0%	85.1%
	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	1.29	1.29	100.0%	100.0%
	Vote 0580 LGs			<b>58.55</b>	<b>58.55</b>	<b>46.42</b>	<b>100.0%</b>
OFF BUDGET	WSS		89.13	89.13	89.13	100.0%	100.0%
	ENR		16.32	16.32	16.32	100.0%	100.0%
	Off-Budget Total			<b>85.45</b>	<b>85.45</b>	<b>85.45</b>	<b>100.0%</b>
<b>GRAND TOTAL</b>			<b>1939.12</b>	<b>1864.39</b>	<b>1819.62</b>	<b>96.1%</b>	<b>97.6%</b>

Overall sector financial performance remained constant compared to last financial year. 96% of the budget was released while 97% was spent same as last FY. Generally it was NFA's AIA that performed below average at 48% release compared to budget and NEMA's GoU component that realised 74.1% compared to the budget.

### 2.7.3 On-Budget figures for 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 total annual budget for all the four conditional grants was UGX bn 58.55 in the year under review. These conditional Grants are transferred directly to the district local governments from Treasury upon approval of the local government budget and on recommendation of release by the ministry.

These grants are implemented based on agreed upon budgets and work plans between the respective local Government and the central government in this case represented by the Ministry of Water and Environment. Utilisation and conditions of operation (grant guidelines) are discussed and agreed upon with representatives of the local Government under the chair by the Local Government Finance Commission annually. It is upon these guidelines that the sector monitors and makes respective recommendations for release or not by MoFPED to local governments.

As agreed and promised by MoFPED, the LG conditional grant budget was released up to 100% by the end of the 3rd quarter of the financial year. The absorption level in year stood at 92.1% which was an improvement 87.2% in the FY 2016/17.

Performance on each of the various categories of the grants varies as per the table 10 below. To note however is that even though MoFPED has consistently provided and improved financial releases to LGs on time and by 3rd quarter of every financial year, reporting and absorption in some of the local governments is still low. This is due to mainly lack of competent staff to run the water and environment offices, late preparation of procurement requirements and to some extent diversion of funds to other pressure areas where by refunds are made late towards the end of the FY leading delays in execution of planned activities. (Detailed local government reports are provided in the report under rural water, urban water and Environment sections in the report).

Table 10: Conditional Grants to Local Governments, FY2018/19

Sub-Sector	Released	Budget [bn UGX]	Released	Spent	% Released	% release spent
Rural Water Development	Dev't	48.29	48.29	44.10	100.0%	91.3%
	Recurrent	4.47	4.47	4.00	100.0%	89.5%
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	1.29	1.29	100.0%	100.0%
<b>Vote 0580 LGs</b>		<b>58.55</b>	<b>58.55</b>	<b>53.89</b>	<b>100.0%</b>	<b>92.0%</b>

Table 11: Performance by externally funded projects

Project Title	Implementing Agency	Implementing Agency	Date of effectiveness	Initial Closure Date	GRANT Amount Committed (US\$)	LOAN Amount Committed (US\$)	Amount Disbursed to by June 2019	% of Original Lifetime	% Disbursed	Fiscal Performance Rating
Kampala Sanitation Programme Phase I	NWSC	AfDB	28-Feb-10	31-Dec-15		53.19	53.19	100%	100.0%	Moderately Satisfactory
Kampala Sanitation Programme Phase (supplementary)	NWSC	AfDB	19-Apr-18	30-Apr-20		26.85	18.26	59%	68.0%	Moderately Satisfactory
Kampala Water Lake Victoria WATSAN Project II (KW-LVWATSAN -II)	NWSC	EIB	28-Apr-11	23-Nov-15	33.5	108.76	46.76	179%	43.0%	Moderately Satisfactory
Kampala Water Lake Victoria WATSAN Project II (KW-LVWATSAN -II)	NWSC	AFD	28-Apr-11	23-Nov-17		108.76	108.76	124%	100.0%	Moderately Satisfactory
Kampala Water - Lake Victoria Water & Sanitation Project -II (KW-LVWATSAN -II)	NWSC	AFD	25-Jan-19	31-Dec-24		173.00	12.11	7%	7.0%	
Water Management and Development Project (WMDP)	MWE & NWSC	IDA	8-Dec-13	31-Dec-18		135	135	100%	100.0%	Moderately Satisfactory
Water Supply and Sanitation Programme - Phase I (WSSP-I)	MWE	AfDB	5-Oct-11	13-Dec-17	4.4	60	60	100%	100.0%	Satisfactory
Water Supply and Sanitation Programme - Phase II (WSSP- II)	MWE/DWD	AfDB	11-May-16	30-Dec-20		92.3	71.49	68%	77.4%	Satisfactory
Strategic Towns Water Supply and Sanitation Project (STWSSP)	MWE/DWD	ADB	18-Dec-18	30-Jun-22		62.48	0.900	15%	1.4%	Satisfactory
South Western Cluster Towns of Masaka and Mbarara Project	NWSC	AFD	20-Dec-18	30-Jun-24		138.4	3.46	10%	2.5%	Satisfactory
Lake Victoria Environment Management Project II (LVEMP-II)	MWE/DWRM	IDA	25-Jan-10	30-Jun-16		28	28	139%	100.0%	Satisfactory
Farm Income and Forest Conservation Project Phase II (FIEFOC-II)	MWE/DWD	AfDB & NDF	6-Jan-16	30-Jun-21	5.6	76.7	31.2	63%	38.5%	Moderately Satisfactory
Multi-National Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF)	MWE/DWRM	AfDB	11-May-16	30-Jun-21		7.32	4.32	61%	59.0%	Satisfactory
Integrated Water Management & Development Project (IWMDP)	MWE & NWSC	IDA	1-Jul-19	30-Jun-25	29	251	2.14	0%	1%	Satisfactory
<b>Total</b>					<b>72.5</b>	<b>1,321.8</b>	<b>575.5</b>		<b>43.5%</b>	Moderately Satisfactory

The sector is funded externally by World Bank, Arab Bank for Economic Development in Africa (BADEA), African Development Bank (AfDB), European Investment Bank (EIB) and French Dev't Fund (AFD) through development loans. The loan portfolio to the sector during the FY 2018/19 amounted to **USD 1,321.8million** financing 9 projects of which four projects were completed by 30<sup>th</sup> June 2019 (WMDP, LVWATSAN II and WSSP I, Lake Victoria Environment Management Project II (LVEMP-II). These loans have different start and end period, of which three new projects/loans were signed with effective start date being 1<sup>st</sup> July 2019. These new loans are;

- Strategic Towns Water Supply and Sanitation Project (STWSSP) funded by ADB
- Integrated Water Management & Development Project (IWMDP) funded by IDA
- South Western Cluster Towns of Masaka and Mbarara Project funded by AfDB

On the over all, the sector loan portfolio is ranked 'moderately satisfactory' based on progress assessment made for the period from June 2018 to June 2019.

**Fiscal performance:** Fifty four (54.6%) of the assessed projects had Satisfactory fiscal performance with four projects completed, while Two (38%) were moderately satisfactory by June 2019/. While one loan representing 7% was ranked unsatisfactory.

**Physical progress: Eighty Nine (89%)** of the loans are ranked On-track while (11%) were off-track.

#### 2.7.4 Challenges

- The key challenges for capacity development at sectoral level include uncoordinated capacity development interventions across departments and sector agencies, increasing number of districts and resources gap arising from downscaling of JPF funding. As a way forward, there is urgent need to explore alternative sources of funding for capacity development and continued justification of the contribution of capacity development to sustainability of the delivery of sector services.
- Inadequate local capacity of private sector players (contractors, consultants and private operators),
- Land and Property compensation- Almost all projects are being delayed because of the slow or delayed compensation of the local communities.
- Compensation Mechanism for the project affected persons- There is need to identify a uniform and fast way of paying the affected persons to avoid delays
- Signing of loan agreement before all the required processes are concluded has been one of the leading causes of low disbursement. There is need to harmonise the financing calendars and the project/loan approval processes if disbursement / absorption levels are to improve over time.
- Low prioritization of water despite the ever increasing demand for its services

### 3. JOINT SECTOR REVIEW UNDERTAKINGS 2018/19

#### **Undertaking No.1: The Comprehensive Refugee Response Framework (CRRF) and Roadmap for refugee hosting micro-catchments.**

*The following have been achieved:*

- The consultancy firm, WSS Services Limited was engaged to develop a Comprehensive Refugee Response Framework (CRRF);
- The inception report was submitted by the consultant in January 2019;
- The consultant delivered the situation analysis and gap analysis report;
- Regional and national consultation workshops were held; and,
- A first draft of Comprehensive Refugee Response Framework (CRRF) was submitted by the consultant in July 2019.

*Next Action*

- Presentation of the Final the Comprehensive Refugee Response Framework (CRRF) to different stakeholders;
- After the consultancy, develop a proposal to create a Refugee Response Sub Group and Steering Committee to oversee the implementation of the Response framework; and
- Draft Terms of Reference developed for committee and are under review.

*This undertaking is largely achieved*

#### **Undertaking 2: Conduct a baseline on the operation performance of the existing fecal sludge(FSTPs) by the end FY2018/2019**

#### **Undertaking 3: Develop a Management Framework for fecal Sludge Service chain (including business aspects) by end of FY 2018/2019**

#### **Progress of planned actions as of September 2016**

<b>Planned Actions</b>	<b>Actual Progress</b>
Consultant conducting a comprehensive baseline in 46 FSTPs (started March 2019)	The baseline was conducted in 46FSTPs
Finalize the baseline report	The Draft baseline Report is under review by MWE

*Undertaking 2: 100% achieved*

*Undertaking 3: 0% achieved, was dependent on achievement of Undertaking 2 and availability of funds. Will be carried forward to next FY.*

#### **Constraints to Progress**

- Limited/No records for baseline study in existing FSM facilities delayed the compilation of the report.
- Project start-up delays for the FSTP O&M framework under AWF (hence to be accomplished next FY)

#### **Next Steps**

- Recommendations from Baseline study to inform next steps on O&M Framework

- Engage Consultancy assignment for preparation of O&M Framework (Included in assignment supported by the African Water Facility, incl. feasibility studies). Proposed undertaking for the next financial year.

**Undertaking 4: Upscale water use efficiency in industries to promote voluntary compliance to regulations.**

**Progress of planned actions as of September 2019**

<b>Planned Actions</b>	<b>Actual Progress</b>
Constitution of the Water Resource Efficiency team	Team constituted
Meetings to prepare concept notes and project documents	Meetings to prepare concept note entitled <b>“Water Security enhancement innovations in Industries”</b> and internal approvals secured.
Presentation of concept note and project documents for scale-up for approvals	The concept note was approved by Development Committee, Ministry of Finance Planning and Economic Development (MOFPED) and now at Profile stage
Joint evaluation of the continuity and sustainability of best practices among beneficiaries 1 year after closure of Switch Africa Green project 2017/18	Joint performance evaluation report on previous Switch Africa Green pilot project beneficiaries of <b>“Demand side management of water use in the manufacturing sector”</b> and evaluation of best performers done
Establishment of Motivational Performance Management Scheme to promote best practices and technology through Rewards and Sanctions	Blue Certificate Award Scheme established and a ceremony held to recognize all the enterprises that implemented water use efficiency techniques and practices. Best Performers came from Victoria Water Management Zone, Rwizi catchment Mbarara, and these included, (i) Lakeside dairy Limited, (ii) Century Bottling Company Limited, & (iii) Kazire Health Products. Kyoga Water Management Zone was Sugar Corporation Uganda Limited, Lugazi only while Buhweju Tea Factory, Buhweju district emerged from Albert Water Management Zone. The overall best performer was Lakeside Dairy Limited. This event attracted wide media coverage. For instance, out of 4,500 USD ‘seed money’ invested as Switch Africa Green project funds for capacity enhancement of the enterprise in efficient water use and pollution reduction, the company invested over 400,000 euros in the project and is still continuing with capital investments for continuous improvement. Documentation and ministry efforts to support performance improvement in industries and

<b>Planned Actions</b>	<b>Actual Progress</b>
	best practices is in process with the Independent Magazine,
Documentation of protocol and standards of practice, resource efficiency manuals by manufacturing category	Not Done
Adoption of best practices and lessons learnt in the relevant policy and legislative reviews	In progress
Taking on new companies across the 4 Water Management Zones for water efficiency technology scale up	Not done

### **Partially achieved**

#### **Constraints to Progress**

- Non-availability of the required “seed money” as government contribution that trigger private sector infrastructure investments in water efficiency and pollution prevention. The concept note did not translate into a new project in time (on-going);
- Limited appreciation of the opportunity this undertaking brings in having alternative strategic financing through joint actions to solve common problem between the public and private sectors with multiplier benefits.

#### **Next Steps**

Awareness, resource mobilization of seed money to enhance Private sector participation in water cycle risk management, efficient water use and pollution prevention

**Undertaking 5: Develop indicators for ENR mainstreaming for all sectors in order to achieve reduced contributions to degradation by the end of FY 2018/19.**

#### **Progress of planned actions as of September 2019**

<b>Planned Actions</b>	<b>Actual Progress</b>
Prepare Concept with TORs and Action Plan / Roadmap	Drafted Concept note including the TORs and Roadmap was prepared, discussed and approved by Task team (October – December 2018)
Finalize Draft General Guidelines for Mainstreaming Environment into Sector Policies, Plans and Programmes	Draft General Guidelines for Mainstreaming Environment into Sectoral Policies, Plans and Programmes were finalized awaiting national validation
Draft Sector Specific Guides and Checklists	<ul style="list-style-type: none"> <li>• Water and Sanitation Sector Specific Guide and Checklist Drafted and subjected to stakeholder input.</li> <li>• Sector Specific Guides and Checklists for: Agriculture; Infrastructure; Energy and Minerals; Lands, Housing and Urban Development; Health; Education; Commerce and Industry; Local Governance; Economic planning; Justice, law and Order; etc. not yet drafted</li> </ul>



<b>Planned Actions</b>	<b>Actual Progress</b>
Draft Possible Monitoring Indicators for ENR Mainstreaming for all Sectors	<ul style="list-style-type: none"> <li>• <b>Summary of Indicators</b> are already reflected in the General Guidelines</li> <li>• <b>Zero draft</b> detailing – Sectoral Environment Mainstreaming Performance Measurement Framework: <ul style="list-style-type: none"> <li>➤ Sector mainstreaming ENR</li> <li>➤ Key Monitoring questions</li> <li>➤ Monitoring Output and Outcome Indicators</li> <li>➤ Method / Means of Verification;</li> <li>➤ Designed monitoring</li> </ul> </li> </ul>

**Substantially completed****Constraints to Progress**

- Undertaking cannot be achieved in one FY because it's a process that must be informed by completion of other actions.
- limited environmental data available and discrepancies between the priorities of donors and recipient sectors

**Next Steps**

- Ensure validation of General Guidelines for Mainstreaming Environment into Sectoral Policies, Plans and Programmes.
- Subject the Sectoral Environment Mainstreaming Performance Measurement Framework to stakeholders review.
- Drafting of Environmental sustainability Proposals for amendment in the Public Finance Management Act.

**Undertaking No6. Operationalize the Climate Change mainstreaming indicators by the end of FY2018/19**

**Progress of planned actions as of September 2019**

<b>Planned Actions</b>	<b>Actual Progress</b>
CCD/MWE writes to OPM for inclusion of indicators into PBS and LGPA	Completed
MWE to follow up with MoFPED for inclusion into the PBS	Communication requesting for initiation of climate change budget tagging was made to MoFPED
MWE to follow up with MoLG and OPM for inclusion into LGPA	Presentation on potential CC climate change indicators for inclusion in the revised LGPA system for 2020 was made to the national LGPA taskforce meeting.
Train LGs and Sectors on the use of standard national climate change indicators for budgeting and planning	Several capacity building trainings on mainstreaming CC into plans and budgets using standard national CC indicators conducted

**Partially achieved**

**Constraints to Progress**

- The national M&E system has not embraced climate change indicators and annual local government performance assessment
- Limited technical capacity on screening for climate change
- Failure to have climate change appropriation in the budgeting system
- Lack of a climate change law

**Next Steps**

- Fast tracking on the communication that is with MoFPED for inclusion in the PBS.
- For LGPA CCD has been co-opted to be a member of the taskforce reviewing the current LGPA to a revised one for 2020.
- The CCD under the NDC Partnership on mainstreaming CC with engaging MoFPED to establish budget appropriation and creation of a CC code for PBS AS well working with NPA to revise guidelines for sector and local government for integration of cc in planning processes.
- Interm of capacity development the CCD has worked on cc and disaster risk screening tool for assessing cc in development and will train tots with use of the tool.

**Undertaking No. 7: Facilitate a policy shift that promote energy efficient and alternative to charcoal as a form of energy****Progress of planned actions as of September 2016**

<b>Planned Actions</b>	<b>Actual Progress</b>
Identification of existing energy production and utilization technologies	Done. A biomass energy strategy in place
Development of guidelines for energy efficient production and use	Guidelines for charcoal production concluded awaiting endorsement by the Minister for Water and Environment
Disseminate information and promote selected alternatives	On going
Engage energy sector players involved in promotion of efficient energy technologies through MoU arrangements	Draft MoU between MWE & Uganda National Alliance on Clean Cooking in place and with Solicitor General for further guidance
Assessment of cost implementations through a cost benefit analysis of each alternative	Yet to be done
Prepare a cabinet memorandum detailing the policy shift envisaged to energy efficient and alternatives to charcoal.	Cabinet memorandum in place, yet to be discussed in cabinet
Ensure the review of the forestry policy and act considers energy efficiency and promotion of alternatives to charcoal.	Policy review process initiated with institution of a task force, funding confirmed with World Bank under REDD+

**75% complete****Constraints**

- Inconsistent meetings of the task team
- Limited financing to undertake some studies i.e cost benefit analysis

- Limited dissemination of the work already done due to financing limitations

#### **Next Steps**

- Nationwide dissemination drives using existing platforms to be undertaken
- Funds mobilisation using available opportunities of Green Climate Fund and Adaptation fund

#### **Undertaking No.8:**

Review and Consolidate a Sanctions and Reward mechanism to enhance Utility Performance for Umbrella Water Authorities & National Water and Sewerage Corporation.

#### **Name of Thematic Team Overseeing the Undertaking 8:**

Regulation Thematic Team

Chaired by: Eng. Chris Tumusiime

Secretariat: WURD

#### **Status of Undertaking 8**

##### **i) Means of Verification**

- Consultancy Reports
- Umbrella Performance Contract
- Contract Compliance Checklist and Score Card
- Implementation plan of the catalogue

##### **ii) Progress of planned actions**

<i>Planned Actions</i>	<i>Actual Progress</i>
<ul style="list-style-type: none"> <li>• Review the current Sanctions and Rewards provisions in the Regulatory, Policy and Legal framework</li> </ul>	<ul style="list-style-type: none"> <li>• Current Sanctions and Rewards provisions in the policy and legal framework have been reviewed and challenges have been documented.</li> <li>• Standards of service have been established and documented (First Umbrella Performance Contract, PC1)</li> </ul>
<ul style="list-style-type: none"> <li>• Carry out regional performance review meetings with all 6no. Umbrella Water Authorities and National Water and Sewerage Corporation (NWSC).</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted four regional performance review meetings; Northern, Eastern, South-western and Mid-western regions</li> </ul>
<ul style="list-style-type: none"> <li>• Engage consultant to support review and consolidation of the sanctions and rewards catalogue</li> </ul>	<ul style="list-style-type: none"> <li>• Completed consultancies on performance monitoring of utilities and management audits. These have provided key recommendations for development of the catalogue</li> <li>• Procurement of consultancy for catalogue review and consolidation ongoing</li> </ul>
<ul style="list-style-type: none"> <li>• Develop tools and instruments for performance assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Umbrella PC finalized and signed</li> <li>• Contract Compliance checklist and Score Card developed</li> <li>• Development of Benchmarking assessment tool is ongoing with support from ESAWAS.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop and consolidate (document) a Comprehensive Sanctions and Rewards catalogue Implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Developed Implementation plan of the catalogue</li> </ul>
<ul style="list-style-type: none"> <li>• Hold dissemination meetings with key sector stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Dissemination meetings to be conducted after finalization of the catalogue.</li> </ul>

**iii) Level of achievement of Undertaking**

**Progress of achieving the undertaking was 65% by the end of the reporting period.**

**Constraints to Progress**

- Challenge of developing uniform criteria for assessing Umbrellas and NWSC
- Challenge of harmonizing performance of large and small towns in assessing NWSC

**Next Steps**

- Finalization of consultancy on catalogue review and consolidation
- Need for consultancy support to develop a Compliance assessment framework for application of the catalogue

**Undertaking 10:** Establish Project preparation and financing Taskforce under each of the Departments in DWD

**Performance:**

- Project Preparation taskforce established in two out of the three departments in DWD (Rural Water Supply and Sanitation and Water for Production departments). Project preparation in Urban Department not instituted.

The Sector instituted the finance sub-committee to handle project review and vetting before submission to the Water and Enviro

***Undertaking no 9 : Reinstate budget line for software activities under the District Water and Sanitation Conditional Grant***

- The following actions have been undertaken to-date: i) Established a Steering committee to guide implementation of the undertaking, ii) Developed a Concept note to guide discussions, iii) Held consultative meetings with MWE, DLGs, Local Government Finance Commission, Line ministries, DPs to finalise the Concept note; iv) Have submitted the Concept note to the MFPED for endorsement and reinstate the budget line.
- There is progress on this undertaking; however, its achievement is hinged on the MoFPED approval of the proposal to reinstate the budget line.

This undertaking is largely achieved

***Undertaking No.10 Set up a project preparation and financing taskforce under each department under DWD by the end of the FY 2018/29***

- Committees established in 110 key development departments by end of FY

## 4. RURAL WATER SUPPLY

### 4.1 Introduction

The Rural Water Supply and Sanitation sub-sector is responsible for safe and clean water supply and sanitation in rural areas. It provides water and sanitation infrastructure to rural communities and ensuring the functionality existing water facilities. The MWE through Rural Water Supply and Sanitation Department (RWSSD) is responsible for strategic planning, setting standards, providing technical oversight and supervision, and capacity development and other support services to Local Governments, Private Operators and other service providers. The local governments and NGOs/CSOs through the private sector construct water and sanitation infrastructure. The current stock of rural water supply infrastructure is show in Table 12 below.

Table 12: Stock of rural water supply infrastructure as of June 2019

Source of water	Number	No. of persons served	%
Deep boreholes	40,951	12,285,300	44.3%
Shallow wells	21,603	6,480,900	23.4%
Protected springs	29,079	5,815,800	21.0%
PSP/ Kiosk, Tap stands	20,235	3,035,250	10.9%
Rainwater Harvest Tanks	20,237	121,422	0.4%
	132,105	27,738,672	100%

Source: Uganda Water Supply Database, June 2019

Boreholes remain the predominant rural water supply technology. It increased slightly from 44% in FY 2017/18 to 44.3% in FY 2018/19. The increase in the number of water facilities was by 1,325 from the previous FY and boreholes accounted for more than 50% of the new facilities constructed.

### 4.2 Programs and projects for Rural Water Supply and sanitation

#### **District Water and Sanitation Development Conditional Grants (DWSDCG)**

This programme is being implemented through district local governments based on workplans and budgets approved by MWE. The DWSDCG finances construction of rural water supply and sanitation facilities, community sensitization and mobilization. The ten regionally based Technical Support Units (TSUs) of MWE provide capacity building, monitoring and technical back-up support to local governments in the implementation of the program.

District Local Governments planned to construct 2,519 water sources (including 1,319 rehabilitated water sources) and 81 sanitation facilities and achieved 2,503 (91%) water sources and 75 (93%) sanitation facilities. A total of 362,482 persons were served with newly constructed safe water sources. Table13 below shows the targets and achievements under the DWSDCG.

Table 13: Targets and achievements under the DWSDCG for 2018/19

Type of water source	2018/19		taps	% Achieved	No. of persons /source	Persons served
	Planned <sup>2</sup>	Achieved				
Protected springs	143	131		92%	200	26,200
Boreholes	854	722		85%	300	216,600
Construction of Piped Water Systems	94	77	793	82%	150	118,950
Rainwater Harvesting Tanks 10m <sup>3</sup>	106	122		115%	6	732
Valley Tanks	8	13		162.5%		
Rehabilitation of different water sources	1,319	1,387		105%		
<b>Grand Total</b>	<b>2,519</b>	<b>2,503</b>		<b>91%</b>		<b>362,482</b>
Sanitation facilities (Public)	81	75		93%		
Designs of Piped Water Systems	53	37		70%		0

Although there was 100% release of the District Water and Sanitation Conditional Grant (DWSCG) to the District Local Governments (DLGs) by the first month of the 4<sup>th</sup> Quarter, their physical performance was 91% as compared to 90% in FY 2017/18 especially for water supply hardware facilities. There was a decrease in the number of people served from **390,178** in FY 2017/18 to **362,482** in FY 18/19 mainly due to 14 DLGs (Adjumani, Alebtong, Amolatar, Amuria, Sironko, Pallisa, Kween, Bulambuli, Butebo, Kabarole, Kayunga, Mayunge, Buyende and Bugweri) that did not submit their reports translating to UGX 5 bn (9%) unaccounted for funds. UGX 700 million was returned to treasury. The decrease in the number of people served was compounded by the creation of 6 new districts and the investment in high cost water supply technologies ( 77 in FY 2017/18 compared to 94 in FY 2018/19) that did not yield into water connections to the communities.

#### **MWE Centrally Implemented Development Projects and Approaches**

The Ministry of Water and Environment through Rural Water Supply Sub sector plays the role of: (i) coordination of the DWSDCG including resource mobilization and allocation, setting standards, technical support, and monitoring compliance, (ii) promotion of appropriate technology through action research, development and up-scaling, (iii) planning and developing water schemes that traverse local government boundaries i.e. large gravity flow schemes and large motorized piped water schemes, (iv) strengthening improved sanitation and hygiene service delivery in the District Local Governments (DLGs) through capacity building programs, and (iv) carrying out quality assurance of water supply designs developed by DLGs.

During the FY 2018/19, the activities implemented through centrally managed projects by MWE are outlined in Table 14. These activities include the construction of large gravity flow piped water systems, solar powered mini-piped water supply systems based on groundwater, Solar Irrigation Powered Systems and boreholes fitted with hand-pumps. A total of **140,234 new persons** were served by the newly constructed water sources and points while water supply for 106,800 persons was restored after boreholes rehabilitation during FY 2018/19.

<sup>2</sup> Only 79 out of the 127 District Local Government have submitted their reports to Ministry of Water and Environment.

Table 14: Performance of development projects managed by MWE

Description	Target	Achieved	Comment
<b>Construction of Large Gravity Flow Schemes</b>			
<b>Nyarwodho GFS-Phase II in Nebbi district</b>	100%	100%	The system was fully completed with <b>415</b> household connections and handed over to the Umbrella Organization for operations and Maintenance (O&M).
<b>Bududa – Nabweya GFS in Bududa District Phase II</b>	100%	100%	The system was fully completed with <b>400</b> household connections and handed over to the Umbrella Organization for operations and Maintenance (O&M).
<b>Bukwo GFS in Bukwo District Phase II</b>	100%	100%	The system was fully completed with <b>560</b> household connections and handed over to the Umbrella Organization for operations and Maintenance (O&M).
<b>Bukedea Upper Sipi Gravity Flow System</b>	100%	100%	The system was fully completed with <b>617</b> -yard connections. The scheme targets a population of 12,056 persons. The system is designed to operate for 30 years.
<b>Rwebisengo Kanara GFS in Ntoroko District Phase I</b>	80%	90%	The scheme source of water is River Wassa and targets a population of 154,276 persons. The actual target population for phase I is 54,425 persons and plans to promote 2,500 household connections. The system is design to last for 20 years. Testing the system for Kanara Town council is underway. The system will be handed over to umbrella for operation and maintenance.
<b>Nyamiyonga- Katojo Water Supply System in Isingiro District</b>	80%	85%	The system targets a population of 30,000 persons and is expected to connect 700 households to safe and clean water. The system is design to last for 20 years.
<b>Nyabuhikye- Kikyenyke GFS in Ibanda district</b>	85%	64.2%	The scheme source of water is River Kenkorogo and targets a population of 135,629 persons. The expected yield is 721 per second. The systems are under construction and will be handed over to the NWSC for management. The system is designed to last for 25 years.
<b>Lirima GFS in Manafwa District Phase II</b>	100%	65%	The scheme targets a population of 179,000 persons and is expected to connect 1,700 households to safe and clean water. The water source is River Lirima as the source. The yield of the River at a minimum low flow value of 36,028 m <sup>3</sup> /day. The designed water abstraction for the scheme is 6,328m <sup>3</sup> /day. Phase I is fully operational and was handed over to NWSC.  The process of redesign for the new supply area, approval and procurement of new materials and the adverse ground conditions encountered at the new tank site resulted into loss of time equivalent to six (6) months. The

Description	Target	Achieved	Comment
			ground conditions of the new site had not been anticipated by the contractor.
<b>Bukedea GFS in Bukedea District</b>	70%	70.3%	The system's water sources are River Sipi and Chebonet. The system will be multi-district intended to serve the districts of Kapchorwa, Bulambuli, Sironko, and Bukedea. The scheme targets a population of 262,343 persons and is expected to connect 2,700 households to safe and clean water. The system design is for 30 years.
<b>Shuuku Masyoro GFS in Sheema District</b>	90%	81%	The scheme targets a population of 135,868 persons and is expected to connect 2,000 households to safe and clean water. The source is River Kyarwera and the yield is 421 per second. The systems are under construction and rehabilitation. These will be handover to the NWSC for management. The system is designed to last for 25 years.
<b>Lukalu-Kabasanda GFS in Butambala district</b>	40%	40%	The scheme targets a population of 11,244 persons. The water is a spring and a borehole. The system is designed to operate for 15 years.
<b>Kahama Water Supply and Sanitation System</b>	30%	10%	The scheme targets a population of 22,009 persons. The water is a spring with two water sources yielding 11 litres per second (950.4m <sup>3</sup> /day). The system is designed to last for 20 years. The underperformance was attributed to delayed payment of the contractor forcing him to demobilize.
<b>Solar powered Solar Powered mini piped schemes</b>			
<b>Solar Powered mini piped systems</b>	100%	100%	30 sites were constructed at a physical performance of 100%. These Solar Powered Mini Piped System serve <b>18,000</b> persons. These sites are located Maracha, Moyo, Pader, Dokolo, Amolatar, Kole, Oyam, Alebtong, Kiryandongo, Nakasongola, Luwero, Wakiso, Gomba, Masaka, Lyantonde, Mukono, Buikwe, Jinja, Buyenda, Luuka, Iganga, Namutumba, Kibuuku, Pallisa, Serere, Bukeddea, Amuria, Napak, Nabilatuk and Kotido.  The contracts for the 40 solar sites were signed in June 2019.
<b>Solar Irrigation Powered Systems</b>	55%	15%	In delivering rural water services across the country, to some extent, water for production is also provided through irrigation systems. These systems are based at 20 sites (10 with surface water plus 10 with production



Description	Target	Achieved	Comment
			wells). The population design is 103 per site and the actual is 77 per site. The sites are located in the districts of Luwero, Nakaseke, Apac, Oyam, Nwoya, Gulu, Lamwo, Pader, Amolatar, Koboko, Wakiso, Kayunga, Jinja, Bugweri, Mayunge, Luuka, Namutumba, Soroti, Tororo and Buyende.
<b>Rain Water Harvest Tanks</b>			
<b>Ferro cement tanks, Plastic tanks and Communal</b>	900	945	<b>945</b> tanks were constructed that included 45 tanks of 25m <sup>3</sup> ; 240 tanks of 10m <sup>3</sup> ; 368 tanks of 8m <sup>3</sup> ; 125 tanks of 8m <sup>3</sup> plastic; and 180 tanks of 6m <sup>3</sup> plastic. The priority sub counties included Akokoro, Chawente, Ibuje, Nambieso of Apac district; all sub counties of Bududa district; Ongongoja, Usuk and Katakwi of Katakwi district; and Ogor and Olirim of Otuke district These tanks were able to serve 5,134 persons.
<b>Drilling of Boreholes</b>			
<b>New Boreholes with hand pumps and productions wells ( including 6 large diameter wells in Kiruhura district).</b>	270	307	307 boreholes were constructed including hand pumps, production wells, and large diameter wells in water stressed areas serving <b>92,100</b> persons.
<b>Rehabilitation of Chronically Broken down boreholes</b>			
<b>Rehabilitation of Boreholes</b>	400	356	356 boreholes were rehabilitated and water supply restored and are serving <b>106,800</b> persons.

Most large piped water supply systems have the potential of realizing an increment of 500 household connections annually per system during the first 4 years of operation.

#### ***Development of National Operation & Maintenance Manual for Rural Water Infrastructure***

The National Operation and Maintenance Framework for Rural Water Infrastructure was developed with support from the Royal Danish Embassy, DANIDA. The framework was developed with the objective of developing options and standards for institutionally and financially sustainable operation and maintenance (O&M) systems for rural water supply infrastructure that are currently not adequately covered by existing management models.

The purpose of the O&M Framework was anchored in the commitment of the Ministry to ensure sustainable increased and improved access to safe water by the population. The Framework aimed at streamlining and strengthening O&M aspects in the planning and implementation of water activities by all sector players.

#### ***The JICA, Lake Kyoga Basin Project***

The Government of Uganda together with the Government of Japan signed a Grant Agreement in May 2017 for Lake Kyoga Basin Project. The Japanese Government offered a grant of JPY 1,706 million and Government of Uganda UG X 5,915 million for executing this project. The contracts were signed in May 2017 and January 2018 for the consultant (Consortium of M/S OYO International Corporation and M/S TEC International Co., Ltd) and contractor (M/s Konoike Construction Co., Ltd) respectively. The Contractor commenced in January 2018 and completed on schedule in June 2019.

The project targeted Lake Kyoga basin because of ground water challenges in this region. A total of 9 RGCs water supply systems were successfully completed in 5 districts of Iganga (Nambale RGC), Luuka- (Lambala, Kyanvuma and Naigobya), Kibuku (Kasasira and Buseta), Pallisa (Kameke and Kapala) and Serere (Kidetok). The Nambale, Buseta, Lambala and Kameke RGC piped water systems are Solar Powered Pumped Systems while Kyanvuma, Naigobya, Kapala, Kasasira and Kidetok are powered by

UMEME. The selection of the type of power supply depended on water yield and the size of the population which determine the number of pumping hours. These RCGs serve a population of 23,549 persons as shown in the table 15 below.

All the schemes are still under the management of the Water Supply and Sanitation Boards (WSSB) and well trained scheme operators and received spare parts under this project.

Table 15: RGCs schemes, capacity and population served

RGC	Safe yield of BH(s) (m <sup>3</sup> /hr)	Pumping hours	Pumping capacity (m <sup>3</sup> /day)	Pumping capacity (Litres/day)	Tank Storage capacity (Litres)	Population Served per RGC
Nambale	8.4	6 (Solar)	50.4	50,400	50,000	1,863
Naigobya	3.5	13 (Grid)	45.5	45,500	69,000	1,711
Kyanvuma	14.7	6 (Grid)	88.2	88,200	132,000	3,228
Lambala	7.2	6 (Solar)	43.2	43,200	47,000	1,742
Buseta	10.2	6 (Solar)	61.2	61,200	61,000	2,276
Kasasira	21	13 (Grid & Generator)	273	273,000	271,000	5,676
Kameke	7	6 (Solar)	42	42,000	42,000	1,546
Kapala	9.3	8 (Grid)	74.4	74,400	111,000	1,546
Kidetok	18	6 *Grid)	108	108,000	162,000	3,961
	<b>99.3</b>	<b>0</b>	<b>785.9</b>	<b>785,900</b>	<b>945,000</b>	<b>23,549</b>



Kasasira Water Supply System among other systems during the political commissioning in Eastern Uganda by the Minister of Water and Environment, Mr. Sam Cheptoris; the Ambassador of Japan to Uganda, H.E Kazuaki Kameda.

#### 4.3 Technical Support to Local Governments

Technical Support Units (TSUs) were established around to 2001 to support implementation of the District Water and Sanitation Conditional Grant (DWSCG). However, their role has evolved over the years from being mainly capacity builders of the District Local Government stakeholders with a focus on the District Water Office staff to include monitoring to ensure adherence to standards, quality assurance and accountability for the resources received by various DLGs. Additionally, the Technical Support Units provide technical support to District Local Governments (DLG) in the aspects of planning, budgeting, procurement, contract management as well as monitoring DLG activities. There are 10 regionally based TSUs to support DLGs in implementation of water and sanitation programmes.

#### Key activities under the Technical Support

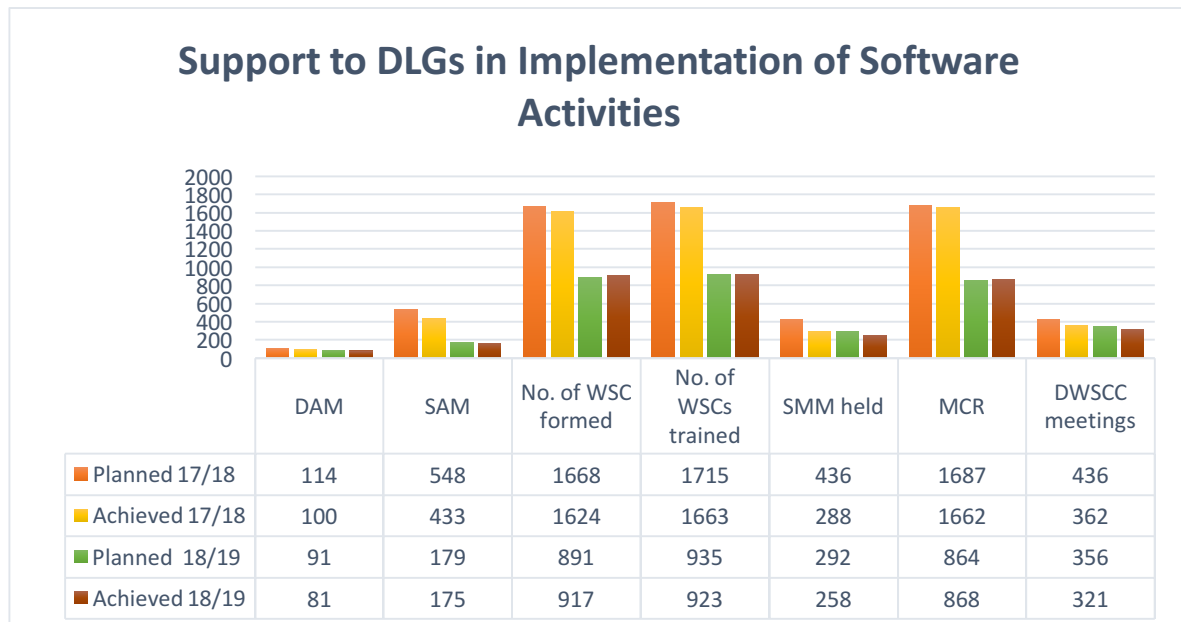
**Support districts in planning, coordination and implementation of software activities:** As required of TSUs, DLGs were supported in planning, budgeting and conducting the following critical software activities; District Advocacy Meeting (DAM), Sub County Advocacy Meeting (SAM), training Water Source Committee (WSC), Social Mobilisers Meetings (SMM), District Water and Sanitation Coordination Committee (DWSCC), Rural Water and Sanitation Committee (RWSCs) community mobilization, sanitation and hygiene promotion for sustainability of WATSAN facilities. In FY 2018/19, the TSUs supported and ensured that 77% of the planned software activities were implemented compared to 87% achieved in FY 2017/18.

A number of software activities reduced. This was attributed to reduction in the amount of funds allocated for implementation of software activities. Only 8% of the total DWSDCG was allocated to software activities instead of the recommended 14%.



*Demonstrating how the movable hands free hand*

**Physical verification of reported district outputs for FY 2018/19:** TSUs fostered accountability in DLGs through regular monitoring of the activities. This was done through physical verification of water and sanitation facilities reported by DLGs.



**Figure 10: TSU Support to implementation of DLG activities**

**Reorganization of TSUs to Rural Water Regional Centres**

The operations of TSUs have been funded mainly by Development Partners (DPs) whose funding priorities have changed over the years thus need to re-strategize on how the TSUs will be funded sustainably in order to ensure that the DLGs and local level stakeholders continue to receive support in the implementation of rural water services. A proposal to reorganise TSUs into six Rural Water Regional Centres located in Lira, Moroto, Mbale, Mbarara, Fort portal and Wakiso districts is under discussion.

#### 4.4 Appropriate Technology Centre for Water and Sanitation, Mukono

**Research undertaken:** Four major research projects carried; Fabrication and piloting a movable hands free hand washing facility, production and piloting use of bio enzymes to improve performance of pit latrines, innovative ways of recycling plastic wastes, water and sanitation technologies stock taking.

Sixty movable hands-free hand washing facilities were fabricated and installed in institutions i.e. schools, health centres, prisons, public administrative units and NGO offices selected in 05 districts i.e. Mukono, Kayunga, Wakiso, Jinja and Kampala. The movable hands free hand washing facility is operated by stepping on peddle to release water. It provides for relatively more volume of water making it suitable for institutional use and is made of materials that cannot be destroyed by termites. Preliminary results indicated high appreciation of the technology though research is still going on to improve its robustness.

In another research, bio-enzymes were locally produced and tested in the laboratory. Results indicated that bio enzymes have low pH, are rich with ethanol (that has antiseptic properties), vinegar and organic compounds that have the potential to kill bacteria and eliminate odour in the toilet. The enzymes were applied in three primary school toilets selected in Mukono district i.e. Bishop West primary school, St. Mark Primary school and Mirembe Primary school. In the two months of observations, toilets exhibited remarkable reduction in foul odour, disappearance of flies and maggots. However, in that short period the study could not conclude on potential reduction of sludge volumes. The study is still going on to concretize the findings.

In effort to update the catalogue, water and sanitation technology stock taking exercise was carried out in 25 districts under Technical Support Unit 5 and 6. The exercise revealed a blend of technologies being promoted by different stakeholders including government, development partners, NGOs and CBOs among others.

**Table 16: Water and sanitation technologies by district**

Districts	Technology	Remarks
Kasese, Mubende, Kyegegwa, Kakumiro, Kyenjojo, Kabaloro, Bundibugyo, Ntoroko, Kakumiro, Kibaale, Bunyangabu, Kamwenge, Kagadi, Mityana, Hoima, Wakiso, Mukono, Kiryandongo, Masindi, Kiboga,	Water supply	<p>Piped systems</p> <ul style="list-style-type: none"> <li>▪ Piped water systems are either powered by gravity, solar, diesel generator or electricity.</li> <li>▪ Piped systems have become a favoured alternative that involves tapping water from a single source and taking it close to users in different communities thereby shortening the distance moved in search for clean water</li> <li>▪ Government, NGOs and development partners have largely embraced piped water systems though still grappling with the challenge of the most appropriate, sustainable and affordable management approach</li> </ul>
		<p>Boreholes</p> <ul style="list-style-type: none"> <li>▪ Shallow and deep boreholes were identified.</li> <li>▪ Some boreholes are motorized others are not.</li> <li>▪ Some boreholes are fitted with a water meter that helps in monitoring system performance as well and water abstraction</li> <li>▪ Boreholes are fitted with different types of pumps i.e., Nira pump, Indian Mak II and Indian Mak III</li> </ul>
		<p>Shallow wells and protected springs</p> <p>Most of the new shallow wells are being constructed by individuals. Districts and NGOs are no longer constructing shallow wells but they rehabilitate the existing ones.</p>

Districts	Technology	Remarks
Nakaseke, Kyankwanzi, Buliisa, Luwero, Nakasongola	valley tanks	Valley tanks are typically constructed to supply water for animals but it is common practice for animals and humans to share valley tank water.
	Rainwater harvesting	<ul style="list-style-type: none"> <li>Above and underground rainwater harvesting facilities with specific tanks technologies i.e. plastic, colligated iron, ferrocement, water jars, stainless steel, EMAS tank</li> </ul>
	Water lifting	<ul style="list-style-type: none"> <li>Ram pump, EMAS pump and rope pump</li> <li>These are particularly low cost technologies that are used to lift water from underground reservoirs. They are usually fitted on hand dug wells, underground rainwater harvesting tanks and other underground reservoirs.</li> <li>They are largely promoted by ATC and NGOs under self-supply initiatives.</li> </ul>
	Toilets	<ul style="list-style-type: none"> <li>Pit based latrines</li> <li>Lined pit latrines have been massively promoted and adopted as a best option in schools. However, these lined pit latrines have proved a 'time bomb' due to the fact that their promotion missed out earlier planning on faecal sludge management. By design these are emptiable toilets that were bound to fill up. However, there are hardly any faecal sludge management plants readily available to contain the bulky sludge from the line pit latrines.</li> <li>There are ongoing efforts to construct regional faecal sludge treatment plants, but it will remain difficult and costly to transport faecal sludge from one district to another. It is important to develop a working solution to address this gap.</li> <li>Traditional pit latrines that are not lined, ventilated pit latrines and VIPs are still common.</li> </ul>
	Ecological sanitation	<ul style="list-style-type: none"> <li>UDDT, Fossa Alterna and the earthworm based toilets</li> <li>Biodigester toilets are gradually being adopted though their cost is still high</li> </ul>
	Water borne toilets	
Hygiene	tippy tap, plastic drums fitted with a manual tap, mobile jerrycans and metallic can on a stand	Not much innovation has gone on in the areas of hygiene.

Innovative ways of plastics recycling research was triggered by the huge threat of poor plastic disposal to the environment. Desk review indicated that promotion of plastic recycling can supplement efforts to minimize harmful effects to the environment. Plastics can be recycled in many ways. In this research, a number of prototypes were made from waste plastic wastes and show cased in different water and sanitation forums. These included: jewelry boxes, pencil cases, decorations, using plastic bottles in place of bricks for construction and agriculture among others. Our research indicated high appreciation towards recycling of plastics for different purposes, though people lack the knowledge and thus do not practice. During the different exhibitions, 3 women groups expressed interest to be trained and support in that line.

### **Capacity building**

A total of 22 hands-on trainings were carried out targeting trainers, grassroots communities and local leaders as outlined below.

Seven trainings on making liquid soap were conducted in seven districts. These trainings were mainly carried out in selected primary schools targeting school pupils, school administration and management. The trainings were provided as a package towards sustainable improvement of general hygiene in schools. Schools that benefited from these trainings included; Nampologoma primary school (Butaleja), Ongino primary school (Kumi), Bugolye primary school (Budaka), Adal primary school (Pallisa), Kaleu primary school (Bukedea), Bishop West primary school (Mukono) and Namulanda primary school (Kayunga).

Eight trainings on construction, operation and maintenance of reinforced rainwater harvesting tanks were carried out in five districts; Otuke, Katakwi, Kwanja, Apac and Bududa. In total 240 women and 40 men were trained and awarded certificates as rainwater harvesting tanks masons. Eight tanks were constructed as training output. One of these tanks was constructed at Aliwanga health centre III and one at the district water office in Otuke. The rest of the tanks (06) with capacity 20,000ltrs to 30,000ltrs were constructed in primary schools.

Five trainings on formulation of bylaws for managing and promotion of rainwater harvesting were conducted in five districts; Kwanja, Otuke, Apac, Bududa and Katakwi. In total 244 participants including sub-county chiefs, parish chiefs, chairpersons and district officials were trained.

One training was conducted on production, use and proper disposal of low-cost sanitary pads. The sanitary pads are made from local materials i.e. banana stems extracts, waste papers and cotton wool among others. Training participants included pupils, school management and administration. By the end of the training, 147 sanitary pads were made and ready for use by the trainees.



*Pupils, of Namulanda P/S in Kayunga making sanitary pads: Women in Kwanja constructing reinforced rainwater harvesting tanks*

One training on fabrication, installation and maintenance of the EMAS water lifting pump was conducted. A team of 15 ministry staff were trained as trainers to scale up adoption, use and maintenance of EMAS pumps as low-cost water lifting facilities.

Technology prototypes and briefs were made for different technologies and these were show case at sector events. Show case was done on invitation in seven exhibitions organized by stakeholders including Ministry of Health, Makerere University School of Public Health, Ministry of Water and Environment, Sanitation for Health initiative and District Local Governments. In addition, the Centre carried out three organized study tours and exposure learning for university students, local government and NGO officials.

#### 4.5 UNICEF WASH Interventions in FY 2018/19

352 boreholes were rehabilitated, and safe water service was restored for 104,700 people. A total of 502,000 persons benefited from the support in household sanitation and improvement and 180,000 persons benefitted from construction of sanitation facilities in schools and health centres.

Table 17: Boreholes rehabilitated by location and cost

Activity	Achieved	Location	Number served	Direct cost (UGX)
Rehabilitation of boreholes	352	Kamuli, Kagadi, Moyo, Kiryandongo, Buliisa, Adjumani, Nebbi, Kikuube, Moroto, Nakapiripirit, Napak, Kotido, Kaabong, Amudat	104,700	1,177,650,250

Table 18: Household sanitation improvement

Activity	District	Villages	Villages ODF	Beneficiaries	Direct Cost (UGX)
Support Local Governments to eliminate Open Defecation and adopt basic sanitation	Kamwenge, Isingiro, Kagadi, Iganga, Kamuli, Buvuma, Rubirizi, Ntungamo, Rubanda, Wakiso, Kakumiro, Pader, Moyo, Lamwo, Kitgum, Adjumani, Amudat, Moroto, Nakapiripirit, Napak, Kotido, Kaabong, Gomba	1677	427	502,000	1,971,867,546

Table 19: construction of latrine and water facilities in schools and health facilities

Activity	Achieved	Location	Persons served	Direct cost (UGX)
Construction of latrine facilities in schools	17	Kamuli, Iganga, Adjumani	2,500	476,000,000
Construction of latrine facilities in health facilities	33	Kaabong, Nabilatuk, Nakapiripirit, Amudat, Kotido, Napak, Arua, Yumbe, Moyo	163,500	1,250,000,000
Construction of mini solar powered pumping water systems for schools and health facilities	20	Adjumani, Lamwo, Kaabong, Nabilatuk, Nakapiripirit, Amudat, Kotido, Napak, Arua, Yumbe	14,000	2,200,000,000
<b>Total</b>	<b>70</b>		<b>180,000</b>	<b>3,926,000,000</b>

To sustain the functionality of the new WASH infrastructure and to promote positive behavior change, school health clubs, School Management Committees (SMCs) and Health Unit Management Committees (HUMCs) were trained on WASH promotion, menstrual hygiene management, and operation and maintenance of WASH facilities.

#### **Emergency Water, Sanitation and Hygiene Intervention**

##### **Response to refugee influx**

Supported emergency intervention through construction of motorised water supply systems in refugee settlements and host communities as per the table 20 below: -

Table 20: Motorised water supply systems constructed in refugee settlements

Activity	Achieved	Location	Persons served	Direct cost (UGX)
Construction of water supply system	3	Arua district (Rhino camp, Imvepi refugee settlements) Kikuube district (Kyangwali refugee settlements)	40,500	2,550,000,000
Rehabilitation and upgrade of existing water systems	5	Yumbe district (Bidi bidi refugee settlement and Arua district (Rhino camp refugee settlement)	19,000	750,000,000
Construction of household latrines in refugee settlements	2100	Imvepi refugee settlement and Bidibidi refugee settlements	10,500	945,000,000
<b>Total</b>			<b>70,000</b>	<b>4,245,000,000</b>

Over 50,600 people in refugee hosting district were reached with messages on hand washing at critical times, food hygiene and use of latrines. Sixty per cent of those who received messages were children of school going age.

#### ***Ebola preparedness and response***

Supported Ebola preparedness and response in 17 districts (Kisoro, Kasese, Bundibugyo, Ntoroko, Kabarole, Kikuube, Kyegegwa, Kanungu, Rubirizi, Rukungiri, Bunyangabu, Hoima, Isingiro, Buliisa Kagadi, Kyenjojo and Kamwenge districts). This involved supporting the district in reviewing their preparedness plans and strengthening their communication and surveillance systems, as well as providing supplies to health facilities, communities and schools (1,473 hand washing facilities, 1,575 kilograms of chlorine, 1,846 cartons of soap, 502 boxes of water purification tablets and 50 solar powered chlorine generators).

The Solar powered chlorine generators were introduced as an innovative intervention to support health facilities' capacity for sustainable access to chlorine.

A total of 295 health workers were trained on the effective use of the solar powered generators and on how to use chlorine as a disinfectant and 389 school teachers and health staffs were trained on the linkage between hygiene promotion and Ebola Virus Disease prevention.

#### **Capacity building and strengthening the enabling environment:**

*Supported Ministry of Water and Environment in:*

- Development of a costed Water and Environment sector response plan for refugees and host communities;
- Development of asset registers and asset analysis of water supply infrastructure in three districts (Adjumani, Kiryandongo and Isingiro);
- Review and update of Water and Environment sector monitoring indicators;
- Development of comprehensive workplans to remove WASH bottlenecks using WASH BAT tool in three districts (Kamuli, Iganga and Isingiro);
- Carrying out Value for Money study on the Effectiveness and Efficiency of District Sanitation and Hygiene Conditional Grant; and



- Strengthening capacity of National Handwashing Initiative (NHWI) by providing technical and financial support to the national Handwashing Secretariat.

*Supported Ministry of Health: -*

- Development of a national roadmap for the elimination of open defecation and acceleration of basic sanitation;
- Participation in the Sanitation and Water for All (SWA) conference in Costa Rica and the African Conference in South Africa; and
- Training of 56 district staff on CLTS from Adjumani, Kiryandongo, Iganga and Kamuli.

*Supported to Ministry of Education*

Carrying out micro planning in 98 districts, where data on WASH status was collected in all government aided schools to guide development of district and national level costed plans. Supported the review and update of the O&M hand book for WASH facilities in schools and baseline survey in West Nile and Karamoja sub regions on Water, Sanitation and Hygiene in schools.

Table 1: Refugee Interventions FY 2018/19

District	Settlement	Boreholes	Motorized boreholes/piped water schemes completed <sup>1</sup>	Persons served by each scheme	Hosts communities served <sup>2</sup>	latrines constructed at communal and household levels <sup>3</sup>	Sanitation and hygiene campaigns (in settlements and the host com) <sup>4</sup>	Faecal sludge treatment plant constructed	Percentage of people washing hands with soap
Yumbe	Bidibidi	0	10	172,239	4,950 in Zone 4.	0	10	1 pilot	26%
Arua	Rhino	0	0			2,591		0	15%
Arua	Imvepi	0	6			3,832	17	0	46%
Moyo	Palorinya	7	6				15		
Adjumani	Adjumani	1	1		60,000	0	3	0	60%
Lamwo	Palabek	2	0			5,736	2	0	61%
Hoima	Kyangwali	1	2	13,311	250	13,773	10	0	43%
Kiryandongo	Kiryandongo	0	0			0	3	0	
Isingiro	Nakivale	0	0			1,169	2	0	
Isingiro	Oruchinga	2	0			232	1	0	
Kamwenge	Rwamwania	0	1	10,055	4,985	618	2	0	25%
Kyegerwa	Kyaka	1	0			4,315	7	0	
		14	26	195,605	65,235	28,750	72	0	39%

<sup>1</sup> Most of the new piped water schemes are undertaken by UNHCR (and partners). NWSC undertook a borehole motorization and pipeline extensions to various locations in Rwamwania settlement. Some production wells were motorized to transmit into reservoirs of existing systems as buffers. Also, some production wells have been combined in a dual-transmission arrangement.

<sup>2</sup> This includes individual households and institutions like schools and hospitals which serve hosts. In some settlements, no data was collected but KOBO tools were developed to collect more explicit disaggregated data. The ratio of host communities to tap stands in locations where water systems are shared by both settlement and host communities is 70:30 (refugees: hosts).

<sup>3</sup> Number of latrines constructed at communal and household levels (in both the settlements and the host communities) exclude the latrines constructed at institutional level.

<sup>4</sup> The sanitation and hygiene campaigns vary in and number of people reached. The numbers indicated in the table are the total number of different campaigns by different partners. Campaigns include among others household visits by hygiene promoters, inter-school competitions, PHAST, radio, information boards, drama and music, engagement of clubs, banners, institutional workshops and World Water day and Sanitation week. For example, from January to June 2019, 83,140 individuals were reached through campaigns in Bidibidi through the continuous sessions.

Constructed 26 motorized boreholes/ water piped schemes serving a total of **195,605** persons in the settlement and host communities with clean and safe water. **28,750** latrines were constructed in settlement and host communities at communal and household level.

Faecal sludge treatment plants were greatly needed but these investments were constrained by both budgetary and implementation challenges. For example, there was a pilot mini sludge drying bed constructed in Bididbi in 2018; however, upon test running it in 2019, it was not able to handle the faecal wastes generated thus it was closed down in June 2019 by a team led by the District local government as it had become a public health risk to the community.

#### **4.6 Status and trends of key indicators for rural water supply<sup>7</sup>**

##### ***Basic water: Percentage of population using an improved drinking water source***

This indicator refers to the percentage of population using an improved water source. The computation excludes non-functional water facilities (which are reported to be broken for more than 5 years).

The percentage of population using an improved water source was estimated at 69% as compared to 70% in FY 2017/18. It is noted during the year under review that the rural population increased by an estimate of 993,766 persons yet the new water supply interventions covered 50% of the population increase.

The districts equal or above the 69% were 46 and the districts below the 69% were 81. The districts with access below 50% included Buvuma and Kyegegwa (32%); Kakumiro (34%); Buyende, Mubende and Rakai (37%); Kasanda (38%); Ssembabule (39%); Kiruhura (42%); Kisoro (43%); Isingiro, Lyantonde and Wakiso (45%); Yumbe (47%) and Amudat (49%). The map on the next page shows the rural water safe water coverage.

##### ***Safely managed water: Percentage of population using safely managed drinking water services located on premises***

Data for computing this indicator was not ready at the time of finalizing this report.

##### ***Percentage of villages with a source of safe water supply***

The current strategic directive by the government is to ensure provision of at least one improved water source per village. During the FY 2017/18, out of the 57,585 villages, only 38,183 (66%) had a safe water source. This stagnated as recorded in FY 2018/19 because there was an increase in the number of villages from 57,585 in FY 2017/18 to 57,974 in FY 2018/19. Details of source per village coverage per district are shown in Annex 9.

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<sup>7</sup> The reporting on the Key Performance Indicators was based on the submission of 71.7% of Form 1s and 65.4% of Form 4s.

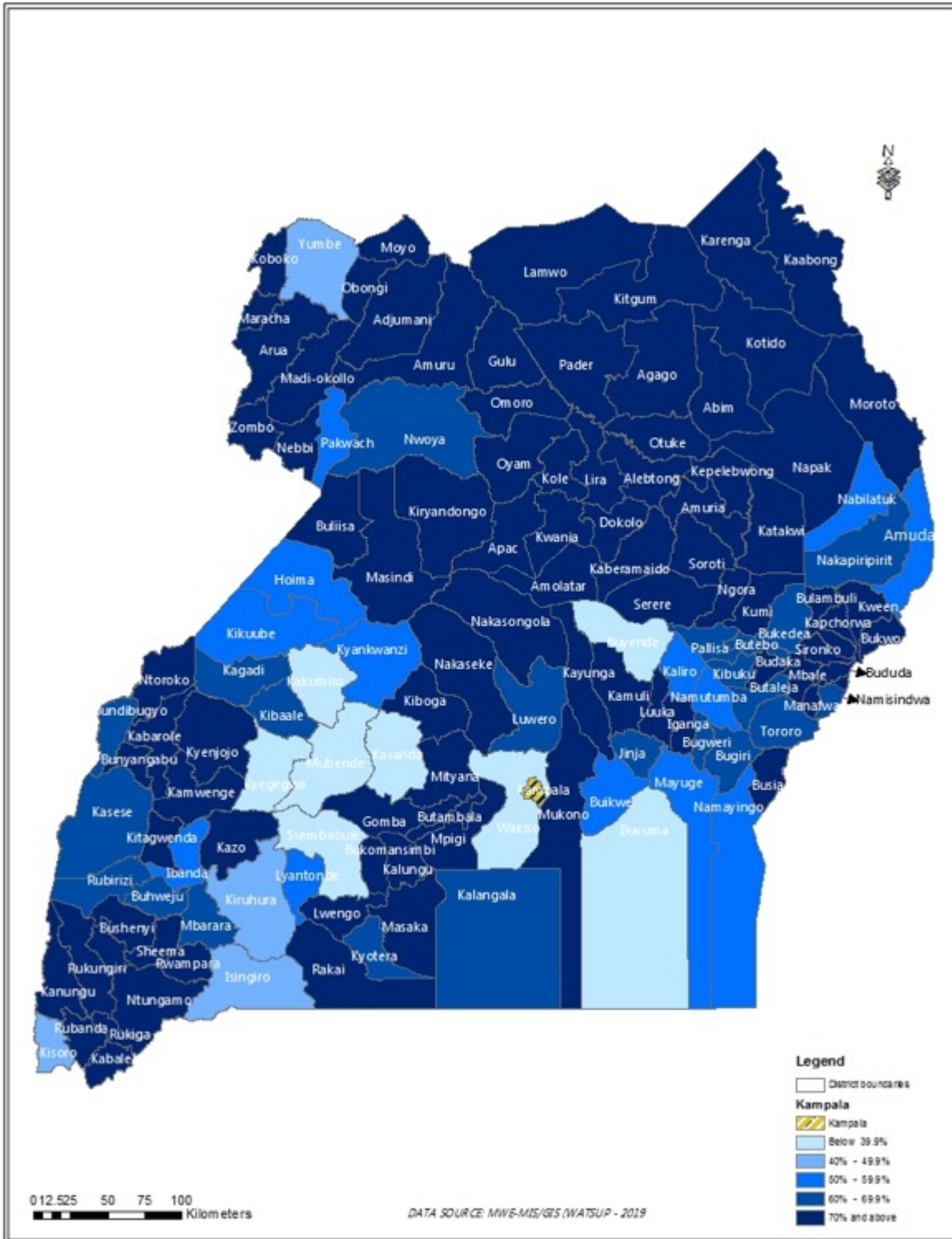
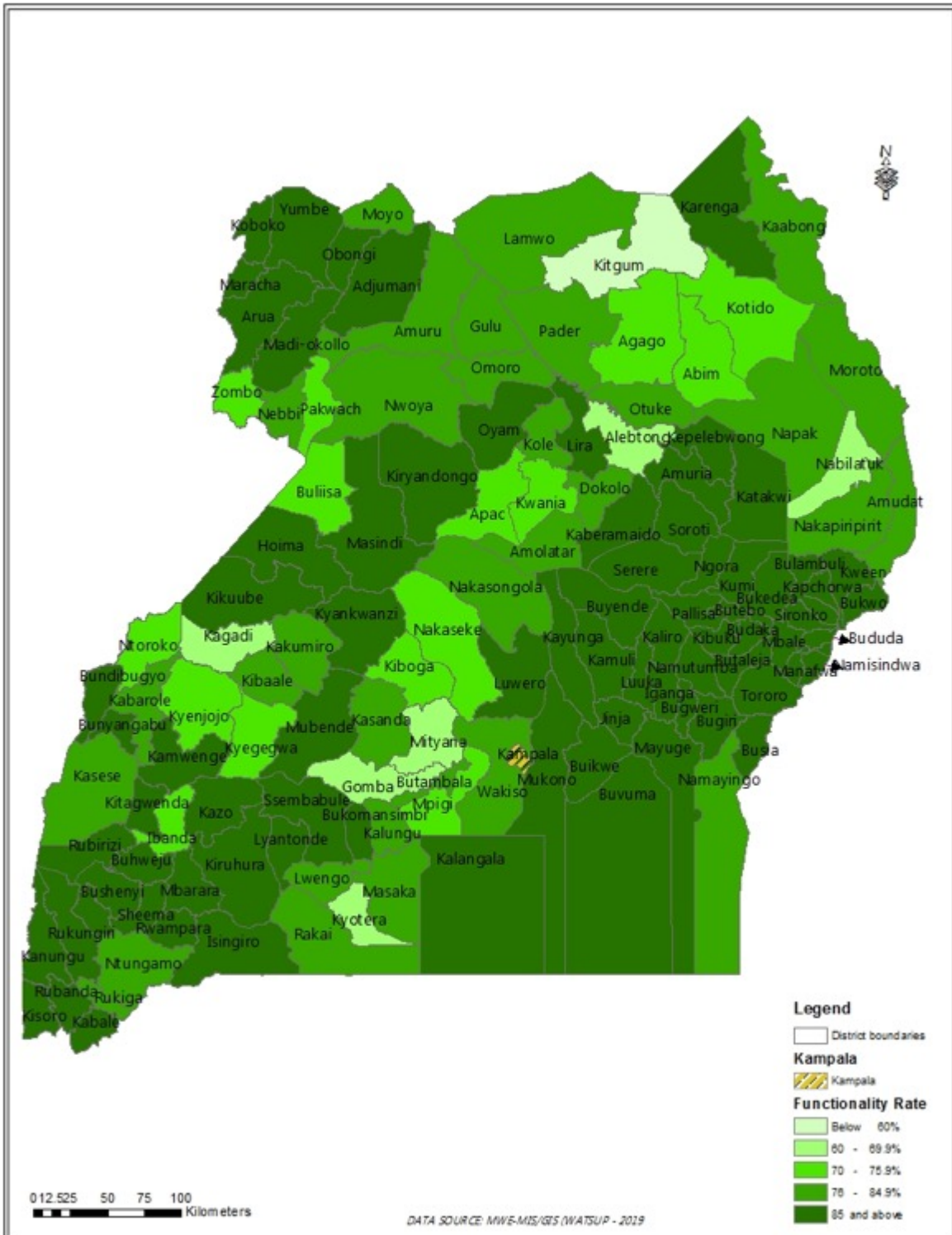


Figure 11: rural Safe water coverage as of June 2019

**Functionality: rural: % of water sources functional at time of spot-check**

The performance indicator of functionality of 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 on the map on the next page.

The functionality for rural water supplies was 85% similar to that of FY 2017/18. The stagnation of the national functionality rate was attributed to decrease in the budget allocation on rehabilitation as a result of creation of new DLGs.



**Management - rural: % of water points with actively functioning Water & Sanitation Committees**

This performance indicator refers to the “percentage of Water sources with functional Water and Sanitation Committees”. A functional WSC is one that ensures that a water point continues functioning at all times. This is achieved through collection O&M funds regularly with good record keeping, holding regular meetings, undertaking minor repairs, and maintaining adequate sanitation around the water source.

A substantial percentage of water facilities continue to be managed under Community Based Maintenance System (CBMS) management model. The water supply database indicates 96,775 (82.5%) being communal water sources under CBMS. The database shows slight increase of functional WSCs from 88% by end June 2018 to 89% by end of June 2019.

**Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD)**

The overall per capita cost for rural water supplies was estimated at USD 75 in FY 2018/19 higher than USD 68 for FY 2017/18. The high average cost per beneficiary of new water and sanitation schemes (USD) is due to the following reasons:

- An estimate of UGX 58 billion was expended on ongoing multi-year projects specially GFS and solar powered water systems and UGX 10 billion was expended by the DLGs for rehabilitation and recurrent nonwage. The total amount of unaccounted for funds was UGX 5bn from DLGs;
- Creation of new 6 districts impacted on the outputs as increased administration costs; and
- Investing in high cost water supply technologies that did not yield in water supply connections.

**4.7 Challenges and Recommendations**

- I. Limited funding to facilitate the Technical Support Units (TSUs) operations in the country affected service delivery among the DLGs.
- II. The creation of new districts affected the threshold allocated to other districts as this did not translate into additional funds to the grant.
- III. As a result of debts carried forward from the FY 2017/18 (**12 billion**), planned outputs for FY 2018/19 were affected. During the FY 2018/19, financial commitments on projects like Solar Powered Mini piped Irrigations systems, drilling and rehabilitation of boreholes, large gravity flow schemes were either not honored totaling to **25 billion**.
- IV. Vandalism of the water infrastructure for purposes of selling them as steel scrap, solar panels and generators is a becoming a common vice. This has consequently affected the supply of water to other communities as the distribution pipes and taps are targeted resulting to unsafe water for consumption.
- V. Given the inadequate allocation for non-wage recurrent budget under the water grant that requires DLGs to spend 9% as opposed to 14%, the District Water Offices operate under extreme constraints to deliver safe and clean water services to the community. These funds are inadequate for O&M of water & sanitation facilities in the DLGs due to reduced grant allocation to district most specifically the nonwage budget.
- VI. The overwhelming political demand for water supply improvement in rural areas vis-à-vis the resource envelope.

To address these challenges, the following recommendations are made:

- I. The debt financing requires a supplementary budget to achieve planned outputs for FY 2019/20.
- II. Continuous Technical Support to the district local governments is essential to minimize the capacity gaps in planning, budgeting, procurement, implementation and O&M of water facilities.
- III. Engaging with MoFPED to increase the water grant to enhance the non-wage recurrent budget to be able to provide clean and safe water to the rural communities in Uganda.
- IV. A seed fund for Development of solar technology in Rural areas is pivotal in achieving the SDGs by 2030 as this will ensure over 50% of population are supplied through piped water schemes.
- V. A multiple approach to water supply system to ensure a water source per village through large gravity flow schemes, solar powered mini-piped water schemes, boreholes, rainwater harvesting and self-supply in water stressed areas as this approach will lead to a higher per capita cost, and therefore needs more financial resources.
- VI. Integrated planning with other stakeholders and comprehensive stakeholder mapping to mitigate delays in the execution of contracts to be able to deliver water and sanitation service effectively and efficiently.

## 5. URBAN WATER SUPPLY

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### 5.1 Introduction

Uganda's urban population is estimated to be more than 10 million (24% of Ugandan population) and it is likely to double by 2040. Provision of water supply infrastructure is vital if the population is to enjoy its constitutional right of access to reliable, safe and affordable water supply.

Uganda's urban population growth is at a higher rate and has outstripped the rate of infrastructure development. This is attributed to rural urban migration and creation of new districts, municipalities and town councils which has led to gazetting former rural areas as urban areas.

The National Development Plan II (NDP II) aims at increasing access to safe water in urban areas to 95% (100% in NWSC towns) by 2020. SGD (6.1) advocates for universal and equitable water access by 2030. It further advocates for access to safe water at premises.

Uganda has a total of 498 urban centres comprising of one City (5 new cities proposed), 55 Municipalities and 442 Town Councils and Town Boards. There are more than 1,100 Rural Growth Centres (RGC) with a population of about 3.3 million that are expected to be gazetted as urban centres in the near future.

### 5.2 Centrally implemented water and sanitation projects

**Lake Victoria Water and Sanitation Project (LV WATSAN II):** This project constructed piped water supply and sanitation systems for the towns of Mayuge, Kayabwe-Buwama, Bukakata and Ntungamo. The Project completed the water supply component and the sanitation component for Bukakata and Mayuge during the FY 2018/19. The two Faecal Sludge Management Facilities (FSM) are expected to serve a population of 3,421 people in Bukakata and 3,018 people in Mayuge. The completion of these facilities was delayed due to challenges in land acquisition. Mayuge FSM was constructed with a volume of 10m<sup>3</sup>, seven public toilets, one exhauster and one Vacutag. Bukakata FSM was constructed with a volume of 10m<sup>3</sup>, 10 public toilets, one exhauster and one Vacutag.

**Water Management Development Project (WMDP):** Four piped water supply and sanitation systems were completed. These were Koboko, Rukungiri, Katwe-Kabatoro and Pallisa water supply and sanitation systems. A total of 1,823 yard tap connections were constructed serving a population of 220,335 people in 286 villages. These systems cover 73.21 kilometres of transmission and distribution.

The construction of Nyero-Ngora-Kuumi town water supply was substantially completed. The detailed engineering designs for Butalejja, Busia, Busolwe, Budaka, Kadama, Tirinyi and Kibuku town water supply and sanitation systems were completed.

**Lake Victoria Water and Sanitation Project Phase III (LVWATSAN III):** Implementation of the piped water supply and sanitation in the three Greater areas of Gomba, Bugadde and Rakai commenced. Detailed engineering designs for water supply and sanitation systems are ongoing. The areas covered include *Greater Gomba Area* (Kanoni, Bulo, Nsabwe, Ngomanene, Kiriri, Bukandura, Rugaga, Kabulasoke, Butiti, Kifampa, Kisozi, Kajumiro and Maddu); *Greater Rakai Area* (Rakai, Nsaro, Rumbugu, Birabago, Buyamba, Rwanda-Kooki, Dwaniro, Byakabanda, Kamukala and Kibbale); and *Greater Bugadde Area* (Bugadde, Kityerera, Busakira and Kuluuba). Feasibility studies were completed and detailed engineering designs were being finalised. The actual construction will commence during the financial year 2020/21.

**Integrated Water Management Development Project (IWMDP):** This programme took over water supply systems not completed during the FY 2017/18 under Water Management and Development Project (WMDP) – these included Butaleja, Busia, Busolwe, Budaka, Kadama, Tirinyi, Kibuku, Namasale, Kaliro, Namungarwe, Kyeggwa, Mpara and Ruyonza. The project will also offer support towards the operations and maintenance,



functionality and sustainability of the piped water supply and sanitation systems in rural areas and RGCs through the six Umbrella for Water and Sanitation(UWS). The type of support provided included professionalization of UWS, supply of pipes, meters and improving the monitoring aspect of the UWS.

**Energy for Rural Transformation Project III (ERT III):** The consultant is currently supervising the supply, installation and commissioning energy packages for Lot 1, Lot 2 and Lot 3 towns. Lot 1 towns are Buvuma (Buvuma), Namayumba (Wakiso), Buhunga (Rukungiri), Irundu (Buyende) and Namwiwa (Kaliro); Lot 2 towns are Orom (Kitgum), Minakulu (Oyam), Dzaipi (Maracha), Kotido (Kotido), Kaperebyong (Amuria), Kubala (Arua) and Amudat (Amudat); and Lot 3 towns are Kamuzinda (Masaka), Bukuya (Kasanda), Kasenda (Kabarole), and Buyende (Buyende).

**Table 22: Progress on Specific Projects**

Other Projects	Completed water supply/ project	Under construction	Under procurement	Completed designs	Under design	FSM complete
WMDP	4	3	-	5	-	4
IWMDP	-	-	5	8	3	-
Karamoja Small towns	2	1	1	3	3	-
LV Watsan	-	-	-	-	27	3
Support to STs	1	-	-	-	1	-
ERT III <sup>8</sup>	12	4	11	30	-	-
Strategic Towns Water and Sanitation Project	-	-	5	10	10	-
<b>Total Other Projects</b>	<b>19</b>	<b>8</b>	<b>22</b>	<b>56</b>	<b>44</b>	<b>7</b>

### 5.3 Implementation of water and sanitation projects by Water and Sanitation Development Facilities

The regional Water and Sanitation Development Facilities (WSDFs) are MWE's deconcentrated structures for implementation of water and sanitation interventions in small towns (STs) and rural growth centres. There are four regional Branches; WSDF North based in Lira, WSDF Central (Wakiso), WSDF South-West (Mbarara) and WSDF East (Mbale). Karamoja Towns Water Supply and Sanitation Project which commenced in FY 2016/17 is being transformed to become a Water and Sanitation Development Facility for Karamoja region.

**Table 23: Summary of physical performance of WSDFs and Karamoja Towns Water Supply and Sanitation in FY 2018/19**

WSDF	Completed water supply	Under construction	Under procurement	Completed designs	Under design	FSM complete	FSM under construction
North	1	4	-	3	28	1	-
Central	-	7	8	1	-	-	2
East	3	3	2	19	-	-	1
South-West	2	4	3	8	9	1	1
Karamoja	2	1	-	2	8	-	-
<b>Total WSDF</b>	<b>8</b>	<b>19</b>	<b>13</b>	<b>33</b>	<b>45</b>	<b>2</b>	<b>4</b>

<sup>8</sup> ERT III systems are largely Supply and Installation of the Solar PV Energy Packages

A total of 12 piped Water Supply and Sanitation systems for the small towns of Kyado, Bulegeni and Namwiwa in Eastern Region, Kacheri-Lokona and Amudat in Karamoja Region, Kambuga II, Lwemiyaga, Rukungiri, Katwe-Kabatoro and Kanzinero in South Western Region, Koboko and Wipolo Shrine in the Northern Region. A total of 1,224 yard tap connections and 102 public stand posts are serving a population of 127,559 people in 453 villages.

Nineteen Towns Water Supply and Sanitation systems are under construction in the towns of Alere, Nyumanzi, Ranch 1 and Agago in the Northern Uganda; Kayunga, Busaana, Busiika, Kiwoko, Butalangu, Kasambya, Kagadi in the Central Region; Namwiwa, Bulopa, Binyiny in the Eastern Region, Buyamba, Lwemiyaga, Karago and Kambuga in the South Western Region; and Orwamuge in Karamoja Region.

The procurement of civil works contractors for 13 Towns Water Supply and Sanitation systems is ongoing. Thirty three detailed engineering designs were completed and 45 towns are under design. Two FSM Facilities were completed and 4 are under construction.

During the reporting period, the MWE completed the projects of Kampala Sanitation Programme Phase 2 (Ksp – Lvp2), Water Management and Development Project (WMDP)- Arua Water Supply and Sanitation Project, and Water Management and Development Project (WMDP)- Bushenyi Water Supply Project under NWSC.

These schemes have a combined total of 7,007 public stand posts (PSP), 123,303 yard taps and 90 institutional connections. They are expected to serve a current population of 670,662 people in small towns and a total population of 14,471,000 people in large towns serving 4,453 villages in the entire urban region.

Three (3 No.) Faecal Sludge Management Facilities were constructed to completion including Apac, Ishongororo and Kasaali and 3 No. Three Faecal Sludge Management Facilities are under construction in Kiboga, Kamuli, Nakasongola.

#### 5.4 Projects implemented large towns

In the large towns the Ministry through NWSC has implemented piped Water Supply and Sanitation systems across the country. Construction works under WMDP were completed Bushenyi, Arua and Gulu, under the WMDP NWSC component, the construction works in the towns of Bushenyi, Arua, and Gulu were completed. Under the same phase, the detailed engineering designs for Mbale were also completed. Interventions under SCAP 100 were also implemented and these were part of the general performance under large towns. As part of the Sector performance 4,000 additional Villages have been served with safe and affordable clean water through 119,556 connections and 6,892 yard tap connection.

**Other Projects under implementation include:** Integrated Program to improve living conditions in Gulu – (Phase II Nile Option for Water Treatment Plant at Karuma and bulk water transfer from Karuma to Gulu and other enroute towns between Karuma and Gulu; Development Of Water and Sanitation Infrastructure for Isingiro, Mbarara-Masaka Areas- South Western Cluster where Contracts for design and supervision consultancy were signed and detailed design was ongoing; Package Sewage Treatment Plants For Fort Portal whose Civil works for the project are estimated at 65%; Sembabule Water Supply Improvement Project where Pipes have been delivered and contract for works awaiting signature; Fort Portal Water Production Improvements whose achievement levels stands at .Construction works were at 30% Progress. Another project under implementation is Kampala Sanitation Programme Phase 2 (Ksp – Lvp2) which includes the Construction of new water treatment plant east of Kampala (Katosi), Construction of a drinking water transmission main from Nsuba hill to Ssonde hill, Construction of a reservoir at Ssonde hill, a pump station, a pumping main to Naguru and a booster station at Namugongo.

**Projects being planned for the Large Towns include:** Integrated Water Management and Development Project

(IWMDP) – Adjumani Water Supply And Sanitation Project, Wakiso West Watsan Project (WWWSP), Kyotera Water Works and bulk transfer to Neighbouring Towns, Development of Watsan Infrastructure for the Hoima - Masindi Areas (Albertine Graben Cluster North).

## 5.5 Status and trends of key indicators for urban water supply

### **Basic Water – Percentage of population using an improved drinking water source**

According to the Joint Monitoring Program (JMP), basic water is *drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing.*

By June 2019, 79.1% of the urban population (in large and small towns, and RGCs) was using improved drinking water sources compared to 77% in June 2018. This increase was attributed to completion of water supply systems in Koboko, Rukungiri, Pallisa and Katwe – Kabatoro, and additional connections by UWS.

In small towns and rural growth centres, 55.9% of the population was using improved drinking water sources compared to 36% in FY 2017/18. In large towns 81.6% of the population was using improved drinking water sources compared to 84% in FY 2017/18. The decrease was attributed to newly created Municipalities and Town Councils with low safe water coverage.

**Table 24: Trends in access to improved water supply in urban areas - 2011 to 2019**

Reporting Period		10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>NWSC Towns</b>	Total Population (mn)	3.24	3.38	3.84	4.42	4.90	6.64	8.0	9.7	16.8
	Population served (mn)	2.43	2.61	2.99	3.38	3.72	5.44	6.3	8.1	13.7
	% Coverage	75%	77%	78%	77%	76%	82%*	79%	84%	81.6%
<b>MWE / DWD Towns</b>	Total Population (mn)	2.38	2.49	2.61	2.23	2.07	1.69	1.50	1.6	1.543
	Population served (mn)	1.28	1.42	1.52	1.46	1.38	0.45	0.44	0.57	0.733
	% Coverage	54%	57%	58%	65%	67%	27%	29%	36%	55.9%
<b>Total (Urban)</b>	Total Population (mn)	5.62	5.87	6.45	6.65	6.97	8.34	9.4	11.3	18.304
	Population served (mn)	3.71	4.04	4.51	4.84	5.11	5.89	6.6	8.7	14.471
	% Coverage	66%	69%	70%	73%	73%	71%	71%	77%	79.1%

### **Safely managed water: Percentage of population using safely managed drinking water services located on premises**

Safely managed water, according to JMP, is an *“improved source located on premises, available when needed, and free from microbiological and priority chemical contamination.”* This indicator is calculated by %age on premises\*percentage functionality\*complying with water quality. As of June 2019, 57.2% of the urban population was using safely managed water compared to 20% in June 2018.

### **Percentage of villages with a source of safe water supply**

4,453 additional villages were served with safe and clean drinking water from 12 piped Water Supply and Sanitation systems completed in small towns and rural growth centres and the intervention under the NWSC. Another 1,687 villages in small towns and rural growth centres were being served by the schemes managed by the Umbrellas and Water and Sanitation in the 6 Regions.

### **Percentage of towns with pro-poor facilities where people pay less or equal to the house connection tariff in the service area**

This indicator is computed as the average sum of Public stand Posts that charge below or equal to in-house tariff per town over total number of towns offering water services. In FY 2018/19 a total of 12 towns were completed and all of them had pro-poor tariff below house connection tariff. Amongst the towns managed by the Umbrellas of Water and Sanitation, 98.6% of the public stand posts charge a tariff below house connection tariff. 1.4% of the towns charged equal or slightly above house connection tariff. This was because some public kiosks / stand posts subcontractors overcharge to maximise profits.

During the FY 2018/19, 41,000 poor people were served through construction of 3,755 Public stand Posts compared to 3,866 in FY 2017/18. The reductions was attributed to emphasis being put on house connections in order to meet SDG (6.1).

**Table 25: Annual Trend of PSPs/kiosks for the period 2015- 2019 in large towns**

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19
New PSPs/Kiosks	924	1,093	1,087	1,503	3,550
Total Active PSPs/Kiosks	6,594	8,161	8,859	10,185	15,066
Total Inactive PSPs/Kiosks	2,488	2,680	2,378	2,120	2,120
Total PSPs/Kiosks	9,082	10,841	11,237	12,305	17,186

### **Percentage of piped water service availability**

This is the percentage of the piped water service availability or the percentage of schemes with satisfactory water quality, water quantity, and service reliability. The functionality of the piped Water Supply and sanitation systems in small towns and rural growth centres was estimated at 94.3%. This was an improvement from 92% functionality in FY 2017/18. This was attributed to increased monitoring of the Piped Water Supply and Sanitation Systems by the Umbrellas of Water and Sanitation.

In large towns, As at 30<sup>th</sup> June 2019, large towns through NWSC supplied water for an average of **18** hours per day. However, the Corporation is implementing a number of Capital Development Projects and Water Supply stabilization Plans (WSSPs) under the SCAP 100 Project to ensure that water is available to our customers for all the **24** hours in a day.

### **Management – piped schemes: Percentage of piped water schemes with formal contract-based management structure**

A total of 693 piped water supply are gazetted. These comprise 253 under NWSC and 440 under Umbrellas of Water and Sanitation. 100% of all piped water schemes in small towns, RGCs and large towns are under formal contract-based management structure.

### **Percentage of Non-revenue water (piped schemes)**

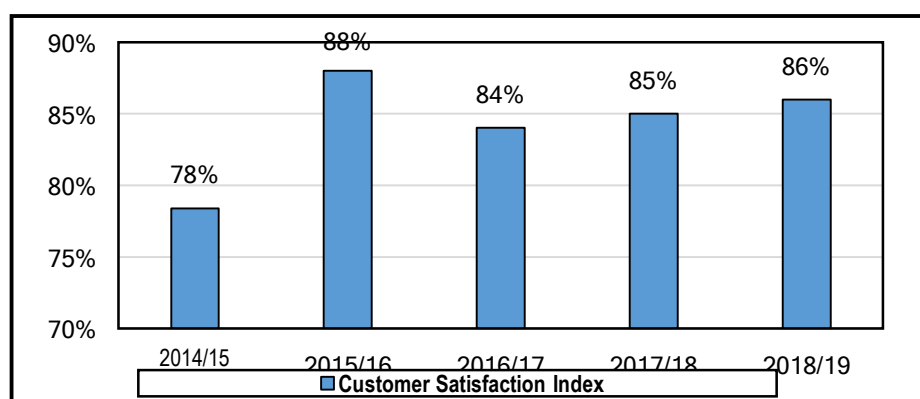
Non-Revenue Water (NRW) is the portion of the water produced that is not sold to the customers but either lost by leakages in the system (physical losses) or by illegal consumption (commercial losses). NRW decreased from 33.35% to 30.73%. This is mainly due to improved management practices and massive sensitization of Water Users, Water and Sanitation Boards and communities on NRW. It was also contributed to by the technical trainings offered to the scheme level officers by the Ministry technical team, the regional UWS staff and NWSC. Further reductions are expected when funds become available for the investments needed to reduce physical losses.

**Customer satisfaction: NSWC's customer satisfaction index**

The customer Satisfactory index (CSI) is the weighted average of the outcome of customers' assessment of large towns through NWSC service quality against the key attributes. These include:

- (i) Water supply reliability
- (ii) Good water quality
- (iii) Timely and accurate monthly bill administration
- (iv) Resolution of enquires/queries/complaints
- (v) Customer care
- (vi) Convenience in payment of bills
- (vii) Regular information updates on services and plans

During the FY 2018/19, NWSC conducted a Customer Satisfaction survey and the results show a Customer Satisfaction Index of 86%. This was higher than the target set in the performance contract of 70%. This shows NWSC's continued commitment to effective and efficient service delivery.



**Figure 12: Customer Satisfaction Index Trends for the Period 2014 – 2019**

**Financial Sustainability: Ratio between total revenue collection and O&M costs**

During the FY 2018/19 revenue collections were low due to some loopholes which are now being addressed by the billing software which links both the billing and the collection in each of the Umbrellas of Water and Sanitation.

The financial viability of the respective Umbrellas of Water and Sanitation was still low. Overall financial viability of all the six Umbrellas of Water and Sanitation was 79%, Non-Revenue Water was 33% and Collection Efficiency 49.7%. The functionality of piped Water Supply and Sanitation was 94% compared to 92% in FY 2017/18.

**Table 26: Financial Viability, Non-Revenue Water, Functionality and Collection Efficiency Performance**

SN	UWSs	Financial Viability /Sustainability (%)	Non-Revenue Water (NRW) (%)	Functionality (%)	Collection Efficiency (%)
1	Central	76	22.4	86	111.5
2	South West	81	23	97	81
3	North	83	24	70	0
4	East	89	53	75	39.1
5	Mid-West	80	26.6	75	48
6	Karamoja	64	42.1	66	17.7

**Financial Sustainability in large towns**

The ratio between total costs and revenue for the FY 2018/19 was 78%. This performance denotes an increase in the percentage of operational costs to revenues of 2% from 76% in the FY 2017/18. This was attributed to the growth in the NWSA service areas.

**Table 27: Large Towns / NWSA Provisional Operational Financial Performance 2018/2019**

Source	2015/16	2016/17	2017/18	2018/19	Budget 2018/19	Budget Perf.
Revenue	276,062,157	321,806,567	387,791,671	441,907,566	458,401,000	96%
Operating Expenditure	215,889,809	250,940,410	295,524,437	345,609,442	322,626,000	93%
Operating Profit Before Depreciation	60,172,350	70,866,157	92,267,234	96,298,124	135,775,000	71%
Profit Before Finance costs and Tax	34,011,975	38,980,799	58,889,248	34,298,124	95,652,000	36%
Working Ratio	78%	78%	76%	78%	70%	90%

**Tariff Structure**

The small towns water and sanitation operation methodology is one single tariff which is sub-set into several sub tariffs. There are domestic and institutional tariffs. The domestic tariff is not uniform to all water scheme but it is dependent on the management financial requirements of a scheme. It is also determined based on cost of inputs required to manage and operate a piped water supply and sanitation system. It ranges from UGX 2,545 to UGX 3,400 exclusive of VAT and Service fee. The institutional tariff ranges from UGX 1,250 to UGX 1,695 exclusive of VAT and service fee.

**Table 28: Small Towns / UWSA Tariff Structure FY 2018/2019 (VAT Exclusive)**

	Hydo Power	Gravity Flow	Solar
Private Tariff	3,400	2,130	1,695
Public Stand Post Tariff	2,545	1,500	1,230

The Tariffs structure for large towns is slightly different from the one in small town because of the social and economic structures and standards including benchmarks. NWSA implements a uniform tariff with a cross subsidy across all towns and consumer categories. During the FY 2018/19, the tariff structure was reviewed to include an industrial tariff aimed at enhancing industrialization in the Ugandan economy. Tables 28 and 29 show the Umbrellas of Water and Sanitation and NWSA tariff implemented for the various consumer categories during the Financial Year 2018/19.

**Table 29: NWSA Tariff Structure FY 2018/19 (VAT Exclusive)**

Customer Category	Water tariff 2018/19 (Ushs./m <sup>3</sup> )	Tariff per 20Liter Jerrycan (Ushs./m <sup>3</sup> )	Sewerage Tariff 2018/19 (Ushs./m <sup>3</sup> )
Public Standpipe	1,060	25	n/a**
Domestic	3,516	83	2,637
Institutions / Government	3,558	84	3,558
Commercial < 500m <sup>3</sup> /m	4,220	99	4,220
Commercial > 1500m <sup>3</sup> /m	3,373	79	3,373
Industrial < 1000m <sup>3</sup>	4,220	99	4,220
Industrial > 1000m <sup>3</sup>	2,500	59	2,500
Average Commercial	3,938	92	3,938

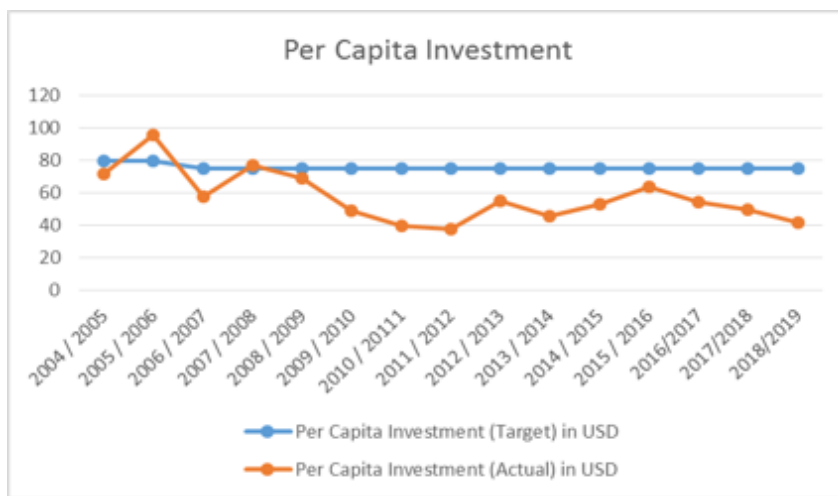
Sewerage charges are 75% of the water tariff for Domestic and 100% of the water tariff for other categories. Sewerage is not billed in isolation; it is based on volume of water consumed.  
 \*\*\* n/a: The Corporation does not charge sewer tariff on the Public Stand Posts, save for nationalized PSPs and are connected to the Sewer.

**Per Capita Investment Cost: Average cost per beneficiary of new water and sanitation schemes (USD)**

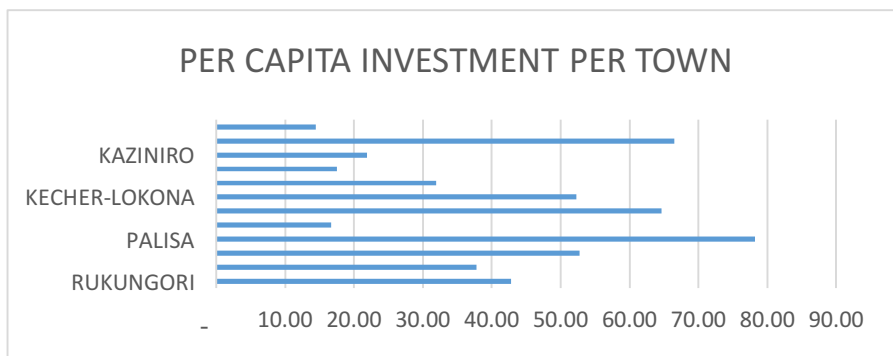
The indicator is defined as the amount of financial resources expended to each and every individual within the project area. It is computed as the total amount of capital investment spent on a project against the total design population of the project coverage area.

It should be noted that per capita costs depend on a number of factors, including the settlement pattern, the topography, the definition of the supply area and the type of water supply and technology used. Additionally it is important to know that the “per capita cost” is a rather weak indicator since it does not include operational nor capital maintenance cost. This can lead to negative decision in terms of high operational costs over the whole life cycle and low life span because of low material quality.

The average per capita investment cost for the completed 12 towns water supply systems in FY 2018/19 was USD 41 compared to the USD 58 in FY 2017/18. The big reduction was based on the high population in many of the completed schemes and the some schemes like Kyado which were rehabilitated .



**Figure 13: To indicate comparison 2004/2005 – 2018/2019**



**Figure 14:Histogram indication Per Capita invest costs of the piped water supply system constructed**

**Drinking water quality: % of water samples taken that comply with national standards (Point water sources / Piped schemes)**

The umbrellas of Water and Sanitation conduct water quality monitoring on a quarterly basis. A total of 24,024 sample were collected; out of which 96.3% were compliant with national water quality standards (absence of microbiological contamination). This was an improvement from 89% in FY 2017/2018. There was low

compliance among the small towns in Central (89.8%) and Mid-western (82.4%) as a result of the increasing number of old schemes that are being provided with some level of technical improvement to cater for water safety. However, there was an improvement in Mid-Western from 63% to 84.2%. In large towns, the compliance was 99.6%. The trend indicated an improvement to 100% in four Umbrellas of Water and Sanitation.

**Table 30: Water Quality Monitoring in Small Towns**

	CUWS	EUWS	KUWS	MWUWS	NUWS	SWUWS	Total
No. of schemes gazetted (June 2019)	108	54	37	65	76	100	<b>440</b>
No. of schemes supported but not managed by the UWS	21	100	11	41	106	05	<b>284</b>
<b>No. of WQ samples taken</b> No.	102	54	33	91	40	83	<b>403</b>
Water Quality Compliance (%)	98	100%	100%	82.4%	100%	100%	<b>93%</b>

With regard to **waste water**, the overall compliance level was **41.7%** against a target of **50%**. Although efforts have been made to desludge most waste stabilization ponds, many of the sewerage systems receive faecal sludge that exceeds their design capacity to treat. Going forward, the Corporation will establish faecal sludge systems and this has been catered for in the Proposed Sanitation Investment Plan 2020 – 2025.

**Table 31: Water and wastewater Quality Compliance, Jul 2018 - June 2019**

Water Quality	Ingredients	Indicator	Actual Perf.
<b>Compliance with National Standards for Drinking (potable) Water 2008</b>	(No. of Samples passing National Standards/ Total samples tested ) X 100 ( <b>23,526 / 23,621</b> ).	Bacteriological Quality (%)	99.6
		Colour (%)	84.4
		Turbidity (%)	95.5
		Chlorine residual (%)	95.0
		PH (%)	100.0
		Electrical Conductivity (%)	100.0
		Alkalinity Total (%)	100.0
		Hardness Total (%)	99.5
Average (%)	96.7		
Sewage Quality	Ingredients	Indicator	Actual Perf.
<b>Compliance with all 54 Effluent discharge Parameters</b>	(No. of Samples passing National Discharge Standards/ Total Samples tested ) X 100	BOD (%)	41.8
		Total Suspended Solids (%)	41.5
		Average (%)	41.7

### **Average Weighted Procurement Performance**

During the FY 2017/18, the Public Procurement and Disposal of Public Assets Authority (PPDA) carried out a procurement and disposal audit of NWSC, and the findings of the exercise revealed a compliance score of **84.1%**, a performance score of **74%** and an overall weighted average performance of **78%** which is satisfactory performance as summarized in the table 32 below.

**Table 32: Overall Weighted Procurement Score for FY 2017/18**

Indicator	Score (%)	Weight	Weighted Score
Average Compliance Indicator Score	84.1	0.4	33.6%
Average Performance Indicator Score	74	0.6	44.4%
<b>Weighted Procurement Performance Score</b>			<b>78%</b>



### Other Performance Indicators

Connections are steadily increasing, partly because of extensions and additional customers connected to the existing networks. A total 27,232 connections were constructed by UWS (4,626) and NWSC (22,606). UWS for Central added 1,733 connections; Mid-Western (1,237); Northern (350); Karamoja (298); South-Western (708); and Eastern (300).

Continuity of supply in small towns is computed as the number of days when water was available divided by the total number of days of the month. The performance for small towns increased from 91% in FY 2017/18 to 92% in FY 2018/19. This improvement was upon attributed to continued monitoring and supervision by Water Utility Regulation Department.

Table 33: Physical performance of Individual Umbrellas of Water and Sanitation

Water Sales in small towns during the FY 2018/19 was 2,569,375m<sup>3</sup> worth UGX 6.138 billion compared to

		CUWS	EUWS	KUWS	MWUWS	NUWS	SWUWS	Total
No. of schemes gazetted (June 2019)		108	54	37	65	76	100	440
No. of schemes supported but not managed by the UWS		21	100	11	41	106	05	284
Total amount invested from Revolving Fund <sup>1</sup>	UGX million	300	150	150	233	150	300	1,283
Total amount invested from other sources	UGX million	189	318	85	209	73	181	1,054
Total no. of water meters installed	No.	1,726	300	298	1,237	350	708	4,619
Non-Revenue Water (%)		22.37	53	42.1	26.6	24	23	31.85
Total km of pipeline extensions	km	107.6	89.3	27	21.8	3	36	284.71
No. of WQ samples taken	No.	102	54	33	91	40	83	403
Water Quality Compliance (%)		98	100%	100%	82.4%	100%	100%	93%
Functionality (%)		97	93	88	94	96	98	94.3%
Additional Connections		1,733	1,200	699	1,215	160	1,030	5,007
Additional kilometres		109.73	92.3	31.98	21.8	3	39	297
Additional Villages Served		149						149
Total No. of Villages Served		450	384	-	417	276	160	1,687
Continuity of Supply (%)		92	78	96.2	88.7	93.4	90.7	89.8
No. of Schemes Effectively Managed		62	54	19	36	46	32	249
No. of Active Connections		13,347	6,976	1,744	1,215	160	3,144	26,586
Revenue Collection (B UGX)		1.86	0.85	0.178	1.12	0.617	0.203	4.83
Collection Efficiency (%)	(%)	84.3	81.1	54.1	78.9	70.4	74.2	78.4
Operating Cost Recovery Ratio (%)		98	88	95	96.5	90	96	93.9

136,111m<sup>3</sup> sold in FY 2018/19.

### 5.6 Performance of UWS Model and NWSC Model

The UWS model builds on the structures and experience of the 6 regional “Umbrellas of Water and Sanitation” that were created between 2002 and 2014 to provide O&M backup support services for small water supply schemes. 440 Piped Water Supply and Sanitation systems were managed by UWS compared to 424 in FY 2017/18. In large towns the number of towns with piped water supply systems raised from 237 in 2017/2018 to 253 in 2018/2019. The number of towns served with piped water supply grew from 661 towns in 2017/18 to 693 towns in FY 2018/19.

**Revenue collection efficiency in Small Towns**

Umbrellas of Water and Sanitation are increasingly employing better revenue collection methods like PEGASUS Model. The total collections of all UWS reached UGX 4.82 billion compared to UGX 414 million in FY 2018/19. This was attributed to improved billing and collection systems, sensitization drives and the timely billing and collection of the money. Over 92% of the collections are being made by the electronic methods compared to the 83% performance in FY 2017/18. The overall collection efficiency in the small towns / rural growth centres was improved from 78.4% compared to 94% in FY 2018/19. This was attributed to the increased clientele from which the collections are made and as well the increased billing where much is expected. Resources are being collected from a much bigger population than before. However this short fall has been solved by the introduction of the billing software which makes billing in time to allow collection within the period of transaction which is 30 days.

*The operating cost coverage ratio* is defined as the total collections divided by the total direct operating costs at the local level. This includes energy costs, the remuneration of scheme operators and the cost of chemicals and minor repairs, but not the operational costs of the UWS incurred at the regional level. The performance was 93.9% indicating that generally all the UWAs can meet their operational cost. Efforts like clustering of the piped Water Supply and Sanitation systems are being implemented to cut down some costs for maximisation of resources and minimization of the accrued costs.

**Operation and Maintenance (O&M)**

It was envisaged during this reporting period that repair, extension and metering investments will be made through Revolving Fund to enhance performance. This was achieved through the introduction of an integrated electronic billing and payment system, which was developed during the period and is now operational.

**Water Sources and Catchment Protection**

WSDFs continued with the implementation of Water Resources Management Framework and Guideline for Water Source Protection (2013). All water source and catchment protection activities were implemented in conjunction with the Water Management Zone (WMZ) teams.

Water Source Protection activities were implemented in all ongoing and completed water supply and sanitation systems. The activities included advocacy, sensitizations, tree planting and restriction of activities at water sources. Water source protection plans for the projects under IWMDP have been finalised and ready for implementation. 18 Water Catchment Protection plans were prepared by the 6 Umbrellas of Water and Sanitation. Catchment Plans for Koboko, Rukungiri, Pallisa and Katwe-Kabatoro towns completed. Three out of the four plans were implemented. One of Pallisa was not implemented because the local government delayed to solicit land without encumbrances. The six Umbrellas of Water and Sanitation have developed Water Safety Plans which are part of the implementation plans during the Extension, rehabilitations and expansions of the existing piped water supply and sanitation systems.

**Outcomes as a results of UWAs New Management arrangement**

The new management arrangement of the piped Water Supply Systems through Umbrellas of Water and Sanitation has created a number of opportunities including employment / jobs both technical and semi-skilled. The approach has created 58 employment opportunities at the regional level in the 6 Umbrellas of Water and Sanitation and 1,014 employment opportunities in the regional schemes. A total of 1,072 people have been employed through the approach of direct management of the piped water supply and sanitation systems across the country.

## 5.7 Challenges and Recommendations

### ***(i) Delays in land acquisition***

Land acquisition for housing Water and Sanitation Facilities like Water Reservoirs, Water Source Areas, Sanitation Facilities take quite a lot of time due to absent Landlords. This has cause a lot of time loss in procurement / contract management and thus delays in delivering outputs within the planned timeframe. Land Acquisition process shall always be started early enough to make sure that land is acquired ahead time contract management.

### ***(ii) Climate Changes***

Un regulated human activities in the implementation towns and Climate change and variability are affecting reliability of water sources.

### ***(iii) Inadequate financing of water and sanitation infrastructure***

The available water supply and sanitation infrastructures is not adequate to cope with the rapidly increasing urban population.

### **Recommendations**

- **Climate Change and Variability:** Partnership with other stakeholders in implementation of mitigation measures, as well as explore alternative water sources.
- **Inadequate Investment / Infrastructure Financing:** Pursue alternative financing options and advocate for more allocation for GoU counterpart funding.

## 6. WATER UTILITY REGULATION OF WATER SUPPLY AND SANITATION SERVICES

### 6.1 Introduction

Regulation of water and sanitation services 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 services plus the water for production facilities.

The regulatory framework in the urban areas is contract based where the key instruments are three year Performance Contracts (PCs) between MWE and the respective appointed water and sewerage authorities. The First Performance Contract (PC1) with the six respective Umbrella Water Authorities has been signed and key performance targets have been set for the next three years. The regular technical and commercial monitoring is carried out by the Water Utility Regulation Department (WURD). The current water and sewerage authorities are summarized in Table 34 below;

**Table 34: : Status of Gazetted Water Authorities/Utilities for Urban Water Supply and Sanitation**

Type of Authority	Gazetted Schemes	Central	North	Karamoja	East	Mid-West	South-West	Kampala Area
National Water and Sewerage Corporation	253	61	31	5	32	30	88	6
Umbrella Authorities of Water and Sanitation	424	108	76	37	55	48	100	0
Local Governments*	20	20	0	0	0	0	0	0
Total	697	189	107	42	87	78	188	6

Source: MWE Utility Performance Monitoring and Information System (UPMIS), June 2019

\* 15 schemes are under Buikwe District while 5 schemes are under Kalangala Infrastructure Services (KIS)

From the table 34 above, the total number of gazetted schemes was 697 at the end of the reporting period. However there are over 1,000 ungazetted schemes currently operated under the community management model and are receiving Operation and Maintenance support from Umbrella Organizations of Water and Sanitation.

WURD conducted 12 Management Audits, Performance Reviews for each of the respective Umbrellas and NWSC performance review for three quarters. The performance for quarter four was not reviewed due to non-submission of the report by NWSC. The Contractual Compliance Scorecard and performance checklist was also reviewed.

### 6.2 Status of the Sector Performance Indicators

#### **% of towns with pro-poor facilities where people pay less or equal to the house connection tariff in the service area**

During FY 2018/2019, NWSC constructed 2,596 pro-poor facilities. NWSC supplies water to Public Stand Posts (PSPs) operators at a tariff of UGX 1060 per m<sup>3</sup> equivalent to 25/= per 20 liter jerry can. However, the PSP operators charge the final consumers between 50 and 200/= per 20 liter jerry can.

During FY 2018/2019, the WSDFs and Umbrella Authorities constructed 267 pro-poor facilities. Umbrella Authorities supply water to PSP operators at a tariff almost similar to that of house connections in the ranges of 1,180 – 3,000/= per m<sup>3</sup> which is equivalent to about 23 – 60/= per 20 liter jerry can. However, the PSP

operators charge the final consumers between 50 and 200/= per 20 liter jerry can.

The percentage of pro-poor facilities that provide water at a price less than or equal to the house connection tariff is at 31% for towns under Umbrella Authorities.

Although NWSC cross subsidizes water supply to PSPs, it sometimes has no effect on the cost that the final PSP consumer pays. This is the case for both NWSC and the Umbrella Authorities.

There is therefore need for NWSC and the Umbrella Authorities to put price tags on the PSPs to ensure that the PSP operators charge a uniform tariff of 50/= per 20 liter jerry can and also have a formal operation contract with the PSP attendant that clearly stipulates the tariff to be charged to the final consumers.

### **% of Water Authorities that submit according to reporting requirements**

Reporting is a legal requirement stipulated in the performance contract which requires Water Authorities to submit monthly, quarterly and annual reports on operational and financial parameters. This is the basis for regulation to assess performance and improve the performance of these authorities.

The performance reports from the Umbrella Authorities and Local Government (LG) were provided in digital format through the web-based Utility Performance Monitoring and Information System (UPMIS). NWSC's quarterly and annual performance reports were received in pdf format via email. For more effective performance analysis, a focal point person in NWSC has been trained on how to integrate NWSC reporting into UPMIS.

With regard to reporting performance of Water Authorities, the calculation is the '*Number of gazetted water schemes with published performance divided by total number of gazetted schemes*'.

Of the 444 gazetted schemes (Umbrellas and LG) 234 published performance reports. The performance was **55% since many of the schemes gazetted to Umbrellas have not yet been taken over.**

Of the 253 schemes gazetted to NWSC, 253 published performance reports for only Q1-Q3 at time of reporting. The performance was **75% as the Q4 report has not yet been submitted to MWE by NWSC.**

## **6.3 Sanitation Regulation**

The development of the sanitation regulation framework was finalized through multi-stakeholders' engagements, a dissemination and consultative workshop. The framework addresses the following:

- i. Specifying the roles of WURD and mandate of the different Ministries/Sectors/departments in relation to sanitation;
- ii. Clarifying the anchorage of sanitation regulation, tools and instruments as well as sanctions and rewards mechanisms;
- iii. Stating methods of determining tariffs for sanitation services including faecal sludge management; and
- iv. Verifying existing sanitation regulations and proposing strategies for implementing the sanitation regulation.

There should be commitment of resources to implement the framework lest it also adds on the already dormant frameworks.

## **6.4 Performance Review of Water Utilities**

The performance review in the reporting period was carried out through Management Audits in 12<sup>9</sup> selected areas and Performance Monitoring and Evaluation of Utilities which also included NWSC.

### **6.4.1 Management Audits**

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<sup>9</sup> Namutumba, Kasambira, Kayunga, Kiboga, Katuna, Isingiro, Kamdini, Ciforo, Kasambya, Bundibugyo, Nakapiripirit, Abim

The main objective of the exercise was to examine practices of the Water Authorities with regard to water systems operations and maintenance, financial management, contract management and compliance as expected of the parties to the Performance and management contracts.

### ***Key findings from the Audits***

#### ***Reporting***

There are variances between the figures in the physical reports at the scheme level and reports uploaded onto UPMIS. This could be as a result of errors during the inputting of these figures. There is need for crosschecking the input data with the physical reports.

#### ***Selection, Appointment and Approval of the External Auditor***

It was observed that there was no external auditor appointed to review the financial records of the scheme. However the Office of the Auditor General carried out financial audits for towns like Abim and Namutumba which largely focus on subsidies from the central government, but not the bulk of revenue generated and used by the water supply systems.

#### ***Human Resource Management***

In the areas reviewed, it was observed that there were no formal contracts recruiting the Scheme Operators (SOs) by the Umbrella Authorities to manage the water supply systems. It was therefore not possible to verify whether there was competition and transparency in the recruitment process. In addition, there was no uniformity in the staffing levels. While some schemes had staff in the positions of scheme manager, commercial officer, plumber, pump attendant, others were being managed by only the SO and the plumber.

#### ***Implementation of Business Plans***

- One of the key requirements of the PC for the Umbrellas is development and implementation of business plans to guide the water supply operations; however majority of the towns reviewed have not developed business plans except Kamdini, Kayunga, Namutumba and Kasambira.
- The takeover of the schemes by Umbrella Water Authorities has resulted in the development of Strategic Business Plans for the respective Umbrellas; however there is no clear monitoring framework.

#### ***Record Management***

The Management Audit examined several record management aspects relating to the water supply operations and observed the following:

#### ***Asset Registers***

The towns reviewed did not have a standard assets register. This is key in ensuring sustainability of water supply systems.

#### ***Customer Service Records***

It was observed that all towns had proper customer records in place.

### **Key recommendations from the Management Audits**

- (i) The Umbrella Authorities must appoint External Auditors to carry out external audits as required by the Performance Contract;
- (ii) The recruitment of scheme operators and other staff carrying out system operations should be streamlined in line the requisite recruitment process; and
- (iii) A centralised asset management system should be put in place to cater for asset maintenance, renewal and replacement for system sustainability.

### 6.4.2 Performance Monitoring and Evaluation of Utilities

In FY 2018/19, MWE commissioned a consultancy assignment to improve the mechanism for collection and analysis of performance and operational data as a start up towards effective regulation of water and sewerage services. This was a peer led capacity building activity for staff by highly experienced professionals in Water Utility management.

The key areas of focus were: **Capacity Building for Regulation, Data Credibility and Reliability, Performance Target Setting, Tariff Setting, Performance Monitoring and Evaluation and Infrastructure Performance Tracking.** The key findings were:

- Data collection and analysis is robust and largely up to date, however much of the data is inaccurate and therefore unreliable for regulatory purposes. This is a result of the data collection and transmission system for small towns under Umbrellas where data is submitted by the schemes to Umbrellas and then uploaded into UPMIS. This creates Inconsistencies in data between the UPMIS and operating areas, and in many cases between operating areas and Umbrella Headquarters.
- NWSC targets are set on a historical performance basis, and most of the targets are aggregated to measure corporate performance not individual service areas. This presents a challenge in assessing performance of the individual service areas. In addition, new service areas/towns gazetted to NWSC are not included in the baseline PC targets which reflect over performance in a number of parameters.
- It was established that tariff setting has no standard approach. While NWSC tariff is indexed and therefore more predictable, scientifically determined and systematic, basics of O&M may not be easily traceable to the tariff. This may be explained in the unrealistically high ROI (return on Investments) reported during the PC 5 period. In small towns, tariff setting has taken on a more arbitrary approach often, a negotiated settlement between consumers represented by local leaders and operators with neither regard to infrastructure sustainability nor O&M costs.
- Bulk meters at the water production and water supply points, which are a critical regulatory data source tool, are either not available, mal-functional or inaccessible which compromises the reliability of data from service providers.

### 6.5 Functionality of Water Sources in the Large Towns

In the first quarter of FY 2018/19, a water abstraction study was conducted in the large towns managed by National Water and Sewerage Corporation (NWSC).

The study objectives were to (i) Determine the number of water sources in the large towns; (ii) Establish the status of permit acquisition in the large towns; and (iii) Determine the functionality of the water sources.

The findings are illustrated in the table 35 below.

**Table 35: Status of Water Sources in the Large Towns**

Water Sources	Functional			Being Developed		Non-functional***	
	GW*		SW**	GW	SW	GW	SW
	Boreholes	Protected springs					
East and Northern	86	3	18	17	0	14	1
West and Southwestern	54	51	15	5	2	6	0
Central	87	2	10	2	0	1	0
Sub Total	227	56	43	24	2	21	1
TOTAL	326			26		22	

\* GW denotes Ground Water

\*\* SW denotes Surface Water

\*\*\*Non-Functional denotes abandoned sources either because of water quality or dry well issues.

The key highlights from the study were:

- Of the 326 functional sources studied, only 42 had water abstraction permits, some of which had expired requiring renewal. The level of compliance in the large towns at the time of study was 13% since many of the towns have been newly gazetted to the Corporation;
- The SW source in Packwach was abandoned because of water quality issue. There was one dry well in Pader (Pajule) and Kumi. For the dry wells hence there is need by NWSC to reduce on the number of wells drilled and use the alternative sources of water like surface water.

Study recommendations

- WURD needs to roll out the study to small towns managed by Umbrella Water Authorities; and
- There is need for NWSC to acquire water abstraction permits for all the sources in the large towns.

### 6.6 Performance of Water Authorities in Small Towns and RGCs

The Performance Contract (PC) stipulates that the primary obligations of the Water Authority is to achieve the minimum performance standards set out in the contract, on water sales, non-revenue water, collection efficiency, Water Quality Compliance and a minimum satisfactory score/grade on each technical inspection carried out by the ministry, through the water utility regulation department

Table 36 shows the performance trends with regard to the key performance indicators. The analysis was based on the monthly performance data of piped water schemes collected through the Utility Performance Monitoring and Information System (UPMIS).

**Table 36: Trends in Performance of Small Towns' Water Supply Systems**

Performance Indicators	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
1. No. of gazetted Water Authorities with schemes under WURD *	107	110	116	116	77	147	279	444
2. No. of Water Authorities reporting to WURD**	83	79	73	67	34 <sup>47</sup>	64	234	188
3. Weighted average Unit Cost of producing water [UGX/m <sup>3</sup> sold]***	1,329	1,186	1,233	1,453	1,683	1,422	2,048	2,482
4. Arithmetic average Unit Cost of producing water [UGX/m <sup>3</sup> sold] ****	2,316	1,977	1,769	2,012	2,576	1,561	2,186	2,618
5. Non-revenue water (NRW) [%]	24	22	26	28	35	22	37	32
6. Water supplied [million m <sup>3</sup> ]	3.459	3.512	2.953	2.520	1.322	0.964	1.388	2.486
7. Water sold [million m <sup>3</sup> ]	2.637	2.746	2.195	1.815	0.854	0.797	0.979	2.084
8. Percentage funded by revenue	110	127	135	132	123	119	140	187
9. Pipe extensions [Km]	43	41	46	26	11	0.92	10	48
10. Total service connections [No.]	45,858	54,404	46,082	33,502	17,876	12,421	33,107	47,170
11. Collection efficiency [%]	91	90	89	92	93	83	80	77
12. Functionality [%]*****	84	87	89	92	94	92	92	93

\* Schemes gazetted to Umbrellas and the Local Government

\*\*Schemes with at least two quarters complete reports

\*\*\*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



### 6.7 Performance of NWSC with regard to Performance Contract

FY 2018/19 marked the beginning of Performance Contract Six (PC6). PC6 follows PC5 which expired on 30<sup>th</sup> June 2018. The contract sets out agreed upon performance targets which NWSC can work to achieve. The assessment during the reporting period only covers three quarters which were submitted by NWSC.

The summary of the progress made against the targets that were set for Year 1 of the Performance Contract VI (PC 6), FY 2018/19 is attached as Annex 1

#### Non-Revenue Water

By the end of Q3 in the reporting period, the level of NRW was 27.79% which was a reduction (improvement) compared to 30.7% at the end of June 2018. It was noted that all regions registered a reduction in NRW in the three quarters; however the NRW level is still high and is attributed to old distribution network, illegal water use, bursts due to road works, and faulty meters (both bulk and micro).

Figure 15 illustrates the NRW performance during the reporting period.

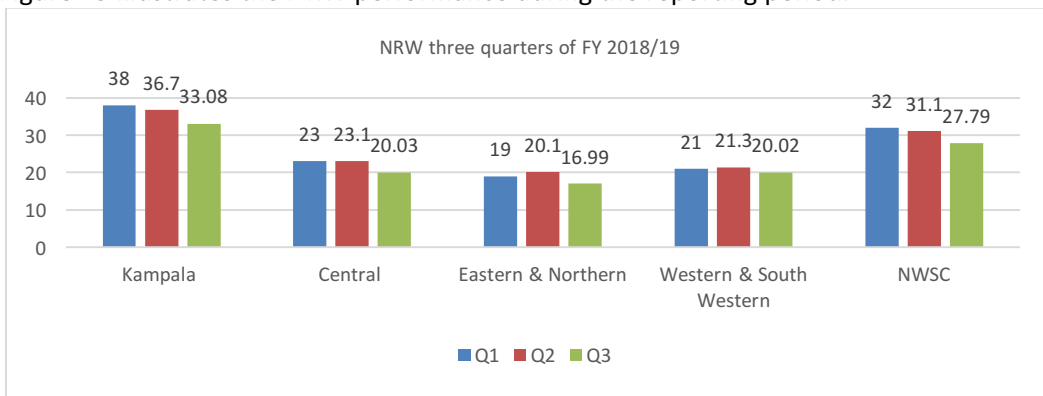


Figure 15: NRW in NWSC towns

#### New Water and Sewerage Connections (operational)

The PC6 targets required NWSC to achieve 44,000 (No.) water connections in the FY 2018/19 meaning that they are supposed to achieve 11,000 (No.) new connections in each quarter. The Corporation has an exceptional performance in growing its water service coverage. The Corporation achieved 145%, 128% and 159% in quarter one, quarter two and quarter three respectively above the PC6 target of 11,000 connections per quarter. This performance realized by NWSC was attributed to the implementation of the network expansion under the SCAP 100 project and the handover of constructed schemes.

#### Pro-poor

By end of quarter three of FY 2018/19, NWSC achieved a total of 2,596 New PSP connections which is 236% of PC6 target (1,100). Quarter two and quarter three registered declines in performance when compared to quarter one, however, this performance is far above the PC6 target. The addition of 2,596 connections brought the total number of PSPs to 14,901 by 30<sup>th</sup> March 2019. However, there's still a challenge of charging a tariff higher than the approved pro-poor tariff especially in the major town councils.

#### Compliance to Drinking Water Standards

This is an indicator for Bacteriological quality, colour, turbidity, chlorine residue, pH, Electrical conductivity, and hardness of the water. It is used to assess compliance of water delivered to customer in relation to Nation Water Standards for drinking water. The Corporation is expected to achieve 98% compliance levels in accordance; to PC6 which they have exceeded registering 98.5%, 98.7% and 98.2% in quarter one, quarter two and quarter three respectively. It should however, be noted that there was a decline of 0.5% in quarter three when compared to the highest performance achieved in quarter two. Achieving this performance was based

on the following assumptions in PC6;

- Availability and timely supply of chemicals and ingredients for water quality treatment.
- Continued standardization and modernization of the water quality monitoring system.

**Recommendations**

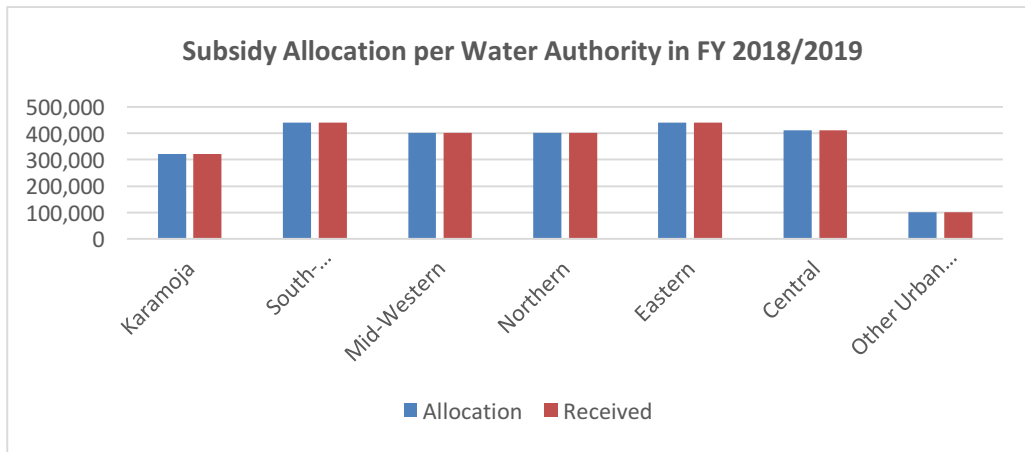
Generally NWSC recorded positive progress through implementation of a number of projects including SCAP 100 except in compliance to sewerage quality standards in which it achieved 77.9% of the PC6 target (50%) by end of third quarter.

- (i) NWSC should adhere to the timely reporting requirement as stipulated in the performance contract in order to facilitate effective regulation of performance.
- (ii) NWSC needs to enforce the tariff structure approved by the Minister, MWE at the PSPs.
- (iii) NWSC should institute more measures to further reduce the current level of NRW as this will result in an increase of the revenue.

**6.8 Urban Water O&M Conditional Grant for FY2018/19**

In FY 2018/19, The Government of Uganda extended support to 12 Water Authorities (6 Umbrellas and 6 Small Towns) in form of Conditional Grant (CG) to primarily address O&M Challenges and increasing access to safe water.

Of the total subsidy allocated (2.5Billion), Umbrella Authorities received 2.4Billion whereas other Water Authorities (Small Towns) received 0.1Billion respectively. In the reporting period, a Budget Performance of 100% for all the 12 Water Authorities was reported as shown in the graph below.



**Figure 16: Conditional Grant Allocation for 2018/19 FY**

The impact realized from CG support focused on additional population served. This is due to the fact that there is no clear criterion for determining the impact created by CG in other intervention areas such as energy subsidy and system specific because of the limitations in quantifying them.

In the reporting period, CG contributed to an increase in access to safe water by serving an additional 72,864 people as presented in the table 37 below.

Table 37: The Urban Conditional Grant Utilization Impact

	Water Authority	House Hold Connections	PSP Connections	Total Connections	Increase in Population Served
1.	Central Umbrella	1,371	27	1,398	16,368
2.	Northern Umbrella	225	24	249	6,600
3.	Eastern Umbrella	937	23	960	12,096
4.	Mid-West Umbrella	640	25	665	10,120
5.	South-West Umbrella	688	20	708	9,504
6.	Karamoja Umbrella	118	26	144	6,144
7.	Other Water Authorities	79	57	136	12,032
	<b>Total additional persons served</b>	<b>4,058</b>	<b>202</b>	<b>4,260</b>	<b>72,864</b>

**Assumptions:** \* 1 House Hold Connection serves 8 persons

\* 1 PSP Connection serves 200 persons

The implementation of activities supported by CG has greatly been affected by the irregular releases of funds from Ministry of Finance, Planning and Economic Development. The impact of the Subsidy has progressively deteriorated due to the increase in the number of towns being supported by the Umbrella Water Authorities.

It is recommended, in the water subsector, that the criteria for allocating conditional grant be reviewed and streamlined to make it easy to budget, allocate and monitor impact. In addition, clear guidelines need to be established for the subsidy utilization by the Umbrella Water Authorities to guide the implementation of activities.

### 6.9 Guidelines to Standardization of water meters

Water meters bridge the gap between the demand for water (consumers) and the supply of the service (water utility). It is the sole determinant of the volume supplied to the consumer. To the utilities, it is the sole determinant of the bill to be levied against the consumed volume.

Water Metering issues lead to high Non-Revenue Water as the meters do not register the actual volumes supplied to an area (to establish a water balance), supplied to the consumer (for proper billing) and subsequently affects the efficient/effective management of available (often scarce) water resources. Currently there are several metering issues that have been identified and highlighted in the table 38 below;

Table 38: Metering Issues in the Piped Water Supply systems

S/N	Metering issues
1	Many inaccurate and faulty meters in the water supply systems that lead to high Non-Revenue Water currently averaged above 30% in all regions
2.	Materials for the meters, cover, the body and connectors are not standardized
3	There are several classes that exist that are not controlled. The minimum class, size is used in the supply
4	No guidelines are available on location of water meters in the water supply network
5	Minimum technical and Non-technical specifications for procurement entity. Procurement entity not strict when procuring meters. No special clause provided for technical specifications and if any the specifications are not specific and do not suit current trend in technology and water quality for a specific water source
6	Installation procedures and instructions are not available
7	There is no preventive maintenance program in place with the service providers as meters are just replaced when nonfunctional after the customers have lodged their complaints to the service providers
8	The ownership of the meters is not specific, whether owned by the customer or the service provider
9	Customers have expressed a concern that the installed water meters seem not to be performing as expected
10	Different naming (labelling) of the meters by the customers i.e. they call some NWSC meters and other MWE meters

UNBS recently developed standards for the water meters to cope with the current trend in improved technology for design and construction of piped water supply systems, However there is lack of enforcement

The Water Utility Regulation Department mandated to ensure technical quality and consumer protection, has therefore resolved to set minimum standard guidelines to be used by service providers in the provision of water services in the sector to ameliorate the existing meter management procedures for the Uganda market. Through an intensive consultative process, the initiative seeks to identify and build on existing meter management practices, establish the underlying challenges and subsequently establish technical guidelines for water meter management - informed by international standards and leading practices of Uganda water utilities.

MWE through WURD has therefore established mechanical water meter technical guidelines, with which suppliers will be challenged to deliver high quality products to the market. In turn, utilities will be better equipped to procure the high quality meters they require. More so, the guidelines will assist them in making effective use of them - by providing guidelines for the selection (sizing), installation, calibration, servicing and replacement within the context of a wider asset management agenda. The guidelines are meant to form the basis upon which the Uganda Water Service Providers can develop and customize their utility specific meter management policies and procedures.

The guidelines will also help streamline the meter management practices in Uganda.

It is important to bear in mind that the guidelines are important to all stakeholders, particularly the NWSC and Umbrella Organizations, the Ugandan government through technical departments (UWSS, RWSS) in the Ministry of Water and Environment as well as the Uganda National Bureau of Standards (UNBS) and the general public.

Currently the guidelines have been approved by the Senior Management of MWE and harmonization with UNBS is ongoing before they can be published.

#### ***6.10 Affiliation to other International Water Utility Regulation bodies***

The Department was ratified as an **Associate Member** of The Eastern and Southern Africa Association of Regulators for Water and Sanitation (ESAWAS) in an extra ordinary meeting held in March 2019, Dar es salaam, Tanzania. Since then, WURD: is part of the grant on sanitation regulation funded by Bill & Melinda Gates; has representation on the technical committee on regulation issues (TeCRI); and actively participated in review of performance data for bench-marking water utilities (Comprehensive report will be published including benchmarking NWSC in the region). ESAWAS through funding from development partners is facilitating development of regulatory framework for rural water supply and sanitation regulation and undertaking climate resilience and adaptation for member states. The regulatory substance of the department will further be built through the following engagements;

- Continuous performance bench-marking of regional water utilities including NWSC and umbrella water authorities.
- Resource mobilization to help in implementation of regulation activities (currently benefiting from Sanitation Regulation grant from Bill & Melinda gates and NRW reduction from CRIDF.
- Experience sharing through interactions (AGMs and technical exchange visits)
- Capacity building of staff on regulation aspects.
- Sharing regulatory tools and instruments for non sewerred sanitation

### **6.11 Conclusion and Way Forward**

- To enhance the pro-poor interventions, NWSC and the Umbrella Authorities need to put tariff tags on the PSPs and also have formal operation contract with the PSP attendants to ensure that the consumers pay for water at a price less than or equal to the house connection tariff.
- The Utility Performance Monitoring and Information System is going to be updated and upgraded to improve the reporting by the Water Authorities. To also improve reporting, data entry into UPMIS should be done by the operating areas (at the scheme level) from which it is derived instead of routing it through Water Authority Headquarters as this has been found to a source of errors which cannot be verified by the operating areas.
- Timely reporting of data should be adhered to by NWSC and the other water authorities.
- Given the increasing cases of dry wells, the functionality of the current water sources in the small towns is going to be assessed.
- It is recommended, in the water subsector, that the criteria for allocating conditional grant be reviewed and streamlined to make it easy to budget, allocate and monitor impact. In addition, clear guidelines need to be established for the subsidy utilization by the Umbrella Water Authorities to guide the implementation of activities.
- It is also recommended that an approach be adopted where KPIs are set on the basis of objective sector targets and cascaded to individual towns/service areas. This should be applicable to all service areas irrespective of operation and management jurisdiction and preferably customized to towns by size or classification.
- Prior to completion, handover and system testing of water supply and sanitation systems, the Regulation Department should be involved. This will help reduce on the snags and system errors passed onto to operators who do the O&M and carry the entire blame for example for high non-revenue water

## 7. SANITATION AND HYGIENE

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### 7.1 Introduction

The UN agenda under Sustainable Development Goal 6.2 seeks to 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. Uganda being among the states that subscribe to this agenda has come up with policies, frameworks and strategies that are geared towards attainment of this goal. The Improved Sanitation and Hygiene (ISH) financing strategy (2030) has been developed to guide the promotion of hygiene and sanitation in both urban and rural areas hinged on the three pillars of Demand creation; Supply chain management; and Enabling Environment.

### 7.2 Rural Sanitation

Sanitation and Hygiene interventions in rural areas are achieved through the District Sanitation and Hygiene Conditional Grant (DSHCG) from Ministry of Water and Environment (MWE) and the Uganda Sanitation Fund (USF) from the Ministry of Health for promotion of sanitation and hygiene in rural communities. Development Partners like USAID UNICEF and NGOs are also supporting this effort and making significant contribution to increasing access to sanitation and hygiene in the districts where they operate.

#### 7.2.1 Programs /Projects and Initiatives

Rural Hygiene and sanitation activities are implemented through the conditional grants and projects managed at central and local government levels. During FY 2018/19, the sanitation sub-sector leveraged the following resources and registered achievements as highlighted below;

#### ***District Water and Sanitation Conditional Development Grant-DWSCDG***

The District Water and Sanitation Conditional Development Grant is disbursed to the District Local Governments on a quarterly basis to support development of water and sanitation infrastructure. The MWE issues guidelines to Districts on an annual basis to inform the planning and utilisation of this grant.

In the FY 2018/19, an estimated UGX 1.77 Billion was spent on construction of sanitation and hygiene facilities in the District Local Governments. A total of 77 Public toilets were constructed in public places such as markets and trading centres. In line with the water source protection guidelines and the principle of the safe water chain, districts use part of this grant to promote hygiene and sanitation and also conduct water quality testing in communities that are meant to receive new water sources and also communities with existing water sources.

#### ***District Sanitation and Hygiene Conditional Grant-DSHCG***

The DSHCG has been in existence for the last 8 years with Government disbursing UGX 2Bn annually to all districts except those benefitting from the Uganda Sanitation Fund. In FY 2018/19, a total of 97 districts benefitted from the DSHCG. At the inception of this fund, districts were receiving between UGX 21-23 million but with creation of new districts, this figure has continued to reduce with some districts receiving less than UGX 20 million shillings per year. This notwithstanding, remarkable achievements have been realised since the introduction of the grant as highlighted in this report.

The grant is estimated to have covered a total of 1,860 villages in FY 2018/19. The main approaches used for hygiene and sanitation promotion were Community Led Total Sanitation-CLTS and Home Improvement Campaigns-HIC. Out of the 1,860 villages reached, 27 %(502 villages) became Open Defecation Free-ODF during the reporting period.

#### ***Uganda Sanitation Fund***

The Uganda Sanitation Fund is a project under the Ministry of Health as an Executing Agency and has been in existence for the last 8 years. The total project cost is USD 9,796,240 and currently, 44 District Local Governments are benefitting from this fund as sub guarantees. During FY 2018/19, a total of USD 1,210,572.29

was disbursed targeting 863 villages. Out of these, 449 villages (52%) were declared ODF. An additional 269,400 people are now living in ODF villages while 229,590 people gained access to improved household toilets during the reporting period.

### **National Hand Washing Initiative (NHWI)**

The National Hand Washing Initiative (NHWI) is a government led initiative that was conceived by the National Sanitation Working Group in 2005 with the aim of championing the national hand washing with soap campaign. The NHWI is overseen by a steering committee whose membership includes the Ministry of Water and Environment, Ministry of Health, Ministry of Education and Sports, national level Civil Society Organizations and Development Partners like UNICEF. Since its inception, the secretariat of the NHWI has been housed under different organizations starting with UWASNET, followed by AFRICARE, SNV and currently the Ministry of Water and Environment starting in July 2017. Activities under the NHWI have evolved using different approaches such as advocacy, direct implementation and now integration. Using the integration approach, the secretariat has focused on alignment to Sector Institutional Framework, forming strategic partnerships and scaling up the national hand washing campaign. The new roles of the secretariat of the NHWI include Capacity Building; Learning and Knowledge Management; and Coordination and Alignment.

During the FY 2018/19 the following achievements have been registered under the NHWI;

- i. A nation - wide media campaign for 3 months where 14 radio stations and 3 T.V stations participated in disseminating hand washing messages. An approximate 9 million people were reached with these messages.
- ii. 36,000 copies a fact sheet were produced and disseminated nation-wide in collaboration with Ministry of Education and Sports and District Education Officers
- iii. Organized and spearheaded the commemoration Global Hand washing Day in Kamwenge District which attracted over 3000 people from the Rwenzori Region. As part of this commemoration, a 30 - minute hygiene lesson was conducted in many government schools across the country.
- iv. Conducted 10 regional trainings for hand washing with soap Behavioural Change Communication for journalists to enhance reporting on hand hygiene. Approximately 200 journalists participated in the trainings.

### **Centrally managed projects**

Centrally managed Water Supply and Sanitation Projects have a Sanitation and Hygiene component that targets both promotion of improved sanitation and hygiene practices; and also increasing access to improved sanitation facilities through construction of Public and Institutional Sanitation facilities. During the reporting period, the following projects were implemented; Bukedea Gravity Flow System-GFS, Lirima GFS, Kahama Water Supply system, Lukalu - Kabasanda water supply system, Shuuku Masyoro GFS, Nyabuhikye GFS, Rwebisengo Kanaara and the Public Highway Sanitation Project-PHWSP. Under these projects, the following achievements were registered in each of the project areas:

**Table 39: Showing progress in hygiene and sanitation promotion under the six-water supply and sanitation projects implemented during the reporting period.**

PROJECT	Sanitation facilities constructed	No. of villages targeted	No. of villages covered	No. of villages with improved Sanitation (100%)	No. of model villages
Bukedea GFS	3	193	193	112	20
Lirima GFS	0	179	179	127	14
Shuuku WSS	1	96	36	05	5
Nyabuhikye GFS	1	34	34	0	4
Lukalu-Kabasanda WSS	3	13	15	10	0
Rwebisengo Kanaara	2	57	38	29	2

### 7.2.2 Benchmarking of district performance

In benchmarking district performance, input indicators, output indicators, and outcome indicators are considered and scored using already set weights, to generate a grand weighted aggregate/ composite score for each district. Using the benchmarking, three districts were scored in the Superior Band (>75%): (Adjumani, Bulambuli and Kasese) and 36 were scored in the Critical Band (<25%). More districts in the critical band indicates that a lot more effort needs to be put in all sanitation aspects that are measured other than concentrating district efforts on just a few.

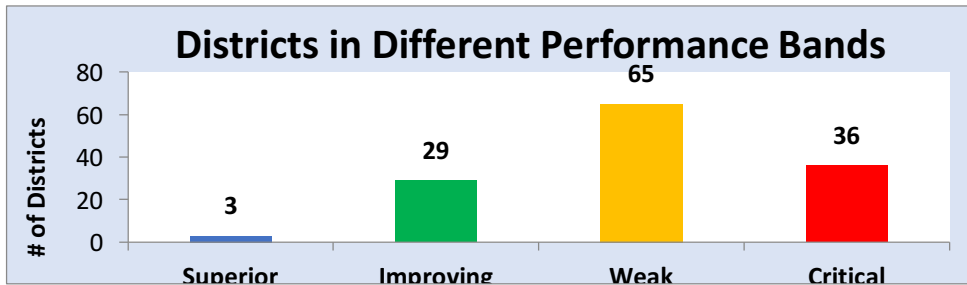


Figure 17: Benchmarking of district performance during FY2018/19

Relatedly, an analysis of the sanitation and hygiene situation across regions was done and it showed big inter-regional discrepancies. Below is figure 18 showing how the different regions performed in terms of sanitation and hygiene.

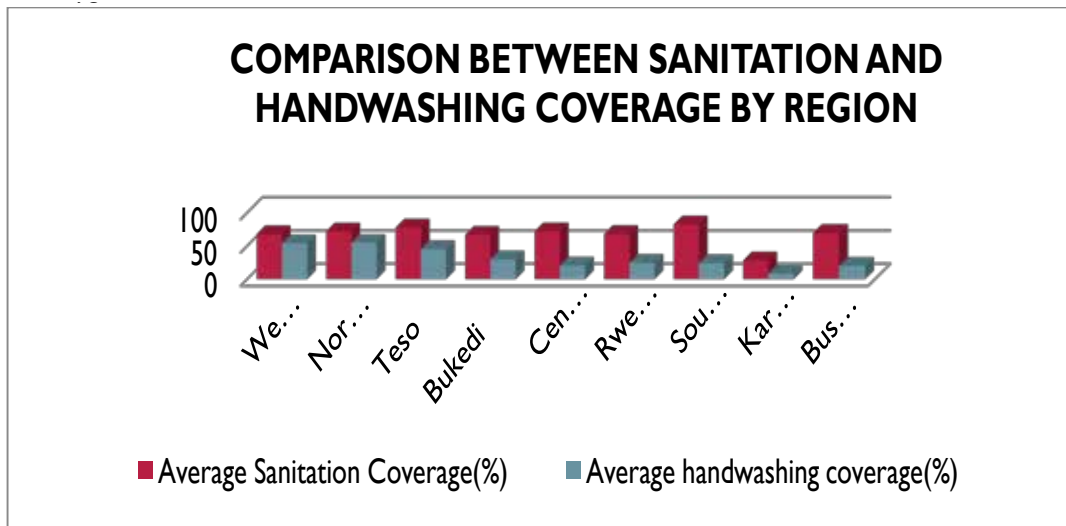


Figure 18: Comparison between sanitation and handwashing coverage by region

### 7.3 Urban Sanitation and Hygiene

Urban Sanitation and Hygiene interventions focus on improving access to public sanitation and sewerage services in urban centres. This is aimed at prevention of contamination of water from the source to the point of use and ultimately contributing to socio-economic development and enhancing environmental and health conditions of the people living in the urban areas.

Given that over 90% of the population in Uganda uses on-site sanitation, focus has been directed to interventions that improve the Faecal Sludge management (FSM) service chain such as construction and sustainable operation and maintenance of regional Faecal Sludge Treatment Plants (FSTPs) to reduce the haulage distances travelled by cesspool emptiers to dispose-off the sludge as well as reduce the transport costs that result in high emptying charges to the customers. The second intervention has targeted supporting the transportation of faecal sludge through purchase of cesspool emptier/vacuum truck. Other interventions have included promotion of drainable sanitation technologies such as lined pit latrines to increase demand for the cesspool emptiers as well as the FSTPs. MWE has also provided public sanitation facilities in various places to increase access to public sanitation in urban centres.



### 7.3.1 Achievements during FY 2018/19

Achievements under urban sanitation during FY 2018/19 have been mainly registered from interventions under the Centrally Managed projects as well as the Water and Sanitation Development Facilities.

#### Provision of Fecal Sludge Management (FSM) Services

Increase to fecal sludge management services has been achieved through construction of Fecal Sludge Treatment Plants at various places and provision of cesspool emptier trucks as highlighted in the table 40 below.

Table 40: Achievements in provision of FSM services

Planned	Achieved	Implementing Agency	Remarks
02 FSTPs in Nakasongola and Kiboga	Nakasongola - 40% completion	WSDF-Central	O&M of both plants will be done by MWE's Umbrella of Water and Sanitation – Central
	Kiboga - 95% completion		
02 FSTPs in Apac and Moyo	Apac – 100% completed	WSDF-North	Apac FSTP is being operated by Umbrella for Water and Sanitation.
	Moyo FSTP - Feasibility and detailed designs completed		
01 FSTP in Kanungu	Proposed Site Identified, Feasibility and Detailed Designs on-going	WSDF-South West	
02 FSTPs in Kamuli, and Namutumba	Kamuli FSTP - 95% complete	WSDF-East	
	Namutumba - Feasibility and Detailed Designs on-going		
01 FSTP in Pallisa	Construction is 100% completed	WMDP project at the MWE headquarters	Operation and maintenance is by NWSC
Procurement of 04 No. cesspool trucks	04 cesspool trucks supplied	WSDF - C	Trucks delivered to Umbrella for Water and Sanitation-Central to support O&M of FSTPs

#### Access to improved Public Sanitation Facilities

Access to improved public sanitation facilities has been increased through construction of public toilets in small towns and RGCs as highlighted in the table 41 below.

Table 41: Achievements in improving access to Public sanitation

Planned	Achieved	Agency	Remarks
14 Public toilets, one in each town of Moyo, Elegu/Bibia, Padibe, Odramacaku, Paimol, Pakele, Dzaipi, Atiak and Lacekot) and one in each former IDP camp of Apala, Cwero, Patiko, Abia and Olilim	Construction is on - going in Moyo, Elegu/Bibia, Padibe.	WSDF-North	Construction of facilities in the remaining towns was carried over into FY 2019/2020  O&M will be done by the respective Town Councils.
03 No. Public facilities in Kiwoko, Butalangu and Busiika)	Construction of the 03 Public facilities is on-going	WSDF-Central	O&M will be done by the respective Town Councils.
05No. Public toilets in Lwebitakuli, Lwemiyaga, Igorora and Karago	Construction of all the 05 Public toilets is completed.	WSDF-South West	O&M is being by the respective Town Councils.

02 Public Toilets in Kaliro and Irundu Towns.	Construction of the 02 Public toilets is completed.	WSDP-East	O&M is being by the respective Town Councils
11 Public Toilets in Pallisa (01), Kumi (01), Ngora (01), Rukungiri (02), Katwe (04) and Koboko (02)	Construction for all the toilets is complete	MWE Headquarter Project (WMDP)	O&M is being done by the respective Town Councils.

### ***Sewerage Service Coverage***

National Water and Sewerage Cooperation operates centralized sewerage systems for collecting, treating and discharging effluent in 17 towns out of 253 towns with a total sewerage pipe network of 660.83 Km and 22,606 connections. The coverage for sewerage service in the towns operated by NWSC, at the end of the FY 2018/19 stood at 21.1%. The sewerage coverage is still low and is largely in the traditional large towns. The sewerage network coverage is worse in small towns since over 90% of population living in small towns use on-site sanitation.

### **Other Initiatives to improve urban sanitation**

#### ***The Faecal Sludge Management (FSM) Clustering***

The clustering approach for Faecal Sludge Management (FSM) that was developed during the National Faecal Sludge Management Assessment for small towns in 2013 has been guiding sector investments in planning and development of FSTPs across the country. The assessment identified and divided the country into 50 FSM clusters, of which 13 clusters were in existence at the time of the study. Over the past 5 years, 20 FSTPs have been constructed in 20 clusters, totaling to 32 clusters out of the planned 50 clusters for the country.



***Apac FSTP before plants grew (after construction) Apac FSTP after the plants had grown (during operation)***

#### ***Guidelines for planning, implementation, O&M and monitoring of FSTPs***

In the past five years, government and non – government actors have been implementing FSM interventions across the country. However, this process has been largely dependent on the implementers' discretion, with government providing minimal guidance. The need to develop guiding documents on construction, operation and maintenance of FSTP has increasingly become evident. Against this background, MWE has developed National Guidelines for Planning, Implementation, O&M and monitoring of Faecal Sludge Treatment Plants

(FSTPs) to guide the planning, development, O&M of FSTPs to ensure sustainability and functionality of the FSM service chain.

The goal of the Guidelines is to provide practical guidance to key actors (Planners and decision makers; designers and engineers; Utilities; and Authorities in charge of monitoring and regulation enforcement) on key stages of a FSTP project lifecycle including: Planning, Detailed design, Authorizations, Construction, Hand over and agreements, O&M, and Monitoring. The guidelines are also intended to facilitate an integrated strategic planning process for FSM and to anchor implementation practices in sector policies.

These guidelines are targeting small FSTPs (up to about 5,000 m<sup>3</sup>/a) and will contribute to enhancing the cost efficiency and sustainability of FSTP investments and meet the sector's expectations by ensuring that the investments are based on high-quality standards and both National and International Best Operation Practices. In future, these guidelines will be revised to include medium and large capacity FSTPs and will also contribute to the development of the Sanitation Design Manual for the entire Sanitation Service Chain.

### **Demand Aggregation Approach to FSM**

*Case Study: Operation and Maintenance of FSTPs by Umbrella of Water and Sanitation-Central; a case of Kasali in Kyotera*

During the Financial Year 2018/2019, MWE handed over three newly constructed FSTPs of Kayunga, Kasali in Kyotera and Apac to Umbrella of Water and Sanitation – Central and North respectively, for operation and maintenance. Four Cesspool Trucks were also handed over to the Umbrella of Water and Sanitation - Central to support the faecal sludge emptying and transportation system in the central region.

A case study is drawn from the operation and maintenance of Kasali FSTP in Kyotera. The plant was constructed by the Water and Sanitation Development Facility-South West and its operation commenced in January 2019. Kasali FSTP is located in Kigenya parish, Kasali Town council, Kakuto County, Kyotera District. It is located approximately 7 km away from Kyotera town and currently receives sludge from Kyotera Town Council, Kasali Town Council, Bethlehem, Mutukula, Sanje, Kasasa, Kakuto (along mutukula road), Kalisizo, Bukunda, Kabiira, Bulindo (along Masaka – Kyotera Road), Lwanda, Kanoni (Kyotera –Rakai Road) and Rakai town.

At the inception of their operations, the UWS-C established sustainable systems to aid the operation and maintenance of this FSTP and these included: Setting of emptying and disposal tariffs with reference to the available market; Hire of staff (Commercial Officer, Sanitation Marketing staff, Caretaker, Truck driver and Turn boy, all supervised by the Regional Manager; sensitization/promotion and marketing activities within the potential catchment area of the FSTP.

The UWS -C employed the following approaches to carry out sanitation marketing: Identification of potential clients and institutions with emptiable facilities (septic tanks and lined pit latrines); Dissemination of brochures with information about the plant, charges and how to access the service / contacts; Use of public announcements on community radios and talk shows on local FM stations; partnering with area NWSC offices to disseminate the information about the plant while issuing the water bill; and collaboration with the District and Town Council Health Inspectorate officers to ensure harmony.

During the operation, the UWS-C noted a strong correlation between the increase in clientele and increased community sensitization/sanitation marketing activities across the catchment area of the FSTP. The lesson learned here is that construction of FSTPs is not enough to solve the FSM challenge but must be supported by other activities to generate and sustain demand for the FSM service as well as maintain the functionality of the FSTP.

### **Other Initiatives in Urban Sanitation**

Other Initiatives included scaling up of Town Sanitation Planning and development of a national standard for the effluent from FSTPs. The development of the National Standard is being done in conjunction with NEMA

and is in advanced stages. Pilot data collection on urban sanitation in the Towns of Gulu, Apac, Aduku, Kole and Lira using the District Health Management Information System (DHMIS) II of the Ministry of Health was conducted by WSDf-N with support from GIZ. This is in a bid to upgrade the sanitation MIS from paper based to computer based.

## 7.4 Achievements under Kampala Capital City Authority (KCCA)

### **Feecal Sludge Management (FSM)**

KCCA has made the following achievements in provision of FSM services to the population of Kampala City;

- The political leadership of KCCA formulated and passed the Ordinance Bill for the Kampala Sewerage and Feecal Sludge Management. The Ordinance outlines the roles and responsibilities of key stakeholders in the provision of sanitation services in the city including the private sector.
- Formalization and licensing of private emptiers. 25 private emptiers have so far formalized their businesses. Of these, 5 have obtained NEMA licenses. This has been achieved through continuous private sector engagement, business development support, incentives and enforcement by NWSC, NEMA, KCCA and MWE. Out of the faecal sludge collected from the different premises in Kampala, an estimated 78% of this sludge is safely managed along the chain and delivered to the disposal facilities for farther treatment.

### **Public Sanitation**

KCCA conducted a Rapid Assessment of Public Toilets Services Supply, Demand and Willingness to Pay in Kampala. 71% of the sanitation facilities in the City are owned and managed by the private sector charging on average a user fee of UGX 200. A large proportion (72%) of the respondents stated that they are willing to pay extra for a well maintained, clean, and hygienic toilet with constant supply of water, soap and toilet paper. The assessment generally showed that the current state of public sanitation and hygiene in the City needs improvement. The assessment also identified a need for standards to guide private sector investment in public sanitation.

## 7.5 Status of Hygiene and Sanitation Indicators

### **Percentage of population using Basic Sanitation**

This indicator is defined as the “percentage of the population using an improved sanitation facility not shared with other households” and computed as  $(F/G)*100$ , *F* denoting total number of households with improved sanitation facilities not shared, and *G*-total number of households in the locality.

Access to sanitation (population accessing any form of sanitation facility in all districts except Kampala) dropped from 79% in the Financial Year FY 2017/18 to 77.1% in the FY 2018/19. In urban areas, access to any form of sanitation facility is estimated at 87.9%. This decline is attributed to growth in population which is not commensurate to the increase in household toilets. The percentage population using basic sanitation is estimated at 16.6% in rural areas while in urban areas it is estimated at 37.4%.

### **Percentage of population using Safely Managed Sanitation**

This indicator is defined as the “percentage of the population using improved sanitation facilities not shared where excreta is safely disposed insitu or transported and treated off site” and computed as  $\{(A+B+C)/D\}*100$  *A* denoting total household population disposing safely insitu, *B*- total household population reported to have emptied and transported excreta by guplers/cesspool emptier, *C*- total household population using sanitation facilities connected to a sewer system, and *D*- total household population of District/Urban councils.

For urban areas, three main conditions/assumptions were applied to confirm evidence of access to safely managed sanitation services in institutions, household and business premises. These were;

- The Institutions, household and business premises must have a functional drainable sanitation facility without evidence of any form of Open Defecation.

- Institutions, household and business premises must be practicing safe emptying and transportation done by licensed service providers.
- Having a connection to a sewerage network

Every household had to fulfill condition 1, and either 2 or 3 in order to be considered safely managed.

The percentage population having access to safely managed sanitation in rural areas is estimated at 7.1% meaning that the other segment of the population (92.9%) is accessing basic sanitation, unimproved sanitation or practicing open defecation. Access to safely managed sanitation in urban areas including Kampala is estimated at 42.8%.

#### **Percentage of population practicing Open Defecation**

Open defecation is defined as “percentage of the population practicing open defecation” and calculated as  $(H/I)*100$  *H* denoting total number of people in households practicing open defecation, and *I* denotes total household population in a District/urban councils.

The population that practice open defecation in rural areas is reported to be 22.9% which is equivalent to an estimated 9.08 million people. This calls for more effort in promoting good hygiene practices and construction of durable and improved household toilets to end open defecation if the country is to attain the targets of SDG 6.2. In urban areas, the percentage population practicing open defecation is estimated at 12.1%.

#### **Percentage of people with access to Hand washing facility at house hold level**

The practice of Hand washing is measured as “percentage of people with access to hand washing facilities” and computed as  $(M/N)*100$ , *M* denoting total number of households with hand washing facilities, and *N* total number of households.

A decline of 0.5% from last year’s coverage of 36.5% was registered in hand washing coverage in rural areas rendering the National Development Plan-NDP II target of 50% a far-fetched dream. The decline in coverage is partly attributed to decline in access to sanitation facilities and the technology options being used by the different households which are prone to destruction. Access to hand washing facilities in urban areas is slightly better at an estimated 40%.

#### **Percentage of pupils enrolled in schools with basic Hand washing facilities**

Hand washing in schools is measured as “Percentage of pupils enrolled in schools with basic hand washing facilities” and is calculated as,  $(R/S)*100$ , *R* denoting Total number of pupils enrolled in schools with functional HWFs with soap and water and *S* denoting Total number of pupils enrolled in all schools in a district/urban councils.

Hand washing coverage in schools improved by 7% from 35% reported last FY 2017/18 to 42% in both rural and urban areas. The pupil: toilet stance ratio in both rural and urban areas stagnated at 1:71 as opposed to the national standard of 1:40. This bad state of school sanitation calls for more investment in new toilet facilities as well as emptying of the full but drainable latrines found in many schools.

**Table 42: summary of progress of the indicators.**

Indicator	Rural	Urban
Access to any form of Sanitation facility (Sanitation Coverage)	77.2%	87.9%
Percentage of population using Safely Managed Sanitation	7.1%	42.8%
Percentage of population using Basic Sanitation	16.6%	37.4%
Percentage of population practicing Open Defecation	22.9%	12.1%
Percentage of people with access to Hand washing facility at house hold level	36 %	40%
Pupil: Stance Ratio	71:1%	
Percentage of pupils enrolled in schools with basic Hand washing facilities	42%	

## 7.6 Key Emerging Issues

The following emerging issues were identified, requiring urgent attention if the sanitation sub sector is going to achieve SDG 6.2:

- i. Dissemination of the revised performance indicators for sanitation and hygiene to enable all stakeholders at different levels (planning, implementation, monitoring, data collection levels) appreciate what is being measured and thus plan interventions accordingly.
- ii. Migration from paper based to computer-based Management Information System for sanitation and hygiene. This will enable timely collection of data, ease analysis and ultimately improve the accuracy and reliability of the data.
- iii. Menstrual Hygiene Management has remained largely unattended to yet it is critical especially to retention of the girl child in school.
- iv. Sanitation and Hygiene at Institutions like Schools, Health care facilities, Prisons, Barracks needs urgent attention if the country is to attain universal access and “Leave No One Behind”.

## 8. WATER FOR PRODUCTION

### 8.1 Introduction

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. Globally Water for Production accounts to over 80% of water withdrawn for use. However, in Uganda, less than 2% of water is used in production and there is a sharp increase in demand primarily due to climate change and degradation of natural resources. 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. “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. Water for energy, MWE works with Ministry of Energy and Mineral Development, Water for Industry, MWE produces water to the Industries premises while Ministry of Trade, Industry and Cooperatives is responsible for water use and management in the Industries.

### 8.2 Implementation of WfP Objectives

MWE undertakes several programmes and projects to provide WfP facilities in order to improve the livelihoods of the people in rural areas. It constructs and rehabilitates earth dams and valley tanks mainly in the cattle corridor that stretches from Isingiro in South West to Karamoja in North East. The 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 constructing Small scale Irrigation systems countrywide with Government of Uganda (GoU) funding and medium scale Irrigation schemes under the Farm Income and Enhancement and Forestry Conservation Project 2 (FIEFOC II) and GoU funds. MWE also operates and manages earth moving equipment for construction of valley tanks, hired out to individual farmers at subsidised rates. Finally, MWE plays an important role of technical support to local governments and line ministries such as Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

### 8.3 Facilities constructed by MWE

Water for Production Department in MWE is in charge of provision of water for productive use through construction of earth dams, valley tanks, fish ponds, bulk water transfer systems, small irrigation systems, medium and large-scale Irrigation schemes.

**Table 43: Performance of Planned Projects and Programmes in FY 2018/19**

Planned output	Achieved Output	Remarks
Sustainable management systems established at existing/old WfP facilities (Farmer Field Schools (FFS)).	Sixty (68) FFS were established at WfP facilities of Mabira, Kagamba, Kagango and Kakinga earth dams and obwongyerero, Kyabal and Kabingo valley tanks and Rakai bulk water system in the Districts of Mbarara, Isingiro, Sembabule, Sheema and Rakai.	Farmers were trained in agronomy practices, agribusiness development, value addition, financial resource mobilization, integration of agriculture activities into operation and maintenance of the WfP facilities. Farmers were trained for a period of twenty four (24) months and those who successfully demonstrated the skills acquired in their gardens graduated.
Construction of Rwengaju Irrigation Scheme in Kabarole District (20% Progress)	Works estimated at 54.7% cumulative progress.	Delay in delivery of Glass fibre Reinforced Plastic (GRP) Pipes
Construction of Nine (9) Valley tanks in Apac (3), Otuke (3) and Katakwi (3) Districts under the Water Supply and Sanitation Programme (WSSP)	The valley tanks in Katakwi District (03) were handed over.	The valley tanks in Apac (03) and Otuke (03) Districts are in defects liability period.

Construction of Fourteen (14) Windmill powered watering Supply Systems in Karamoja Sub-region	All the facilities were constructed to completion	Amudat (2), Abim (2), Kaabong (2), Kotido (2), Moroto (2), Napak (2) and Nakapiripirit (2) Districts.
Construction of Mabira Dam in Mbarara District	Construction of Mabira Dam in Mbarara District is at 85% cumulative progress	Works progress for construction of Mabira dam was affected by land disputes at the areas where some facilities (abstraction system and storage tanks) have to be relocated.
Construction of Small Scale Irrigation systems countrywide	Completed construction of thirty five (35) small scale Irrigation schemes in the Districts of Pallisa (1), Mayuge (1), Abim (1), Kamuli (1), Bukedea (1), Tororo (1), Katakwi (1), Bukwo (1), Soroti (1), Manafwa (2), Kibuku (1), Kaabong (1), Masaka (1), Gomba (1), Butambala (1), Kabarole (2), Ntoroko (1), Kamwenge (1), Kagadi (1), Kalungu (1), Wakiso (1), Adjumani (1), Zombo (1), Gulu (1), Omoro (1), Nwoya (1), Alebtong (2), Oyam (2), Pakwach (1), Arua (1) and Lira (1) increasing on crop production.	Works are ongoing for construction of twenty four (24) small scale Irrigation schemes. <i>See Table 1 for details.</i>
Construction of four (09) Communal valley tanks in the Districts of Isingiro, Kiruhura, Pallisa, Kibuku, Busia, Amuria, Kumi, Bukedea and Kapelebyong.	Completed construction of the nine (09) valley tanks in the Districts of Isingiro (1), Kiruhura (1), Pallisa (1), Kibuku (1), Busia (1), Amuria (1), Kumi (1), Bukedea (1) and Kapelebyong (1) creating a water storage capacity of 129,000m <sup>3</sup> .	Yet to be commissioned
Construction of WfP facilities on Individual farms using Ministry WfP Equipment	Constructed thirty-three (33) valley tanks on Individual farms in the Districts of Kiruhura (10), Mbarara (5), Kasese (3), Ntungamo (1), Sembabule (4), Gomba (1), Rakai (1), Lyantonde (7) and Isingiro (1) creating a water storage capacity of 133,150m <sup>3</sup> .	All the facilities are fully functional
Olweny Irrigation Scheme (95% completion) of civil works constructed, under FIEFOC Project	Olweny irrigation scheme construction works is at 98% cumulative progress.	The scheme is operational
Feasibility studies for 14No. Multi-purpose dams in Karamoja Sub-region	50% progress (Draft feasibility report submitted)	Community resistance has also halted the project
Feasibility Studies for Mega irrigation schemes around Mt. Elgon area, Mt. Rwenzori area Agoro Hills and Southwestern Highlands	50% progress (social-economic surveys, geo-technical investigations, topographic surveys and preliminary Environment and Impact Assessments (EIAs) concluded)	
Design of Bulk Water Systems for Sanga-Kikatsi-Kanyaryeru in Kiruhura District and Kagera Multi-purpose system in Isingiro district	Sanga-Kikatsi-Kanyaryeru: Contract for design and supervision sent to Solicitor General for clearance. Kagera corridor multi-purpose WfP Infrastructure and facilities: current progress at 40% (Technical Appraisal stage)	
Design of Multi-purpose storage dams of Kyenshama in Mbarara District, Ojama in Serere District, Makokwa and Kyahi in Gomba District and Geregere in Agago District	70% progress (Draft preliminary design submitted)	



**Registered Effect under Small Scale Irrigation Schemes ; A case Study: Eastern and Karamoja Districts****A pictorial of Improved food security***Table 44: Figures, earned per acre before and after introduction of irrigation at sampled at 10 sampled irrigation schemes in Eastern and Karamoja Regions*

N	Small Scale Irrigation Site Name	Annual Figures Earned Per Acre (Before Irrigation)	Annual Figures Earned Per Acre (After Introducing Irrigation)
1.	Longoromit	1,335,000.00	5,640,000.00
2.	Kawo	1,237,000.00	3,497,595.00
3.	Arehek	958,400.00	3,576,000.00
4.	Limoto	1,222,375.00	3,116,062.50
5.	Bumusse	1,387,333.33	4,858,385.00
6.	Bubulo	1,473,333.33	5,621,650.00
7.	Iwemba	1,435,000.00	12,760,550.00
8.	Kisote	1,471,285.71	9,794,344.29
9.	Bukatabira	2,217,142.86	10,957,928.57
10.	Akado-Kulo	552,000.00	2,740,905.00

**8.4 Operation & Maintenance of WfP facilities**

To ensure sustainability, boost the management and effective use of WfP facilities, the MWE introduced 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) Resilience of Livestock and crop production systems in the cattle corridor improved, (v) Established, trained and integrated FFS with community based water management system on sustainability, operation and maintenance of water for production facilities, (vi) Saving and marketing, (vii) Integrated and modern agricultural practices (vi) Strengthen collaboration, monitoring, supervision and networks among the farmers within FFS.

## 8.5 Status and trends of key indicators

### Management

Management of the WfP facilities is by private operators for Individual facilities, communal management for dams and valley tanks (Water User Committees, Water Associations and Farmer Field Schools) and cooperative societies for the case of medium and large-scale Irrigation schemes. To achieve this, the WfP Department has brought on board a variety of management models and trained its staff on implementation of all different models as Training of Trainers (ToT) and staff have gone ahead to train the District staff and end users.

### Functionality

Functionality was assessed for all facilities constructed between 2000 – 2019, in the One hundred and twenty-one (121) districts so far covered in the WfP database where data sets have been fully assessed. The results are shown in Table 45 below. This year's functionality rate for WfP facilities is at **87.2%** (including the newly constructed facilities in FY2018/19). The data is based on a total of 1,300 valley tanks, 34 dams, 4 medium scale Irrigation schemes and installed 49 small scale Irrigation schemes.

**Table 45: Functionality of earth dams, valley tanks, small scale Irrigation systems and medium scale Irrigation schemes as at June 30<sup>th</sup>, 2019**

Functionality Level	Description	Total
<b>Fully Functional</b>	100% functional, i.e. without any damage	87.2%
<b>Partially Functional</b>	Operational but with reduced functionality due to siltation, pump breakdown or other problems	12.1%
<b>Non-Functional</b>	Not operational at all	0.7%

Source: Data for valley tanks, dams, small and medium scale Irrigation schemes constructed from 2000 – 2019 covered in WfP Database – MWE

**Table 46: Functionality status per facility type as at June 30th, 2019**

Functionality Status	Valley tanks		Dams		Small Scale Irrigation Systems		Medium Scale Irrigation schemes		Total	
	No.	%age	No.	%age	No.	%age	No.	%age	No.	%age
<b>Fully Functional</b>	1,133	87	24	67.6	49	100	4	100	<b>1,210</b>	<b>87.2</b>
<b>Partially Functional</b>	159	12.4	9	26.5	0	0	0	0	<b>168</b>	<b>12.1</b>
<b>Non-Functional</b>	8	0.6	2	5.9	0	0	0	0	<b>10</b>	<b>0.7</b>
<b>Total</b>	<b>1,300</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>49</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>1,388</b>	<b>100</b>

Source: WfP Database – MWE

During FY2018/19, MWE worked towards improving functionality status for the partially functional facilities in the Districts of Mbarara (1), Isingiro (3), Sembabule (1), Sheema (2) and Rakai (1). These facilities were serving the beneficiaries but with reduced functionality. MWE has continued to put an effort in installation of abstraction systems, formation and rejuvenation of management structures, refreshment of by-laws and training of stakeholders, all aiming at improving functionality.

**Cumulative WfP Storage Capacity**

The Sustainable Development Goal (SDG) indicator for water quantity is defined as “the Cumulative WfP Storage Capacity (in million cubic meters)”. The total volume added through investments by MWE in the FY 2017/18 (including facilities done by the Districts and private farmers using WfP Construction Equipment) was 1,292,150m<sup>3</sup>. Therefore, by the end of FY 2018/2019, cumulative WfP storage had increased from 39.32 million cubic meters in FY 2017/2018, to **41.124million cubic meters**.

**Table 47: Trend in Cumulative WfP Storage Capacity created in the last 5 years**

Financial Year (FY)	2014/15	2015/16	2016/17	2017/18	2018/19
Cumulative WfP Storage Capacity created	31.7Mm <sup>3</sup>	37.185Mm <sup>3</sup>	38.865Mm <sup>3</sup>	39.32Mm <sup>3</sup>	41.124Mm <sup>3</sup>

**Table 48: Storage capacity of WfP created in FY 2018/19.**

Cumulative Volume Created							
S/n	Water for Production Facility	% Completion as at 30th June 2018	% Completion as at 30th June 2019	Progress btm 30th June 2018 and 30th June 2019	Design Capacity (m3)	Volume Created	
						Dams	Valley Tanks
1	Construction of Mabira dam in Mbarara District	65%	85%	85%	1,000,000	1,000,000	
2	Construction of three (03) Valley tanks in Apac District	67%	100%	100%	30,000		30,000
3	Construction of Nine (09) Communal Valley tanks in the Districts of Isingiro, Kiruhura, Pallisa, Kibuku, Busia, Amuria, Kumi, Bukedea and Kapelebyong.	0%	100%	100%	129,000		129,000
	Western Region	0%	100%	33 no.	3000@		133,150
	<b>Sub Total 1</b>					<b>1,000,000</b>	<b>292,150</b>
	<b>Sub Total 2</b>						<b>1,292,150</b>
	<b>TOTAL VOLUME CREATED (m3)</b>						<b>1,292,150</b>

**Sector Performance Indicator 7: Proportion of irrigation potential developed**

In Financial Year 2018/19, the Ministry under Water for Production Department embarked on construction of Small scale solar powered Irrigation systems countrywide. So far, the Ministry has completed construction of four (4) medium scale Irrigation schemes of Olweny in Lira District, Agoro in Lamwo District, Mubuku I in Kasese District and Doho I in Butaleja District.

Completed construction of thirty five (35) small scale Irrigation schemes in the Districts of Pallisa (1), Mayuge (1), Abim (1), Kamuli (1), Bukedea (1), Tororo (1), Katakwi (1), Bukwo (1), Soroti (1), Manafwa (2), Kibuku (1), Kaabong (1), Masaka (1), Gomba (1), Butambala (1), Kabarole (2), Ntoroko (1), Kamwenge (1), Kagadi (1),

Kalungu (1), Wakiso (1), Adjumani (1), Zombo (1), Gulu (1), Omoro (1), Nwoya (1), Alebtong (2), Oyam (2), Pakwach (1), Arua (1) and Lira (1) increasing on crop production.

Through this intervention, the Department has been able to create more Irrigable land of about 147ha (487 acres). This has increased Uganda's farm land under Irrigation from 15,000ha to **15,200ha**.

### **Sector Performance Indicator 9: Management of WfP facilities**

WfP facilities are managed according to ownership and facility category. Facilities constructed and owned by the private individual/group are managed under the private management arrangement, whereas communal facilities constructed by Government and sometimes NGOs are managed under a CBMS. The analysis on management of WfP facilities only considers those under community management with support from Local Governments including private facilities constructed with support of Government, representing 28% of all facilities constructed from 2000-2018. All private facilities are not included in this analysis.

#### **i) Management of Communal dams and valley tanks**

Using a CBMS approach, MWE forms Water User Associations/Farmer Field Schools (FFS) to enhance and promote self-driven approaches for community ownership and sustainability initiatives. Under this approach, MWE supports the Local Government to train the beneficiaries together with the management committees mainly on their roles and responsibilities and establishment of the by-laws to ensure sustainability of the facilities. Through the FFS approach farmers are trained on efficient and effective use of the created storage all aiming at Sustainability of the facilities.

The Performance indicator for management of Water for Production facilities is "the %age of water points with actively functioning Water User Committees/FFS". The total number of facilities constructed since the year 2000, so far entered in the Water for Production database, is 1,230, for 121 districts so far covered in the database, the functionality of WUCs for FY 2018/19 based on the reports of 363 facilities under community management is 84%.

#### **ii) Management of medium and Small-Scale Irrigation schemes**

Medium scale Irrigation schemes are managed through the Cooperative society model and Small-Scale Irrigation Schemes are managed through the FFS Approach. All these two (2) management models focus on effective utilization and sustainability of the schemes.

Table 49: Community Management of WfP facilities constructed between 2000 – 2019 as at June 30<sup>th</sup>, 2019

Facility Type	Total No. of Facilities	Under community management		With established WUC		With functioning WUC	
		No.	%age	No.	%age	No.	%age
Valley Tanks	1228	328	27%	328	100%	280	85%
Dams	35	35	100%	35	100%	25	71%
Small scale Irrigation systems	49	49	100%	49	100%	49	100%
Medium scale Irrigation schemes	4	4	100%	4	100%	3	75%
Total	<b>1,316</b>	<b>416</b>	<b>32%</b>	<b>416</b>	<b>100%</b>	<b>357</b>	<b>86%</b>

Source: MWE WfP Database<sup>10</sup>

<sup>10</sup> Valley tanks include those constructed using Ministry WfP equipment

<sup>2</sup> Fish 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.

In Table 49, the total number of facilities (dams, valley tanks and irrigation schemes) constructed from 2000 to 2019 is 1,316 for 121 districts so far covered in the WfP database; Out of 1,316, 416 facilities are under community management system with established Water User Committees, and 357 Water User Committees were still fully functional at the time of spot check. The rest of the facilities (959) are non-communal and managed by individual farmers (constructed using MWE equipment under Public Private Partnership (PPP) arrangement).

A total of 1228 valley tanks were constructed from 2000-2019; among these 328 valley tanks (27%) are under community-based management system. All the 328 valley tanks under CBMS have established Water User Committees (WUCs) and 900 (73%) were fully functional at the time of spot check. A total of 35 dams were constructed from 2000-2019, all are under CBMS, and 25 Water User Committees (71 %) were fully functional at the time of spot check.

**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, 1006 valley tanks have been constructed under this arrangement since 2008. This FY 2018/19 a total of 33 valley tanks have been constructed. The numbers are attributed to intensive sensitization. Firstly, there is no question of ownership as each facility is privately owned by an individual farmer. All the facilities constructed in Kiruhura, Mbarara, Kasese, Ntungamo, Sembabule, Gomba, Rakai, Lyantonde and Isingiro are fenced and there is no direct watering of animals at the facilities. The use of both traditional and modern troughs is high, access to the facilities is no longer a problem, 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 minimized the challenge of livestock diseases. A coordination committee is established at sub-county level, including sub-county officials, councilors and the Farmers' Coordination Committee together with the other sub-county and district technical team who work with private farmers to ensure sustainability of the constructed facilities.

This approach has addressed the O&M and functionality challenges that are associated with the community-managed facilities.

## 9. WATER RESOURCES MANAGEMENT

### 9.1 Introduction

### 9.2 Water resources monitoring and assessment

#### 9.2.1 Monitoring networks

In line with the core mandate, the Department for Water Resources Monitoring and Assessment collected and archived data from a network of surface (65) and ground water (30) monitoring stations countrywide. The data has been utilized to design catchment management plans under the LEAF project (Nkusi, Muzizi, Semliki, Mitano), assessment of the potential Impacts of Oil and Gas Development for the Albertine Graben and by the private sector and research entities including the development of a river flow forecast system for the Nile Basin. A total of Ushs 28,850,000 has been realized from the sale of this data as non-tax revenue during the reporting period. However, the operation and maintenance of the monitoring network has become very challenging given the reduced level of funding. The reduced funding has negatively impacted upon the quantity, consistency and quality of annual observations and quantification of water fluxes. For instance, during the assessment of potential Impacts of Oil and Gas Development for the Albertine Graben, it emerged that surface water gauging stations with at least 360 daily records (complete year) are very few. These are shown using a green bar code while those with comparatively scanty records are depicted in yellow and red. (Figure 19).

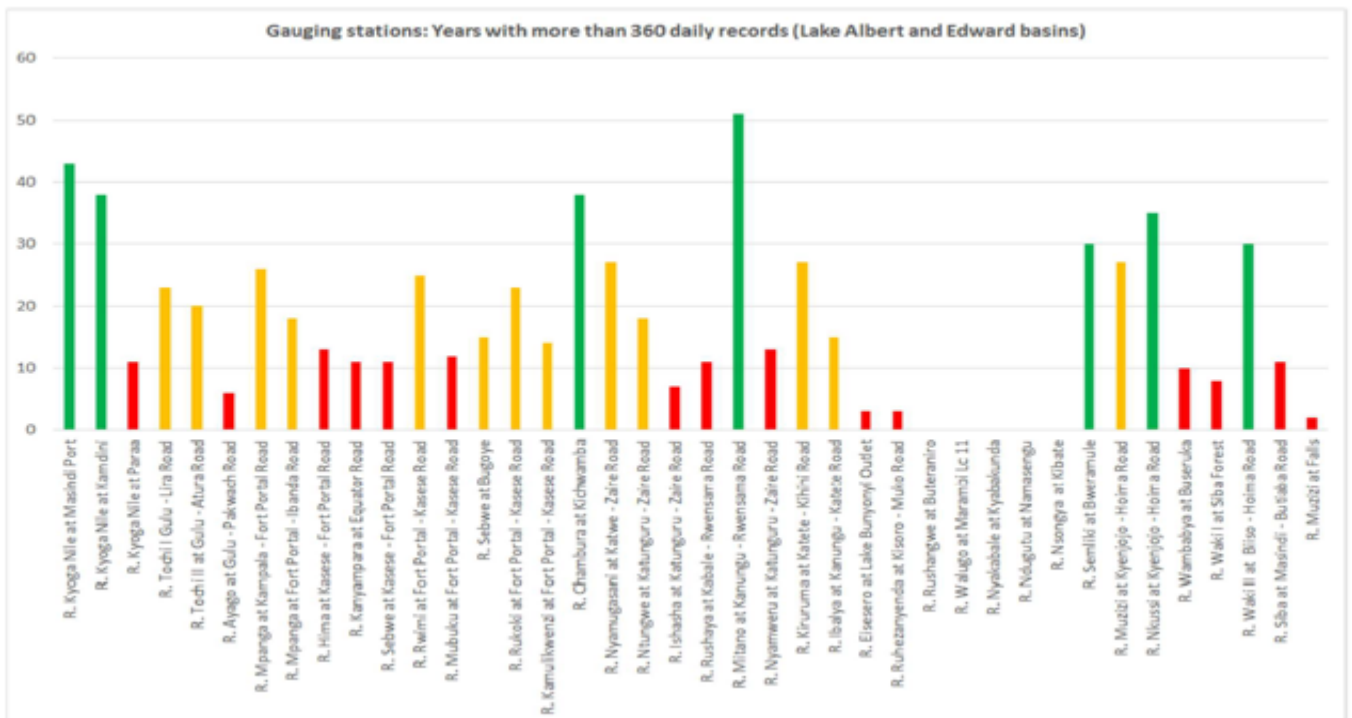
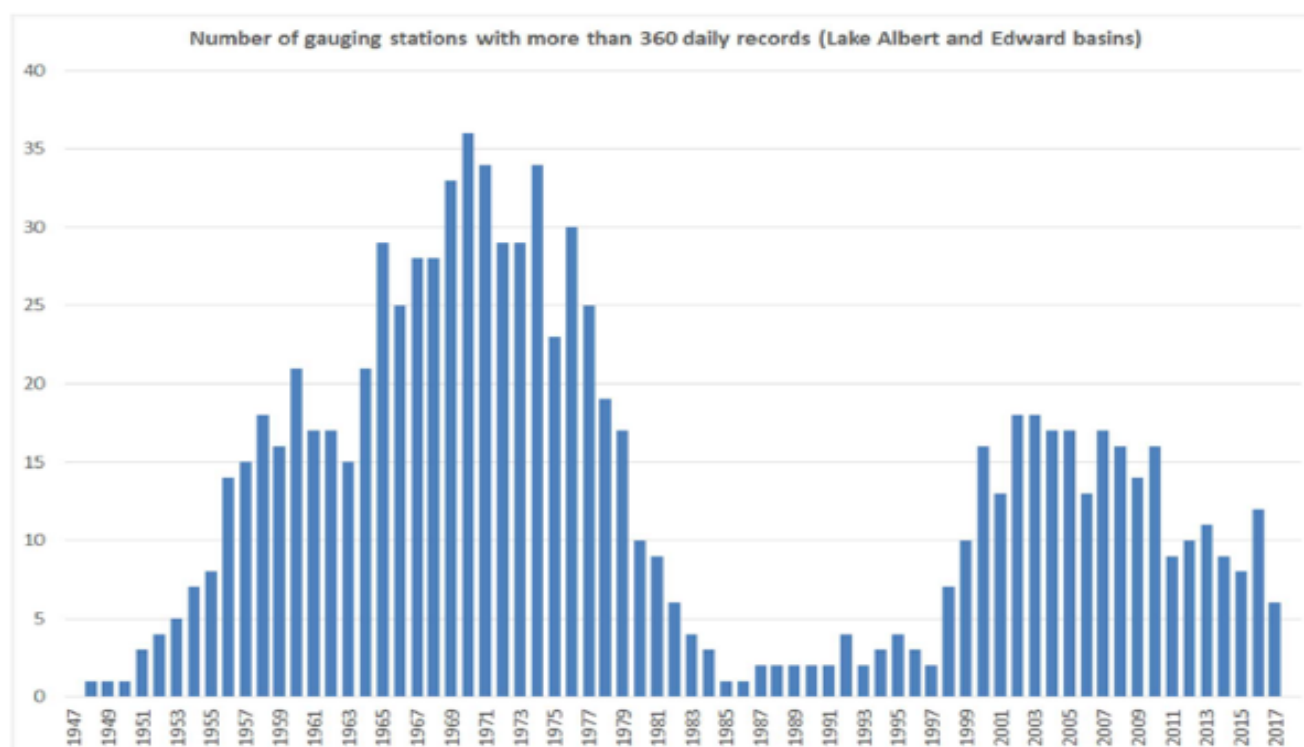


Figure 19: Gauging stations with more than 360 daily records (Lake Albert & Edward basin).

The recent trends over time show that the total number of stations with a complete and reliable annual record in the Albert Graben is declining (Figure 20).



**Figure 20: Number of gauging stations with more than 360 daily records (Lake Albert & Edward basin).**

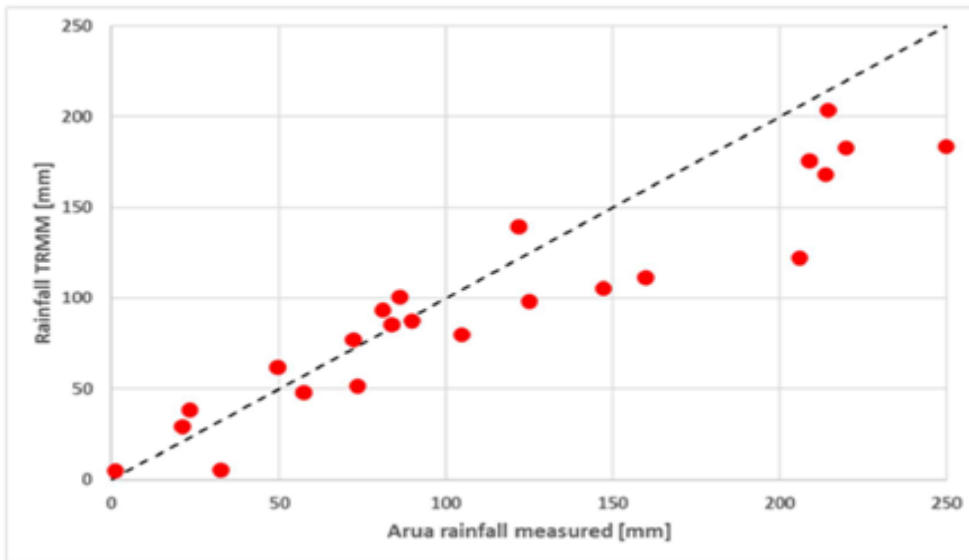
Within the year 2018/2019, the department continued to modernize the surface and ground water monitoring network to telemetry in order to collect real time data for use in early warning systems. A total of sixteen (16), additional telemetric stations were procured under the UNDP funded Wetland restoration project but are yet to be installed. 4 Hydrologists/Technicians were trained to install operate and maintain these stations. 2 hydrologists have also been trained to implement hydro-meteorological early warning systems for flood risk management at the regional training centre in ICPAC in Nairobi and at the University of Reading in UK. The capacity to set up a modelling and forecasting unit is therefore gradually being developed.

### **9.2.2 Water resources assessment studies and forecasting**

Strategic partnerships have been established during the reporting period with the Uganda Red Cross Society and the Red Cross Red Crescent Climate Centre to design and implement Forecast-Based Action (FbA) for disaster preparedness through setting up a national scale Forecast-based Financing (FbF) system supported by Data Preparedness and Cash Transfer Programming (CTP). The department is participating through a nominated officer to the Technical Working Group. Our participation is very critical in setting up the entire FbF system. In this role, the Technical Working Group will participate in the development of the Early Action Protocol to identify early actions and define clear procedures for implementing these early actions. In addition, the department has provided technical advice to support the development of the FbF trigger methodology.

The utilization of river flow forecasting systems and methods in Uganda was also initiated by the Nile Basin during this reporting period. Predicting how future flows and the hydrological situation might evolve is expected to generate very valuable information. Available information about forecasting systems currently existing in the Nile Basin has been compiled. The forecast likely to be generated are reach inflows and outflow discharges at strategic location along the Nile, based on lake-reservoir discharge storage relationships and measured channel data. Such forecasts can be used by DWRM power generation companies such as ESKOM to manage reservoir release for hydropower generation.

A memorandum of understanding has been signed to operationalize and implement a project to Design a combined hydrometric system using satellite altimetry and in situ measurements under the SMART basin project. Implementation is in advanced stages with quality control of surface water monitoring information and requirements having been completed. The benefits of such an initiative are geared towards reducing the costs of operating and maintaining a conventional monitoring network. The benefits are realised when public domain satellite observations complement or supplement observations from the conventional monitoring network which is costly to maintain. The approach is promising. Figure 21 below illustrates the potential. It shows a good correlation between satellite derived rainfall (TRMM) and the measured observation at Arua for the period 1998 to 2017. The satellite rainfall can therefore be utilized for water resources assessments. The study is implemented by a team of consultants from France (BRL).

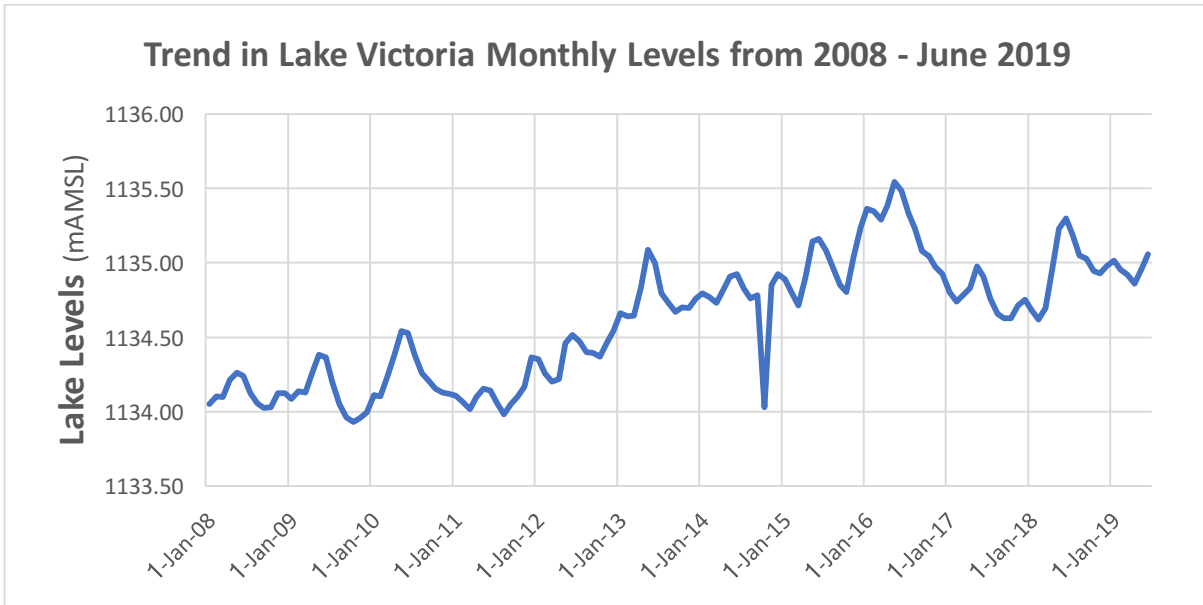


**Figure 21: Comparison between satellite and conventionally measured rainfall at Arua**

The Department has effectively participated in mobilisation of funds for new projects to support its activities such as the design of the project on “Broadening Effective Use of Climate Information Products and Services for resilience and adaptation in Uganda”. Project preparation is championed by UNDP and currently the team of consultants is drafting the project proposal. Preparation of concept notes geared towards promotion of resilience and adaptation to climate change is also progressing.

An overview is provided here regarding a few trends that can be visualized from the data that has been archived in our databases. For example, the figure 22 below illustrates how water levels have tended to vary in Lake Victoria during this reporting period.

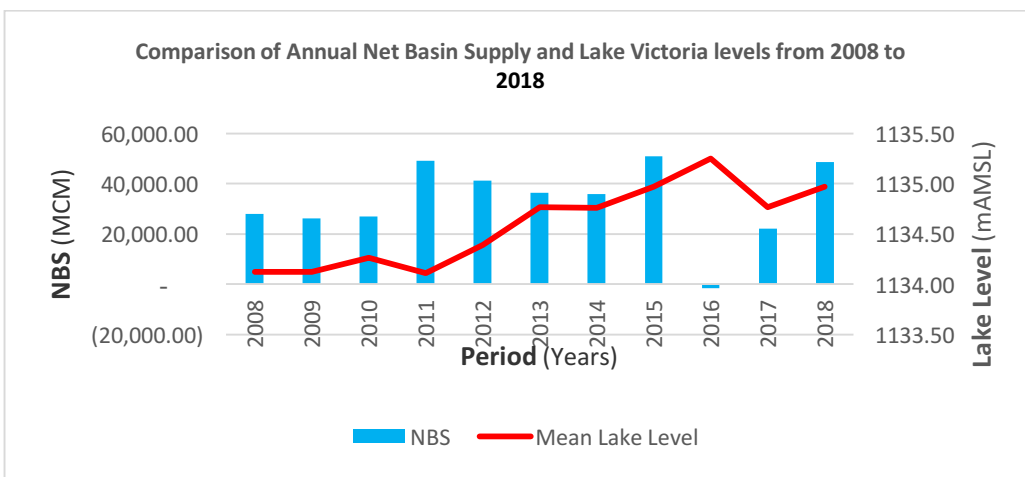




**Figure 22: Variation in Lake Victoria Water Levels from 2008 to June 2019**

Water levels have fluctuated around 1135.19 m and 1135.06 m between July 2018 and June 2019. These levels have been sufficiently high to guarantee stable generation of power for the Nalubaale – Kiira hydropower dams and ensure sustainable downstream flow to power Bujagali.

The Net Basin Supply (NBS) which is the actual water contributed by the basin after accounting for evaporation and groundwater has been computed by invoking the water budget equation. The NBS for Lake Victoria has a directly influence on the trend in lake levels. The figure 23 below shows a comparison between NBS and lake levels. The years 2011 and 2015 registered the highest NBS that resulted in a rise in lake levels during the years that followed. However, in 2016, the NBS to the lake was zero, i.e. it was a relatively dry year with evaporation over the lake exceeding inflows and rainfall, and as such the net effect was a reduction in water levels during 2017. Net basin supply to the lake has being high in the year 2018 due to high rainfall amounts in the region hence the sustained increase in lake levels in 2018.



**Figure 23: Comparison of Annual NBS and Lake Victoria Levels from 2008 to 2018**

Groundwater is the currently the major source of rural domestic water supply. However, aquifers are limited in yields and recharge rates are low. The results for the assessment conducted in the Albert Graben during the reporting period offer a typical example 24.

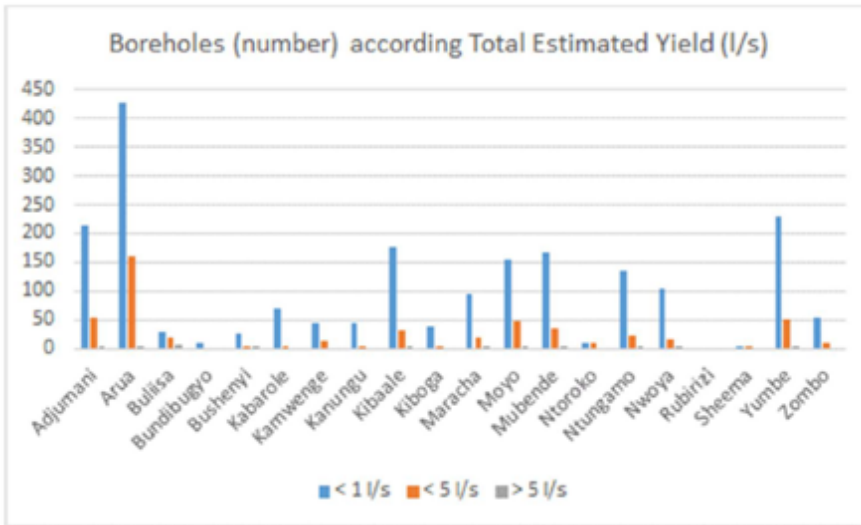


Figure 24: Number of wells and estimated yields in the Albert Graben.

Groundwater-level observations in the Albert Graben have provided insight into how groundwater recharge, storage, and discharge vary over time. Paired groundwater-level and rainfall observations for two monitoring stations in the Lake Albert basin of Uganda were analysed and reported in a research paper (Guma *et al.*, 2019). Groundwater and surface water level observations for Rwebisengo monitoring station and River Semuliki that is approximately 100 m away from the monitoring station were analysed. Time series analysis of the groundwater, rainfall and surface water level observations from April 2009 to November 2011 are reproduced in Figure 25 below.

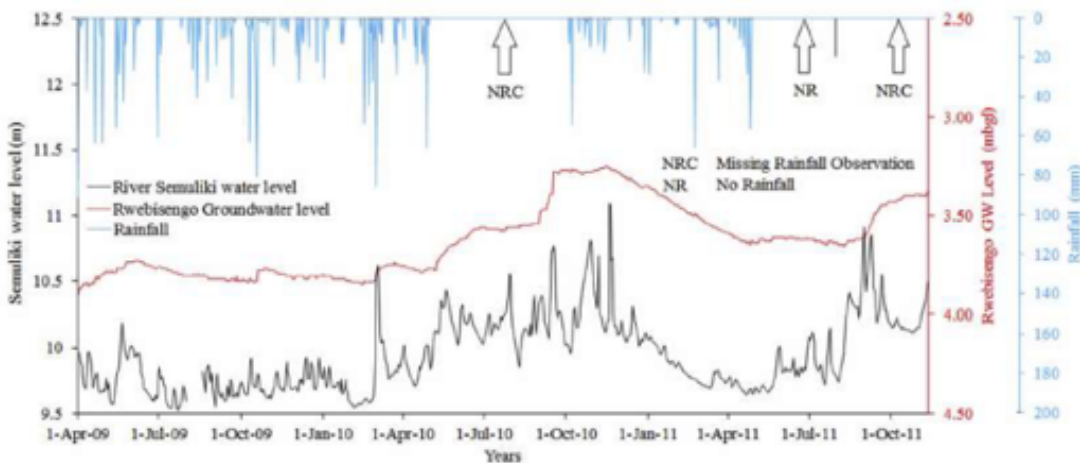


Figure 25: Interconnected hydrological system of the Semliki (Guma *et al.*, 2019).

The fluctuations in groundwater level, river stage observations and rainfall depicted, reflect an interconnected hydrological system in which river stage and groundwater level co-vary in response to bimodal rainfall.

## 9.3 Water resources planning and regulation

### 9.3.1 Introduction

The priority interventions for the Directorate of Water Resources Management during the FY 2018/19 were as follows:

- Continue implementation of catchment-based water resources management through the 4 Water Management Zones (WMZs), supporting and facilitating preparation of Catchment Management Plans and establishment of Catchment Management Organizations (CMOs) 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 related infrastructure projects through piloting preparation of Water Source Protection Plans in some urban areas.
- 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.
- Continue 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, development of a water resources status report and design of a Water Information System.
- Support the Water Resources Institute (WRI) to undertake and implement its four core functions of applied training, applied research, outreach and dialogue. During the FY, the WRI would be structured as a centre of excellence in the conservation, development and management of water and related resources for sustainable development of Uganda

Reporting of progress is presented under the four functional areas of water resources management; Water Resources Monitoring and Assessment, Water Quality Management, Water Resources Planning and Regulation, International and Transboundary Water Resources Management. Cross-cutting water resources management activities constitutes the final section of this chapter.

### 9.3.2 Water resources planning and regulation

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

#### **Permits applications and assessment**

During the reporting period **486** new permits applications were received and **400** of them all were fully assessed. Out of the 486 new permit applications received only **153 (38%)** were recommended for permit issuance. The lower number of new permits recommended for issuance is attributed to mainly failure on behalf of NWSC to pay processing fee upon submission of 225 applications despite constant reminder. In addition,

**230** Permit applications for renewal were received and of these **218 (94%)** were recommended for permit issuance. Some of the applications were not approved for renewal due to non-compliance to permit conditions such as: i) submission of self-monitoring data for abstraction and/ or discharge ii) non-payment of annual water use fees after persistent reminders and iii) delayed or non-response by the permit holders to provide evidence and reasons for non-compliance to permit conditions. The Ministry has communicated its decision to all these permit holders.

Overall, 371 permits (153 new and 218 renewal) were issued compared to 294 issued in FY 2017/18; representing 26% increase in performance. Some new permit applications received were not approved for permit issuance due to a number of reasons namely (i) 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, (ii) delayed or non-response by the applicants to the requests to provide additional information, and (iii) some applicants submitting application forms without payment of processing fees and (iv) incomplete field assessments by the applicants. Figure 26 depicts the numbers of water permit applications received, assessed, and issued over the last eight years.

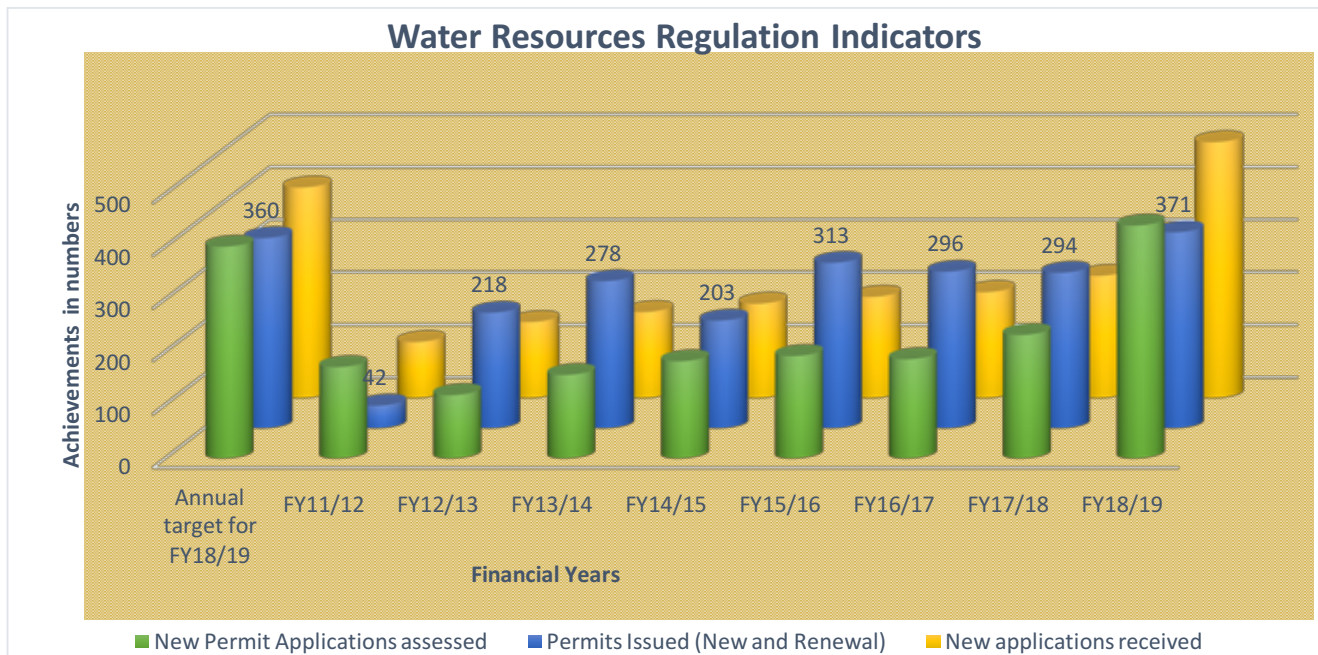
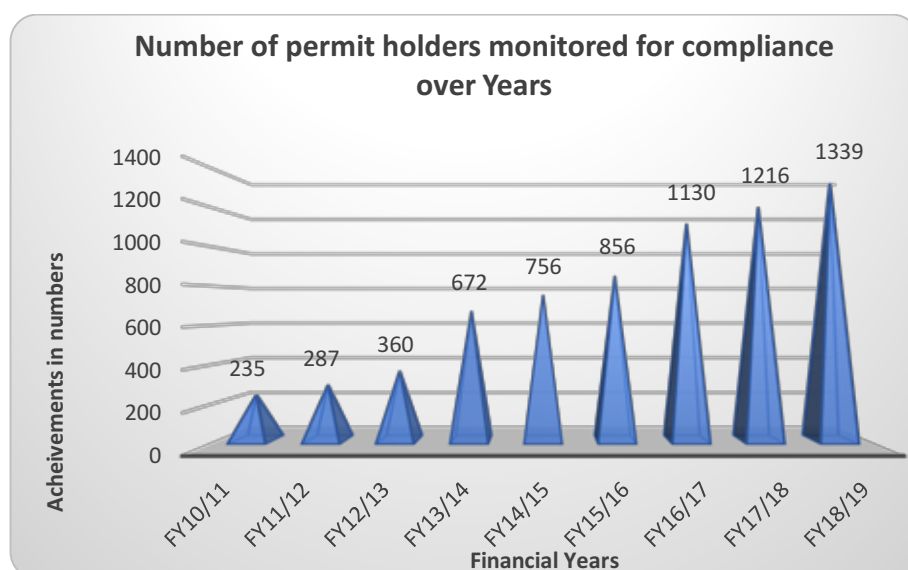


Figure 26: Trends of water permit applications received and permits issued over the last eight years

It is noted that there is generally a steady increase in the number of permit applications received, assessed and issued since FY2011/12 as a result of increased awareness by water users, continuous inventory and mapping of the water users and waste water dischargers, and close follow up of the illegal water users and waste water dischargers through the Water Management Zones.

**Compliance to permit conditions**

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 quarterly submission of data for the drilling permits, waste water discharge standards including possession of wastewater treatment facilities for wastewater discharge and compliance to permitted water abstraction volumes.



**Figure 27: Trends of Number of Permit Holders Monitored for Compliance over the last 9 years**

#### **Proportion of wastewater safely treated**

A total of **1,339 of 1,701** (79%) water permit holders for waste water discharge, drilling, groundwater and surface water abstraction permits were monitored for compliance to the provisions of Water Act, Water Resources Regulations, Wastewater Discharge Regulations and permit conditions. 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 permit conditions.

**Table 50: Compliance to permit conditions FY 2018/19**

Type of permit	Permit Condition	Total No. of Permit Holders monitored	No. of permits complying	Percentage compliance (%) FY2018/19
<b>Waste water discharge</b>	Effluent discharge	182	115	63%
<b>Surface water</b>	Abstracting within permitted amount	304	239	79
<b>Groundwater</b>	Abstracting within permitted amount	793	603	76
<b>Drilling</b>	Quarterly submission of Borehole Completion Reports	60	58	97
<b>Total</b>		1,339	1015	79

Table 50 presents the status of compliance to various permit conditions. The average compliance to the permits (surface water, groundwater and waste water discharge) conditions stands at **73%**, up from **72%** in the previous financial year. Majority of the permit holders generally complied with the permit conditions such as i) quarterly data submission on daily volume of water abstracted ii) tested raw water samples and submission of the water quality analysis reports on time and iv) paid annual charges. However, some have not complied especially with installation dip tubes and bulk water meters and therefore do not record groundwater levels and /or volume of water abstraction per day respectively.

Additionally, in order to improve groundwater development and ensure value for money during borehole drilling, annual registration of private hydrogeologists and hydrogeological consulting companies which was initiated in FY 2015/16 has continued. This FY, 65 Hydrogeologists and 15 groundwater hydrology consultant firms were registered and issued with registration certificates. The certificates authorise them to undertake groundwater investigation and drilling supervision activities in the country.

Compliance to waste water discharge permit conditions remained at 63%. The biggest waste water dischargers such as NWSC wastewater treatment facilities, sugar manufacturing companies, soft drinks, leather tanning industries have slightly 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.

As part of compliance and enforcement of the water laws and permit conditions, 490 letters providing feedback, technical advice and indicating areas for improved compliance were written and dispatched to various permit holders and positive feedback continues to be received.

DWRM has continued to collaborate with other relevant organisations / institutions (NEMA, DEA, NWSC, KCCA, UCPC and UMA<sup>11</sup>) and the private sector to address issues of control of pollution to the environment in the greater Kampala area. This has been done through a Pollution Task Force carrying out joint inspections, sensitization and awareness campaigns, enforcement and public private sector dialogues.

#### ***Achievements of the Pollution Task Force (PTF)***

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 2012. The Kampala Pollution Task Force (PTF) composed of key government agencies such as NEMA, NWSC, KCCA, and DWRM, and UCPC and UMA was instituted with support from GIZ. The task force has its main objective as 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 Financial Year the PTF has realised several achievements as follows:

1. Joint inspections to 100 industries in all Divisions of Kampala City Authority area aimed at monitoring water and environmental laws and compliance assessment have been successfully undertaken with representation from all the key government agencies as above.
2. Annually, subsidized Cleaner Production Audits are offered to polluting companies to support them in identifying their main pollution sources and affordable mitigation measures. In the financial year 2018/2019, Britannia Industries, Peacock Paints and Fine Spinners made use of this opportunity offered by Uganda Cleaner Production Centre (UCPC) and International Water Stewardship Programme (IWaSP)
3. Launch of the Kampala Green Industry Campaign. Over 120 industries in Kampala were approached to participate in the campaign and a total of 49 industries expressed their interest to participate. A baseline study was carried out at the 49 industries and 20 final participants were selected and received fully funded on-site technical support and training by Uganda Cleaner Production Centre (UCPC) on the Resource Efficiency and Cleaner Production (RECP) Programme. Wastewater related investments were awarded to the three winners of the campaign
4. For the joint industrial assessments, an Inspection Form/Checklist has been developed that standardized the compliance monitoring process and therewith increasing transparency and accountability.

<sup>11</sup> 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).

### Non-tax revenue

Non tax revenue amounting to UGX 545 million shillings was collected during the FY2018/19 from permit application processing fees, annual water use fees and annual wastewater discharge fees. This is slightly more than the UGX 473.1 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.

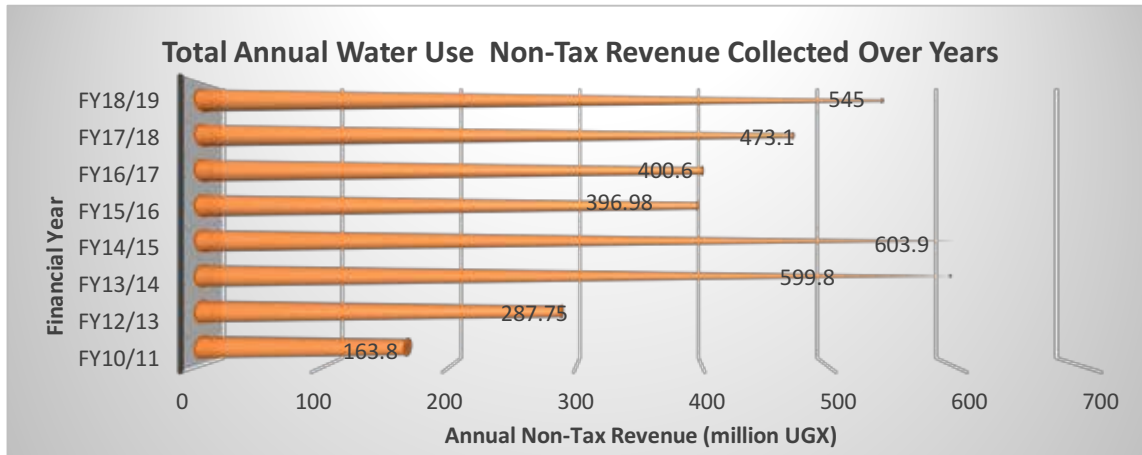


Figure 28: Total annual non-tax revenue from water use collected over year

#### 9.3.3 Water Use Planning and Allocation

Increased demand for water for various uses has continued to exert pressure on the water resources prompting the need to promote rational water use planning, allocation and water use efficiency. Accordingly, water use planning and allocation has continued to be up-scaled in all the four Water Management Zones in this FY as part of a national water resources regulation campaign. The aim of this activity is to identify illegal water users and waste water dischargers as well as non-complaint permit holders and assist them to comply with the provisions of the Water Act and the permit conditions.

Continuous use of data from water resources monitoring and assessment data base and outputs from mapping of water use and their demand conducted, Lake Albert basins, Lake George, Lake Edward and River Kafu have continued to be used to improve compliance to the Water Act and Water Resources Regulations.

Outputs of earlier work on water use and demand mapping in Lake Victoria, Lake Albert basins, Lake George, Lake Edward and River Kafu have continued to be used to identify illegal water users and waste water dischargers, and identify non complaint 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.

The capacity of staff was further built through skills enhancement in hydrological time series for water allocation. Therefore, Staff's capacity to assess permit application has greatly improved leading to timely assessment and issuance of various water use permits.

#### 9.3.4 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 mini hydropower dams, 3 water for production dams, namely Kibimba, Mubuku, and Doho, and 10 bridges hydraulic works across rivers, were inspected for compliance to water use permit conditions including of the Hydraulic Construction Permit conditions. Additionally, four large hydropower dams, namely Owen Falls Dam Complex, Bujagali Dam, Karuma Dam and Isimba Dam, are continually being 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.

DWRM has continued to carry out Dam Safety Inspections with priority to critical dams in assessment the infrastructure safety but also capture safety information relating to dams for entry into the Dam Safety Database Management System. Reference Alarm values/zero readings from the various instrumentation continue to be captured to help in the assessment of safety status of a dam risk level looking at the various probable failure modes.

Continuous implementation of Dam Safety Guidelines has been ongoing on several small, medium and large dams under development in Uganda. The Framework for Dam Safety has further been strengthened by the formation of national committee called Uganda Commission for Large Dams (UCOLD) which following its application jointly by the Directorate of Water Resources Management and Uganda Electricity Generation Company Limited, was formerly elected as the 101 member of the International Commission on Large Dams (ICOLD) during the 87th Annual General Meeting and Symposium held in Ottawa, Canada on 14th June 2019. The UCOLD has since set the priority areas and road map which involve; expansion of the committee to include key institutions, streamlining the mode of operations, its sustainability, collaboration mechanisms as well as long-term operations. This will advance the art, science and engineering techniques for the planning, design, construction, operation and maintenance of safe dams to ensure sustainable development and management of the Uganda's water resources.

### 9.3.5 Environmental Impact Assessments

DWRM continued to review Environmental and Social Impact Assessment reports submitted through NEMA by various developers of water resources related projects and programs. Compliance assistance provided to developers during projects planning and implementation through stakeholder consultation meetings. The table 51 below shows the environmental impact reports reviewed and consultative meetings held over a period of four years.

Table 51: *Environmental Impact Reports Reviewed and Consultative Meetings held over years*

EIA Reports reviewed	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19
Environmental Impact Assessment	19	21	27	22
ToRs for planned Projects	20	11	9	10
Environmental Audit Reports	12	7	11	27
Scoping Reports	20	10	13	9
EIA Consultative meetings	27	62	38	38
Project Briefs	12	11	16	2
<b>Total</b>	<b>110</b>	<b>122</b>	<b>114</b>	<b>108</b>

This reporting year a total of **70** Environmental Impact Assessment related reports were reviewed, and **38** 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. 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.

Most common comments on ESIA per type of project were as follows;

Activity	Remarks
<p><b>ESIA, PROJECT BRIEFS, ENVIRONMENTAL AUDITS AND SCOPING AND TERMS OF REFERENCES</b>  <b>Most of the EIA reports reviewed were on Hydro power projects, Oil and Gas, Cage fish farms, crop farms, water supply schemes, water transport, and industrial production among others.</b></p>	<ul style="list-style-type: none"> <li>• The issue of environmental (ecological water) flows for river systems was mostly raised as it was not properly addressed for hydropower projects</li> <li>• Dam safety instrumentation mostly for hydropower projects</li> <li>• Water source protection plan</li> <li>• Stabilization of river banks</li> <li>• Acquisition of relevant permits from DWRM</li> <li>• Issue of water quality - mostly for Cage fish farming since the planned projects did not address mitigation of impacts on water quality of the lakes</li> <li>• Restriction of access to community water source</li> <li>• Proper drainage system</li> </ul>

### ***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.

The Ministry of Water and Environment submitted Cabinet Memoranda for (a) the principles of the Water Act (amendment) Bill and (b) the revised Water Policy. The Cabinet Secretariat in return wrote back indicating that the Regulatory Impact Assessment (RIA) report had several areas that did not meet the criteria for approval of the Cabinet Memoranda. The Ministry is right now working with the Cabinet Secretariat on the RIA report. Upon completion and approval of the RIA report, the Ministry will table the Cabinet Memoranda as guided by the Cabinet Secretariat.

The achievements made by the Ministry were approval of the costed strategy for revising the Water Policy and amending of the Water Act. Thus the Ministry of Finance, Planning and Economic Development issued a Certificate of Financial Implications for revising the Water Policy and amending the Water Act.

Legislative process regarding finalization of the Water Act (amendment) Bill will continue in the FY2019/20 with under-listed steps among others:

- The Ministry of Water and Environment initiated a Water Act (amendment) Bill and will finalise the Principles of the Bill for approval by Cabinet.
- Cabinet will approve the Principles and authorizes the sponsoring Ministry of Water and Environment to issue Drafting Instructions to the First Parliamentary Counsel (FPC).

### 9.3.6 Conclusions and way forward

Performance of water resources planning, and regulation functions has continued to improve over the years as a result of improved enforcement and compliance monitoring most especially through the strengthened 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 positively through applying for various water permits. The increasing trend of water permits issuance will continue as the capacity of 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.

### 9.3.7 Cross cutting water resources management initiatives

#### **Operationalisation of the water source protection guidelines**

According to the Water Source Protection Guidelines (2013), each water infrastructure project is expected to prepare and implement a Water Source Protection Plan. The piloting of the water source protection guidelines around various water infrastructures projects has provided information on the key improvements that need to be made in the Water Source Protection Guidelines before they are issued as legally binding documents. The experience is also giving information for use in finalizing and rolling out the strategy for operationalization 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.

Popular version of the strategy for 3% contribution to water source protection was developed and 500 copies printed and disseminated.

As part of building capacity of institutions to undertake Water source protection planning and implementation, the MWE organized 4 trainings on Water Source Protection Planning and Implementation during the reporting period. The trainings that was carried out in the Water Resources Institute of the Ministry of Water and Environment in Entebbe, drew participants mainly from institutions in Uganda dealing with the preparation and implementation of Water Source Protection plans and Operationalization of 3% contribution to water source protection and included water and other related professionals and practitioners. Specifically, most of the participants were drawn from the 4 Water Management Zones, local government and departments within Ministry of water and environment plus other organizations that depend on water such as Ministry of Energy, NGOs, NWSC, Ministry of Agriculture and Fisheries among others. The trainings attracted a total of 140 participants (**60 females and 80 males**). The training focused on sharing experiences and building capacity of participants to prepare and implement Water Source Protection plans and Operationalization of 3% contribution to water source protection as illustrated in diagram below.

### Framework for Water Sources Protection Planning



#### 9.3.8 Operationalization of the Water Resources Institute

The Water Resources Institute (WRI) was established as part of implementation of the Water Sector Reforms (2003-2005) in response to wide consultations that pointed out the need to address water resources related issues such as pollution, climate variability, and reduction in water availability, and to balance water needs for agriculture, energy, industry and households in the country. The Institute intends to bridge the gap between theory and practice. It will profile the central position of water resources in national development with a vision of ensuring that Uganda's water resources are utilised optimally and equitably. Its core business is to be a centre of excellence that provides cutting edge applied research and training; delivers continuous professional skills development across all levels in water resources management and development and serves as a neutral place for dialogue and outreach.

#### *Achievements of Water Resources Institute since its establishment in March 2018*

##### **Holding of Uganda Water and Environment Week**

**UWEWK2018:** The Ministry of Water and Environment (MWE) in collaboration with key partners held the first ever week-long Uganda Water and Environment Week (UWEWK) that running from 17<sup>th</sup> to 23<sup>rd</sup> March 2018. The event attracted high-level political participation including the Vice President Hon Edward Kiwanuka Ssekandi and the Prime Minister, Dr Ruhankana Rugunda of Republic of Uganda and enabled stakeholders to deliberate on pertinent sector issues. In addition, the private sector and academic communities presented information, exchanged knowledge and built relationships

The overall goal of the Uganda Water Week 2018 was to contribute to the national development goals through effective management of water resources and distribution for sustainable socio-economic development of Uganda

The event was organised under the theme: **“Water and Environment a catalyst for Achieving Middle Income Status 2020”** and it had eight sub-themes namely; i) Integrated water resources management; ii) Water and sanitation development; iii) Wastewater and pollution management; iv) Environment and natural resources; v) Sustainable forest management vi) Weather and Climate Change vii) Water – Energy - Food - ecosystem nexus; and viii) Stakeholder engagement and water & environment sector financing.

**Events that marked the UWEWK-2018;** The weeklong event attracted and sustained high-level participation including politicians, development partners, technocrats, academicians, private sector, civil Society organisations, media, and students. Overall, the event attracted about **400** participants

- a) Keynote Address; “Water and Environment, catalyst for achieving Middle Income Status 2020”
- b) Three Dialogues were organized
- c) Eight (8) training sessions were undertaken in line with the sub-themes for event

- d) One of the key highlights of UWEWK 2018 was the official Launch of the Water Resources Institute (WRI) on March 21<sup>st</sup>, 2018
- e) The week had a number of exhibitions mainly by the private sector, MWE departments and civil society organisations. Overall, the event attracted **54** exhibitors
- f) Four parallel field visits were successfully organised and hosted by MWE departments, agencies and partners

**UWEWK 2019:** The Ministry of Water and Environment (MWE) in collaboration with key partners held the second Uganda Water and Environment in March 2019. The event was hosted by the Water Resources Institute (WRI) which made it possible for more people to attend and allowed for more flexibility and networking opportunities. The focus was to demonstrate the centrality of water and environment in achieving Sustainable Development Goals (SDGs) by 2030. This was held under the theme “*Water and Environment a strategic driver in attainment of Sustainable Development Goals 2030*” with **5 sub-themes** i) Water-food-energy-ecosystem nexus, ii) Water, Sanitation, Environment and Society, iii) Green growth, iv) Blue economy and v) Financing Sustainable Development Goals (SDGs). The UWEWK aimed at improving understanding of the centrality of water and environment resources in attainment of SDGs by 2030.

**Events that marked UWEWK 2019;** The weeklong event attracted and sustained high-level participation including politicians, development partners, technocrats, academicians, private sector, civil Society organisations, media, and students. Overall, the event attracted about **800** participants.

- 1) **Pre-event activities;** A national outlook on issues of water and environment was built through pre-event activities that included
  - a. Media talk-shows and awareness campaign in selected towns across the country by the regional structures of MWE
  - b. The walk to Zoka forest by the Uganda walkers’ association.
  - c. The Ministry of Water and Environment in collaboration with WaterAid and Entebbe Municipality, organized a clean-up exercise on the 16<sup>th</sup> March 2019. The cleaning took place in Rugujjo and Kitooro markets in the Entebbe Municipality
  - d.
- 2) **Event activities 18<sup>th</sup> to 22<sup>nd</sup> 2019**
  - a. **140** abstracts inclined to UWEWK theme and sub-themes were received from various individuals at national, regional and international levels. These were grouped into the conference themes and presented in six parallel sessions over a period of three days.
  - b. **Key note address** by girl child who is an Environment Ambassador and key note address on the main theme of the conference
  - c. Over **600** people attended the conference and participated in **six** dialogues, **five** parallel sessions, side events
  - d. **84** exhibitors participated in the week-long event. This included private sector Development partners and government agencies. Information and technologies regarding innovations in water supply, ground water development and management, water quality management, environment enterprises and electricity generation, catchment management and solar systems engineering in water supply
  - e. The “Career Talk” aimed at connecting young experts with potential employers by which made UWEWK very interesting and gave young professionals an opportunity to learn about potential career opportunities in the water and environment sector as well as sharing challenges/barriers in developing their careers in the sector
  - f. In commemoration of the International Environmental Days; The World Forest Day (21<sup>st</sup> March 2019), the School of Forestry, Environmental and Geographical Sciences, Makerere University in partnership with the Forest Sector Support Department and other stakeholders convened a National Forestry Stakeholders Dialogue that was attended by over 200 participants.

- g. **Applied training:** Ten applied training sessions were successfully held. These were fully organized and facilitated by key partners in collaboration with the Ministry Departments
  - h. **Field Visits:** Eight field visits were successfully organized. They exposed participants to several practical approaches to addressing water and environmental resources related issues affecting the sector
- 3) After the main conference, two open-days (including commemoration of the International Environmental Days; World Water Day, World Forest Day and World Meteorological Day) were held that allowed the general public to access the venue and also participate in the event.

### ***Great Lakes and Catchment Management 2019***

The Water Resources Institute hosted 1st Great Lakes and Catchment Management (GLACAM) from 5<sup>th</sup> to 7<sup>th</sup> June 2019. The conference was organized collaboratively by Makerere University through the College of Agricultural and Environmental Sciences and the Ministry of Water and Environment. The overall theme was '*protecting water and land resources in Africa for climate change adaptation and improved livelihoods*' with five sub-theme i) climate change and disaster risk management ii) land use, technologies & innovations on soil, crop, animal, forestry, hydrology and catchment management iii) water-energy-food nexus, iv) pollution control and management and v) social, institutional and financial approaches for lake and catchment management. Overall, the event attracted about **200** participants from students, professionals and academicians from Uganda, Kenya, Botswana and Namibia.

- a. **80** abstracts inclined to GLACAM theme and sub-themes were received from various individuals at both national, regional and international levels. These were grouped into the conference themes and presented in five parallel sessions over a period of three days.
- b. **Applied training:** Four applied training sessions were successfully held. These were fully organized and facilitated by Water Resources Institute in collaboration with the Makerere University
- c. **Field Visits:** Two field visits were successfully organized. They exposed participants to several practical approaches to addressing water and land resources related issues affecting region.

### ***Short Courses Trainings***

The Water Resources Institute has continued to conduct applied trainings. Since its establishment the Institute has conducted **26** trainings both of national and international in nature. The short courses have attracted a total **788** participants. These trainings have been conducted on cost sharing arrangements with different organizations such as CapNet, WaterAid, Nile IWRM Net, GWP, World Bank, Uganda Driller Association, UNHCR, GIZ, LVBC, IIASA Austria, UNINE University Switzerland, and Water for People and fully sponsored by MWE respectively. Upon completion of the courses participants are awarded with a WRI Certificate of Participation. The target groups included drillers MWE staff, hydrogeologists, engineers, and other stakeholders involved in implementation of water and sanitation activities

### ***Strategic and Business Plans for WRI***

MWE received financial support from WaterAid Uganda to prepare a costed ten-year Strategic Plan (2019-2018) and five-year Business Plan (2019-2014) for the Water Resources Institute. The pioneer Strategic Plan (SP) has been developed to guide the Water Resources Institute in pursuing its Mandate, Mission, Objectives and functions. The Strategic Plan was developed through a participatory process involving diverse stakeholders within and outside the water and environment sector. The Strategic plan identifies priority water management and development issues that form the core business of the WRI during the planning period.

The business plan identifies key investments and the budgets for implementation and giving effect to the operationalization of the WRI strategic Plan 2019-2028. Business plan is a tool for guiding the WRI management in planning, building strategic formal partnerships and mobilizing financial and other resources among others.

### 9.3.9 Implementation of catchment-based water resources management

#### Water Management Zone operations

The Ministry of Water and Environment (MWE) through the Directorate of Water Resources Management (DWRM) has since 2011 been operationalizing catchment-based integrated water resource management (IWRM) throughout the country through the four Water Management Zones (WMZs) of Kyoga, Victoria, Albert and Upper Nile. Achievements are shown in Annex 10.

## 9.5 Water Quality Management

### 9.5.1 National Water Quality Monitoring Network

The department runs a network monitoring program for a national network comprising 119 stations. These stations monitor impact of human activities and emissions from industries and municipal sewage on the quality of water resources and the quality of drinking water from point sources in rural and piped water systems in urban areas. During the period under review, 80 out of 119 stations (67%) were monitored. This was a drop compared to 82 stations monitored in the previous year representing a performance of 69%. The slight decline is attributed to mainly reduction in funding following the closure of the Joint Partnership Funding (JPF) which funded most Water Resources Management activities. Notwithstanding the reduction in funding, 431 samples were collected from the network stations compared to only 224 samples collected in the previous year. This marked improvement was due to a special focus on ambient (lakes, rivers and groundwater) water quality monitoring in order to build up enough data for setting target values for reporting on ambient water quality as required by SDG 6.3.2.

The water quality monitoring stations are operated both from the center and the four Water Management Zones (WMZs). The table 52 below shows the performance of the water quality monitoring stations by WMZ.

Table 52: Performance of the WMZs in Water Quality Network Monitoring

Water Management Zone	Total number of stations	Number of stations visited	Performance (%)
Upper Nile	16	13	81
Albert	37	32	87
Kyoga	33	17	52
Victoria	33	15	46
Total	119	80	67

### 9.5.2 National Reference and Regional Water Quality Testing Laboratories

The MWE adopted a three-tier classification of water testing laboratories in Uganda. These consist of the National Water Quality Reference Laboratory (NWQRL), supported by four Regional Water Quality Testing Laboratories (RWQLs) at level 2 and Basic / Satellite Laboratories (BL) at level 1. The NWQRL is in Entebbe while RWQLs are located in the four (4) Water Management Zones (WMZs). Basic Laboratories (BLs) are found at water treatment plants, industries and other public and private institutions that perform water quality testing. In addition to the samples collected by the laboratories from the national water quality monitoring stations, these laboratories also receive and analyse client samples at a fee. Table 53 below shows the samples received and analysed by category.

Table 53: Performance of the NWQRL and Regional Laboratories

S/N	Regional Laboratory	Planned	Achieved				Performance (%)
			Ambient	Operational	Clients	Total	
1	Fort Portal	400	37	16	121	174	44
2	Mbale	400	108	269	136	513	128
3	Lira	400	58	169	234	461	115
4	Mbarara	400	67	68	0	135	34
5	NWQRL	2,400	161	1,888	901	2,950	123
Total		4,000	431	2,410	1,392	4,233	106

A total of 4,233 water samples were received and analyzed during the reporting period against the planned 4,000 water samples, representing a performance level of 106%. However, compared to the previous year when 5,002 water samples were analysed, this represents a decline of 15%.

The difference is attributed to many samples that were collected through the support given to UNRA as part of feasibility studies for major roads in the previous year. While the 3 Regional Laboratories, Mbale, Lira and Fort Portal have basic laboratory infrastructure, Mbarara does not have any. This explains why Mbarara does not receive any client samples and all samples that require advanced analysis from the zones are referred to the NWQRL which is the reason why the NWQRL analyses more samples than the any of the Regional Laboratories.

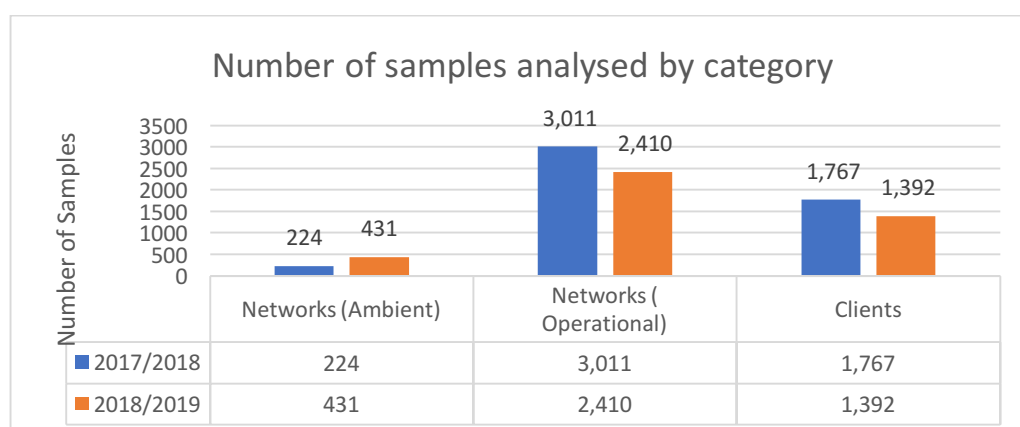


Figure 29: Samples received by category

The turn-around time at the NWQRL is 7 working days. 90% of the samples were analyzed within this time frame in the year under review. This is attributed to improved laboratory management and the use of automated advanced water quality testing equipment procured through funding from the Water Management and Development Project.

### 9.5.3 Non-Tax Revenue Generation

The Water Quality Laboratories generate Non-Tax (NTR) revenue from the analytical services provided to private clients following the government procedure for collection of Non-Tax revenue. In the year ending June 2019, Non-Tax Revenue totaling to **UGX 203,000,000 (Two Hundred Three million shillings only)** was generated from the National Water Quality Reference Laboratory and the three Regional Laboratories. This was an improvement compared to the previous year when NTR collected was **UGX: 135,000,000/= (One Hundred Thirty-Five million shillings only)**. While the total number of client samples received and analyzed reduced the total NTR collected increased as more samples from industries that require more expensive advanced type of analysis were received and analysed thus raising the NTR very significantly. Figure 30 shows the steady progress the department is making in NTR collection over the years.

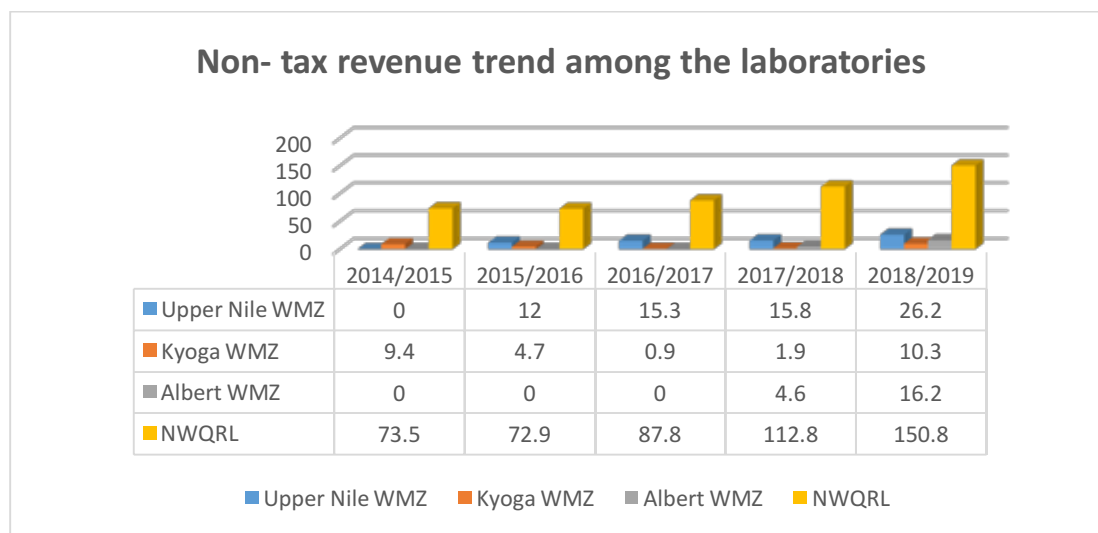


Figure 30: Non-tax Revenue Collection

#### 9.5.4 Drinking Water Quality

The Drinking Water Quality indicator is defined as “the percentage of water samples taken at the point of collection that comply with national standards for rural (point water sources) and urban (piped schemes).

Reference is made to Sustainable Development Goal, SDG 6.1 (Drinking water), specifically Target 6.1.1 which seeks to achieve access to safe drinking water for all.

#### Water quality of Rural Water Supplies

A total of 1,107 water samples were collected in the year under review compared to 551 samples collected in the previous year. 656 improved rural water sources complied with the *E. coli* national standards for drinking water. This represented 59% compliance compared to 64% in the previous year.

Water samples were collected from 763 boreholes or deep wells, 5 gravity flow schemes, 101 protected springs and 238 shallow wells.

Water safety by technology type was: 76% of boreholes had safe water, 24% of shallow wells and only 42% of protected springs had safe water for drinking based on compliance to bacteriological safety or *E. coli* (see figure 31 below).

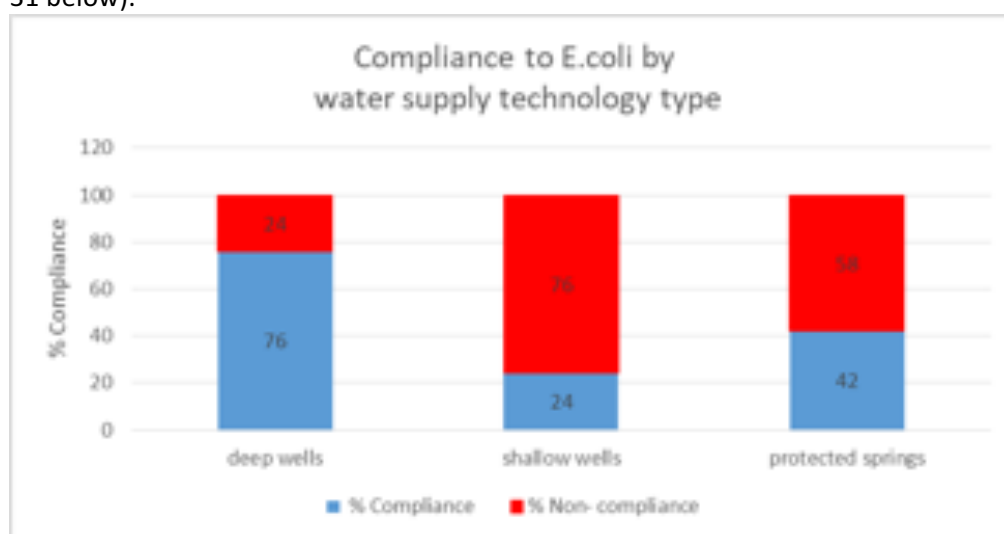


Figure 31: Safety of Rural Water Supplies



**Water Quality of Urban Water Supplies**

For purposes of water quality urban water supply systems in Uganda are divided into large towns which are served by mainly conventional water treatment systems, and small towns that are served by non-conventional water treatment systems. Many of the small-town water supply systems are either treated using single treatment where only chlorination is applied or they are supplied without any form of treatment. Basic treatment by means of chlorine kills pathogenic microorganisms that cause diseases but may not remove other chemical contaminants in the water.

In the year under review, a total of 772 samples were collected from large towns and small towns. The compliance levels with respect to *E. coli* for small towns was at 93% while compliance level for large towns stood at 96%. There was an observed improvement in the quality of drinking water in small towns, however, data coverage is still inadequate to present meaningful explanations.

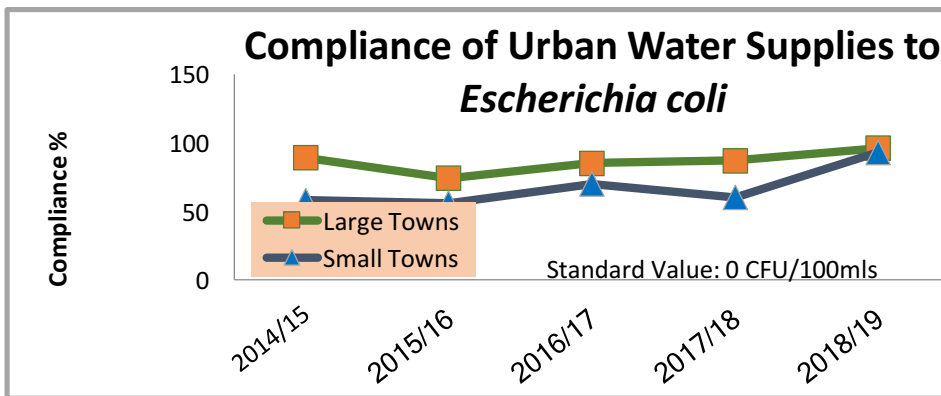


Figure 32: Safety of Urban Water Supplies

**9.5.5 SDG Target 6.3 Monitoring**

The MWE is responsible for reporting on SDG target 6.3 which states ‘By 2030, 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’.

**Indicator 6.3.1** is ‘Proportion of wastewater safely treated’ while **indicator 6.3.2** is ‘Proportion of bodies of water with good ambient water quality’ or ‘Percentage of water bodies with good ambient water quality’.

**Quality of Industrial Effluents**

A total of 122 industrial wastewater discharge facilities were monitored countrywide in the year under review. Industries monitored included tanneries, diaries, beverages, fish processing, sugar processing, other food processing factories and pharmaceuticals.

The key findings were low compliance to Biochemical Oxygen demand (BOD) for sugar processing factories, tanneries and diaries at 35%, 36%, 40% respectively. And better treatment of wastewater by beverages and fish processing which complied at 80% and 64% respectively.

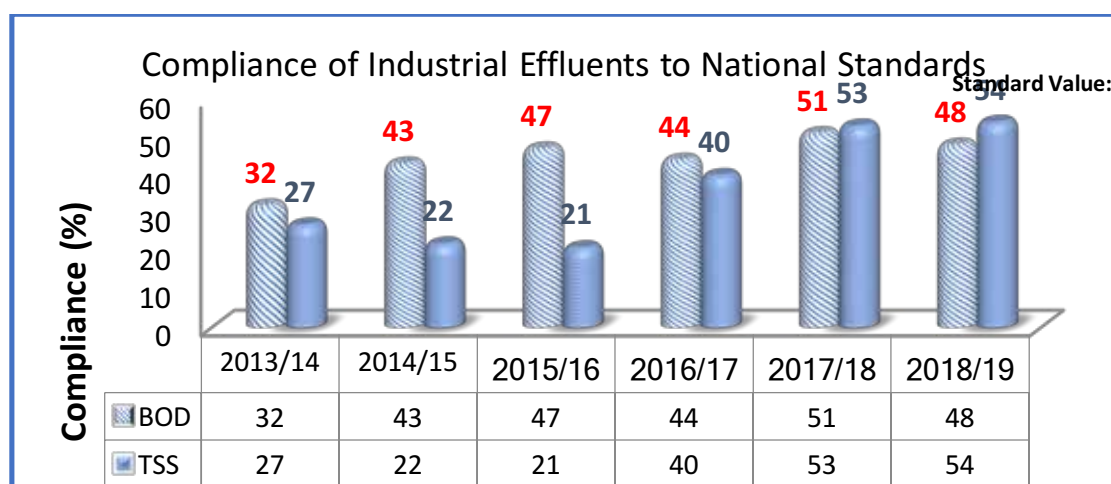


Figure 33: Compliance of Industrial effluent to standards

### Box 1: Ambient Water Quality

#### Indicator definition

- Reporting on indicator 6.3.2 requires a water-quality monitoring program that collects *in situ* water-quality samples from freshwater bodies, including *rivers, lakes* and *groundwater*.
- The methodology uses a *water quality index* to assess water quality.
- The water quality index incorporates measurements for *pH, dissolved oxygen, electrical conductivity, nitrogen and phosphorus* (*nitrate* for groundwater).
- Measured values are compared with *target values* that represent water quality that will not be harmful to either human or ecosystem health.
- Good Ambient water quality* means that target values have been met at least 80% of the time during the assessment period.
- Bodies of water* may refer to sections of a river or small river sub-basin, a lake or an aquifer.
- Indicator 6.3.2 is reported at the *national level*, but also at the sub national level based on *river basins or catchments*.


Table below shows designation of water quality in relation to the calculated percentage compliance with target values or water quality index values.

Quality designation	Index value	Description
Excellent	95-100	All measurements are within objectives virtually all of the time
Good	80-94	Conditions rarely depart from natural or desirable levels
Fair	65-79	Conditions sometimes depart from natural or desirable levels
Marginal	45-64	Conditions often depart from natural or desirable levels
Poor	0-44	Conditions usually depart from natural or desirable levels

#### 1<sup>st</sup> Step of Progressive Monitoring of Lake Victoria

Preliminary assessment of Lake Victoria based on the 19 stations (see figure below) on the Ugandan side and data collected during the LVEMP phase 11 gives a fair status for L. Victoria.

Determinant	Target	UL1	UL2	UL3	IMB	UL4	UL5	UL6	UP2	UP7	UP8
EC $\mu\text{S/cm}$	110	0	50	50	0	60	100	50	100	100	100
DO mg/l	6	100	75	75	100	100	100	100	63	67	50
TN mg/l	1	67	75	100	50	60	67	25	63	83	83
TP mg/l	0.2	100	100	100	100	100	100	100	100	100	100
TCB CFU/200ml											
Station average		68	75	81	63	80	92	69	82	88	83
Water body average		78									
Water body classification		FAIR Conditions sometimes depart from natural or desirable levels									



The poor water quality in the bays such as Inner Murchison bay (UL1 & UL2) is masked by the relatively good water quality in the open waters (UP7 & UP8) since the index uses an average value. However, it should be noted that domestic water uses draw from the bays and not the open water. As such heavy pollution in the bays negatively affects the domestic water uses.

**Challenges**

- There are no Target values for the different water bodies. Target values have to be set for the different water bodies based on water use and geology. This requires a comprehensive screening of major water bodies for required parameters and capture of seasonal changes before target values can be set and regular monitoring initiated.
- Inadequate funding for regular data collection.

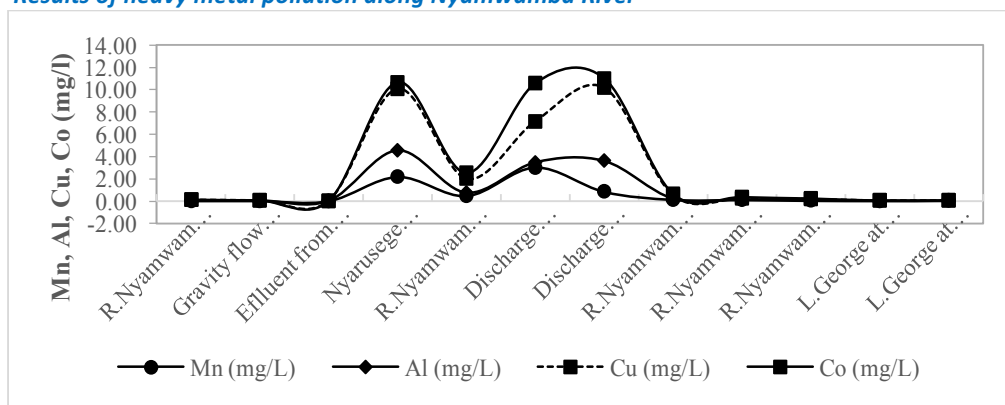
**9.5.6 Water Quality Assessments**

**Box 2: Assessment of Impact of Kilembe mines on the quality of River Nyamwamba**

Water quality samples were taken along River Nyamwamba to assess the impact of the copper mining activities and the massive piles of tailings at Kilembe mines. The results showed significant levels of heavy metal pollution of the rivers, soils and some crops in the area.

Erosion of the stock tailings has led to pollution of parts of the river reaches with trace metals as indicated in the graph below:

*Results of heavy metal pollution along Nyamwamba River*



**Key findings**

Two pollution hotspots were observed along Nyamwamba River. These are discharges from Nyarusenghe and Kilembe mines.

Trace metals adsorb to particulate matter and are easily deposited. This explains why the discharge of R.Nyamwamba into L.George has low level of the heavy metals. It implies accumulation of the toxic metals in the sediments of the river and possibly the biota in the river.

### 9.5.7 Stakeholder Collaboration in Water Quality Management

#### *Joint Drinking Water Quality Monitoring in Kampala Metropolitan area*

A joint monitoring program for monitoring water quality of drinking water supplied by National Water and Sewerage Cooperation (NWSC) in the greater Kampala was initiated in 2017 following a newspaper allegation of cancer-causing lead in tap water in Kampala. The joint monitoring is carried out once a month by a team from Department of Water Quality Management (DWQM), NWSC, Uganda National Bureau of Standards (UNBS) and Kampala Capital City Authority (KCCA). The main objective of the monitoring is to assess compliance to Uganda National Standards for Drinking (potable) water and ensure supply of safe drinking water in Kampala Metropolitan area. During this joint monitoring, 81 drinking water samples were collected and analysed from NWSC service areas in Kampala, Mukono and Wakiso districts.

#### **Key Findings**

- (i) Sanitary inspection of the water supplies showed low risk levels.
- (ii) The security around the water reservoirs was generally satisfactory.
- (iii) Meeting the increasing water demand for the greater Kampala area was still a challenge.
- (iv) Issues related to operation and maintenance in the distribution network such as leaks were observed and actions taken.
- (v) Laboratory results for bacteriological, physical, and chemical parameters were all within acceptable limits of the National drinking (potable) water standard.

#### **Recommendations**

Leakages and dry pipes both pose high risks of water contamination. There is need therefore, to respond timely to leakages to minimise potential risks of water contamination as well as reduce non-revenue water.

#### **Joint Pollution Monitoring in Kampala**

The department participated in the activities of the Kampala Pollution Task Force (KPTF). The task force comprises Kampala Capital City Authority (KCCA), Directorate of Water Resources Management (DWRM), National Environmental Management Authority (NEMA), National Water & Sewerage Corporation (NWSC), Uganda Manufacturers Association (UMA) and Uganda Cleaner Production Centre (UCPC). KPTF was formed with the main aim of monitoring industrial pollution through joint and coordinated actions among the key regulators in Kampala.

The team collected 11 water samples along Banda and Kinawataka streams up to its entry into Lake Victoria. Water quality analysis was carried out to determine the impact of the industries and human activities in the Kinawataka watershed on the quality of the streams.

#### **Key findings**

- i. Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) were considerably high in the two streams up to the point where Kinawataka stream enters the wetland at Butabika.
- ii. Traces of aluminium and cadmium were detected in Banda stream (midstream) and Kinawataka stream.

#### **Conclusions and Recommendations**

- (i) High BOD and COD in the stream is a clear indication that the streams receive high amounts of both organic matter and chemical waste from industries and other domestic waste through discharges and direct dumping.
- (ii) The Kinawataka wetland plays a significant role in purification of the waste before the wastewater enters Lake Victoria. This was evidenced by the significant decrease in the levels of both COD and BOD at Butabika before the stream pours into Lake Victoria.
- (iii) There is need to strengthen coordination among key stakeholders to monitor industrial effluents in Kampala City.

## 9.5.8 Emerging Threats to Water Quality

### Box 3: Emerging Pollutants (EPs)

Emerging pollutants are any synthetic or naturally-occurring chemical or any microorganism that is not commonly monitored or regulated in the environment with potentially known or suspected adverse ecological and human health effects.

These contaminants include mainly cyanotoxins and chemicals found in pharmaceuticals, personal care products, pesticides, industrial and household products, metals, surfactants, industrial additives and solvents.

Many of them are used and released continuously into the environment even in very low quantities and some may cause chronic toxicity, endocrine disruption in humans and aquatic wildlife and the development of bacterial pathogen resistance.

#### *Why Emerging Pollutants (EPs) are a big Concern*

- scientific knowledge and understanding on potential human and ecosystem health risks is still very scarce;
- knowledge on their fate in water and the environment is scarce;
- known to be persistent in the environment;
- are complex in form;
- cannot be regulated due to poor knowledge and lack of monitoring;
- are not monitored by institutions as advanced technologies are required for monitoring & testing;
- current conventional water and wastewater treatment processes are not effective in removing these pollutants;
- impacts are trans-generational since they can be passed onto un-born babies by their mothers and
- may cause chronic toxicity, endocrine disruption in humans and aquatic wildlife and the development of bacterial pathogen resistance.

Hence, there is an urgent need to enhance scientific knowledge and adopt appropriate technological and policy approaches to monitor emerging pollutants in water resources and wastewater, assess their potential human health and environmental risks, and prevent and control their disposal to water resources and the environment.

### **Artisanal mining**

Artisanal mining in Uganda is mainly subsistence in nature. Most artisanal miners are involved in crude extraction of precious metals and stones like gold and marble. Artisanal mining in the country is common in the districts of Karamoja, Busia, Namayingo, Buhweju and Mubende.

Artisanal mining poses a big threat to the environment due to the use of rudimentary technologies and methods and in many cases, lack of approved Environmental Impact Assessments (EIAs). The landscape and vegetation in the mining areas are destroyed leaving gullies, gaping trenches and bare lands. Soil erosion of the bare land into nearby streams and rivers causes siltation and pollution and adverse effects on the aquatic ecosystem including loss of biodiversity.

In the artisanal mining of gold, mercury is used to extract the gold metal from the soil or rock particles. This practice introduces mercury in the environment and subsequently into surface and ground water. Mercury kills fish and causes cancer in humans. The immediate effect is on the skin of those using it for mining without use of protective gear.

An assessment of impact of artisanal mines in Namulanda village, Kitumba sub-county, Kasanda district indicated high levels of the trace metals in the surrounding streams as a result of diffuse pollution from the mining area.

Proposed measures include sensitization of the communities about the potential health risks of the activity and advising the investors to carry out EIAs. This will ensure proper management of waste.



**Gold panning**



**Mining pits**

### 9.5.9 Challenges

- (i) Inadequate funding for operation of laboratories and water quality network monitoring.
- (ii) Low level of staffing.
- (iii) Dilapidated building and inadequate laboratory space at the NWQRL at Entebbe.
- (iv) Low capacity for water quality monitoring at Regional and District Local Government levels.
- (v) Lack of drinking water quality regulation for enforcement of drinking water quality standards.
- (vi) Emerging pollutants with grave health impacts and are not removed by conventional water and wastewater treatment plants.
- (vii) Increasing pollution loads into water resources from diverse sources.

### 9.5.10 Way forward

- (i) Financial support to the department for improved water quality management.
- (ii) Development of a regulation for drinking water quality.
- (iii) The policy directive to DLGs to phase out shallow wells and protected springs should be enforced.
- (iv) All water treatment schemes in small towns should have as a minimum form of treatment a chlorination unit to ensure supply of safe water.
- (v) Urgent need to fund research into the emerging pollutants and their implications on human health and ecosystems.

## 9.6 International and transboundary water resources management

### 9.6.1 Introduction

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*. The strategic areas of focus are through partnership and cooperative management initiatives through Lake Victoria Basin Commission, (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 2018/2019, the following were the key outputs under International and Transboundary Water Affairs:

- 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

The overall progress made in International and Transboundary Water Affairs is shown bellow;

### ***9.6.2 Trans-boundary agreements, laws, policies, standards***

#### ***Water Release and Abstraction Policy for Lake Victoria Basin***

The Policy 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. The MWE had coordinated national inter-ministerial meetings which led to Uganda appeal against the policy.

During the period under review, the Policy was further reviewed by a Consultant and information provided to government was used during policy discussion with other Partner States during the 38<sup>th</sup> EAC Council of Ministers meeting held in April 2019. EAC Council noted the low response from Partner States in providing comments to EAC on Uganda's appeal on the Policy and directed the Secretariat to follow up, make reviews with the Technical Task Force and report to the 40<sup>th</sup> EAC Council. The delay by Partner States is helping Uganda fine-tune establishment of Uganda's interest in Lake Victoria and the Nile through the on-going country study to inform national position on the Policy as detailed in Section 3.4 below. We also plan to present outcome of WREM study and findings on the Policy to LVBC as part of technical dialogue on the policy.

#### ***Cooperative Framework Agreement (CFA) for the Nile Basin countries***

NBI Partner states negotiated the Cooperative Framework Agreement (CFA), for the sustainable management and utilization of the shared Nile basin water resources, which has been signed by six (6) countries (Ethiopia, Rwanda, Tanzania, Kenya, Burundi and Uganda). Cabinet approved Uganda ratification of the CFA in June 2019 bringing the total number to five countries that have since ratified. There are efforts to obtain the sixth Member state to qualify for the formation of the River Nile Commission with Headquarters at DWRM Complex in Entebbe.

### ***9.6.3 Trans-boundary/cross border organizations coordinated, supported and are operational***

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)***

Nile Basin Initiative (NBI) was established in 1999 by 10 countries that share river Nile basin to harness the full potential of the common River Nile Basin water resources for sustainable Socio-economic development and has been instrumental in development of tools and projects for equitable utilization of the common Nile Basin water resources of the partner states. Uganda hosts the NBI Secretariat. During the FY 2018/19, the following achievements were realised;

- The Government fulfilled part of its obligations to supporting international organisations by paying USD175,804.49 towards NBI operations and maintaining of the institution's personnel, equipment and governance meetings.

- Supported, by funding participation of Ministers and technical staff to attend various Governance meetings as follows; 2 Nile Council of Ministers' meetings and 2 Nile Technical Committee meetings in Bujumbura-Burundi and Dar es Salaam-Tanzania respectively. During these meetings policy and technical guidance was provided to the Nile Basin Initiative and its two investment programs (Nile Equatorial Lakes Subsidiary Action Program (NELSAP) & Eastern Nile Subsidiary Action Program (ENSAP). In addition, the NELSAP 5-year Strategic Plan (2017-2022) meant to actualize the NBI 10 year Strategy (2017-2027), NELSAP resource mobilisation Strategy and NELSAP communication Strategy were reviewed and approved.
- The MWE in conjunction with the Nile Basin Initiative Secretariat coordinated and participated in the training of the 30 decision makers (7 women and 23 men) in Trans-boundary Water Cooperation, Hydro-diplomacy and International Water Law. Participants were drawn from the Sector and other line ministries and agencies of; Foreign Affairs, Internal Affairs, Defence and Veteran Affairs, East African Community Affairs, Finance, Planning and Economic Development, Works and Transport, Local Government and Energy and Mineral Development. This helped in the building of the national capacities for the coordination of the trans-boundary water resources activities.
- Supervised and coordinated the consultancy for the update and development of the Wetlands Management and Conservation Investment Plans of the trans-boundary wetlands of; Sio -Siteko (Kenya and Uganda), Sango Bay/ Minziro (Tanzania and Uganda) and Semliki Delta Wetland (DR Congo and Uganda). Inception report was reviewed and approved, as well as initial consultations of the key site stakeholders for the 3 wetlands for purposes of generating their views on the initial investment projects and on the way forward on the process.
- Supported participation of 10 officials in cooperative meetings and joint stakeholders' fora like the Regional Nile Day celebrations 2019, NBI 20<sup>th</sup> Anniversary as well the NBI-Donor Strategic Dialogue in Kigali-Rwanda. This helped in enhancing awareness of the NBI's achievements well as creating the opportunity to reflect on successes and challenges of the last 20 years of trans-boundary cooperation on the Nile waters and also consolidating members' commitment to the Basin cooperation agenda as laid out in the NBI's 10 Year Strategy.

To note is that there has been increased participation in NBI activities at highest Political and technical levels. However, financial performance in form of annual contribution to NBI has remained at 50% thereby accumulating a lot of arrears to the organization and affecting its progress considering especially that Uganda is the host of NBI Secretariat.

#### ***Lake Victoria Basin Commission (LVBC)***

EAC, through a protocol, established Lake Victoria Basin Commission (LVBC) to coordinate management and sustainable development of the Lake Victoria Basin. Government has supported LVBC governance meetings as follows; 1 meeting of Council of Ministers, and 1 Joint Policy Steering Committee Meeting and also availed technical staff to participate in various activities of LVBC. This culminated into the development of Advancing Water Futures and Solutions Initiative (WFAS) East Africa: Accelerating Transition Towards Resilient Water and Food Systems Research Project.

The MWE also continued to coordinate participation by various institutions and other stakeholders in LVBC activities. The Ministry also continued to coordinate participation by various institutions and other stakeholders in LVBC activities.



**Joint Permanent Commissions**

Joint Permanent Commissions are permanent and regular forums where two countries meet at the highest level. The JPCs is a legal framework to deepen expanding consultations and the existing cordial bilateral cooperation and exchanges between two countries and encourage intensive dialogue, exchanges and implementation of cooperative activities as well as strengthening institutional relationships pursuant to the JPC agreement. Further instruments, projects and programmes are concluded and/or established to efficiently effect cooperation between the parties.

The department coordinates activities related to the water and environment sector in several JPCs. In the period under review, the following activities were undertaken:

- a. Participated in cross border cooperation meetings between Uganda and Tanzania where modalities for carrying out a joint Environmental Impact Assessment for a bulk water transfer system from River Kagera; joint preparation of a Catchment Management Plan for the River Kagera along the Uganda-Tanzania border and provision of cattle watering corridors were agreed on.
- b. Participated in cross border cooperation meetings between Uganda and Democratic Republic of Congo for conflict resolution on the use of Lakes Albert and Edward.

**Global Water Partnership (GWP)**

During the period of review, the Ministry coordinated the Uganda Water Partnership (UWP) activities, specifically the preparation of a Concept Note to be funded under the Readiness Funding Window of Global Environmental Fund (GEF), Climate funding window of UNDP.

**African Ministerial Council for Water (AMCOW)**

The African Ministers' Council on Water (AMCOW) was formed in 2002 in Abuja Nigeria, primarily to promote cooperation, security, social and economic development and poverty eradication among member states through the effective management of the continent's water resources and provision of water supply services. The mission of AMCOW is to provide political leadership, policy direction and advocacy in the provision, use and management of water resources for sustainable social and economic development and maintenance of African ecosystems.

During this period, the department supported two (2) officers to participate in the Governing Council meeting for AMCOW in February 2019, in which the AMCOW 10-Year Strategy was adopted by AMCOW Summit (EXCO). Uganda was elected Vice Chair for Eastern region for the next 2 years.

**9.6.4 Trans-Boundary Projects and Investments****Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project**

The Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project is implemented nationally by Uganda and Democratic Republic of Congo on one hand through financing from the African Development Bank/Fund, and regionally by the Nile Basin Initiative (NBI)/Nile Equatorial Lakes Subsidiary Action Program (NELSAP) on the other hand through financing from the Global Environment Facility. The Project's objectives are poverty reduction and sustainable livelihoods of the basin community through (i) creation of institutional and legal framework (ii) promotion and enforcing sustainable fishing procedures and (iii) reversal of catchment degradation and promotion of sustainable use of fisheries and water resources.

The Project has 3 components of: (i) Fisheries Resources Development and Management, (ii) Integrated Water Resources Management, and (iii) Project Management and Coordination. During the Financial Year 2018 / 2019, the following were achieved under the respective project components.

**COMPONENT 1: Fisheries Resources Development and Management**

- 1) The harmonization of fisheries legislation and regulation was completed and a Bilateral Agreement between Uganda and DRC on the Fisheries Management and Development was signed during the 7th Uganda – DRC Joint Permanent Commission (October 20, 2018).
- 2) The Project planned to develop a Fisheries Management Information System for which data and information would be attained through Key Fisheries Assessments. During this reporting period:
  - a) Key Fisheries Assessments commenced for lakes Edward, Albert and George with the Frame Surveys completed, Catch Assessment Surveys ongoing, identification of fish breeding areas ongoing, and the assessment of the cage aquaculture potential ongoing.

- b) Two (2) patrol boats to aid in the surveillance operations in both lakes Edward and Albert were procured where 21 marines/coxswains were trained in the operation & maintenance of the patrol boats.



Patrol boat for Lake Edward during training of marines/coxswains

- c) The project facilitated 3 surveillance operations where a total of 68 illegal boats were destroyed; 191 illegal gears were destroyed; and 42 suspects prosecuted from the Districts of Kasese, Rubirizi and Kamwenge.

- d) Procurement of one (1) research vessel for Lake Albert was completed and the award of contract made. The construction/building of the vessel is to commence in September 2019.

- 3) The Project plans to improve bilateral monitoring, control and surveillance within the Lakes Edward, Albert and George. During this reporting period:
  - a) Commenced the works for the construction of 5 landing sites and its ancillary facilities in the Districts of Kagadi, Hoima, Pakwach, Rukungiri and Kamwenge.

<p><i>(i) Kitebere in Kagadi at 65% progress (comprising of a fish processing/handling facilities, a new feeder road of 11.5km, sanitation facilities and a water supply system)</i></p>		
<p><i>(ii) Mbegu in Hoima at 69% progress (comprising of a fish processing/handling facilities, a new feeder road of 6.2km, sanitation facilities and a water supply system)</i></p>		

<p>(iii) Dei in Pakwach at 73% progress (comprising of a fish processing/ handling facilities, a new feeder road of 2km, sanitation facilities and a water supply system)</p>		
<p>(iv) Rwenshama in Rukungiri at 75% progress (comprising of a fish processing/ handling facilities, sanitation facilities, a staff house and a water supply system)</p>		
<p>(v) Mahyoro in Kamwenge at 85% progress (comprising of a fish processing/ handling facilities, sanitation facilities and a new feeder road of 1km)</p>		

b) Capacity building, training and re-enforcement of fishermen and women organizations in modern processing techniques was conducted with a total of 197 groups of 3062 participants (42% being women).



c) The 2<sup>nd</sup> Lot of the 9-month training in monitoring, control and surveillance at Law Development Center, Uganda was completed for District officers from Buliisa, Kikuube, Kamwenge, Kasese and Rubirizi.

**Improved packaging following the training in modern fish processing techniques**

- 4) In order to enhance local communities' capacities to adopt responsible alternative sources of income that reduces the strain on the lakes, the project conducted 3 trainings of identified groups in alternative livelihoods with 1451 participants (78% being women). The project procured and delivered starter kits to communities in Ntoroko and Kamwenge as an incubator for alternative sources of income e.g. making of liquid soap, bar soap, disinfectant, hair shampoo, school chalk, cake baking.



**Assessment of the Livelihood improvement initiatives by the Project's Mid Term Review Consultant**

**COMPONENT 2: Integrated Water Resources Management**

- 1) The project completed the development of the Lakes Edward and Albert Integrated Basin Management Plan inclusive of the Institutional and Financing Arrangements.
- 2) Enhanced water quality and quantity monitoring as a key objective of the project to promote good health and provide adequate information on the physical, chemical, and biological characteristics of water and also water resources development. In order to strengthen basin water resource monitoring and assessment, the project:

- a) Completed the construction of an office block and regional water quality laboratory in Fort Portal.
- b) Procured and delivered a mobile water quality laboratory to Fort Portal.
- c) Commenced the construction of 2 hydrological stations (station on river Nsongya in Bundibugyo completed while station on river Waiga in Masindi was at 80% progress).





**Mobile water quality laboratory to supplement the water quality analysis in the Albertine region**



**Permanent Secretary, Ministry of Water and Environment technically commissioning the office block and regional water quality laboratory**

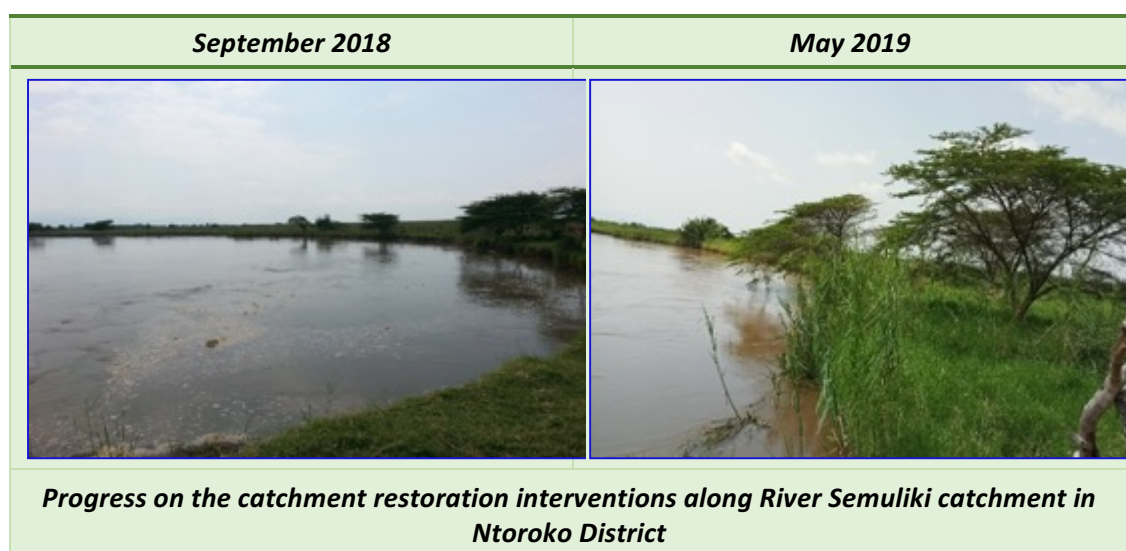
- 3) As a means of ensuring appropriate access to water and sanitation within the lake's basin, the project:
- a) Commenced the works for the construction of 15 community sanitation facilities; progress reached 95%. *The sanitation facilities are being constructed in the Districts of Bulisa (1 site), Bundibugyo (1 site), Bushenyi (1 site), Kabarole (1 site), Kagadi (2 sites), Kamwenge (1 site), Kasese (1 site), Kibaale (1 site), Masindi (1 site), Mitooma (1 site), Ntoroko (3 sites), Rubirizi (1 site).* The completed facilities have been handed over to the communities whilst the sanitation committees/management structures for the facilities have been formed and trained.
  - b) Completed the drilling of 20 community boreholes in various Districts within the Lakes Edward and Albert Basin. All facilities have been handed over to the communities whilst the management structures for the boreholes have been updated and trained. *Drilled and recommended sites for motorized pumps: Kanungu (18m<sup>3</sup>/hr), Mitooma (8m<sup>3</sup>/hr), Masindi (1 site - 8.5 m<sup>3</sup>/hr), Kagadi (1 site - 4m<sup>3</sup>/hr), Packwach (24m<sup>3</sup>/hr), Bulisa (1 site - 10m<sup>3</sup>/hr), Hoima (1 site - 11m<sup>3</sup>/hr), Ntoroko (24m<sup>3</sup>/hr), Bundibugyo (17.5m<sup>3</sup>/hr), Kasese (30m<sup>3</sup>/hr). Drilled with hand pumps installed: Bunyangabo, Bushenyi, Hoima (1 site), Kabarole, Kagadi (1 site), Kibaale, Kamwenge, Masindi (1 site), Rubirizi, Rukungiri.*



**Commissioning of the boreholes drilled under the LEAF II Project by the various Districts' Political and Technical leadership**

- 4) One of the key project outputs is ensuring that community-based integrated catchment management plans are prepared and implemented for selected watersheds. Under this output, the project:
- c) Commenced the preparation of catchment management plans for rivers Nyamwamba, Mitano, Nkusi, Muzizi and the transboundary Semliki. Catchment management committees for Nkusi and Muzizi were established.
  - d) Capacity building and training in gender inclusive integrated water resources management and effective catchment management was conducted with a total of 3301 participants (38% being women).
  - e) Commenced the implementation of catchment restoration interventions (*River Sebwe catchment in Kasese, River Tokwe and Humya catchment in Bundibugyo, River Semuliki catchment in Ntoroko*) where 125,897 trees were planted, 13.5km of bamboo planted along Riverbanks and 6.7km of Riverbanks fenced.





### ***Nyimur Multi-Purpose Water Resources Development and Management Project***

The project implemented in Uganda and South Sudan on River Aswa has an objective to irrigate approximately 5,000 ha (4000ha in Uganda and 1000ha 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 2018-19, the Geo-technical investigations, Detailed Designs and Tender documents were completed and final reports presented and reviewed by key stakeholders in June 2019 in Kampala Uganda.

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

The Sio-Malaba-Malakisi (SMM) River Basin Management 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 2018/19, the project on behalf of both governments secured a grant to a tune of USD 1.5 Million from the NEPAD Infrastructure Project Preparation Facility Special Fund (NEPAD-IPPF Special Fund) managed by the African Development Bank, to finance the feasibility studies, detailed designs and preparation of tender documents in addition to the Environmental and Social Impact Assessment (ESIA) and Resettlement and Compensation Action Plan (RCAP) for the Angololo Water Resources Development Project. In addition, the government of Uganda committed to co-fund the project studies up to the tune of USD 75,000.

### ***Support to Hydropower Project on River Nile in Uganda***

The project aims at optimum use of Lake Victoria for hydropower production at Owen Falls dam, as well as at downstream plants, while conferring benefits to other riparians. Through the project infrastructure to optimize and allocate water to Uganda's hydropower dam operators on the Nile River and also provide information to guide national negotiations with riparian states on the Nile and Lake Victoria with an adaptive/flexible design of the "Agreed Curve" will be developed. WREM International is under contract undertaking the development of a Nile Water Allocation Tool.

During the period under review, more information from the study was generated and used in the discussions during the 38th EAC Council that considered the Water Release and Abstraction Policy. The department supervised and supported the Consultants in the development of a Water Permit tool for Nile HEP (Tool B). This included mobilization of bathymetric and key infrastructure information and also initial training of 10 key personnel (3 women and 7 men) on details of the tool development. The entire bathymetric Survey Victoria Panyango is 100% complete. Draft report of Tool B and operation manual received and presented to technical team. The Physical performance is at 55% against a target of 70% while financial performance is at 36.4% against a target of 55%.

***Kagera Basin***

Supporting joint development of the following Projects; i) 14 MW Kikagati –Malongo HEP between Uganda and Tanzania implemented through Ministry of Energy with a Dam on either side of the Border. ii) The planned Nshungezi/Nsongezi 39MW Power Project: While this project is located on a river at the border between Uganda and Tanzania, we advised government to allow Rwanda to be part of the tripartite to develop the project. This is intended to guarantee sustainability considering that that water contributions to the project are as follows; Burundi 23%, Rwanda 36%, Tanzania 34% and Uganda 7%.

***New Projects supported***

Through Lake Victoria Basin Commission (LVBC), the following projects have been funded for implementation starting in FY 2018/2019

***Adaptation to Climate Change for Lake Victoria Basin***

The project is supported by Adaptation Fund through UN Environment and LVBC at USD 5 Million grant for all EAC Partner States. Uganda received USD 520,000 as part of the grant and the Ministry is coordinating implementation of national adaption interventions in identified climate change hotspots in the districts of Mubende and Masaka.



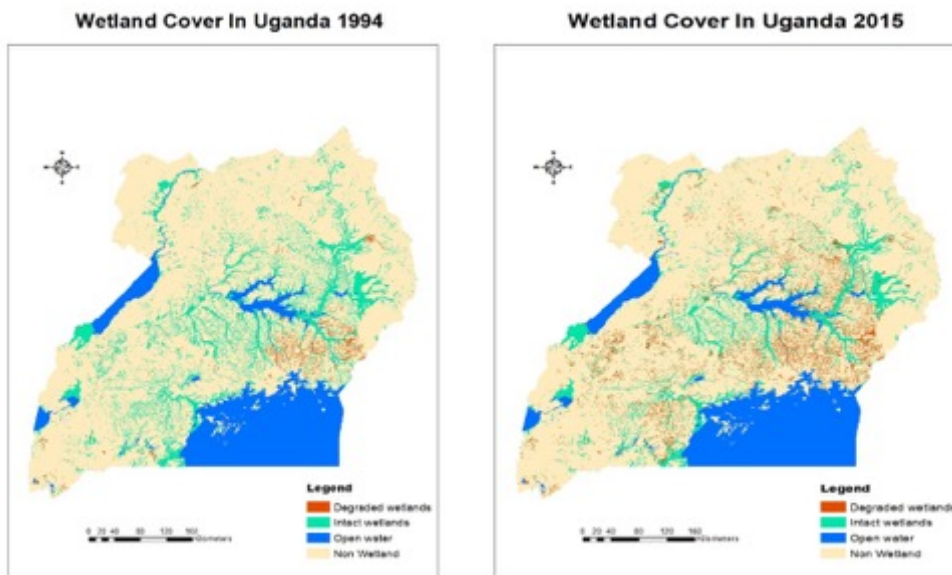
## 10. ENVIRONMENT AND NATURAL RESOURCES

### 10.1 Wetland Management

The annual Wetlands Sector Performance Report is an institutional requirement that gives the highlight on the progress, challenges, lessons learnt and proposes ways of moving the Sector towards the realisation of National Development Plan Phase Two (NDP11) and Vision 2040. The report focuses on the progress registered in the implementation of the annual work plan and the sector performance against the targets set for the FY 2018/19. It also considers the aspects of effectiveness, efficiency and responsiveness towards service delivery as well as sector integration/mainstreaming with other and partners.

#### **Status of wetland Resources in the Country**

Wetlands are vital for human survival and among the Uganda's most productive ecosystems. In 1994, wetland coverage on the surface area of Uganda was 15.6%. However, over time this had been gradually reducing and by 2008 it had reduced to 10.9%; and currently the coverage is at 8.9% (NFA mapping 2015). The changes are attributed largely to high population growth-expansion of land for agriculture, Industrial and urban expansion targeting wetlands.



**Figure 34: maps showing Wetland Status in 1994 and 2015**

To address the emerging threats on wetlands, the Wetlands Management Department has undertaken several interventions that have been implemented with support from government and other development partners. The overall objective of implementing these interventions as specified in the Wetland Sector Strategic Plan (WSSP-SP 2011-2020) is to ensure the sustainable management of wetland resources and optimize the socio-economic and ecological benefits to local, national and international communities

### 10.2 Achievements for FY 2018/19

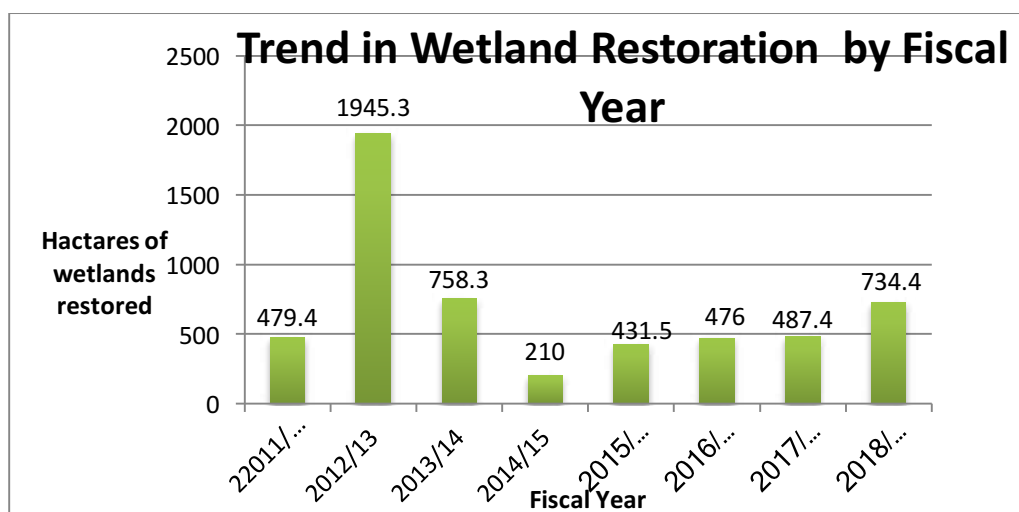
#### **Restoration of Degraded areas**

A total of 270 hectares of wetlands were restored by the Wetlands Management Department in the FY 2018/19 as indicated in the table 54 below.

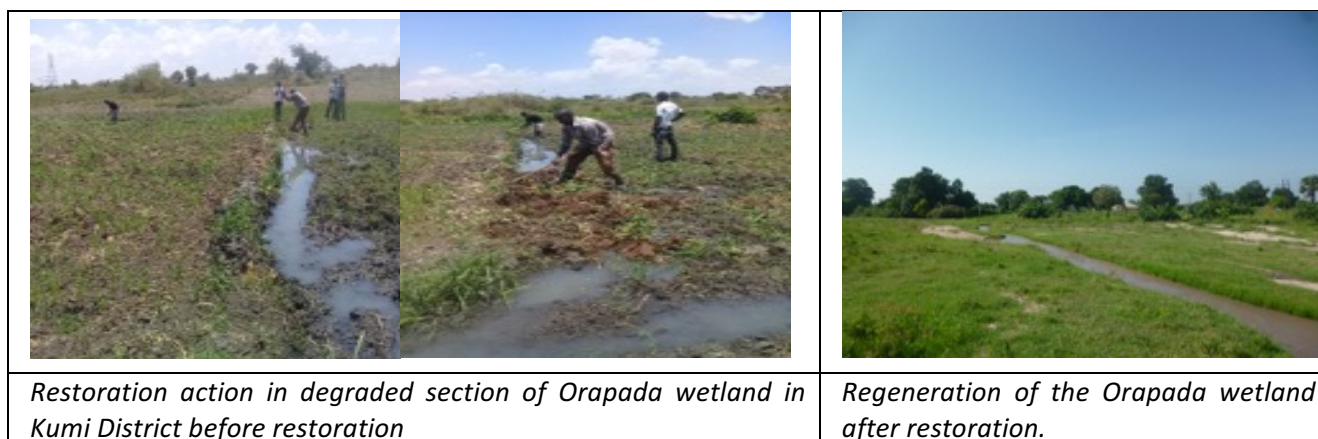
**Table 54: Table showing area of restored wetlands**

District	Name of wetland	Number of hectares
Amuria	Atirir	20
Kibiku	Mpologoma	40
Ngora	Agu-Kyere	37
Kumi	Orapada	41
Pallisa	Adoka	10
Lira	Pece and Okole	40
Kamwenge	Mpanga	32
Ibanda	Rusango	26
Rubirizi	Omukagyegye	10
Mbarara	Rwizi	7
Kibale	Muzizi	7
Total		270

In addition, National Environment Management Authority (NEMA) also restored degraded wetland in critical shoreline wetlands of Lakes Victoria, Kyoga; Kachera and Nakivale.



**Figure 35: Trend in wetland restoration by FY**



*Restoration action in degraded section of Orapada wetland in Kumi District before restoration*

*Regeneration of the Orapada wetland after restoration.*

The trend shows steady progress in wetland recovery; an achievement largely attributed to supportive political environment, presidential directives on wetlands, good collaboration and networking relationships with other agencies.

#### Demarcation of critical wetland boundaries

A total distance of 148 km representing over 50% of the planned target of 330 km in 2018/19.

Table 55: Area of wetland restored during the FY 2018/19

District	Name of wetland	Kilometres demarcated
Namutumba	Nawaiibete	12
Amuru	Owei	17
Amolatar	Lake shores of Kyoga	4
Oyam	Torchi	2
Pakwach	Oraa riverbank	2
Ngora	Kokong and Agero	49
Buyende town council	Nabigaga	47
Kakumiro	Nkuyazu	6
Rubirizi	Omukagyegye	7
Kagadi	Ruzaire	2
Total		148

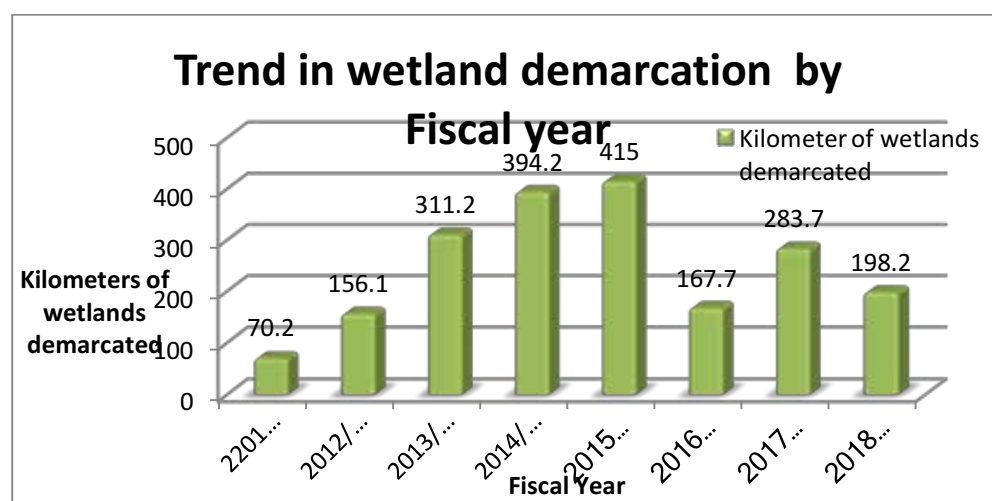


Figure 36: Trends in the demarcation of wetlands

The achievement of 60% registered appears lower the previous year. This was caused by a shift in the investment priority towards restoration of previously demarcated wetlands. This is however expected to increase in due course.



### ***Wetlands coding to support Gazettement***

This is a categorisation system that aids the rapid identification of the main wetland ecosystem and its associated tributaries in every site. Each wetland is given a unique identifier usually numerical value that defines the system followed by names to aid mapping and guiding decision making in gazettement. A total of seven (7) drainage basins have already been coded and the remaining one is planned for coding in the Fiscal Year 2019/20. However, the statutory instruments are yet to be prepared and would be among planned outputs for the year 2019-2020. The completion of this exercise is expected not only to raise the conservation and protection status of wetlands but also improve the levels of compliance to environmental laws.

### ***Policy, Planning, Legal and Institutional Framework***

In order to further strengthen the effectiveness and institutional networks, Wetlands management department has been able to undertake the following:

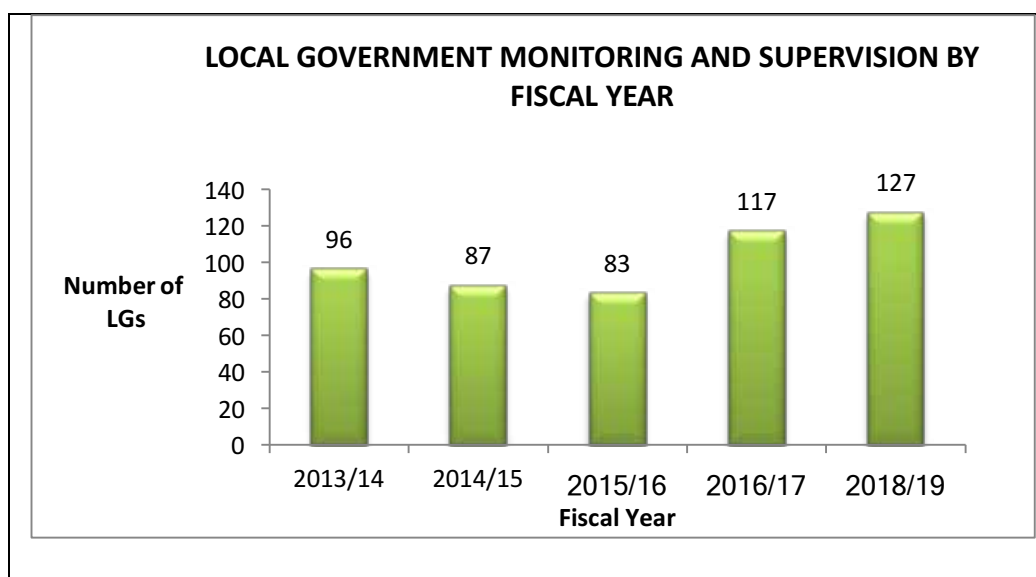
- (i) Operationalization of the four Regional coordination centres in Mbale, Lira, Mbarara and Wakiso as a way of improving service delivery through closer coordination and collaboration with District Local Governments and other non-state actors.
- (ii) Reviewing of the National Wetlands Resources Management Policy and formulating the National Wetlands Management Bill to stream line the management of wetlands in Uganda and reduce on wetland degradation; and
- (iii) Developed and disseminated to LGs and CSOs guideline for the restoration of wetlands which is being used to effectively restore degraded section of wetland.

### ***Wetlands Management Planning***

In order to ensure that the wise use concept is integrated in wetland access and use, the department has been able to develop wetland management plans. For FY 2018/19 two management plans were developed including Lubigi located in Kampala and Wakiso and Kibimba wetlands in Gomba District.

### ***Coordination, supervision and technical support to local governments***

The Wetlands Management Department has been able to coordinate, supervise and backstop district Local Governments to ensure compliance with existing environmental regulations and standards. In the FY 2018/19, the department provided technical supervision and monitoring to 127 District Local Governments representing 100% achievements. This has not only helped improved performance in utilisation of Environment and Natural Resources Conditional Grants but also enhancement in service delivery. This is largely due to the operationalization of the decongested Regional structures in the North, East, Western and Central Uganda.



**Figure 37: Trend in Technical Support Supervision to Local Governments**

#### **Implementation of the Green Climate Fund Wetland Restoration Project**

Strategy 4 under objective 1 of the WSSP, 2011-2020 aims at restoring degraded wetland areas for enhanced provision of ecosystem services. As part of implementation of this strategy the Government of Uganda in partnership with the United Nations Development Programme (UNDP) requested for financial support from the Green Climate fund (GCF) to implement a project titled “Building Resilient Communities, Wetland Ecosystems and Associated Catchments in Uganda”. The Project is jointly financed by a grant of \$ **24.1M** from the Green Climate Fund and co-financing of \$ **18.1M** from the Government of Uganda through the Ministry of Water and Environment and \$ **2M** from the United Nations.

The Project duration is 8 years running from 2017 to 2025. The main goal of the project is to restore, sustainably manage wetlands, and support target communities in selected wetland areas of Uganda to reduce the risks of climate change on agricultural based livelihoods. Specifically, the project is expected

- i. To restore critical wetlands to improve ecosystem services such as ground water recharge, flood control, fishing and agriculture for enhanced livelihoods to the most vulnerable subsistence farming communities.
- ii. To diversify livelihoods and agriculture to make it more resilient to climate shocks, by enhancing the skills of beneficiaries for adaptation.
- iii. To empower communities in sensitive wetland areas in risk reduction and preparedness to climate-related disasters. This will be done through participatory and decentralized early warning systems and capacity development for implementing disaster risk reduction measures.

The project is being implemented in the districts of Bushenyi, Kabale, Kisoro, Ntungamo, Mitooma, Rukungiri, Buhwezu, Rubirizi, Namutumba, Kaliro, Paliisa, Kibuku, Budaka, Butaleja, Tororo, Mbale, Ngora and Bukedea located in South-Western and Eastern Uganda respectively.

The project is expected to deliver the following outputs over the entire project period:

- Restore 64,370 hectares of degraded wetlands in Eastern and South Western Uganda to enhance the ability of wetlands to store and supply sufficient amounts of water that can be used for increased production through irrigation, livestock and horticultural production. This will increase the wetland cover by 2.5% in during the project period
- Restore 11,630 hectares of catchment areas adjacent to wetlands through tree planting to reduce loss of top soil, siltation of water bodies, and improve water infiltration.

- Support 114,000 households of wetland dependent communities to increase their income from agriculture through provision of income generating activities including; fish farming, apiary, ecotourism and provision of small scale irrigation to support horticulture.
- Enable 85% of households within the project area to have access to climate and early warning information on floods, drought and severe weather conditions.
- Install 41 meteorological and hydrological systems to provide climate and early warning information through weather advisories to farmers and other target communities to improve planning.

#### ***Expected outcomes***

- a. Increased wetland coverage with ability to store and provide water for production including irrigation, animal watering, domestic use and hydropower generation
- b. Increased and sustainable production in the catchments
- c. Increased incomes from diversified agricultural enterprises and value addition
- d. Resilient communities and ecosystems capable of withstanding climate variability and related stocks such as floods and drought.

#### ***Target beneficiaries and geographical focus***

The Project is expected to improve the lives of some of the most vulnerable people in Uganda who are dependent on subsistence agriculture and wetlands for their livelihoods. At least 114,000 households in and around the wetlands will directly benefit from this investment.

Primary beneficiaries: At least 800,000 people in and around wetlands will directly benefit from the planned livelihoods including women (adult), youth (young females and males) and Persons with Disabilities (PWDs).

#### ***Stakeholder engagement, buy-in and ownership***

The project has to date registered an improved awareness of its aim and rationale regarding wetlands and climate. This was achieved through conducting inception/awareness meetings at both regional and national level (238 people at regional meetings and 35 people at the national meeting). Community awareness meetings were held at district and sub-county level which attracted thirty (30) high level district officials made up of Chief administrative officers, RDCs, and LC Vs for ownership purposes. In addition, regional radio broadcasts took place with the regional project coordinators. Awareness about future for the rehabilitation of the degraded catchment areas has greatly increased among the target communities and across the country reaching 87% of the target districts, the communities at the catchment area of Limoto wetland are now using integrated land management by mulching.

#### ***Restoration of selected wetlands in eastern and south western Uganda***

- i. 40 hectares of limoto wetland has been restored and evidence of immediate improvements in both water quality and quantity throughout the year are immediately observable. Wetlands species have already begun the process of recolonizing the once degraded area. The water detention facility (valley tank) in Limoto has been able to harness some of the additional water which has become available. In turn, this water has been used for irrigating vegetables and watering animals as alternative sources of livelihoods.

#### ***Support to people who voluntarily left wetlands with alternative livelihoods***

This project made a commitment to ensure that people who voluntarily leave wetlands are supported with alternative livelihoods of which at least 52% of project beneficiaries are women. To date, this commitment has been fulfilled in Eastern and South Eastern Uganda. The livelihoods that have so far been distributed include; Turkeys, In-calf heifers, Pigs, fingerlings, beehives and horticulture seeds.

- ii. Out of this effort, 510 households, 250 represented by women and 260 by men, who previously were farming in the wetlands, have directly benefited from trainings, formed groups and benefitted from a range of customized livelihood packages. These include: 70 in-calf Heifers and 1,600 Turkeys. In Limoto, 4 hectares of community land outside the wetland was provided with year-round irrigation and five fish ponds were

filled and stocked with 75,000 fingerlings for use by the livelihood groups. These livelihood activities will double the annual income of beneficiaries.

- iii. The project has so far constructed five community fish ponds at the edge of Limoto wetland, one fish pond for women, one for youth, one for men, one for elderly and the fifth one to the household that originally owned the piece of land where the fish ponds have been constructed. In total 100 Households benefitted from this intervention targeting 50 % women and men house heads. Beneficiaries have begun to report improved food security and household income from utilization of a complete solar powered irrigation system on 4 Ha of land. The irrigated area already is propelling the communities to engage in resilient agriculture / horticultural best practices with high value crops (tomatoes, cabbage, green paper, water melon etc) throughout the year.



***Livelihood alternatives that were given to Communities who voluntarily left Limoto wetland in Pallisa district***

**Challenges and emerging issues**

Compensation of affected communities and in particular those who acquired land titles in wetlands before 1995 remain a critical challenge. The original concept as guided by HE the President was to compensate people using wetlands so that they vacate the wetlands and engage in other income generating activities. However, the current funding from GCF only provides for alternative livelihoods and not compensation because the funding regulations are restrictive on compensation issues.

**10.3 Forestry Management**

Forestry as a sector is managed by three institutions namely: (i) the Forestry Sector Support Department (FSSD) of Ministry of Water and Environment responsible for oversight of the forestry sector as well as policy formulation and regulation. (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 responsible for forests on private land and local forest reserves.

Also, the private sector, academia, research institutions and the civil society organisations (CSOs) such as Uganda Timber Growers Association (UTGA), Nyabyeya Forestry College among others play an important role in supporting the forestry sector to meeting its commitments and obligations at national and international levels.

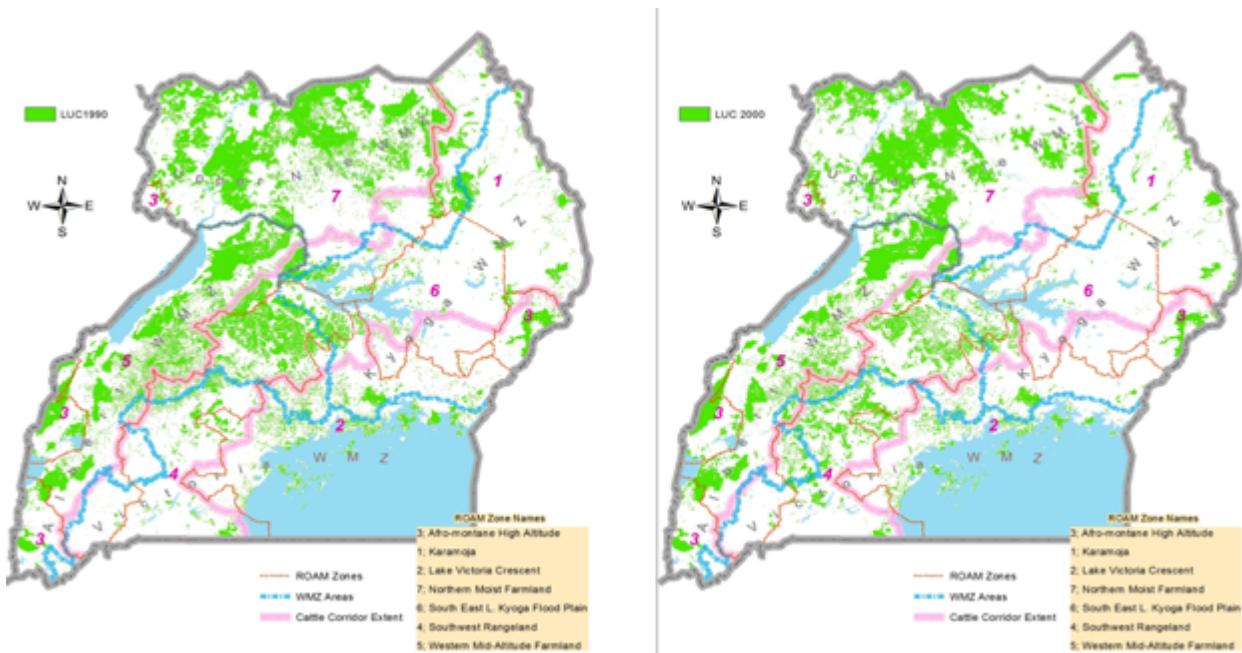
### 10.3.1 Status and trends of Key Indicators

#### % of Uganda’s land surface area covered by forests

Over the years, Uganda’s tree cover has immensely declined i.e. from 24% in 1990 to 12.4% in 2015 (NFA, Feb 2018). As detailed in Uganda’s First Proposed Forest Reference Emissions Level Report to UNFCCC in February, 2018 (NFA, 2018), Uganda has experienced dramatic forest loss in the past 15 years (see Figure 38 below). From 3.2 million ha or 15.4% of land area in 2000, the total forest area of Uganda has reduced to 2.5 million ha or 12.4% of land area in 2015. Also it has been observed that the dynamics are very different between the management types of forests – namely private land, NFA and UWA.

Stratifying into private versus protected is more realistic to Uganda’s circumstances because the pressure on forest resources in protected areas might increase as forest resources on private land keep disappearing, but protection is expected to be effective enough to not allow for a complete depletion of protected forest resources. At the same time, at current rates of forest loss in private lands, forests may be depleted in the coming years if policies are not undertaken to change the current trajectory.

Stratifying between private and protected areas in general (with high forest loss on private land and low forest loss in protected areas) helps to continuously monitor the different dynamics in such lands. Further stratifying the protected areas by management type, namely protected areas under UWA and CFRs and LFRs, summarised as under NFA, captures the dynamics even better as forest reserves show higher rates of forest loss than areas managed by UWA.





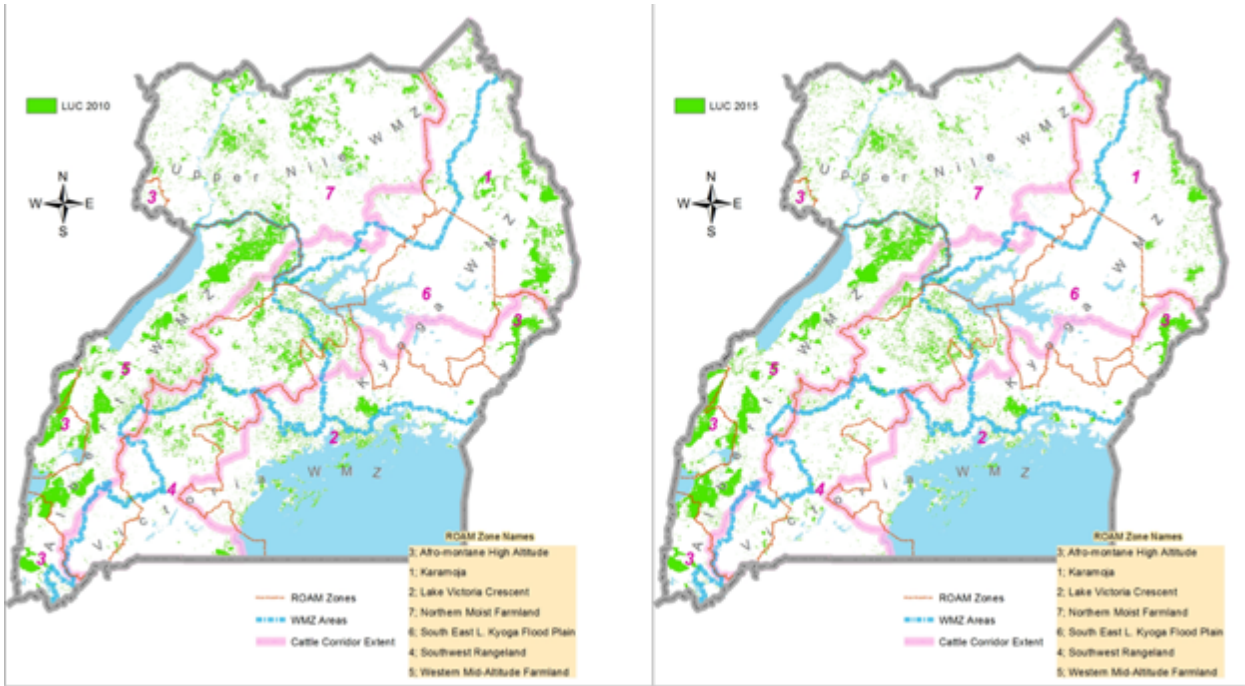


Figure 38: Trend in forest coverage

Uganda has an average annual loss of natural forest of 2% per annum, one the highest in the world. Even when establishment of forest plantation is considered the overall net still remains high 1.4% per annum. Forest plantations establishment has increased by 51480ha over the last 5 years, at a rate of 2.96%.

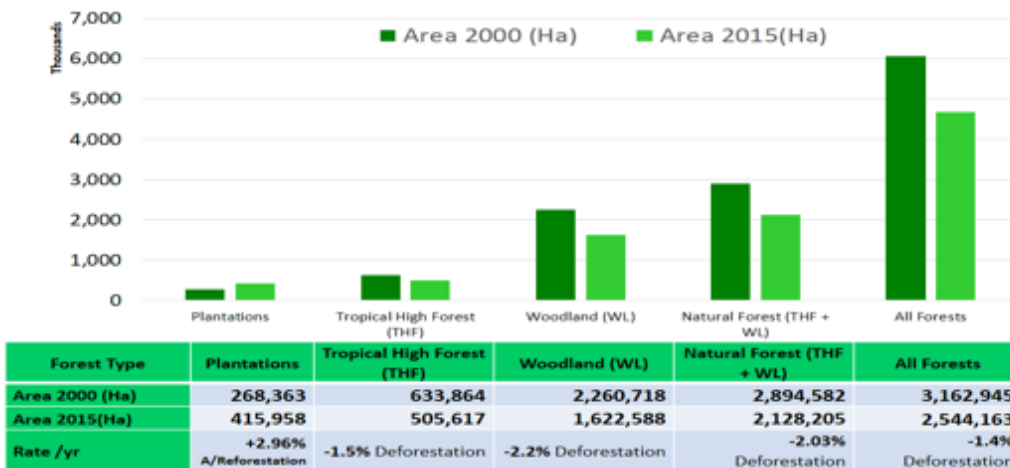


Figure 39: Forest change between 2000 and 2015, Reference FREL 2018 (NFA 2018)

Forest cover has generally been declining over the years at varying rates. Between 2000 and 2005 the rate of deforestation seems to have slowed down only to escalate between 2005 and 2010. From 2010 to 2015, the rate of deforestation slowed down but this was mainly because most of the forest on private land; where

deforestation was rampant; had been finished. Preliminary findings of the 2017 mapping shows that the rate of deforestation could have declined.

#### ***% forest area under management plans***

From the previous year, 2 more Forest Management plans were developed to make 174 FMPs. This tantamount to an increase of 0.4% from the previous year. Currently, merely 34.4% of our estates have Management plans.

#### ***proportion of population with primary reliance on clean fuels and technology***

In Uganda 78% of the population uses 3 way open fire while about 10% uses improved charcoal and wood. Use of metallic charcoal stoves is estimated at 80% in urban areas. Improved charcoal stoves, improved wood stoves and institutional stoves reduce fuel consumption by an average of 38%, 58% and 45% respectively.

In the last decade, effort has been made to promote adoption and continued usage of then ICS with the government target to reach 6.5 million households using efficient charcoal and wood stoves by 2017.

In the last FY 2018/19, while there could be some initiatives, no reports are available.

### **OTHER ACHIEVEMENTS UNDER PROGRAMME 15, NFA AND DISTRICT FORESTRY SERVICES**

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.

#### ***Programme 15-Forestry Sector Support Department***

Key achievements under programme 15 included the following:

- i. Support to facilitate trade in value added timber products to external markets largely to East Africa. Up to 2000 Cubic metres of timbers has been traded with 89% of these Pine timbers.
- ii. Provision of technical support to a wide range of clients that visit the department. Up to 245 clients have been mentored and provided with support in a range of issues including guidance on trade internally and import and export trade, forestry establishment and management.
- iii. Initiated engagement with the Education sector to green schools through massive tree planting. An MoU with the Education Ministry is currently under drafting.
- iv. Initiated Memorandum of Understanding with a network of renewable energy service and product developers, the Uganda national Alliance for Clean Cooking.
- v. Conducted a comprehensive assessment of the status of forests listed for degazettement while responding to a request by Parliament to degazette 16<sup>12</sup> Urban Forest Reserves. Following this, a Cabinet Memorandum was prepared to guide and provide a technical input into the request.
- vi. Guided cabinet on the issue of Eucalyptus and whether drying of wetlands was resulting from planting of eucalypts in the wetlands. A cabinet memorandum was prepared to guide.
- vii. Coordinated the forestry activities during the UWEWK in August 2018-International Youth Day and in March 2019-International Day of Forests. During commemoration of the International Youth Day, we planted 2Ha of Prunus Africana at Ggoli catholic Parish, Kamengo subcounty in Mpigi district.

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- viii. Participated in the preparation of standards for timber in collaboration with the Uganda National Bureau of Standards to guide on required quality of timber for use in the country. A draft standard is in place for review.
- ix. Coordinated the preparation of a National Bamboo Strategy to inform the promotion of Bamboo growing in Uganda.
- x. Regulation of forest products through issuance and inspection of 23 timber harvesting licenses in the districts of Hoima, Kibaale, Kyenjojo, Rukungiri and Kyegegwa.
- xi. The Department participated in a National Charcoal Dialogue convened by the Office of the Prime Minister, and this dialogue provided the much needed input into the Charcoal Guidelines.

### **Management of Central Forest Reserves by NFA**

The major achievements by NFA in managing the CFRs are as below:

- i. Forest plantations were maintained through thinning 1,686ha, pruning 1,143ha and protection from fire through making fire breaks totaling to 555km as well as maintaining 40kms of forest roads.
- ii. 1,452.6 hectares of new plantations were established in Mafuga, Mbarara, South Busoga, Lendu, Opit, Abera, Mwenge, Onekokeo and Lagute while 25,055.7ha were established by private investors in Central Forest Reserves (CFRs).
- iii. NFA made significant efforts towards forest restoration and maintenance of the legal and physical integrity by reopening 481.3km of forest boundary and marking it with 1,304 concrete pillars.
- iv. NFA secured 13,709ha of encroached CFRs land and restored 2,125.8ha through enrichment planting of degraded areas.
- v. In a bid to increase forest cover 32,416,752 assorted seedlings were raised and distributed to public.
- vi. Conducted an assessment of EACOP corridor from Kabaale - Hoima (Uganda) Oil pipe line to Tanzania border to Mutukula in Rakai District. Two (02) Forest Management Plans were finalized for Agoru-agu and Kalagala- Itanda Falls CFRs.
- vii. Sustainable forestry management information and opportunities for investment in CFRs were availed to different stakeholders across the country through allocating land for tree growing, Ecotourism development and Bee keeping in CFRs. The public was sensitised and engaged in workshops about the mandate (01), meetings, radio and television shows about the dangers of deforestation.
- viii. NFA doubled its efforts towards stakeholder engagements, these included District Local Governments, Private Sector, Civil Society, International and non-Government Organizations, forest edge communities (CFM) among others (05) to foster responsible forest management through civic education, advocacy, networking, learning and skills transfer in addition to strengthening forest governance, transparency and accountability. In the same vain five (5) collaborative Forest Management were signed in Taala, Luvunya and Lwara CFRs.
- ix. Nineteen (19) research licenses for study in plantations and natural forests were issued out to National and International students, three hundred seventy six (376) tree licenses for private tree farmers were processed and given out, thirty seven (37) harvesting licenses were given out to companies and individuals in CFRs.

### **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, 57 local governments<sup>13</sup> out of 127 local governments have reported on different forestry management aspects.

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<sup>13</sup> Arua, Bududa, Bugiri, Adjumani, Bukedea, Bulambuli, Bundibugyo, Dokolo, Gomba, Ibanda, Jinja, Kabarole, Kakumiro, Kapelebyong, Kasanda, Kibaale, Kiryandongo, Kwania, Kween, Kyegegwa, Luuka, Maracha, Mayuge, Luwero, Mbale, Mityana, Moyo, Mukono, Namayingo, Nebbi, Otuke, Oyam, Rakai, Rubirizi, Rukungiri, Sembabule, Tororo, Kagadi, Manafwa, Kyenjojo, Kaberamaido, Yumbe, Serere, Sironko, Soroti, Bukwo, Buikwe, Kapelabwong, Dokolo.

These contributions have been supported by local revenue, different programmes and projects undertaken or funded by government programmes, development agencies, Non-Governmental Organisations, civil society and the private sector<sup>14</sup>.

- i. 9,693,045 tree seedlings<sup>15</sup> were planted with an average survival rate of 66% on a total area of 9684.43 hectares (ha).
- ii. 1,524.9 ha of local forest reserves were planted and maintained in terms of weeding, pruning and thinning.
- iii. 11,990 farmers were trained in different aspects of forestry management.
- iv. 17,418 farmers were monitored for compliance to forestry management guidelines.
- v. 2,284 people were trained in aspects of efficient energy technologies.
- vi. 1,582 inspections were conducted and it was observed that there was poor post planting management due to lack of skills and financial resources.
- vii. A revenue of UGX 690 million was collected accruing from forest products trade, Adjumani, Moyo and Rukungiri contributing to over half of this revenue.

## Other Achievements Under Major Sector Projects And Initiatives

### *Farm Income Enhancement and Forestry Conservation project II*

The Integrated natural Resource Management Component of the project has achieved the following during the reporting period:

- i. Catchment Management Plans for the 5 catchments concluded and related work done included;
- ii. Land Use, Topographic, Slope, Soil and Population Density maps preparation.
- iii. Natural Resources Assessment and Stakeholder Engagement Reports in place.
- iv. SSEA report concluded.
- v. Consultants on board initiating Inception work for contract on Capacity building in Agroforestry and Conservation Agriculture
- vi. Contracts on Capacity building in NRB enterprises and Marketing as well as in Forestry Planning and Management at Contract signing stage.
- vii. INRM Component planning and training workshop on M&E held for 145 local government staff
- viii. With GoU Support, Cumulatively, a total of 4,500,000 seedlings of assorted tree seedlings were distributed to farmers in selected districts in the 4 catchment areas of Ngenge, Manafwa, Tochi and Mubuku-II covering approximately 4,293 hectares.
- ix. In addition, over 50kms of river banks especially River Usiku, Lisi, Ngenge, were restored

## Reducing Emissions from Deforestation and Forest Degradation (REDD+)

The World Bank's Forest Carbon Partnership Fund-FCPF has provided support through its Readiness Fund to Uganda to help prepare the country to participate in a future, large-scale, system of positive incentives for REDD+. This includes: preparing a national REDD+ strategy; developing a forest reference emission level (FREL);

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<sup>14</sup> District Local Governments, Northern Uganda Social Action Fund (NUSAF 3), Office of the Prime Minister (OPM), Joint Energy and Environment Project (JEEP), Lake Victoria Environment Management Project (LVEMP) II, Generation Challenge Programme (GCP), Farm Income Enhancement and Forestry Conservation Project II (FIEFOC II), United Nations High Commissioner for Refugees (UNHCR), United Nations Food and Agriculture Organization (FAO), Local Government Management Services Development Program (LGMSDP), Conditional Grant, ENR grant), National Environment Management Authority, ACTED Uganda, Wetlands, Development Response to Displacement Impact Project (DRDIP) and World Vision, Ministry of Water and Environment(FSSD), Saw log Grant Scheme III (SPGS III).

<sup>15</sup> *Pinus spp, Eucalyptus spp, Maesopiss emini, Tectona grandis, Grevellia robusta, Maesopsis eminni* (Musizi,) oranges, mangoes.

designing measurement, reporting, and verification (MRV) systems; and setting up REDD+ national management arrangements, including proper environmental and social safeguards. The original grant of US\$3.6M to support readiness in Uganda came to a close at the end of June 2017. Uganda received FCFP-Additional Funding amounting to US\$ 3.75 for continuing REDD+ Readiness preparation until June, 2020. In addition Government of Uganda through the annual budget allocation, supported the Project during the FY up-to a tune of UGX 3million.

**Achievements** under the REDD+ Readiness Project under the FY 2018/19 are:

- i. Coordination and monitoring of REDD+ Readiness phase
- ii. The REDD+ National Focal Point and Alternate REDD+ Focal Point represented Uganda at the Participants Committee Eleventh Meeting (PA11) and Participants Committee Twenty-Sixth Meeting (PC26) meeting in October 2018, where Uganda's REDD+ Readiness - Package was presented and approved.
- iii. During the Water and Environment Week, 2019, the following documents were launched: a) the National REDD+ Strategy and Action Plan; b) The National Forest Reference Emission Level, 2018; c) Benefit Sharing Arrangements for the REDD+ Programme; d) A Feedback and Grievances Redress Mechanism for REDD+ Programme.  
During the Uganda Water and Environment Week (18-22 March, 2019), Ministry of Water and Environment, launched the National REDD+ Strategy and Action Plan and other REDD+ implementing Frameworks.
- iv. Mobilised financial support (US\$ 200,000) from World Bank and UN-FAO to support the Review of Uganda's Forestry Policy and Review of the National Forest and Tree Planting Act.
- v. A scoping report highlighting key gender issues for REDD+ Strategy implementation as well as capacity gaps for the Forest Indigenous People was completed. In addition, the training guide for the National Climate Change Advisory Committee and National Technical Committee in gender mainstreaming into REDD+ Strategy implementation was finalized.
- vi. 4 regional sensitization / stakeholder engagements were carried out by FSSD / REDD+ Secretariat prior to forest inventory exercises to raise awareness of the purpose of the forest inventory work and seek cooperation from district leadership, communities, including forest dependent communities and vulnerable groups.
- vii. At least two Emissions Reduction Programs (ER Programs) for the (i) Albertine and (ii) Mt. Elgon Landscapes as grounded in the National REDD+ Strategy are being developed and designed with financial support from the World Bank's Forest Carbon Partnership Facility.
- viii. Preparation of a US\$ 210 million Forest and Resilient Project, jointly being prepared by MWE and MTWA is progressing well and is expected to be funded by World Bank (IDA and Refugee Sub-window), GCF and GoU.
- ix. Under the National Reference Scenario and Inventory Forest resources, the task of completing design of the National Forest Monitoring system is well underway and currently includes all the relevant information on the same server.
  - a. The NFMS web portal (<https://www.nfa-fmis.net/>) that displays all the information produced during the technical support (including National Forest Inventory (NFI) sampling unit positions, LULC maps and Change).
  - b. The wiki: A document where the information related to the Monitoring Reporting and Verification process, including manuals, tutorials, scripts, etc. is collected and organized.
  - c. Collect: a database that stores all the NFI data collected in the field in real time. The database includes currently also the information from the previous NFIs.
- x. In addition, the draft Accuracy Assessment document has been prepared. An initial assessment of forest degradation is also nearly complete. A capacity building activity was organized for the NFA

experts and the assistants were trained in-depth on SEPAL and Google Earth Engine portals and on BFAST time series algorithm.

- xi. 1,662,321 tree seedlings of various species including Bamboo seedlings covering about 1,660 ha were procured and distributed to a number of beneficiaries / farmers.

### **Saw Log Production Grant Scheme III (SPGS 3)**

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, and the project became effective on the 01<sup>st</sup> January 2016 and will end on the 31<sup>st</sup> December 2020 (60 Months).

#### **Achievements for the financial year 2018/19 included the following:**

- 18,220 ha of plantations established verified in the field by team
- 5,000 ha of tree plantations pruned and thinned according to standards.
- 150 commercial nurseries certified to provide planting materials to tree planters and guided on aspects of good nursery management - 66 nurseries were certified.
- 5 biannual SPGS newsletter (20,000 copies) developed and circulated to different stakeholders
- 4 educational posters developed (higher and lower schools) delivering key messages
- 40 forest contractors certified and trained in contract management
- 212 communities were trained in basic plantation establishment and so far, 168 communities have received seedlings planting 2017 ha of woodlots.
- 77 institutions have received support of seedlings leading to establishment of 797 ha of woodlot plantations.
- 800 participants have been trained in various aspects of commercial forestry trainings such as plantation establishment, weed control, fire management, and nursery management in all regions of the country.
- 13 DFO&NFA staff were trained in Forest management plan development in Karamoja region
- Staff participated in World Women Day, World Forestry Day, World Food Day, and National Agricultural Shows in Jinja.
- 5 COMFORT meetings held and road map for research formulated, research priorities identified.
- 8 ha of trial plots for dryland species established in Kiruhura, Isingiro, Nakasongola and Karamoja by NaFORRI. Soil samples from each plot tested for macro nutrient levels and climatic data.
- Curriculum for the Nyabyeya Forestry College reviewed to include aspects of commercial forestry.
- 3 cluster meetings organized for key commercial forestry stakeholders tailored to specific needs identified by planters conducted by UTGA.
- Spatial database for 349 grantees developed and updated with all location data and respective attributes in GIS standard formats.
- One FSC certification audit was conducted by UTGA to selected farmers to secure group certification.
- 2 annual forest business fair conducted by UTGA to showcase good forestry value chain/addition processes.
- UTGA conducted two meetings (nursery+ Contractors) leading to formation of legal associations issued with certificate of incorporation.

- FSSD supported UNBS to conduct 5 technical meetings to develop timber standards and one initial consultative meeting held in preparation for launch of National Forestry Consultative Forum (NFCF), previously called commercial Forestry Forum.
- Short study done to assess the cause of death of pine trees in most parts of the country.

### **Technical Education under the Nyabyeya Forestry College**

Nyabyeya Forestry College located in Masindi District in Western Uganda, 32 km from Masindi town on the Masindi – Butiaba Road is the only tertiary institution in Uganda offering practical oriented technical forestry training and other related trainings at diploma and certificate levels besides a host of many demand driven vocational short courses for the different stakeholders and interest groups and agencies. It is a co-educational institution with enrollment of both male and female students and the number of female students has increased over the years standing at 40% of total enrolment.

The college forest plantation has increased from 100 to 200 hectares. The plantation is mainly composed of pines and eucalyptus. The college also maintains a tree nursery where trees for planting are first raised before planting in the field.

The college graduated 502 students of whom 304 (61%) were males and 198 (39%) were females. 294 graduated with diplomas and 208 graduated with certificates.

There has also been infrastructural development this financial year and these include: 1 duplex houses accommodating 2 staff members; Renovation of the Principal's house (ongoing); Renovation of the third wing of the guest house (ongoing); and Construction of a new carpentry workshop (ongoing).

### **Private Sector Engagement-Uganda Timber Growers Association**

Uganda Timber Growers Association (UTGA) is a members' organization that brings together Commercial Tree Growers in Uganda for collective action. UTGA has a membership of over 600 growers; small, medium and large planters across the country with over 80,000 hectares of forest plantations.

UTGA Activities 2018/ 2019 - Achievements realized by UTGA include:

- i. The UTGA nursery is certified 3 Star by Sawlog Production Grant Scheme for Seedlings and Clones with a capacity of over 200,000 seedling production per season. The Nursery is located at Buwalula town, approximately 40km from Kampala along Mityana Road. Training services in nursery operations are also available for interested parties at a good rate. It will also be a source of sustainability for the association.
- ii. SPGS/FAO Phase III supported UTGA under a Letter of Agreement for Forest Stewardship activity, organising sector service providers, preparations & holding 5 Cluster Meetings in the Central, Mubende, West Nile, Northern and Albertine Clusters where tree growers meet to learn best practices and to interact on issues they face in their respective clusters. These meetings provide a platform for members to meet service providers in the clusters as well as to learn onsite from other plantations on best practices and any errors to avoid.
- iii. The 12<sup>th</sup> Annual General Meeting and 6th Forestry Forest Fair took place concurrently with the AGM and were successful organized. The Forestry Fair is organized to bring together service providers in the sector i.e. nursery operators & products (seedlings and clones), forest contractors, chemicals suppliers, bamboo growing & products, wood processing & products, pole treatment, water system supply& irrigation, pruning and thinning equipment bee keeping among others.
- iv. The UTGA Smallholders Group scheme is now FSC Certified with a 5 years Certificate using the Uganda National Forest Stewardship Standards (NFSS). The Office will now work to popularize the Certificate as well as interest more planters to join the FSC Scheme in other clusters.

- v. The UTG-SACCO has continued to grow by an increased share capital of 42% despite a difficult macro-economic environment. The SACCO continued to build on its success with improvements in almost all areas including recruitment of new members and increase in member's Savings.
- vi. Resin Tapping from Pine trees. Market for non-wood related products from Members' Pine trees has grown to 2,000 hectares across the country. After one year of resin tapping, no serious damage has been registered by tree growers and the project is being sold to more planters across the country.
- vii. UTGA is working with the Ministry of Water and Environment on Timber exports of Pine wood to Kenya. This will provide a sure market for Members' wood with competitive prices. Grading systems of wood products are being worked on with support from WWF and FSSD.
- viii. Industry Service providers i.e. Nursery Operators and Forest Contractors registered as Groups to ease handling of challenges in their fields of operations as they will have a common voice and will enable them to develop the sector.
- ix. UTGA Office also offered technical support to Members through onsite visits to their plantations, trainings on silvicultural practices for their managers and workers. The Technical support was also extended to tree growers from Kenya and Ethiopia who wanted to get knowledge on eucalyptus clone trees right from clone production, plantation establishment and maintenance.

#### ***The Dutch-Sino East Africa Bamboo Development Programme***

The Programme is implemented by International Bamboo and Rattan Organisation (INBAR) funded by The Ministry of Foreign Affairs, the Netherlands and the State Forestry Administration (SFA), China for a period of three years starting October 2016 to December 2019

The overall programme goal is to contribute to green economic growth and international trade and investment between East Africa, Europe and China. The specific objectives are (a) to develop pro-poor industrial value chains for bamboo in East Africa with Dutch and Chinese expertise that, in the long-term, generate benefits for African, European and Chinese investors and consumers; and (b) to restore degraded lands in Africa and contribute to climate change mitigation.

#### **Key achievements**

##### **Result 1: Reduced poverty and green economic growth secured through the development and improvement of industrial bamboo value chains in East Africa**

- Published a report on the findings of regional remote sensing study of bamboo resources in Ethiopia, Kenya and Uganda. An online mobile application to map on-farm bamboo resource developed with an interactive web-platform. 71 (59 M/12 F) participants in East Africa trained on mobile app data collection and use of interactive web platform. Overall indicators of this activity were accomplished.
- Bamboo property testing (physical, mechanical, chemical and anatomical) of three bamboo species from East Africa undertaken in collaboration with International Centre for Bamboo and Rattan (ICBR). Overall indicator of this activity was accomplished except publication of report, which will happen in year 3.
- Three value chain assessment and market analysis of bamboo products in Ethiopia, Kenya and Uganda undertaken during year 1 of the programme. The studies were published during year 2. Overall indicators of this activity were accomplished.
- A total of 45 capacity building training program (506 PD) on bamboo value-chains including two Chinese MoFCOM funded ToT trainings were conducted for 1264 participants (985 M/279 F). Machines, tools and equipment's for establishment of two model enterprise and eight micro enterprises were procured



from China and shipped to Kenya and Uganda. Activities for research and development of a new composite / resonate board using African indigenous bamboos ongoing with Wageningen University. Till now, 62 training courses were conducted against the overall programme indicator of 39 training courses (158 per cent). Two model enterprises were established till now. Three MoFCOM training courses were conducted achieving 66 percent of the overall target indicators. Overall, the programme aims to reach up to 5000 beneficiaries on value-chains, out of which, the activities till date have reached 43 per cent of beneficiaries.



## **Result 2: Increased international trade and investment between Europe, East Africa and China, with growing domestic markets in East Africa.**

- The programme developed / adopted 12 technical guidelines / manual on bamboo resource development and value-chains. In addition, eight Chinese standards / code of practice was translated and provided to Uganda National Bureau of Standards (UNBS), Ethiopian Standards Agency (ESA) and Kenya Bureau of Standards (KEBS). The programme supported 5 working group meetings of ESA, KEBS and UNBS for formulation of standards and code of practice. A total of seven standards are published by KEBS and UNBS, which are currently under public review. All the indicators of standards / guideline developed were achieved.
- The programme in collaboration with International Centre for Bamboo and Rattan (ICBR), Chinese Academy of Forestry (CAF) and Zhejiang Agriculture and Forestry University (ZAFU) organised a regional workshop with participation of 31 (29 M/2 F) participants from Uganda, Ethiopia and Kenya. Till now, 90 per cent of total target indicators of capacity building are accomplished.
- Thirty-Two (32) sensitisation events are organised for 5729 beneficiaries during important days such as World Environment Day, World Forestry Day, national planting programs; exhibitions / trade fairs as well as sensitisation to farmers to plant bamboo.
- Five radio talk shows organised in Uganda to sensitize local communities to plant bamboos and to sustainably harvest existing bamboo resources. Till now, the programme created awareness and sensitisation for 6384 beneficiaries against the overall target indicator of 15000.
- The programme participated in Bamboo and Rattan Congress (BARC), a total of 28 stakeholders including State Ministers, Cabinet Administrative Secretary, Member of Parliament, key industries and stakeholders participated. The programme also organised exhibition for two key industries in African pavilion and Meishan trade fair. In addition, the program organised participation in two national level trade fairs / exhibition. Three national bamboo association were fully operationalised. Till now, the programme achieved 100 percent targets towards participation in international congress / forum, national trade fairs / exhibition and submission of grant / loan projects.

## **Result 3: Restore Land and Mitigate Climate Change**

- The programme supported 33 nurseries during year 2 of the programme. Out of which, 18 large scale

nurseries produced a total of 816,251 bamboo plants, 15 small / micro scale nurseries established 136,375 bamboo plants. Till now, the programme achieved 101 per cent planting material production target. In Uganda, the seven nurseries supported include (a) NFA Nandagi, (b) NFA tree seed centre; (c) NFA Mbale; (d) Divine bamboo; (e) NFA Gulu, (f) NFA Kitugo and (g) Tree trends nursery. In case of NFA nurseries, the programme supported provision of seeds and planting materials, input materials and technical support.

- During year 2, 42 capacity building training program on bamboo resource development and 2 MoFCOM ToT training program was organised for 1629 (1116 M/513 F). In total (year 1&2), 3810 (2620 M/1185 F) participants benefitted from the training program. Till now, the programme achieved 155 percent in case of number of capacity building programs, and 76 per cent in case of overall target of beneficiaries. Two MOFCOM training program was also organised in Kenya and Uganda.
- A total of 735 hectares of bamboo forests / farms brought under sustainable management and harvesting against the overall target of 1500 hectares. The programme achieved 49 per cent of overall target of the programme.
- During year 2, the programme restored 514.27 ha of land with bamboo planting benefitting 2019 beneficiaries. Till now, the programme achieved 70 per cent of overall target.
- The program in collaboration with ZAFU university organised a regional workshop on methodologies for bamboo carbon project in Ethiopia. The programme extensively engaged women during the entire course of project implementation. About 39 percent of the beneficiaries are women, which could be evidenced from programmes activities and achievements. Overall, capacity building trainings / workshops on on-farm resource mapping, value-chain, standards, sustainable management and carbon methodology development were conducted to 3050 participants, out of which 1175 participants are women. However, the programme would strive to achieve 50 percent participation of women in capacity building and in other programme interventions.
- The seven nurseries include (a) NFA Nandagi, (b) NFA tree seed centre; (c) NFA Mbale; (d) Divine bamboo; (e) NFA Gulu, (f) NFA Kitugo and (g) Tree trends nursery. In case of NFA nurseries, the programme supported provision of seeds and planting materials, input materials and technical support. The programme supported Divine bamboo in setting up nursery, operational and management costs. In addition, the programme supported tree trends nursery with seeds / planting material and technical support.

## Challenges and Recommendations

The major key challenges and recommendations are as below:

**1. Lack of coordination mechanism for forestry management in Uganda leading to ever increasing poor forest management practices and poor investments not effectively regulated by the technical departments in forestry.**

### Recommendation:

#### **Forestry Sector Support Department:**

- i) strengthens its monitoring and supervision of all forestry initiatives with a dedicated monitoring framework developed;
- ii) concludes preparation of guidelines for both nursery management, certification and general forestry management;
- iii) Much as the Performance Contract between Government (hosted by FSSD) and the NFA was signed, we need to conclude the constitution of the review committee and its review terms of reference.

**2. Continued encroachment and the move to issue illegal titles in both Central Forest Reserves and Local forest reserves. While efforts have been made to open and demarcate boundaries, this is not commensurate with the threats to the estates.**

**Recommendation:**

i) It is recommended that urgently boundaries of these forests are re-opened and re-demarcated.

**3. Governance issues including inadequate resources (human and financial) at all levels.**

**Recommendation:**

(i) Government should prioritise forestry and natural resources subsector and allocate adequate financial resources to enable the sector to implement its mandate effectively. Preparation of Uganda's Natural Capital Accounts / Wealth should be completed so as to form a basis for decision making and lobbying for resources from government.

(ii) Issues / challenges in the water and environment sector should be handled in an integrated manner, using a landscape approach, instead of silos.

(iii) The MWE should lobby for recruitment for staff to fill the established positions; and all upcoming projects should provide for recruitment of contract staff to strengthen the sector capacity to implement its plans.

## **10.4 Environmental Management**

### **10.6.1 10.3.1 Restoration of degraded and protection of ecosystems**

**Kalagala offset Sustainable Management Plan (KSMP);** The Department of Environment Sector Support Services (DESSS) continued with the implementation of activities of the Kalagala Offset Sustainable Management Plan (KSMP) in the districts of Jinja, Kayunga, Buikwe and Mukono. The Ministry spearheaded the creation of the Extended Kalagala- Itanda Offset Area covering an area of 2835.5 Ha as Central Forest Reserve. The proposal was approved by Cabinet. Other activities undertaken included;

- Assessment and demarcation of 60 km of the Extended Kalagala- Itanda Offset Area.
- Restored 80 Ha of degraded sections of the River Nile through planting bamboo.
- Supported restoration of 100 Ha of degraded sections of Mabira Central Forest Reserve.
- Inventory of land owners and developments along Namavundu Central Forest Reserve in Jinja district.
- Participatory meetings with leaders and communities adjacent to the Riverbanks to prepare restoration action plans in Jinja district.
- Facilitated environment committees to monitor activities within the River Nile protection zone in Budondo and Butagaya Subcounties in Jinja district.
- Communities in Butagaya, Budondo and Mafubira Subcounties in Jinja district in the River Nile protection zone were assessed for tree growing.

Key issues identified included; How will people benefit from conserving River banks yet accessing it might be restricted? Will government compensate those within the 100metres of the River bank? How are people going to be motivated to plant trees? Need for a demonstration plot/ woodlot at parish level.



**Planting pillars at Kibibi and Lumuli Kalugu villages in Jinja District.**

### **10.3.2 Policy, planning, and legal framework**

**National Biodiversity and Social Offset Strategy:** The DESSS with support from the World Conservation Strategy (WCS) prepared the National Biodiversity and Social Offset Strategy for Uganda. The goal of the strategy is to identify the national policies, institutional arrangements and technical capacity that are necessary to design and implement the mitigation hierarchy and reconcile economic development with specific national targets for conservation of biodiversity and ecosystems. This is aimed at achieving a no net loss of biodiversity and social services.

**Review of Environment Social Impact Assessments (ESIAs):** The DESSS reviewed 3 ESIAs for oil and gas activities. These include the Tilenga project, King Fisher Project and The East African Crude Oil Pipeline.

### **10.6.2 10.3.3 Key Initiatives, Programmes and Projects**

#### **Population, Health and Environment (PHE) Program**

Population Health and Environment (PHE) integrated approach seeks to address the complex connections between humans, their health and economic wellbeing and environment. PHE evolved from the recognition that communities cannot exercise adequate stewardship over their natural resources and environment if their health, nutrition and economic needs are not met. In addition it recognises that high population growth and sustainable use of natural resources can lead to loss of ecosystems, which exacerbates poverty and adversely affects social and economic outcomes. Therefore, advancing a multi-sectoral PHE approach offers an opportunity for sustainable development.

#### **Monitoring PHE initiatives in the country**

A multi sectoral team composed of officials from MWE, MAAIF, NPC, MEACA, MOH and partner civil society organizations carry out quarterly monitoring visits in the PHE sites of Mbale, Mayunge, Kasese and Wakiso. This is done to assess progress of implementation of PHE approach and plan for scaling up to other areas.

The team also engaged in the identification of model households as an intervention that exemplifies the integration of PHE by tangibly demonstrating the reinforcing behaviours that help families to develop healthy and environmentally sustainable ways. Households are selected and supported to meet standards that reflect healthy environments and families and serve as role models and champions of other families in their communities.

PHE model homes have the following as the minimum package and or practise;

- Improved crop varieties
- Tree seedlings that promote agro-forestry
- Water harvesting
- Use an energy saving stove
- Improved goats breed- quick maturing and attains higher live weight than local breeds

- Should have had training in sustainable smart agriculture, agro forestry, water shed management and biodiversity conservation
- Minimum environmental sanitation and hygiene; drying rack, hand washing facility, kitchen etc

#### **Other achievements under PHE**

- ✓ The National PHE Network where MWE is a member launched the PHE Approach in Academia, specifically Makerere University with the aim of integrating PHE approach into the curricular for the university training.
- ✓ Scale up PHE model household to the Districts of Kanungu, Kumi and Pakwach

#### **One Health Approach**

This is a global approach aimed at responding to public health events in a multi -sectoral way. In Uganda, it is being spearheaded by MOH, MWE, MAAIF and UWA.

One Health is the integrative effort of multiple disciplines working locally, nationally and globally to attain optimal health for people, animals, and the environment.

The focus areas of One Health approach include; Control of zoonoses, food safety, combating antimicrobial resistance, work force development and Bio safety and Biosecurity issues, Emergency preparedness among others.

The Directorate of Environment Affairs through the Environment Department in collaboration with MOH, MAAIF and UWA have managed to respond to zoonotic disease out breaks happening in the country. Specially responses to Crimean Congo fever, Anthrax, Rift valley fever in Arua, Kween, Nakaseke and Isingiro among others.

#### **Notable achievements by MWE under One Health Approach FY 2018/19**

- The Ministry participated in the development of One Health Risk communication strategy. This stimulates the procedures and steps to be taken by various institutions in question to communicate the risk in case of any public health emergency or threat.
- Ministry participated in the National Antimicrobial Resistance (AMR) conference and the launch of the Uganda National Action Plan for AMR with the theme “Understanding the drivers and collective action against AMR in Uganda. One of the areas of interest was the role of environment in One Health with emphasis on AMR.
- The Ministry participated in the validation of the Africa Sustainable Livestock 2050 Report. The report assessed the impact of livestock on Environment, Public health and Livelihood and examined future impacts of beef and chicken production systems on Environment, public health and livelihood.
- Trained ENR district staff from high risk areas of Kasese, Kamwenge and Rubirizi in emergency preparedness and response to public health emergencies with support from USAID
- Participated in the training of 25 districts in emergency preparedness and response to public health threats/emergencies with support from USAID and Management Science for Health
- The ministry participated in the development and launch of Africa Sustainable Livestock 2050 Report (ASL2050); The future of Livestock in Uganda: Opportunities and challenges in the face of uncertainty. This was supported by FAO and developed using a One Health Approach.

#### **10.3.4 Contribution by Cross-Sectoral Projects**

- **Integrated Landscape Management for Improved Livelihoods and Ecosystem Resilience in Mount Elgon:** The department has been collaborating with MAAIF to coordinate this project which is supported by the GEF through UNDP. The project aims at developing an integrated sustainable land management (SLM)

approach that entails developing SLM options suitable for small land patches that would improve land management and reverse the current land degradation rate.

The department participated in the Small Grantee Selection and Screening exercise for phase 2 of the Integrated Landscape Management for improved livelihoods and ecosystem resilience in Mount Elgon project.

- **Inclusive Green Growth for Poverty Reduction (IGGPR):** The DESSS continued with the coordination of the implementation of the IGGPR. The project is funded by the United Nations Development Program. Implementation is in collaboration with other key institutions including; the Ministry of Energy and Mineral Development, Ministry of Gender, Labour and Social Development, the National Environment Management Authority and Civil Society. Through the project, a Strategic Environment Plan (SEP) has been prepared. The SEP identifies strategic priority management areas and associated actions that are required to strengthen the coordination and management of the environmental sector and is to be implemented by the DESSS.

**Forest and Landscape Restoration Mechanisms (FLRM):** The DESSS with support from the Food and Agriculture Organization (FAO) implemented the FLRM activities in pilot areas in 15 Districts within Awoja and Mubuku Catchments. This was aimed at improving on reporting and coordinating on FLR commitments like the Bonn Challenge, Aichi Biodiversity Convention and national commitments. The final output of this activity was the development of a menu of FLRM indicators at both landscape and catchment levels. 100 FLRM actors from the 15 districts were trained on use of these indicators and FLRM baseline data from 325 actors collected and registered in a data base that was created. This data base is part of the Mini (One Stop Data Stop Centre (OSDC) that was established under the FLRM initiative.

## 10.5 National Environment Management

### 10.6.3 10.4.1 Introduction

The National Environment Management Authority (NEMA); referred to here as *the Authority*, is a semi-autonomous institution established in 1995. The Authority is the principal Agency with the responsibility of coordinating, monitoring, and supervising environmental management in Uganda. Besides, the Authority advises Government and spearheads the development of environmental policies, laws, regulations, standards and guidelines for sound environment management in Uganda. NEMA builds environment management capacity of other Government Ministries, Departments and Agencies (MDAs), Local Governments and other stakeholders.

In FY 2018/19 the oil and gas industry transitioned from the exploration phase into the initial stages of production. The Environmental Social Impact Assessment reports (ESIA) for the East African Crude Oil Pipeline [EACOP], Tilenga and Kingfisher projects have been completed. A major development projects include the Karuma Hydro Power Plant, (HPP) in the completion phase, the Hoima Airport, and critical oil roads which that currently under construction.

The continuous restoration, enforcement and protection of fragile ecosystems and rangelands in the country particularly in the Kyetinda, Upper Kafu, Rwizi, Lubigi, Lia, Oliduru, and Muzizi wetlands ecosystems; triggered the natural regeneration of the catchment, community awareness about the value of ecosystem services, and sustainable use of natural resources. There have also been concerns related to biodiversity conservation and management with the specific focus on the survival of shea butter trees, afezella and tamarind that have come under threat due to the high demand for charcoal and timber products. In addition, the demand for these trees was fueled by the ban of charcoal trade in neighboring Kenya.

Management of electronic waste (E-waste) is an emerging concern that required NEMA's intervention in terms of proper handling and disposal.

Furthermore, the concerns about the impact of sand mining on the environment propelled NEMA to carry out studies/research and develop sand mining guidelines to regulate sustainable mining of the resource; that is a

key raw material for infrastructural development. This report indicates key environmental concerns addressed during the FY 2018/19; the interventions that NEMA has undertaken in relation to the above issues.

#### **10.4.2 Achievements in FY 2018/19**

##### ***Effective enforcement and compliance with policy, legal and regulations on environment***

The litigation function involves handling and management litigation cases of both civil and criminal nature. The activities included; court attendances for ongoing cases, preparation, commissioning and filing pleadings in court for new cases, evidence gathering and preparation of witnesses and prosecution of environmental offenders in both ongoing and new criminal cases. A case inventory is maintained and updated regularly for effective management.

During the FY 2018/19, the Authority targeted 40 litigation cases, but, 112 cases were handled and managed under litigation function as follows; 14 new civil cases were filed against the authority, 74 court attendances for both ongoing and new cases were made, and 24 new prosecution cases were supported. The Authority also received 3 Notice(s) of intention to sue and 67 petitions for action by the Authority that were handled under litigation function.

Similar to earlier reports, the litigation cases arose from claims of a right to a clean and health environment; right to property in activities involving the restoration and eviction of people occupying wetlands and forest reserves illegally; loss of business in the enforcement against kaveera ban; noise pollution; illegal stone quarrying activities; alleged negligence and breach of statutory duties of the Authority; issuance of EIA Certificates; and irregularities in public hearings, among others.

##### ***Support to EPF***

The Authority also facilitated the Environment Protection Force (EPF) to serve sanctions, notices and orders issued by the Authority and to investigate and compile evidence for prosecution of environmental crimes. During FY 2018/19 the target was 120 cases, but, 148 cases were recorded out of which, 24 cases were prosecuted, 49 cases were subjected to further inquiry and 75 were put away due to lack of evidence to support prosecution.

##### ***Development of Ordinances and bye-laws***

To reduce the increasing court case, formulation of Ordinances and Bye-Laws were undertaken in 6 districts of Moyo, Gulu, Mbale, Pallisa, Ntungamo and Buyende to enhance environmental compliance and enforcement under the decentralized environment management arrangements.

##### ***Development of regulatory instruments, standards and guidelines***

The FY 2018/19 marked the climax of the environmental legal framework review process and adoption of the environment management reforms into law. It should be recalled that the process started in FY2012/13 to address gaps and incorporate emerging issues. On 15<sup>th</sup> November, 2018, Parliament passed the National Environment Bill 2017, it was assented to by the President on 24<sup>th</sup> February, 2019 and published on 7<sup>th</sup> March, 2019.

The National Environment Act No.5 of 2019 which came into force on 27<sup>th</sup> June, 2019 repealed, replaced and reformed the law relating to environmental management in Uganda. The Act continued the National Environment Management Authority as a coordinating, monitoring, regulatory and supervisory body for all activities relating to environment. It also provided for emerging environmental issues and measures including climate change, the management of hazardous chemicals and biodiversity offsets; strategic environmental assessment; addressed environmental concerns arising out of petroleum activities and midstream operations the management of plastics and plastic products; established the Environmental Protection Force; provided for enhanced penalties for offences under the Act; provided for procedural and administrative matters; and related matters.

In line with the foregoing, the Authority also reviewed several regulations and developed guidelines and standards to ensure that the regulations are harmonized to embrace the reforms. The revised regulations include: draft National Environment (Audit) Regulations 2019; draft National Environment (Environmental and Social Assessment) Regulations 2019; draft National Environment (Management of Ozone Depleting Substances and Products) Regulations 2019; and draft National Environment (Waste Management) Regulations 2019. The developed regulations include: The Petroleum (Waste Management) Regulations 2019; draft National Environment (Oil Spill Prevention, Preparedness and Response) Regulations 2019; and draft National Environment (Strategic Environmental Assessment) Regulations 2019. Guidelines have also been developed including: Guidelines for Strategic Environmental Assessment in Uganda; and initial drafts include draft Payment of Ecosystem Services (PES) Guidelines; draft Access to Environmental Information Regulations, Sand Mining Guidelines and Landfill guidelines.

### ***Environment Protection Force (EPF) in environment management***

The EPF at NEMA has continued to support environment management across the country through monitoring activities such as noise pollution, wetland/lakeshore degradation, community policing, enforcement of restorations orders, violations of EIA conditions of approval and regulation of environmentally violating activities such as music functions and events among others.

During FY 2018/19, 182 cases (13.6%) of halting illegal environmental activities were registered by the NEMA-EPF, implying that there are high levels of encroachment in the country. The arrests made were 196 (17.7%), while crime cases constituted were 140 (12.7%). Due to this the Authority held the highest number of community policing/sensitization meeting to a total of 327 in FY 2018/19 compared to 162 in FY 2017/18 as seen in Table 56 below.

**Table 56: EPF key activities undertaken in FY 2018/19**

No.	Activity	FY 2017/18	%	FY 2018/19	%
1	Regulation of Music Concerts/Events	102	18.2	149	13.5
2	Criminal cases instituted	52	9.3	140	12.7
3	Arrests	86	15.3	196	17.7
4	Confiscation of M/V number plates	66	0.0	112	10.1
5	Halting of illegal environmental activities	93	16.6	182	16.5
6	Community policing/sensitizations	162	28.9	327	29.6
	<b>Total</b>	<b>561</b>	<b>88.2</b>	<b>1106</b>	<b>100</b>

Source: EPF- NEMA, 2019

The key leading activities mentioned in Table 56 above shows that more encroachment and degradation of the fragile ecosystem is happening across the country. The implications of this will lead to high arrests and criminal case instituted by the Authority. Key areas that have the highest cases of illegal environmental activities are in Kampala, Wakiso and Mukono. This is partly due to the high population concentration in the greater Kampala as well as the high investment and infrastructural development around the central business district of Kampala.



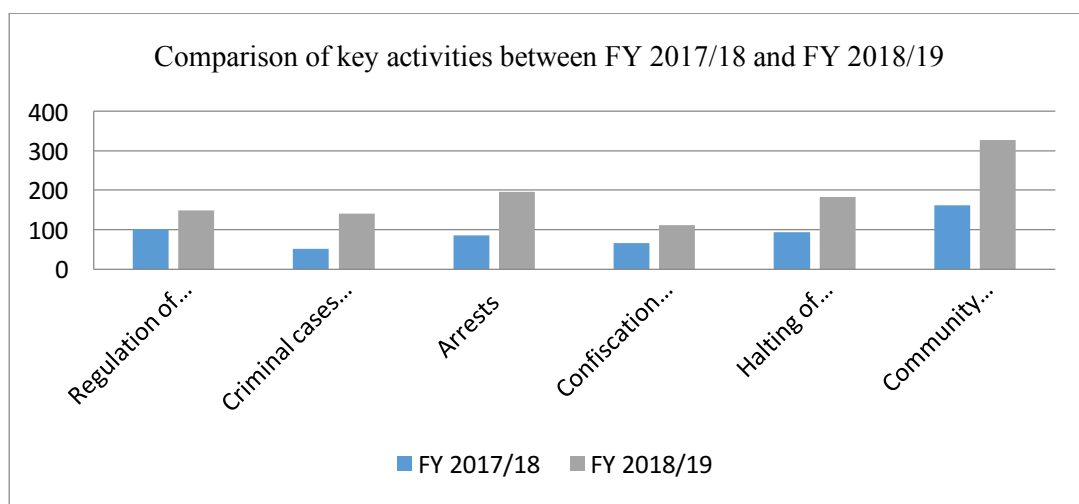


Figure 40: Comparison of EPF key activities between FY2017/18 and FY2018/19

#### Environmental social impact assessments (ESIA)

The total number of project briefs (PBs) and environmental impact statements (EISs) submitted to NEMA in the FY2018/19 period for consideration was **1,618** (see **Table 57**), compared to the FY2017/18 in which a total of 1,688 PBs/EISs were submitted. Thus, there was no significant difference between the two FYs.

Table 57: Total number documents submitted to NEMA for consideration during FY2018/19, by month.

.Month	Scoping Reports/TOR	PBs	EISs	Total Submitted
<b>Year 2018</b>				
<b>Sub-total</b>	<b>450</b>	<b>275</b>	<b>463</b>	<b>738</b>
<b>Year 2019</b>				
<b>Sub-total</b>	<b>477</b>	<b>255</b>	<b>625</b>	<b>880</b>
Grant Total	927	530	1088	1618

Source: Environment and Monitoring Compliance Dept, 2019

That the total number of Certificates of Approval prepared for issuance to the developers during **FY2018/19**, was **1,125** compared to a total of 807 certificates of approval issued during the FY2017/18, hence an increase (of about **39.4%**) in the total number of certificates prepared/issued to developers in FY2018/19.

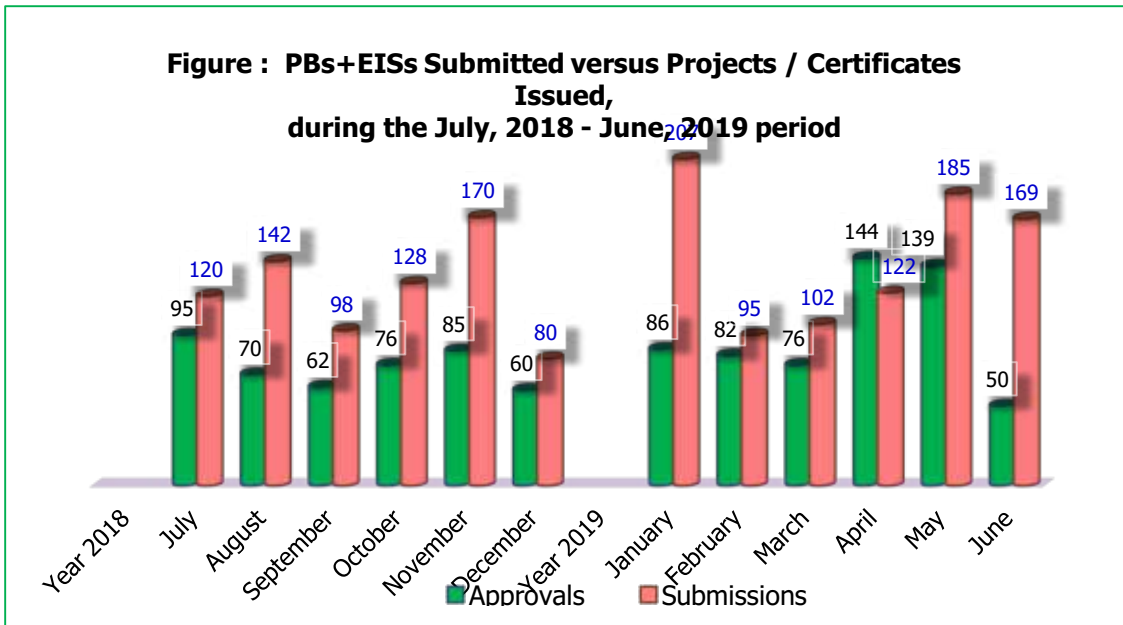


Figure 41: Total number of projects approved/certificates issued by July 2018 and June 2019

The support of the investment in the country by NEMA has steadily increased with high level investment opportunities in the telecommunication, processing industries and infrastructure. The contribution to other sectors of the economy as illustrated (Figure 42) in the pie chart below.

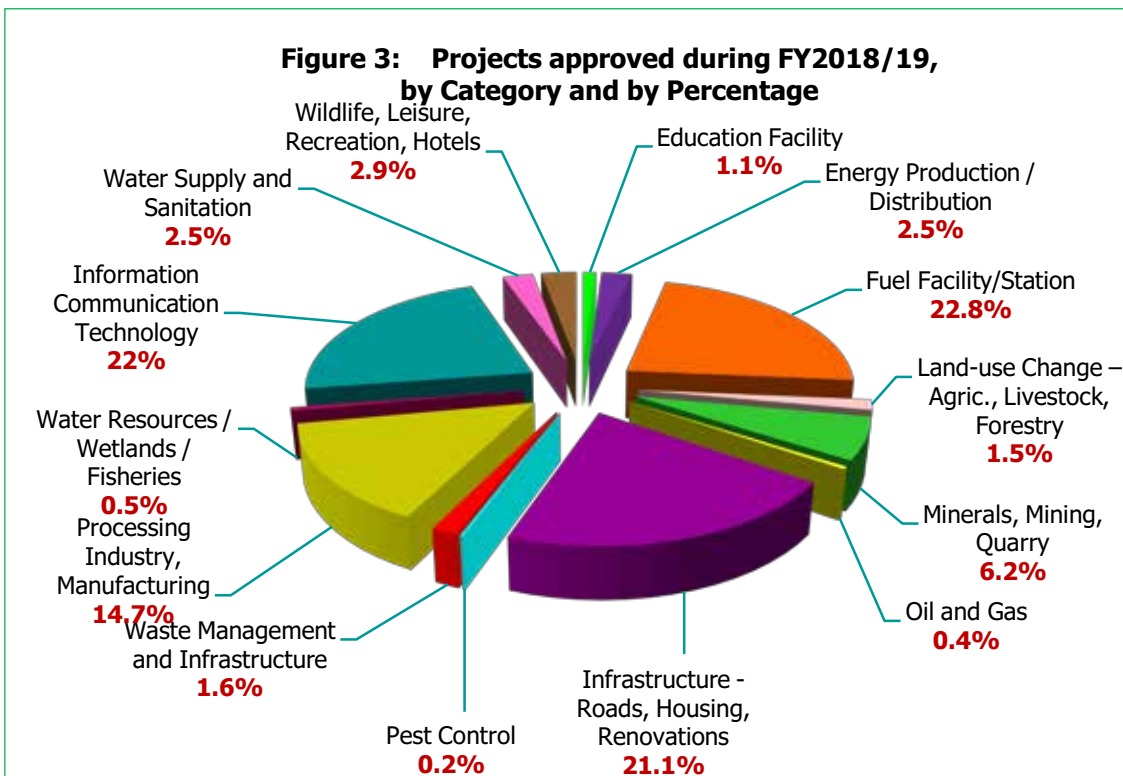


Figure 42: Projects approved during FY2018/19, by category and by percentage.

Some of the notable negative environmental impacts associated with the said categories projects include: increase in atmospheric pollution caused by emission of different kinds of noxious (harmful) gases, fumes, and

particulate matter into the atmosphere; while mining projects create residual impacts which include scarred landscape, degradation of the affected landscape including soil erosion and in some cases disruption of the local hydrology (which may affect the water catchment system), and un-restored mines and murram/gravel borrow-pits.

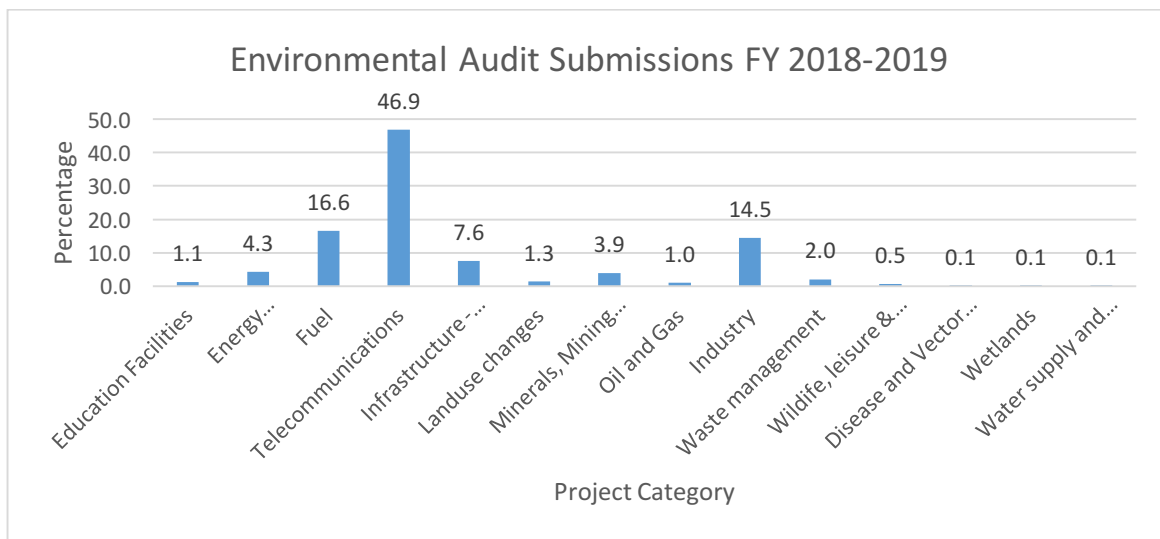
In addition, these sectors encourage migration of labour to mining areas, and construction sites, and the migrants and surrounding resident communities also engage in petty trade; and, inevitably pressure is exerted on the available / limited social services (water supply, sanitary facilities, medical services) in the affected localities, and the some cases social-ills including crime may emerge.

**10.4.3 Inspections and Audits**

During FY 2018/19, the Authority undertook compliance monitoring inspections to monitor compliance of activities to approvals particularly from NEMA, permits and regulatory requirements, and to follow-up complaints lodged with NEMA. 1,395 out of 1,400 targeted inspections and audits were undertaken during FY 2018/19. 1000 inspections of key facilities were undertaken to check compliance and provide support due to previous reports, while 395 Environmental Audits (EA) and Environmental Audit reports were handled by the Authority. Inspection findings indicate that inadequate waste management practices, emissions to air, construction/ expansion and operation of facilities without approvals from NEMA, inadequate housekeeping, illegal discharges and discharges that do not meet the standards, limited use of Personal Protective Equipment (PPE) and noise among others are the major areas of non-compliance.

Most EA reports handled were from the Telecom and industrial sectors which further show the increasing service delivery demand on NEMA as already noted within the ESIA review process. A few facilities were issued with Environment Improvement notices where a number of issues of non-compliance were observed; while majority of facilities were issued with Administrative letters instructing the facility management to implement the corrective actions in the Environmental Audit (EA) reports. A number of Environmental Improvement notices were issued to facilities particularly in industry and natural resource use (wetland, forestry) sectors. These required the respective developers to undertake actions to correct non compliances identified in the Environmental Audit reports and arising from inspections undertaken by Environmental Inspectors.

The largest number of EA submissions in FY 2018-2019, were received from the Telecommunications sector (46%), Fuel (16.6%) and industry (14.5%) as shown in Figure 43.



**Figure 43: Environmental Audit submissions in FY 2018-2019**

In addition to ensuring compliance is met, by gazette notice dated 21st June 2019, a total of 774 persons from various Government ministries, departments, agencies were gazetted as Environmental Inspectors. The training for inspectors, will be undertaken in a phased manner over the next financial years.

#### **Pollution regulation**

In accordance with section 6 and 13 of the National Environment (Waste Management) Regulations, S.I No.153-2, the National Environment Management Authority received 47 applications from various companies for consideration for issuance of licenses.

Table 58: Number of licenses submitted to NEMA in FY 2018/19

	Licenses	No. of licenses Received	No of Licenses Approved	No of Licenses Deferred
1	Domestic waste transportation	18	14	04
2	Hazardous waste transportation	32	24	08
3	Own/operate	31	08	04
4	Storage license	09	14	01
5	Transboundary movement of wastes	0	13	0
	<b>Total No. of applications received</b>	<b>90</b>	<b>73</b>	<b>17</b>

Source: Environment and Monitoring Compliance Dept, 2019

#### **Air quality monitoring**

Regular air quality monitoring during compliance inspections being undertaken by NEMA to check on the emission from the industrial facilities as well as have ambient air quality across the country. Air quality monitoring was undertaken for several facilities, and the results still indicate that emissions of particulate matter (PM2.5 and PM10) is the biggest contributor to air pollution. This is mainly due to emissions from boilers, furnaces and incinerators in industrial facilities. To address the emissions as indicated above, NEMA collaborating with Kampala Capital City Authority (KCCA) and other stakeholders to establish monitoring stations across the city and its metropolitan areas. The Authority is in the process of acquiring stationary monitoring equipment to better understand the air quality within the country.

#### **Management of Electronic Waste (E-waste) in Uganda**

The set-up of the electronic waste (e-waste) collection and management centre is on-going in partnership with Luweero Industries a subsidiary of National Enterprise Cooperation. The establishment of the Electric and Electronic Waste Collection and Management Centre in Kampala will ensure that Uganda takes custody of its e-waste and manages the safe disposal in an environmentally friendly manner. The collection center shall not only address the aspect of collection estimated at over 19Mtons of e-waste scattered across the country majorly in public institutions including universities but rather pave way for future projects including dismantling units and refreshments centers.

#### **High Impact projects – Hydropower, Critical oil roads and Port works**

##### **a) Isimba Hydro power plant**

The 183MW Isimba HPP, was launched/commissioned by His Excellency on the 21st March 2019 and since its launch the project is continuing to contribute 183 MW to the National power grid via the Isimba – Bujjagali Transmission line and the Bujjagali switchyard. Isimba's addition into the generation system shall continue to improve on one important energy market principle; availability of power supply in Uganda. It was noted that, due to the reduced activities ongoing at the facility, the number of workers employed have equally reduced to 100 and 300 Chinese workers and Ugandan workers respectively.

Implementation of activities in health, education, sanitation, agriculture, water sectors among others, are some of the on-going project activities. These project activities are being implemented across the different villages in

the four Districts of Kamuli, Kayunga, Jinja and Buikwe which the project traverses. However, there are still outstanding issues of community concerns under The Project Affected Persons (PAPs) and these are being addressed through the Community Development Action Plan (CDAP).

Inspection of continuing project related activities like the road works of the 3.5 Kilometres Wampologoma/Kasaana to the facility gate from the Isimba gate across to Kamuli are ongoing with site clearance and concrete placement. These were being undertaken without an Environmental Impact Assessment (EIA) Certificate from this Authority nor a design to guide the construction, contrary to the National Environment (Environment Impact Assessment) Regulations, S.I. No. 153-1 and the National Environment Act, No. 5 of 2019.

It should be noted that the ongoing preliminary activities of the road construction were greatly infringing and impairing on the Koova Island. This island was protected as a habitat for the flora and fauna (which found refuge at that point due to impacts of construction works of the dam) and there are ongoing discussions with Ministry of Energy and Mineral Development (MEMD) regarding the road construction.

***b) Karuma Hydro Power Plant***

The total environmental compliance status of the Karuma Hydropower Project (KHPP) has been progressively improving in terms of compliance with the regulatory conditions and also ensure the identification of measures to mitigate any risks or potentially negative impacts that may emerge from the implementation of the project. The Karuma Multi-sectoral Monitoring Committee (KMMC) have undertaken various monitoring visit to the KHPP to inspect the site but also hold meetings that add value to the regulatory efforts by NEMA. Monitoring activities by the committee in June, 2019 identified a plethora of concerns and made a myriad of recommendations for corrective actions to the contractor (Sinohydro). Emerging issues were also looked at the dam site like construction of the switch yard, plugging of the adits in preparation for decommissioning, continuation of the installation of Turbine units, river diversion, construction of the coffer dam and preparation of the reservoir area among others,

As the project is coming to an end and looking forward to commissioning of the project in a few months' time, operations of the project have continued to be compliant not only at the power site but also through the interconnection project. The committee made recommendations under the different inspection sub groups of engineering and physical environment, ecological issues, social and community issues and the labour, health and safety issues. These include;

- i. Collaborate with Uganda Wildlife Authority (UWA), to seek approval for all temporary facilities like the access road to the out fall and ventilation shaft,
- ii. MEMD should pay UWA for the outstanding Biodiversity offsets as required in the conditions of the ESIA approval,
- iii. Submit the Reservoir Operation plan for review and it should include the sequencing of gate opening and address the upper and lower water levels,
- iv. Remove the rock outcrops in the reservoir area to facilitate smooth flow of water in the river or incorporate the possible effects of the presence of the rock out crop in the reservoir considering minimum and maximum reservoir levels in the reservoir filling plan that is yet to be submitted,
- v. Strengthen the use of personal protective gear especially at the power house and coffer dam sites at the intake since there is a lot of noise and poor quality as a result of welding activities, and
- vi. Ensure implementation of emergency preparedness at the dam site and tailrace outlet, address with immediate effect the issue of workers' welfare at the power house especially on areas of drinking water, adequate sanitary facilities.



**Turbine end at Karuma Hydro Power Project**

### ***c) Critical Oil roads***

The ongoing road works in the Albterin region has led to the need to upgrade 11 roads categorized into seven projects for the proposed Upgrade of the Kyotera -Rakai Road (20km), Masindi-Biiso Road, Upgrade of Lot 4 Critical Oil Road R4 (Kabaale -Kiziranfumbi), R5 (Kaseeta Lwera Via Bugoma Forest) and R7 (Hohwa-Kyarushesha-Karokarungi), Buhimba-Nalweyo-Kakindo-Kakumiro Road (Lot 5&6) traversing six (6) districts of Buliisa, Nwoya, Ntoroko, Masindi, Hoima and Kakumiro (93km). These roads will create an enabling road network that will facilitate first oil production in Uganda by 2020. During the various inspections and site visits by NEMA and key lead agencies, the following are recommendations that need to be addressed to ensure oil and gas developments are achieved sustainably for economic prosperity.

- i. Maintain the hydrology and water flow across wetlands and swamps throughout the proposed route including Buhimba Swamp, Kabale Swamp, Masaigi Swamp, Buruko Swamp, Nyate Swamp, Karobe Swamp, Kakumiro swamp.
- ii. Preserve the natural water flows through transversal drainage structures. Nature drainage patterns along the project area should be conserved to ensure that storm water run-off does not create an environment hazard by erosion of base materials. Erosion and sedimentation control systems should be installed during construction.
- iii. Ensure social and cultural amenities such as Buhimba cemetery are not affected by the roadworks.
- iv. There should be a maintenance plan for pavements, line marking, batter slopes, debris removal from drainage inlets and outlets, bridges and surface drainage features.
- v. Ensure that construction works are limited to the carriage way, shoulders and drainage channels as much as possible in Nakuyazo and Kihaimire forest reserves. There will not be a right of way provided in these forest reserves.
- vi. Adequate sensitization of all stakeholders should be undertaken during all phases of the project lifecycle.
- vii. Uganda National Roads Authority (UNRA) should ensure there is reforestation to compensate for deforestation during the construction phase. Planting of trees in the right of way is highly recommended.
- viii. The proposed project should adopt technology that protects wildlife, reduces waste and the overall environment footprint. Construction equipment should be designed for minimum noise and air emissions.
- ix. Landscaping after construction should take into account the growth habit of trees and shrubs such as size of trees and shrubs at maturity and the location of these with respect to the clear zone. In addition, the impact of root growth should be evaluated. These may intrude into drainage lines and cause heaving of pavements and footpaths.



**Poor Shoulder Management along the Mubende - Kakumiro - Kagadi Road**

#### **d) Bukasa Port**

The Bukasa port project is part of the central corridor development program which will secure an alternative way of providing efficient transport between Uganda and world markets. The proposed site is to house the port, infrastructure facilities and the ship located in Bukasa Village, Kirinya Parish, Bweyogerere Sub-County Wakiso District.

Developing the port will reduce high transport costs of goods; cost of fixing dilapidated road infrastructure; promote regional railway and transport competitiveness; provide inter modal transport and seamless connectivity of East African Community (EAC) and opening up of the central corridor route to the sea. Currently land is being acquired and environmental resettlement studies to assess the effect of the development on the land and its environment.

#### **Supporting restoration and protection of fragile Ecosystems**

NEMA in collaboration with the District Local Governments (DLG) initiated restoration programs using a combination of approaches to enhance sustainability of fragile ecosystems but with major focus on community engagement and other people centred approaches (use of more “carrot than a stick”). This is because the fragile ecosystems in the country have been severely degraded through human activities such as crop cultivation, deforestation and over grazing resulting into soil erosion, loss of tree cover and siltation of the water bodies and drying up of the wetland ecosystems thereby changing their ecological, social and economic functions.

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#### **NEMA’s best practice approach to halting wetland encroachment and degradation**

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- Multiple approaches are used to restore degraded ecosystems and these involve use of a “carrot and a stick”. The use of a carrot and a win-win approach is always the first option and this guides in sustaining the intervention.
- Community or resource user engagement and dialogue is an important tool for sustained ecosystems restoration and protection.
- Full participation of the resource users through consultations create ownership of decisions taken and minimizes litigation costs associated with enforcement.
- Community meetings and consensus building is also important in providing unchallenged evidence of prior community engagement, should legal actions be necessary.
- Action plans developed in consultation with community leaders and stakeholders will mean implementation of efforts that are local based which will also stand the test of time.

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*“A healthy ecosystem service is vital to support economic transformation and livelihood”*

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The degradation of fragile ecosystems has had a direct negative impact on the livelihoods of the local communities by affecting the agricultural productivity in areas affected due to prolonged drought, reduced soil fertility and crop yields as well as reducing the fishing potential of the water bodies.

Restoration has been noted to be an important undertaking required to retard land degradation and loss of biodiversity (Aradottir and Hagen 2013), and so it is high on the agenda of both CBD (refer to Targets 14 and 15 of the Aichi targets) and UNCCD (refer to COP13's specific pronouncements in the strategic framework of the Convention).

In order to restore degraded ecosystems, NEMA implemented various interventions such as; community engagement and sensitisation meetings, signing of partnership instruments delegating powers to Sub county Chiefs, inventory and mapping of hotspots and physical restoration through removal of illegal structures and eviction of encroachers who could not comply voluntarily.

#### ***Key sites under restoration and protection***

To date, over 10 ecosystems have been successfully restored to nearly their original state and their ecosystem functions re-instated. Some of the systems include; Lake Victoria shorelines (critical sections), Lake Kyoga (Limoto\_Mpologoma\_Oladot wetland system), R. Rwizi catchment, R.Muzizi Catchment, Lake Kachera Shoreline and Lake Nakivale catchment, Lake Victoria shorelines in South Busoga, and Upper Kafu.

#### ***a) Lake Victoria shoreline in South Busoga***

The physical demarcation of the 200m Lakeshores protection zone of Lake Victoria along the South Busoga and Bukalebo Central Forest Reserve (Cfr) began in FY 2018/19 in Mayuge district. The Presidential Directive to allocate part of South Busoga and Bakaleba Central Forest Reserves (CFR) to Local Communities in Mayuge District was given to NEMA to implement the demarcation of the lake shores protection zone of Lake Victoria.

It is planned that the 200m lake shores protection zone shall not be given away to the communities but conserved for the protection of Lake Victoria. This directive is in line with the legal provisions for the conservation of the shores of Lake Victoria.

The first phase of the exercise involved mobilization, consultations of District Council, Sub County Council, technical personnel, and Community. The second phase of physical boundary demarcation covered 58km of Lake Victoria shoreline from Buwanga to Bunage Villages in Malongo Sub county Mayuge District.

#### ***b) Upper Kafu catchment system***

In FY 2018/19, the Authority also began initial restoration activities in the upper catchment of Kafu, particularly focusing on the wetlands and riverine systems in the upper part of the catchment, in the districts of Kyankwanzi, Kiboga, Kakumiro and Hoima. Upper catchment of Kafu that is characterized by a network of permanent and seasonal wetlands which are often targeted for cultivation and animal grazing. As a result of this, significant wetland cover has been lost and transformed into gardens or rice, maize, and millet as well as grazing land, this being highest in Kiboga District and lowest in Kakumiro District.

In compliance with good restoration planning, the process of planning began with a meeting with the political leadership and technical teams of the four districts, followed by field inspection of degradation hotspots and mapping, which relied on field data and additional data off Google Earth. The community meetings/barazas, including resolutions agreed on by the meetings provide guidance for the next steps.

#### ***Restoration Coverage and specific locations***

Over 4000Ha of degraded ecosystems have been effectively restored. The restored ecosystems are indicated in Table 59 below



**Table 59: Restored sites by location**

Catchment	Restored Ecosystem	Ecosystem Location	Restored Acreage	Implementation Period & status
<b>Lake Victoria</b>	Lake Victoria shoreline	10 districts of Mpigi, Wakiso, Rakai, Kalungu, Bugiri, Kayunga, Jinja, Mayuge, Mukono, Kamuli	1200Ha	2009-2015
<b>Lake Victoria along the South Busoga and Bukalebo Central Forest Reserve (Cfr)</b>	The physical demarcation of the 200m Lakeshores protection zone of Lake Victoria.	Busoga sub region – Mayuge district	200m – 58km	Recovery is being monitored by NEMA and Lead Agencies. On-going works in FY 2019/20
<b>Lake Nakivale</b>	Lake Nakivale shoreline	Ishanje, Juru, Kahirimbi, Kabazana and Kiretwa	1000Ha	2012-2016
<b>L. Kyoga</b>	Limoto, Mpologoma, Oladot	Kibuku, Pallisa, Kumi	1000Ha	2014-2017
<b>R. Rwizi and Its Catchment</b>	400 Ha of Rucece, Kafunjo, Kanyabukanja_Katara systems, Rufuha wetland system in Ntungamo, Mbarara, Buhweju were restored	Mbarara, Ntungamo and Buhweju	400Ha	2017-2019 Restored areas are now on course to full recovery and ecological and socio-economic functions and services are being seen.
<b>Lake Kachera</b>	Lake Kakyera Shoreline	Kiruhura	200Ha	2017-2019
<b>R. Muzizi</b>	Bufunjo and Nyankwanzi systems	Kyenjojo	200Ha	2017-2018 Slight improvement in the restored areas. Monitoring is ongoing.
<b>Upper Kafu System</b>	River Kafu ecosystem	Kyankwanzi, Kiboga, Kakumiro and Hoima	????	Field work, community meetings and selection of hotspots have been undertaken.
Total Area			<b>4000Ha</b>	

Source: NEMA, 2019

Various ecosystems which were degraded through human activities such as cultivation, fencing, creation of drainage channels and introduction of alien species such as eucalyptus have been effectively restored through community engagement, compliance enforcement and physical restoration. The progress made using multiple restoration approaches so far is good and on average **4000Ha** of degraded ecosystems have been restored with most of the areas now on course to full recovery and re-generation and others fully recovered and now proving their ecological functions and services.

#### **Support to district local government on decentralization of environment management**

The Authority has continued to support the District Local Governments (DLGs) and during the FY2018/19; 27 (Twenty seven) District Local Governments; namely Amuria, Kaberamaido, Ngora, Namisindwa under Mbale Regional Office, Kamuli, Buikwe, Mukono, Kassanda and 15 Lower Local Governments (Sub counties) under Central region, Buliisa, Kibaale and Kabarole under Masindi Regional Office, Mbarara, Bushenyi, Ntungamo, Ibanda and Kamwenge under Mbarara Regional Office, Alebtong, Otuke, Lamwo, Agago, Abim, Nabilatuk, Pakwach, Apac, Adjumani, Kwanja, Nebbi, Districts and Kotido Municipal Council in Northern Uganda were supervised and mentored to ensure environmental sustainability are integrated in the policies, plans, program's and budgets of LGs. In addition to the mentoring, capacity building meetings were held to build capacity of the 80 Environment Officers of which 30 female and 50 male participated.

## **Enforcement and Protection of Rangelands in Uganda**

### ***Enforcement on critical rangelands in Uganda***

The enforcement is targeting protection of under threat from destructive human activities mainly charcoal production and illegal logging in the fragile rangelands landscape. 12 districts carried out protection of rangelands ecosystems, these included the districts of Nwoya, Otuke, Pader, Amuria, Pader, Nakapiripirit, Napak and Amudat district to enhance natural regeneration/restoration. The enforcement activities carried out illegal cutting of trees in the landscape is reducing and thus natural regeneration of trees in the landscape is taking place. The long-term outcome of this intervention of restoration ecosystems and ecosystem services. Implementation of this activity is contributing to the achievement of following:

- a) The national target of Uganda's Vision 2040 indicates restoring the forest cover to 24%.
- b) The Presidential Directive of 30 October 2006 indicates that the protection of shea butter tree.
- c) National Development Plan (NDP) objective 1 on restoration and maintaining the integrity and functionality of degraded fragile ecosystems, Three national targets in the National Biodiversity Strategy and Action Plan (NBSAP) namely: National target 3.3: By 2020, the extinction of known threatened species plants and animals inside and outside protected areas has been prevented and their conservation status improved, National target 3.2: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems and National target 3.5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation.

Through creating ownership of the above efforts by NEMA, the District leaders, district technical staff, National Forestry Authority and local communities participate in the restoration activities.

The achievement of the above targets is critical for promoting ecosystem based adaptation to climate change in order to increase the resilience of ecosystems and communities to the impacts of climate change. At the global level these activities contribute to Government's efforts in implementing Sustainable Development Goal (SDGs) Goal 13 on combating climate change and its impacts and Goal 15 on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combating desertification, and halting and reverse land degradation and halt biodiversity loss.

Uganda's efforts in implementing global biodiversity target under the Convention on Biological Diversity (CBD) links the to the global Aichi biodiversity targets 12 on the preventing extinction of known threatened species, Aichi target 14 on restoration and safeguarding of ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable, Aichi target 15 on enhancing ecosystem resilience and Aichi target 7 on ensuring that areas under agriculture, aquaculture and forestry are managed sustainably to promote conservation of biodiversity.

### ***Restoration and protection of Oliduru Central Forest Reserve***

The ongoing restoration of 222 ha. of Oliduru Central Forest Reserve in Otuke district will contribute to the achievement of the national target in Vision 2040 of restoring the forest cover to 24% and also in implementation of NDP objective 1 on restoration and maintaining the integrity and functionality of degraded fragile Ecosystems and three national targets in the National Biodiversity Strategy and Action Plan (NBSAP) namely: National target 3.1 By 2020, at least 17% of terrestrial and inland water ecosystems in Uganda are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas for socio-economic benefit of the population, National target 3.2: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, National target 3.3: By 2020, the extinction of known threatened species plants and animals inside and outside protected areas has been prevented and their conservation status improved, and National target 3.5: By 2020, the rate of loss of all

natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation.

This activity is well aligned to the intervention on afforestation and re-forestation in NDP that aims at promoting implementation of sustainable management of forests through restoration of natural forests on protected and private land.

At the global level this activity contributes to Government effort in implementing SDGs Goal 13 on combating climate change and its impacts and Goal 15 on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combating desertification, and halting and reverse land degradation and halt biodiversity loss. Regarding Uganda's efforts in implementing global biodiversity target under the Convention on Biological Diversity, this activity is linked to global Aichi biodiversity targets. Aichi target 11 on protected areas including ecological connectivity of PAS and other effective area-based conservation measures, Aichi target 12 on the preventing extinction of known threatened species, Aichi target 14 on restoration of ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable, Aichi target, Aichi target 15 on enhancing ecosystem resilience and Aichi target 7 on ensuring that areas under agriculture, aquaculture and forestry are managed sustainably to promote conservation of biodiversity.

#### ***Restoration of Mt. Moroto Central Forest Reserve***

The restoration of degraded section of Mt Moroto Central Forest Reserve, targeting 15 ha of Lia stream. Moroto CFR has a total area of 48,210 ha of which 100 ha is degraded (mainly along Lia stream). Restoring this catchments will contribute achievement of the national target in Vision 2040 of restoring the forest cover to 24% and also in implementation of NDP objective 1 on restoration and maintaining the integrity and functionality of degraded fragile Ecosystems and following national targets in the National Biodiversity Strategy and Action Plan (NBSAP): National target 3.1 By 2020, at least 17% of terrestrial and inland water ecosystems in Uganda are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas for socio-economic benefit of the population, National target 3.2: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, National target 3.5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation, National target 5.1 By 2020 people are aware of the meaning and values of biodiversity and the steps they can take to use it sustainably and National target 2.3 By 2019, traditional knowledge and practices of indigenous peoples and local communities integrated into biodiversity conservation and sustainable use at all levels.

Restoring Mr. Moroto CFR is aligned to the intervention on afforestation and re-forestation in NDP that aims at promote implementation of sustainable management of forests through restoration of natural forests on protected and private land. District leaders, district technical staff, National Forestry Authority, the local communities including the Tepeth (the indigenous peoples of Mount Moroto) effectively participated in the restoration and this has created ownership.

At the global level this activity contributes to Government effort in implementing SDGs Goal 13 on combating climate change and its impacts and Goal 15 on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combating desertification, and halting and reverse land degradation and halt biodiversity loss.

Uganda's efforts in implementing global biodiversity target under the Convention on Biological Diversity, this activity is linked to global Aichi biodiversity targets. Aichi target 1 the creating awareness on the values of biodiversity, aichi target 7 on ensuring that areas forestry are managed sustainably to promote conservation of

biodiversity, aichi target 14 on restoration and safeguarding of ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable and aichi target 18 on integration of traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity.



**Environmental Protection Force support enforcement on charcoal production in North Eastern Uganda.**

### ***Restoring bare hills in Ntungamo district***

Restoring the bare hills in Ruhaama county, Ntungamo district is a priority in the National Vision 2040. It also contributes to implementation of the following national biodiversity targets in the NBSAP: National target 3.2: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems and National target 3.5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation.

At the global level it will contribute to Government's efforts in implementing SDGs Goal 13 on combating climate change and its impacts and Goal 15 on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combating desertification, and halting and reverse land degradation and halt biodiversity loss.

In addition it will contribute to Uganda's efforts in achieving the following global Aichi biodiversity targets: Aichi target 14 on restoration and safeguarding of ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable, Aichi target 15 on enhancing ecosystem resilience and Aichi target 1 the creating awareness on the values of biodiversity.

### ***Support to community initiatives on value addition and conservation***

To promote value addition to ENR goods and services in the national development plan as well as protection of threatened species from extinction. NEMA supported communities on value addition and environmental conservation in the districts of Katakwi, Napak and Napakapiripirit. This intervention supports value addition on ENR while at the same time improving the livelihoods of local communities mainly undertaken by women groups.

Improving the income of local communities by this intervention also contributes to government's target of increasing the per capita income of Ugandans from USD 506 to USD 9,500 by 2040, the National target 3.3: By 2020, the extinction of known threatened species plants and animals inside and outside protected areas has been prevented and their conservation status improved, National target 4.1: By 2020, appropriate incentives for biodiversity conservation and sustainable use are in place and applied, National target 4.2: By 2020 at least 2 partnerships established to ensure that wild harvested plant-based products are sourced sustainably and

National target 5.1: By 2020 people are aware of the meaning and values of biodiversity and the steps they can take to use it sustainably.

Global Aichi biodiversity target this activity contributes to its implementation are: Aichi target 12: By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained, Aichi target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.

Aichi target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity, and Aichi target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

The community support will ensure Uganda achieves the following SDGs: end poverty in all forms, achieve gender equality and empower all women and girls, Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, ensure sustainable consumption and production patterns, protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Furthermore, the community support will provide leverage to achieving the following CBD and national targets; National target 3.2: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, National target 3.3: By 2020, the extinction of known threatened species plants and animals inside and outside protected areas has been prevented and their conservation status improved while National target 3.5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation.

In addition, it will contribute to the achievement of the national target in Vision 2040 of restoring the forest cover to 24% and in implementation of NDP objective 1 on restoration and maintaining the integrity and functionality of degraded fragile Ecosystems.

At the global level this activity contributes to Government effort in implementing SDGs Goal 13 on combating climate change and its impacts and Goal 15 on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combating desertification, and halting and reverse land degradation and halt biodiversity loss. Its linkage to the global Aichi biodiversity targets 12 on the preventing extinction of known threatened species, Aichi target 14 on restoration and safeguarding of ecosystems; provides essential services, including services related to water, and contribute to health, livelihoods and well-being, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

#### ***Lessons from Community centred approach to restoration***

Community engagement to effectively participate in ecosystem management has been proved as an important tool for sustained ecosystems restoration and protection. This has been evidenced by the high rate of recovery and regeneration of ecosystem sites restored using community centered approaches. Full participation of these resource users through consultations has helped to create ownership of decisions taken and minimizes litigation costs associated with enforcement. However, compliance enforcement and use of a “stick” may not be avoided in specific circumstances where a win-win has not effectively worked.

Community/resource user engagement and consensus building is also important in providing unchallenged evidence of prior community involvement, should legal actions be necessary. This provides a strong ground for successful litigation. Restoration undertaken in consultation with community leaders and stakeholders will mean implementation of efforts that are local based which will also stand a test of time.

### ***Support to Oil and Gas development in Uganda***

NEMA has been a key player in the oil and gas sector by providing critically needed oversight towards the environmental regulatory aspects of the Oil & Gas industry. There are unprecedented changes that can be triggered by the ongoing activities. There will be economic transformation but environmental changes as well due to the discoveries within or neighboring sensitive ecosystems. Therefore these developments need to be monitored and hence the coordination function as prescribed by the National Environment Act, has led to several entities such as the Uganda Wildlife Authority (UWA), National Forestry Authority (NFA), Directorate of Water Resources Management (DWRM), Petroleum Authority of Uganda (PAU), Ministry of Agriculture, Animal Industry of Fisheries (MAAIF), Ministry of Land, Housing and Urban Development (MLHUD), Directorate of Environmental Affairs (DEA), Office of the Prime Minister (OPM), and the Albertine Districts (DLGs) to form a multi-sectoral team that will ensure all oil and gas development are compliant to the law.

The Legal and Regulatory Framework has been updated with the National Environment Act, No. 5 of 2019 sufficiently covering the aspects of the Oil & Gas Sector that had been missing from Cap 153. There are ongoing works to have critical Regulations under this Act accordingly updated and compliance monitoring of the construction activities of an International Airport being constructed at Kabaale in Hoima district – includes attendant activities like quarrying and sand mining. In Collaboration with the OPM, a National Oil Spill Contingency Plan (NOSCP) has been prepared for Uganda. The Plan was presented to the Ministry of Water and Environment (MWE) senior management and OPM.

The ESIA's of the critical development phase projects have been reviewed as follows:

- i. Tilenga Project whose ESIS approval was issued on 15<sup>th</sup> April 2019 – after a rigorous review process that included public hearings in Nwoya and Buliisa districts.
- ii. Kingfisher Project ESIA report that is in advanced stages of review with the completion of the public hearings that were held in Kikuube and Hoima Districts.
- iii. The EACOP (East African Crude Oil Pipeline) ESIA report that is under review with the completion of a joint review by all lead agencies; and awaits public disclosure before public hearings on the same can be held.

Enabling activities for the newly licensed operators in the Albertine Graben have been regulated and facilitated to take place such as the Oranto Petroleum Ltd, which was granted the Ngassa Deep and Shallow play licenses, prepared an ESIS that was approved by NEMA for the acquisition of seismic data in the Lake Albert region of Kaiso Tonya, Hoima District and the Amour Petroleum Ltd has conducted environmental studies in the Kanywataba area, following issuance of a Licence by the Government of Uganda for petroleum exploration in the Ntoroko area.

## **KRA 2: Green Economy Approach to ENR Management Developed and Promoted**

### ***Support to district local governments***

To improve performance of the district local government in environment and natural resource management, 27 (Twenty seven) District Local Governments; namely Amuria, Kaberamaido, Ngora, Namisindwa under Mbale Regional Office, Kamuli, Buikwe, Mukono, Kassanda and 15 Lower Local Governments (Sub counties) under Central region, Buliisa, Kibaale and Kabarole under Masindi Regional Office, Mbarara, Bushenyi, Ntungamo, Ibanda and Kamwenge under Mbarara Regional Office, Alebtong, Otuke, Lamwo, Agago, Abim, Nabilatuk, Pakwach, Apac, Adjumani, Kwania, Nebbi, Districts and Kotido Municipal Council in Northern Uganda were supervised and mentored. This will ensure the new and emerging issues under the green economy approach are integrated in the district plans and budgets.

In addition, the capacity building of 80 District Natural Resources officers and Environment Officer (30 females & 50 males) was undertaken to build the capacity of Environment Officers to handle environment issues, promote partnerships and networks in Environment management, enhance decentralized environment management functions of the Local Governments, and consequently promote sound environment management.

### ***Promoting energy efficiency in schools***

Training in use of energy efficiency systems was undertaken in Soroti municipal council and Nebbi District. The purpose of the trainings was to make the participants appreciate the use of energy efficient systems. It was also aimed at promoting good practices and behaviour change in terms of utilisation of energy in all its forms. The key participants for the meeting were members of the senior management committees, school administrators and teachers in charge of an environment related club at school or teacher representatives on the school management committee. These categories of participants were chosen so that they could influence decision in their respective schools to budget and acquire energy efficient systems particularly energy saving stoves. A total of 30 participants (23 males and 7 female), were trained in Nebbi District and 74(46 males and 28 females) participants were trained in Soroti Municipal council. Following the training 2 (two) institutional energy saving stoves were constructed in each of the 7 (seven) primary schools of Amen, Kichinjaji, Madera Boys, and Nakatunya Primary schools in Soroti Municipal council; Agwok, Goli and Parombo primary schools in Nebbi District.

School administrators of the respective schools reported a reduction in the consumption of wood fuel by 50% on average which has also reduced the financial expenditure on purchase of wood fuel by approximately 50%. The cooks reported that they experience clean cooking with a reduction in the smoke emitted from the stoves. This is a clear indicator that the sustainable production and consumption principles are being used by the key selected schools. The schools have adopted the green initiatives, reinstated the environmental clubs.

Furthermore, the stove pavement does not emit heat hence making the surfaces cold and hence reducing the risk of burns to the persons using them. As a result, many parents have enrolled their children for the school feeding program which has also improved on nutrition school attendance as well as the teaching and learning process.

The Authority's long-term sustainable plan has led to the development of signed commitments by the school administrators (equivalent of MOU) and continued compliance with good environment management practices in the schools. This will contribute to government commitment in the NDPII.

### **KRA 3: Strategic Environment Literacy, Access to Information and Popular Participation Enhanced**

#### ***Undertake environmental literacy and public education programmes***

NEMA has a statutory function of promoting awareness in formal, formal and non-formal education about environment issues. Environmental literacy and public awareness programs have been conducted in various ways including print and digital media programs, sensitization meetings, information clinics among others. The target populations have also been varied including educational institutions, local communities especially as part of wetland restoration activities as well as the general public. This FY18/19, the awareness creation focused on beating plastic pollution by stopping the use of single use plastics, fighting air pollution as well as emerging critical environment issues like wetland degradation and general environment management.

#### ***Enhancing environmental literacy and Public education in educational institutions***

The institutions that benefited from these programs include;

Merryland High School; this was carried out partly as a response to an expressed need from the administration for support in environment management planning and implementation in a secondary school setting. It was also a good opportunity to engage the school community in an awareness-raising activity and support the Environment Club of the school to mobilize the rest of the school community to engage in sustainable

environment management practices. The activity was conducted in two phases i.e. meeting with the teachers and then the students.

Kampala International University-Jinja campus. The students undertaking environmental courses visited NEMA office and were sensitized on roles of NEMA, its activities as well as on Kaveera and other environmental issues.

The Uganda Students Union in Kuwait (USUK) also visited NEMA offices. The students comprised of both Ugandan University and secondary school students. They were also taken through what we do as NEMA and sensitized on general environment management practices. Key to this was a call on them to recognize their role in Society and step up their responsibility to change the minds and hearts of the population to exhibit positive action on environment management.

#### ***Awareness raising and training of journalists in West Nile region;***

The aim of the training was to increase journalists' knowledge and awareness of important environment concepts, topics and problems, and to provide them with long term support in their continuous work on these subjects. This was necessary because the media play the 'gatekeeping' role in the public sphere. Media are the one stop center for information and communication. Therefore, issues that are made prominent by journalists and other practitioners on different media usually influence opinion and discourse in the public sphere. Since the gatekeeping process includes selecting, writing, editing, placing, scheduling and disseminating information, it is imperative that the gatekeeper is abreast and conversant with topical and thematic features of the communication.

Environmental illiteracy among the gatekeepers is one of the factors shaping production, dissemination and interpretation of environmental news in the public sphere. Because a great majority of journalists lack the knowledge and capacity to report effectively on environmental issues, many distinct issues and challenges are conflated and confused, thereby skewing public understanding of the environment, environmental management and environmental responsibility in Uganda.

This activity targeted all media houses from the districts of Adjumani, Arua, Koboko, Maracha, Moyo, Nebbi, Yumbe, and Zombo District. Each media house was represented by a journalist/reporter and a News Editor/Talkshow Host. The training also included bureau chiefs of mainstream media in the region.

#### ***Environmental campaign on Kaveera ban***

The tuveku kaveera campaign has been ongoing since FY 2017/18 and to-date, and pilot survey was undertaken by NEMA in schools around Kampala, Mukono and Wakiso, to understand the public perception towards the use, knowledge about its dangers and other aspects why the ban should take effective. Findings from the schools surveyed ( Lubiri senior secondary school, Mengo senior secondary school, Naalya senior secondary school, Namugongo senior secondary school, Kyandondo senior secondary school, Vienna college and Namilyango college) indicate that 75% of the respondents were aware about the campaign. This is mainly through the media channel of NBS TV and partnership support with Vivo energy which have both collaborated with NEMA in this campaign.

The findings further indicate that, disposal of waste in the dust bin and open burning accounts for 73%, which are the least preferred in the principles and practices of sustainable consumption and production (SCP); and the most preferred and desired practices are recycling, re-use, reduction and rejection as seen in Table 60 below.



Table 60: Common practices used to manage kaveera before the campaign

No.	Common practices	Percentage (%)
1	Disposing off in the dustbin	38.2
2	Burning kaveera after use	34.8
3	Keeping kaveera for reuse/recycle	10.8
4	Sensitizing on the dangers of kaveera	1.5
5	Using kaveera alternatives	10.8
6	Setting laws on use of kaveera	2.0
7	Ban use of kaveera at school	2.0
	<b>Total</b>	<b>100</b>

Source: NEMA, 2019

62.2% of the respondents had high levels of knowledge on the dangers of using kaveera. Thus this calls for mass education and awareness programs on such dangers (environmental and health) in order to cause attitudinal change within the population on the use of kaveera.

The dangers of the prolonged use of kaveera to the health of the ecosystems, human beings, aquatic life and the soils as well as below ground biodiversity is very worrying. The pie chart below indicates that soil fertility is affected by the kaveera at 33% followed by 20% degradation of the environments. This calls for serious measures to be undertaken by government in the ban of kaveera to ensure soil production in Uganda is not affected and hence affecting the agricultural production which affects livelihoods in the long run.

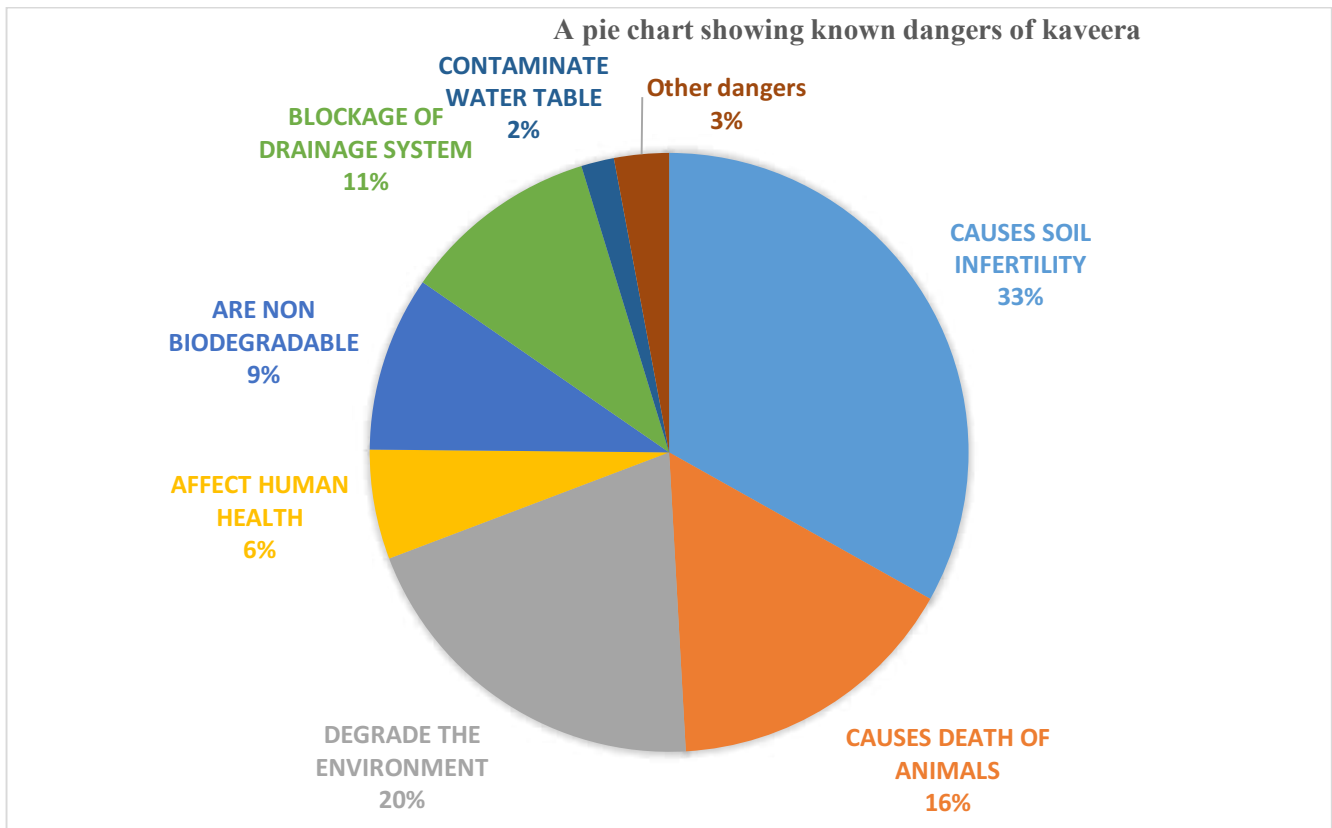


Figure 44: Danger of Kaveera usage in Uganda

The survey also indicated that 76.2% of the respondents were aware of the alternatives but still there is need continuous mass education and awareness programs to popularize the alternatives to kaveera in order to eradicate its use by the population.

A follow up on the circular to the schools by the Ministry of Education and Sports, indicates that most of the schools visited by the survey team; 84% have not received the circular. NEMA should get interested and follow-up the receipt, use and implementation of the circular by schools in Uganda. It should be noted that, the schools have been practicing both the least preferred (burning and dumping) and the most proffered (recycling, use of alternatives and others) methods of managing kaveera as seen in the Table 61 below. The existing best practices in schools are very good entry points for mass education and awareness programs on the use of kaveera.

**Table 61: Common practices used before the environmental campaign and Ministry of Education and Sports' Circular on ban of Kaveera use**

No.	Common practices before the campaign and circular	Percentage (%)
1	Burning after use	21.5
2	Dumping in the dustbin	19.8
3	Use of alternatives	18.0
4	Cleaning the compound	7.0
5	Sorting the rubbish	5.2
6	Sensitizing on proper use	5.2
7	Recycling of kaveera	23.2
	<b>Total</b>	<b>100</b>

It is noted that the few schools that received the circular have taken some positive actions on the use of Kaveera. 19% of the schools were disposing the kaveera properly, while 47.6% minimized its usage, 9.5% used alternatives and banned it completely and 14.3% sensitized the schools about its dangers.

The disposal of kaveera is still poor and the least preferred methods like dumping and burning are still in practice posing serious environmental, health and production challenges. There is a strong need to popularize the principles and practices of sustainable consumption and production (SCP) like recycling, re-use, reduction and rejection.

The tuve ku kaveera campaign is popular and has resulted into actions by other entities like Ministry of Education and Sport (MoES) and churches that are now promoting some best practices like recycling and re-using and awareness on use of kaveera. Besides, the consulted people have advocated for the continuation of the campaign for various reasons but mainly environment protection.

The public are aware of the dangers of kaveera (mainly environmental concerns which obviously translate into health and livelihood problems). Thus people need to protect through an effective legal regime and systems, mass education and awareness. However, new law on kaveera (as amended in National Environment Act, 2019) has projected a situation as it is difficult to monitor and control the ban on kaveera based on the limit of 30 microns unless the extended producer's/manufacturer's responsibility and product stewardship regulations and systems are introduced and effectively practiced.

#### ***Undertake Training of Trainers (TOTs) on integration of ESD into academic and non-academic programs at all levels of learning***

A total of 5 (five) Training of Trainers (ToTs) were conducted in various institutions, three for primary school teachers and two in Universities.

In Nebbi district 2 (two) ToTs were conducted for primary school teachers where 218 (39 female and 179 male) participated. Prior to this a baseline survey was conducted in 10 Primary Schools in the same district to establish

the state of environment management practices. Another training was conducted in Moroto District, where 41 teachers (22 males and 19 females) participated.

In tertiary institutions, 2(two) ToTs were conducted in tertiary institutions in Soroti University and Muteesa I Royal University. In Soroti University 34 (thirty-four (24 males and 10 females) participants attended. In Muteesa I Royal University 24 participants (16 males and females) attended.

Key output of the training was the commitment to development environment management policy for the institutions. This we hope can guide environment management activities in the higher institutions of learning.

Follow-up visit and awareness meeting at Ndejje University and Islamic University in Uganda were conducted. The purpose was to strengthen partnerships and enhance environment management activities/projects.

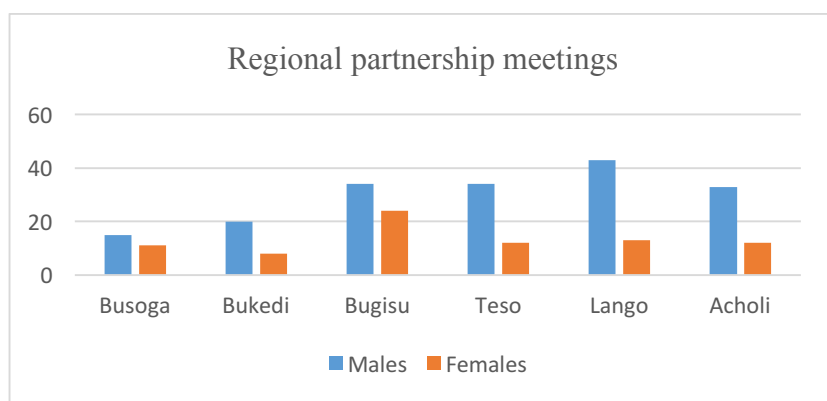
#### **Implement the ESD strategy in schools and other learning institutions.**

To achieve this planned target of implementing ESD strategy in schools, this financial year, partnership meetings were held with education managers including District Education Officers, District Inspectors of schools and Centre Coordinating Tutors (CCTs) and Environment officers. . These meetings were critical because these categories of education managers over see both administrative and academic aspects of institutions therefore to realise positive results in education institutions the managers are key. The environment officers of the districts/municipalities of the respective regions were also part of the team. This was meant to link them up and to support education managers to enhance environmental management in their institutions.

This FY 18/19 these partnership meetings have been conducted in the districts and municipalities of 5 (five) sub-regions including;

*Table 62: Partnership meetings held with District Education managers and environment officers in selected region across Uganda*

Sub-region	District /Municipalities	Total number of participants	Male	Female
<b>Busoga</b>	Jinja, Jinja Municipal council, Namutumba, Namayingo Mayuge Kamuli, Iganga, and Iganga municipal council	26	15	11
<b>Bukedi</b>	Butaleja, Tororo, Tororo Municipality, Busia and Busia Municipality	28	20	8
<b>Bugisu</b>	Mbale, Mbale Municipality, Kapchorwa, Budadiri, Bududa Kween, Manafa, Sironko, Budaka, Pallisa, Kibuku, Bukwo),	58	34	24
<b>Teso</b>	Soroti, Soroti Municipality, Katakwi, Kumi, Kumi Municipality Ngora, Kapelebyong, Bukedea Serere, Katakwi, Amuria and Kaberamaido.	46	34	12
<b>Lango</b>	Lira,Lira municipality, Alebtong, Otuke, Oyam, Apac, Apac municipality, Dokolo, Amolatar, Kole, kwania and Agago).	56	43	13
<b>Acholi</b>	Gulu, Gulu Municipality, Omoro, Amuru, Kitgum, Pader, Lamwo and Nwoya.).	45	33	12
	<b>Total</b>	<b>259</b>	<b>179</b>	<b>80</b>



**Figure 45: Regional partnership meetings**

The engagements of the education managers in these partnership meetings have resulted in rejuvenation of environment clubs in schools, undertaking of greening initiatives, commitment to integrate environmental aspects in the inspection tools of education managers as well as the performance appraisal forms of the head teachers. As seen in figure 45 above, there was inclusive participation of both males and females, however, the number of men participating in partnership meeting were more at 69.1% than women at 30.9%. This calls for more gender analysis to understand why less women are engaging in partnership meeting.

#### **Produce Information, Education and Communication (IEC) materials**

Planning, production and dissemination of IEC materials and publications aims at enhancing access to environmental information, education and public participation among the target stakeholders at national, local government and community levels; as well as enhancing NEMA's visibility through publicity of its interventions and results, and as source of information for educational institutions, libraries and resources centres, among others.

Various materials were periodically produced and distributed to target stakeholders at NEMA, at different fora and on request. A wide range of the materials produced were based on different thematic areas; The outcome of the section therefore was increased access to and use of NEMA information materials, enhanced knowledge and understanding of Environment issues, enhanced partnerships and increased public participation; among others;

#### **Environmental information**

Capacity building of local government officials and Civil Society Organisations (CSOs) on the use of EIN developed tools for monitoring potential impacts of oil and gas activities on the environment was undertaken to share knowledge and experience on the activities carried out by the Environment Information Network (EIN) and to equip the Local Government Officials and CSOs with technical skills in using the developed monitoring and data collection tools intended to help measure the degree and quality of change and track the impact of oil and gas related developments to the environment. 35 government entities (20 male and 15 female) were trained on how on the development and management of core datasets such as data on wetlands, forests, protected areas and many more, to facilitate open access to environmental information /data and sharing of information at National level and how to develop information management tools, collate data and other data products from existing data sources.

This will ensure government achieved its planned targets in the NDP II as well as achieve the global targets of the SDGs hence Uganda will have resource user co-operation enhanced, assisting the community in identifying untapped resources and promoting their sustainable utilization, strengthening indigenous, administrative and political skills relevant to ENR Management, influencing behavioral and attitude change for better ENR Management and enhancing sustainability of ENR Management projects.

**KRA 4: institutional capacity and mandate strengthened****Staffing at NEMA**

To ensure NEMA's institutional mandate is effective, the human resource and management filled up all key vacant positions and mainstreamed all short-term contract into long term 5-year contracts. Currently the total number of staffs including donor funded project staff at the Authority is at 173 (98 male and 67 female) with 8 vacant positions to be filled. The staffing level have increased from the previous financial year 2017/18. The Board also approved additional personnel under the Oil and Gas departments to enable the Authority to undertake effective management of increasing oil and gas development in the country.

**KRA 5: National, Regional and International Partnerships****Implementation of the Multilateral Environment Agreements (MEAs)**

As an institution in charge of environment management in the country, the Authority coordinates several Multilateral Environment Agreement (MEAs) signed by Uganda. Among them include, the Convention on Biological Diversity (CBD), Stockholm Convention, Basel Convention, Minamata Convention, Basel Convention, and the Vienna Convention/Montreal Protocol. The MEAs are mainstreamed/integrated into the annual works of the Authority and are implemented through Key Performance Areas (KPAs) according to annual work plans and budgeted within funding from Government of Uganda.

**Support resource mobilization**

Uganda completed the project proposal for a Global Environment Facility (GEF6) project on Institutional Capacity Strengthening for Implementation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing. The Project approval GEF Council is expected in Oct/November and implementation is expected to start in early 2020.

2 (two) fundable projects have initiated and coordination in ongoing to develop project concepts namely:

- i. Reducing environmental degradation in the Mt Elgon Ecosystems through ecosystem restoration and sustainable land management (to be funded by GEF by GEF7 Replenishment window. It is a multi-focal area project on biodiversity, climate change and sustainable land management)
- ii. Memorandum of Understanding has been signed between NEMA (Uganda) and the Department of Environmental Affairs (Malawi). A national taskforce has been instituted. The two countries will develop a joint project proposal with support from the Secretariat of the Convention on Biological Diversity under the Bio-Bridge Initiative. Uganda has prioritized valuation of wetlands.

A project on Integrating Natural Capital into Sustainable Development Decision Making in Uganda completed and approved by the Darwin Initiative, the donor supporting the project. The output will assist Government in achieving cooperation with international institutions in Environmental management in the National Vision 2040.

In addition realization of the following national biodiversity targets; **National target 7.2:** By 2017, finance resources for effectively implementing NBSAPII is increased by at least 10% from the current level, **National target:** By 2018, new financing mechanisms are operational and new funding mobilized for biodiversity conservation, the Global Aichi biodiversity **20:** By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels and the SDG Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

### Private sector engagement

80 participants from the Civil Society Organizations (CSOs) were trained 25 percent female participation in the Kigezi sub-region on the most practical ways of ensuring that environmental concerns are integrated, in their plans to foster sustainable environment management practices.

The participants composed of district environmental officials, private sector and Civil Society Organizations within ecosystem and catchment areas of Kigezi region (Kabale, Rukungiri, Kisoro, Rubanda and Rukiga Districts). Key points to note were that conservation should move hand in hand with incentives and recognition, NEMA, local governments and CSO/NGOs should make follow-ups on presidential directive on restoration of eviction of abusers, operationalize the environmental tribunals that can handle core abusers, CSOs/NGOs NEMA engagements should be more regular (biannual) for effectiveness, NEMA should coordinate the funding mechanism of CSOs/NGOs and line ministries and agencies should develop an advocacy mechanism of bringing national and district leaders on board in management of environment.

Table 63: Inclusive participation of men and women in ENR by NEMA in FY2018/19

NEMA activities in FY 2018/19	Male - %	Female- %
Training/capacity building in ENR Mgt.	37.0	38.4
Board room discussions/Technical meetings	32.9	37.8
Community meeting/barazas	25.4	18.2
Access to NEMA library facilities/services	3.4	3.4
Access to environmental information	1.3	2.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

Source: NEMA, 2019

### Challenges

- i. Increase in atmospheric pollution due to emission of noxious gases and noise. Particulate matter (PM2.5 and PM10) is the biggest contributor to air pollution from boilers, furnaces and incinerators in industrial facilities.
- ii. High demand for construction materials as well as extraction of construction materials (sand, rock, murrum, water).
- iii. Increased residual impacts which include scarred landscape, soil/land degradation and in some cases draining of wetlands and disruption of the hydrology/drainage systems (which may affect the water catchment system) and, un-restored mines and murrum/gravel borrow-pits posing a threat to human life, animals, among others.
- iv. Formulation of new districts which require a lot of technical and administrative support which has led to high demand of technical and administrative support to the local governments.
- v. Low capacity of local governments and lead agencies in environment and natural resources management due to inadequate funding, low staffing and limited equipment.
- vi. Inadequate institutional synergies and coordination among Government MDAs in the implementation of policies and enforcement of the respective laws on environment and natural resources.
- vii. Environmental degradation with impunity by some investors who take advantage of the poor facilitation of local governments and MDAs and the limited level of staffing at NEMA.
- viii. Public apathy that environment management is the sole responsibility of the Government and NEMA in particular. There is lack of public/community responsiveness and commitment to clean, healthy and productive environment.

### Recommendations

- i. The Government of Uganda should enhance the capacity of local governments and other lead agencies in environment and natural resources management by providing adequate conditional grant for project

support especially restoration of fragile ecosystems, enforcement, public education programs, staffing, skilling/training and equipment.

- ii. The new National Environment Management Policy and the National Environment Act, 2019 are expected to improve on institutional synergies and coordination especially in regard to enforcement.
- iii. Continuous public education, awareness and literacy programs to break-through the existing apathy and ensure that the people of Uganda and other stakeholders acknowledge and appreciate their roles and responsibilities to protect and conserve the environment for the current and future generations.

## 10.6 METEOROLOGY

### 10.5.1 Achievements in the FY 2018/19

June July August (JJA), September October November December (SOND), December January and February (DJF) and March April May (MAM) seasonal forecasts issued from June 2018 to May 2019 for all regions of the country; MAM seasonal forecasts was translated into 25 local languages for all regions of the country from March 2019 to May 2019; The March-April-May seasonal forecast was published in local newspapers.

7 regional radio talk shows were conducted in Gulu, Moroto, Mbale, Mbarara, Fort Portal, Kampala and Kakumiro to disseminate and get feedback on the seasonal forecasts issued. UNMA supported the Aviation sector provided through 1460 Terminal Aerodrome Forecasts and 16,477 Flight folders to enable air navigation in and outside the country.

Research on climate trends of 2018 is ongoing for production of the Status of the Climate for Uganda in 2018. The annual cycles of temperature and rainfall, and annual spatial rainfall and temperature trends have all been done. A few more analyses are yet to be done and the document on the state of climate of Uganda in 2018 produced.

Popularization of meteorology in schools carried out in 30 primary and 30 secondary schools in Mubende, Kassanda, Mityana, Kisoro, Mt Elgon and Bunyoro sub-regions where students were sensitized on weather and climate change aspects and career pathways on how to become a meteorologist.

Sixteen Community based Automatic weather stations reactivated in Kaabong(2), Kumi-Ongino, Namukora, Agoro, Agago, Amuru, Kamuli, Gulu, Mukunyu, Kitswamba, Kotido, Abim, Mityana, Nabiswera and Apac. Thirty-two manual weather stations, 12 synoptic stations and 40 Automatic Weather Stations were maintained across the country. Enhanced capacity of farmers and agricultural extension officers on the application of weather and climate information at farm level in Butaleja (40), Isingiro, Gulu, and Sembabule (50).

Formalized land in Sembabule with a lease agreement signed with Buganda Land Board for 49yrs; Bududa land was surveyed and letter of land allocation was issued to UNMA by the town clerk office; Rakai was surveyed and a letter of no objection by the district issued to UNMA to acquire the title; and Kyenjojo land formalization was completed with an MoU signed between UNMA and the District.

Nine Stations of Gulu, Pacwa and Butiaba were reactivated by installation of a new rain gauges; Bugaya was reactivated with repair of the data transmitter. Stations of Kotido, Ikulwe, Wadelai, Kiige and Pachwa stations were rehabilitated.

Nineteen rain gauges, 60 measuring cylinders, 25 rain bottles, 4 hook gauges, 4 micro gauge were procured. 80 Community Weather Observers issued engagement letters and rainfall data volume increased drastically. Six Weather stations of Buku, Soroti, Gulu, Arua, Nakasongola Airbase and Kasese were re-equipped with calibrated digital barometers. Seven digital thermometers were calibrated and distributed to the stations of Buku, Tororo, Jinja, Kasese, Masindi, Arua and Lira. Lira zonal office rehabilitation was carried out to 90% completion level.

Contract for the supply and installation of the third weather radar was signed and Letter of Credit of opened within the available funds. The first weather radar was successfully installed in Kigungu-Entebbe.

Below is the progress made in the implementation of the Weather RADAR Project to-date;

Table 64: Progress in implementation of weather RADAR Project

Radar	Site	Implementation Status	Remarks
1st	Kigungu-Entebbe	<ul style="list-style-type: none"> <li>Contract awarded and signed on 14th June 2017</li> <li>Land acquired from Uganda CAA</li> <li>Critical Design Review (CDR) and Factory Acceptance Training (FAT) completed</li> <li>Installation and Site testing concluded</li> <li>Onsite training undertaken in July 2019</li> <li>Awaiting commissioning</li> </ul>	Radar became ready for commissioning and handover immediately after the training by the contractor in July.
2nd	Mwizi-Mbarara	<ul style="list-style-type: none"> <li>Contract awarded and signed on 2nd July 2018</li> <li>Land procured</li> <li>Critical Design Review (CDR) and Factory Acceptance Training (FAT) completed</li> <li>Equipment in shipment from Germany</li> </ul>	Anticipated date for commissioning is end of December 2019.
3rd	Lira University-Lira	<ul style="list-style-type: none"> <li>Land acquired from Lira University</li> <li>Contract has been awarded pending signature</li> <li>Critical Design Review (CDR) and Factory Acceptance Training (FAT) - Yet to be done</li> <li>Installation -Yet to be done</li> <li>Commissioning -Yet to be done</li> </ul>	Among the pending items on this Radar is a funding gap (UGX 7 Bn) i.e. (UGX. 5.6 Bn for equipment and UGX 1.4 Bn for support infrastructure)

### 10.5.2 Status and Trends of Sector Performance Indicators

#### % Weather observation stations operational and submitting data throughout the year

UNMA has established a network of Weather stations across the Country. These are in categories of Manual Weather Stations (53), Automatic Weather Stations (43) and Rain fall Stations (200). Each of the above stations, produce records of weather observations on a daily basis. Thereafter, the records of weather data are transmitted to UNMA Headquarters by use of telephones, postage/courier, internet and audio.

Table 65: Performance in Weather Data Transmission

SN	Type of Station	Quantity	Sending data	Performance
1	Manual weather stations	53	32	60%
2	Automatic Weather Stations	43	40	93%
3	Rainfall stations	200	80	40%
4	Upper air	1	0	0%

Out of the 53 Manual Weather Stations (MWS), it was only 32 (60%) stations out of 27 targeted stations that transmitted weather data to UNMA Headquarters. The low response was attributed to not functional MWS due to lack of Staff deployed at these stations.

The Automatic Weather Stations (AWS) performed well; out of the targeted 43 stations, 93% of the 43 stations transmitted weather data to headquarters. The high performance was because the instruments were well maintained and provided with enough airtime the stations used to transmit data to the central server. The failure of the 3 AWS in transmitting weather data was due to absence of spare parts to replace failed Remote Telemetry Unit.



During the reporting period UNMA was able to raise the percentage rainfall stations transmitting weather data to 40% of the 200 rainfall stations. This performance is better than that of last year which was 20%. This was attributed to UNMA's ability to facilitate the community rainfall observers with rainfall cards and a monthly allowance to maintain the stations. The observers transmit the weather records by postage.

However the timeliness is still a problem because by postage the data reaches late taking a week's time instead of one day as required to produce early warning information. To improve on the situation UNMA will provide mobile phones to the observers such that weather data can be transmitted within a day to the headquarters.

#### **% of districts with functional early warning systems**

As of July 2018, Uganda was subdivided into 128 Districts (inclusive Kampala). In each of these districts UNMA must establish a weather station which must measure at least 3 of the 7 key weather parameters (rainfall, temperature and wind).

The weather station is basic tool for a functional district early warning system in each of the districts. Therefore where ever UNMA has established a weather station that makes a stepping stone for the districts to develop a functional early warning system.

#### **Coverage of Weather Stations in Districts**

UNMA made effort that in each of the four (North, West, Central, East) regions of the country, weather stations are established. The weather stations can be operated manually or automated. Table 66 below shows how weather stations are spread over the regions. The Northern region has the highest share with 23 stations followed by Eastern with 10 stations; West and Central have the least with each having 7 stations. Over all 61 (48%) out of 128 Districts have at least a weather station.

Table 66: Functionality of Weather Stations in Districts

Particulars	North	West	Central	East	Total
Number of Districts in each region	38	35	26	36	135
Districts with Weather Stations	23	10	10	18	61
Districts with Functional Stations	14	7	7	11	39
Percentage of Districts with Functional Stations	61	70	70	61	64

#### **Functionality of the weather stations in Districts**

Whereas UNMA increased the coverage of the Weather stations, across the Country, however Table 66 above shows that functionality of the stations during 2018/19 was at 64% across the country against the targeted 100%. This performance is attributed to the constrained approved structure, which only provides for 74 Observers instead of 202. The 53 major stations to be operational as per QMS requirements, there is need for at least 202 field staff (96 for the 12 synoptic; 72 for the 24 Agromet; and 34 for the 17 Hydromet). However, at the moment there is a gap of 128.

#### **Challenges and Recommendations**

- The increasing spatial variability due to climate change, which requires increasing the density of the weather monitoring infrastructure.
- The need to match the development of the Meteorological services with the dynamic data and information demands resulting out of the growth and development in other economic sectors and evolving international standards

**Recommendations**

- Increased resource mobilization by UNMA through robust cost recovery schemes and other approaches.
- Diversification and Commercialization of client specific products (other than those for the common good)
- Vigilance in the promotion of PPP policy.
- A direct funding window from the environment fund (may start with a small % instead of establishing a new fund).

**10.7 CLIMATE CHANGE****10.7.1 Achievements in FY 2018/19*****Climate Change Law For Uganda Formulated***

Concluded national wide consultations for the formulation of Uganda National Climate Change Bill using categorical consultation methods for local government in four (4) regions, national level MDA consultations, non-state actors to include Civil Societies Organization, Cultural and Religious Leader's representation in the consultation, Private Sector, Development Partners, Political Leaders at local government level and parliamentarian. The key issues that were raised during the different consultations:

- Clause 21 of the Bill (obligations of private entities and individuals) provides for punishment in anticipation. Is this not unconstitutional? Review constitutional articles that require punishment to be clearly defined.
- Domestication of international climate change treaties should be done separately by an independent Act.
- UNFCCC, Kyoto Protocol and Paris Agreement should not be annexed in the schedule.
- Functions should not be specific to the Department. The Bill should just refer to the coordinating institution. It could be any other, not necessarily the Department.
- It is difficult to enforce obligations under the Bill. How enforceable are they? You may have compliance issues.
- Operationalization of the climate change policy should be captured in the purpose of the Act.
- The Bill should have specific strategies on adaptation – e.g. how to address impacts of floods on roads?
- The Bill is silent in youth issues.
- The Bill should have clear sources of funds for the Department.
- Provisions of the Bill on integrating climate change into the education curricula have focused on the formal education system? What about the other forms of education and awareness that are not part of the formal education system?
- The Bill should provide for specific incentives for climate change action.
- Can the Minister enforce something in another Ministry? How feasible is it that the Department can coordinate climate change action in other Ministries? This is not practical.
- Trans -boundary climate change issues – how are they addressed by the Bill?
- Carbon Capture and Storage? Is it addressed by the Bill?
- The Purpose of the Act should be revised – the current provisions do not give sufficient justification for new legislation.
- National Climate Change Advisory Committee – NEMA, NPA are missing – and yet they are critical institutions.
- Timelines should be aligned with other Government planning cycles – e.g. 30th September is not consistent with Government planning cycles.
- Powers of the Minister should be clearly spelt out.

- The Bill should be harmonised with the Access to Information Act. The Bill seems to contradict the Access to Information Act on declining to give information to the public..
- Climate Change Mechanisms – why is it that only the Department is responsible for monitoring compliance? Why not other Government agencies?
- Response: powers of the Department are enforceable – refer to the Water Act that gives power to the Directorate of Water Resources Department to issue water permits for energy, industry etc. The Climate Change Bill was approved by Cabinet on 29<sup>th</sup> July 2019 and now waits for parliamentary tabling in the final year 2019/20

### ***Climate Change Awareness***

Raised awareness on climate change and disaster risk reduction for targeted local politicians and religious leaders for Bugisu Sub region in districts of Namisindwa, Manafwa and Budduda.

Conducted technical hands on capacity building trainings for district technical staff supported under the Strategic Program for Climate Resilience (SPCR) project in three sub regions of the country on climate change and disaster risk reduction with each district represented by six participants (District Natural Resource Officer, District Planner, District Water Officer, District Community Development Officer, District Production Officer and District Engineer). The trainings were as follows:

- **Western region**, districts engaged were; Bundibugyo, Ibanda, Kabale, Kanungu, Kibaale, Kisoro, Mbarara, Mitooma, Ntoroko, Ntungamo, Rukungiri and Sheema.
- **West Nile region**, districts engaged were; Nebbi, Yumbe, Moyo, Koboko, Adjumani and Zombo)
- **Busoga Sub region**, district engaged were; (Buyende, Bugiri, kamuli, Namutumba, Luuka, and Mayuge).

### ***The Second Uganda National Climate Change Symposium***

According to the United Nations Framework Convention on Climate Change (UNFCCC), Article 12 of the Paris Agreement seeks to enhance climate change education, training, public awareness, public participation and public access to information to enhance climate action.

In accordance to article 12 of the UNFCCC, the CCD in collaboration with other stakeholders such as Office of Prime Minister and the National Media Group (NMG) with financial and technical support from UNDP conducted the second national climate change symposium with an overall objective providing an open dialogue on climate change between relevant stakeholders to deliberate on Uganda 's development in a context of climate change, share best practices and show case of innovations that can be implemented to mitigation and adapt to climate change impacts.

The Symposium was organized based on the following themes;

- i. Climate change impacts on Gender roles and Persons with Disabilities (PWDs)
- ii. Private sector involvement in Climate change actions
- iii. Climate Change finance
- iv. Innovation for climate action

The symposium outcomes;

- The National and Global climate change framework and the key positions that Uganda needs to take to improve its development agenda was shared.
- Exposure to Low Carbon (mitigation) and Adaptation technologies
- An accountability committee that will take into account of the sector commitments and action prior to the next symposium was created.

**Capacity of CCD staff in critical skills build**

- I. With support from Enabel capacity building program, four (4) CCD technical staff (three male and one female) capacity were strengthened in application of Geographical Information Systems, Drought and Flood Hazard Mapping
- II. Six (6) technical CCD staff (two male and four female) trained on mainstreaming gender in the sectors and raising awareness in the gender indicators in climate change and action plan was developed to be implemented between 1-3 years and are put to use as well knowledge is shared among other staff.
- III. Three (3) technical staff (One male and two female) training on M&E framework, developing indicators and align with CCD activities.

**Greenhouse Gas Inventory Management System operationalized**

CCD with support from the United Nations Environmental Program (UNEP) hired a team of GHG experts under the First Biennial Update Report which has supported the compilation and improvement of the national GHG inventory system and estimation of GHG emissions for key sectors (Waste, Energy, Industrial processes and product use, -Agriculture, forestry and other land use (AFOLU)).

The AFOLU sector GHG inventory was strengthened with the support of Coalition for Rainforest Nations and Regional Centre for Mapping of Resources for Development. Sector members from Agriculture and Forestry were trained in the use of the Agriculture Land Use greenhouse gas inventory (ALU) and Intergovernmental Panel on Climate Change (IPCC) software while calculating GHG emissions. In the same meeting members were taken through the GHG data requirements and the 2006 IPCC guidelines for emission estimation for this sector.

CCD with the support of GEF through the Capacity Building initiative carried out a sector needs assessment towards collection and compilation of GHG data for the sectors of energy, AFOLU, and waste. This is going to be guide for other initiatives implementation of data management systems in the sectors.

**Percentage change in Uganda's greenhouse gas emissions****a) Computation:**

The intergovernmental Panel on Climate Change (IPCC) Tool for estimating Greenhouse gas emissions, Tier 1 will be used to estimate emissions where  $Emissions = (AD * EF)$

**b) Status:**

Updated National GHG emissions to be reported nationally and internationally through the Biennial Update Report. Tier 1 estimation and default emission factors used in the compilation of the GHG inventory

**c) Progress towards measurement of the indicator**

Capacity building and data management trainings were carried out for technical staff (two males, four females) from four (4) sectors that are key data sources for the National Greenhouse Gas Inventory Management System. The trainings were held in Mukono in January 2019. Technical representatives (Focal Point Officers) from the following sectors were trained; Energy, Agriculture, Forestry, and transport. During the training, participants were able to;

- i. Review of the Draft Greenhouse Gas (GHG) report for Uganda,
- ii. Enhance their skills on the use of the Intergovernmental Panel on Climate Change (IPCC) software for the compilation of national greenhouse gas inventories.

A National MRV system developed with the support of the Global green growth institute is in final development stages to facilitate Measuring, Reporting and Verification of GHG gas emissions, Mitigation actions and Support (Received and Needed).

**d) Challenges in measuring the indicator**

- Lack of financial support towards the establishment and maintenance of the GHG inventory, data compilation, estimation, reporting and quality control/quality assurance.

- Lack/incomplete data sets from the sectors that comprise the source categories for the greenhouse gas inventory management system including (Energy; Waste; Agriculture, Forestry and Land Use – AFOLU; Industrial Processes and Products Use – IPPU)

#### ***Performance of four (4) Clean Development Mechanism (CDM) projects in Uganda Monitored***

9 CDM projects monitored from 22<sup>nd</sup> October – 1<sup>st</sup> November 2018 and these include, hydropower projects (Bugoye, Mpanga, Ishasha and Bujagali), Municipal waste composting plants (Mbarara, Hoima, Mukono, Mbale and Soroti).

- Uganda Municipal Waste Composting Programme – This project is being implemented in 9 municipalities in Uganda. However, 5 were sampled for monitoring including Mbarara, Hoima, Mbale, Mukono and Soroti. The projects are contributing to the reduction of greenhouse gas emissions evidenced by the Certified Emission Reduction certificates issued for these projects.
- Hydro Power Plants – The projects are meeting the reduction of Greenhouse gas emissions with Bujagali alone having CERs of 858,173 tons of Carbon dioxide annually. However, it was observed that although the price of Certified Emissions Reduction (CERs) is very low and with no open market, the project is performing well due to the fact that they have an agreement with World Bank and other buyers of CERs and hence the current price/market challenges have not affected the project. The key issue identified affecting Mpanga Hydro power plant, was catchment management, initiatives to protect water catchments for all projects need to be developed.

#### ***The Third National Communication (TNC)***

Uganda has embarked on the 3<sup>rd</sup> National Communication, the Project Implementation Plan was developed and carried out inception workshop (started March 2019 and expected completion June 2022). The TNC will comprise of the following, national circumstances and institutional arrangements, national GHG inventory (1994 - 2017), national climate change actions, constraints and gaps, and other relevant information.

#### ***Biennial Update Report***

With support from the Global Environment Facility (GEF) through the United Nations Environment Programme (UN Environment), Uganda is in final stages of the compiling the First Biennial Update Report (FBUR) to fulfil its obligations to the UNFCCC (Article 12). A draft Biennial Update Report drafted undergoing external review before final submission to UNFCCC and COP25. The report encompasses components of national circumstances, GHG inventory (2005 - 2015), Mitigation actions and their cost benefit analysis, constraints and gaps, and the domestic Measuring, reporting and verification (MRV) system.

#### ***Nationally Determined Contributions Partnership Plan for effective partner coordination prepare and disseminated***

Through the tripartite arrangement of Ministry of Water and Environment/Climate Change Department, Ministry of Finance, Planning and Economic Development (MoFPED), and the National Planning Authority (NPA), the focal points to the NDC Partnership, Uganda is the first country in Africa to develop a result based NDC Partnership Plan 2018-2020 consisting of 5 outcomes, 49 outputs and 140 key performance indicators. The NDC Partnership Plan aims: to strengthen efficient, operational and gender-responsive governance of climate change; integrate climate change matters in relevant planning and budgeting frameworks at national and local levels; institutionalize effective Measurement, Reporting and Verification system; strengthen capacity of government officials, civil society, private sector and academia to effectively integrate NDC-SDGs commitment and accelerate project financing for NDC Implementation.

The NDC Partnership Plan has so far mobilized support, mainly technical support to catalyze implementation of NDC from development partners, international organizations and non-state actors, for example, Germany, Sweden, the Netherlands, Austria, African Development Bank, World Bank, Global Green Growth Institute, UNDP, FAO, Conservation International, NAP Global Network, World Resources Institute, SNV, IUCN Uganda Country Office, Environmental Management for Livelihood Improvement Bwaise Facility among others.

The NDC Partnership Plan has facilitated the enabling environment for climate action through deployment of timely technical support for climate change mainstreaming through climate and disaster risk screening and climate budget tagging, and contributed to public awareness on the NDC and promoted gender responsive NDC implementation. Additionally, the country has enhanced its MRV system and accessed technical support for development of bankable projects. Financial resources for project implementation of NDC actions are being accessed for mitigation and adaptation actions, for example, implementation of Climate Smart Agriculture programme.

### **SPCR**

#### ***Seven (7) analytical studies to generate information for the elaboration of the Strategic Programme for Climate Resilience SPCR investment priorities conducted***

6 out of 7 SPCR analytical studies were finalized in FY 2018/19 with all technical reviews, stakeholder consultations and validations conducted. The six final reports for the following concluded analytical studies are available;

- Assessment of Information Gaps and Opportunities for Strengthening of the National Climate Change Resource Centre, Knowledge Management System (KMS) and Hydro-met Information.
- Physical Infrastructure and Urban Resilience-Strengthening Climate Change Resilience of Communities and Infrastructure in Major Urban Centers in Uganda.
- Building the resilience of the rural Communities through improved conservation and protection of catchment areas and improving water supply, storage and utilization
- Climate resilient landscapes: Assessment of sites and opportunities for catchment-level investments for adaptation to and mitigation of climate change.
- Review of legal and policy gaps, human and institutional capacity needs and design possible capacity strengthening activities for climate resilience action planning, implementation and monitoring. And
- Viability of agricultural insurance as a climate resilient agricultural practice - Review of opportunities, challenges and development of the viability of agricultural insurance systems in Uganda.

#### ***International climate change financing mobilized (US Dollars 3Million from the Green Climate Fund - GCF for the preparation of the country's National Adaptation Plan –NAP)***

The CCD with technical support from UN Environment has worked on the NAP preparation grant for Uganda to GCF. The Uganda NAP proposal was submitted to GCF, technical reviews and evaluation by the GCF approval committee and now review of comments is in advanced stages. The proposal is at final stage of evaluation after CCD's response to three rounds of comments from the GCF. The proposal amount is USD 2.856,651

#### ***International partnerships for climate action enhanced***

- i. Annual subscriptions to the United Nations Framework Conventions for Climate Change
- ii. Uganda represented during the United Nations Framework Conventions for Climate Change technical negotiation sessions (Bonn Sessions 2019) and Conference of Parties 24 (CoP24)

## 11. CROSS CUTTING ISSUES

### 11.1 Introduction

This chapter presents critical issues that can enhance or impede service delivery if not considered during the development process. They include gender equality and women empowerment, human rights, HIV/AIDS, and issues of the vulnerable and marginalized groups. During this financial year, the sector implemented a number of activities of cross-cutting nature as presented below.

### 11.2 Gender Equality and Women Empowerment

Gender equality is both a human right, and a pre-condition for sustainable development. Ensuring that women and girls are provided with quality in education, health care, decent work and have equal access to resources and opportunities in political and economic decision-making processes will lead to social, economic and environmental sustainability.

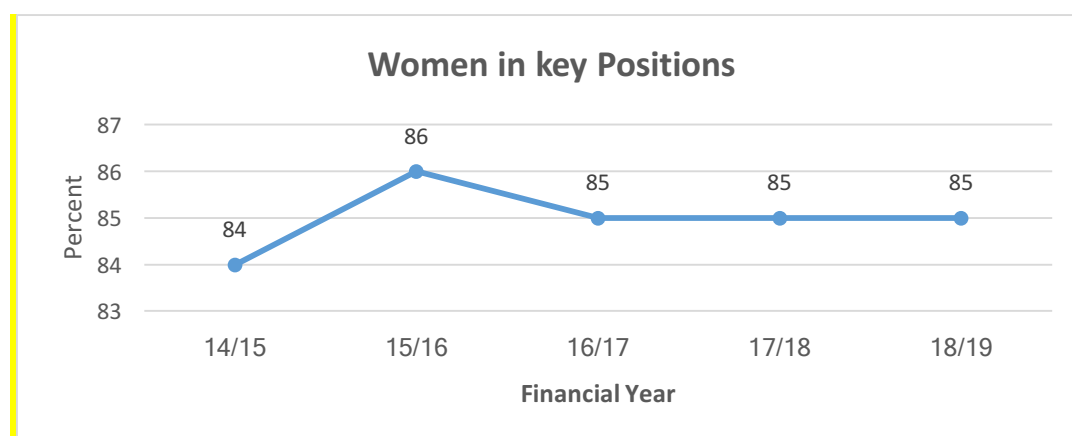
To this end, the Uganda Gender Policy, 1997 (Revised 2007), and the Second National Development Plan (NDP 11) 2015/16 – 2019/20 mandate all development institutions to promote gender equality and women empowerment while executing programmes and activities.

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, several activities have been undertaken to promote gender mainstreaming as outlined below.

### 11.3 Performance Indicator on Gender

#### **Rural water supply and sanitation**

The performance 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 the MWE water supply database as of June 2019, indicates that 85% of WSCs have women holding key positions. The gender indicator for rural water has remained constant at 85% for the last three years. This is attributed to limited resources available for reactivation of dormant committees at District Local Government level.



**Figure 46: women in key positions**

**Water for Production**

The performance indicator for gender mainstreaming in water for production interventions is “Percentage of Water User Committees (WUC) with at least one woman holding a key position”. Key positions on WUCs include Chairperson, Vice Chairperson, Secretary and Treasurer.

In FY 2018/19, 75% of the water user management committees had women in key positions and 49% dams have women in key positions (Chairperson, Vice Chairperson, Secretary and Treasurer).

**Catchment Management Committees**

The Performance indicator for Gender mainstreaming on Catchment Management Committees (CMCs) is the Percentage of CMCs with women holding key positions. Key positions on CMCs include the position of Chairperson, Vice Chairperson, Secretary and Vice Secretary.

Data from 17 CMCs<sup>16</sup> from Victoria, Upper Nile, Albert and Kyoga Water Catchments indicates that 35% of Catchment management committees have women in key positions. This is a reduction from 53% reported last year. The CMCs with women holding key positions include Mpologoma, Awoja, Aswa, Rwizi, Katonga, and Kagera- Maziba. The reduction in the number of CMCs with women in key positions was attributed to limited number of women qualifying for key positions in the new committees that were elected.

Within CMCs several lower level Sub Catchment Management Committees (SCMCs) have been developed to operationalize the CMCs. Information from the management zones indicates that out of the 9<sup>17</sup> SCMCs formed, 78% have women occupying key positions. The SMCs without women in key positions include, Opeta Bisina and Agago.

**Committee on Sexual Harassment Prevention**

In line with the Employment (Sexual Harassment) Regulations, 2012, the ministry established a sexual harassment committee. The objective of the committee is to prevent or deter the commission of acts of sexual harassment and to provide the procedures for the resolutions, settlement, or prosecution of acts of sexual harassment by taking all steps required. The activities of the committee will contribute to creating and maintaining an environment which is free of all forms of gender violence, sexual harassment, and discrimination on the basis of sex/gender. The committee is chaired by the Director Water Resources Management and has representation from all Ministry departments.

**Gender in staff Composition****Permanent Staff**

Data from the Human Resource Department indicates that MWE has 347 permanent staff an increment of 9 staff from the 338 staff reported last year. A gender analysis of MWE employees indicates that 36% (124) of staff are female and 64% (223) staff are male. This indicates an increment from 33% reported last year. This increase is attributed to recruitment of more female staff during the year of reporting.

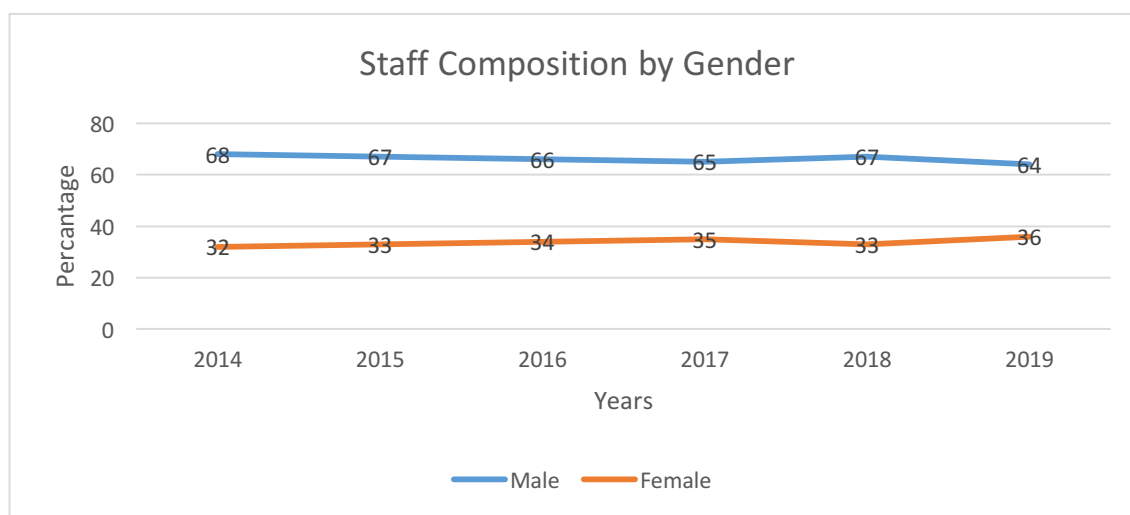
The gender analysis of permanent staff composition for a period of 6 years (2014 to 2019) indicates that the number of female staff members has not significantly improved over the years except in 2019 where there was slight increase. The details are indicated in the figure 47 below.

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<sup>16</sup> Victoria/ Nile, Lumbuye, Mpologoma, Awoja, Lokok, Lokere, Aswa, Albert Nile, Rwizi, Katonga, Kagera-Maziba, Mpanga, Semiliki, Ruhezamyenda, Muzizi, Nkusi and Kiiha

<sup>17</sup> Opeta Bisina, Lake Kochobo, Kelim Taboki, Upper Maziba, Middle Maziba, Lower Maziba, Pager Matidi, Aswa 1, Agago





**Figure 47: gender staffing over years**

A gender analysis by management position indicates that there are 38 staff members in management positions out of which 16% (6) are female. This was the same composition as last year.

At middle management level<sup>18</sup>, there are 123 staff members of which 26% (31) are female and 74% (90) male. The Percentage of female in this category has increased from 23% reported last year to 26% this year. At operational level<sup>19</sup> women are fairly represented with female constituting 46% out of the 85 Staff under this category. The gender analysis of the staffing by seniority is indicated in table 67 below

**Table 67: Gender analysis in MWE by position**

Staff level	Female		Male	
	No.	%	No.	%
Top Management	6	16%	32	84%
Middle Management	31	26%	90	74%
Operational	48	47%	55	53%
Support	39	46%	46	54%
<b>Total</b>	<b>124</b>		<b>223</b>	

### **Contract staff**

The Ministry has a total 702 Staff employed under contract arrangement across departments and regional offices. The analysis of gender composition for contract staff indicates that 28% (197) of staff are female and 72% (505) are male. This indicates a 2% reduction in the proportion of females from 30% reported last year. The Ministry therefore needs to put in place affirmative action measures aimed at ensuring that more female staff members are employed by the sector.

### **National Water and Sewerage Composition Staffing**

The Corporation gives due credibility to gender issues when recruiting staff. By the end of the financial year, the Corporation had nine Board members, of which 44% (4) were women. With regard to the Executive Management Team, 45% (5) members on the team are women. As at the end of June 2019, the corporation had total staff of 3,778 across all its areas of jurisdiction of which 32% are female.

<sup>18</sup> Principal and Senior officers under scale U2 and U3

<sup>19</sup> Officers under scale U4 and U5

**Table 68: NWSC Staff Composition**

Gender	Male	Female	Total	% Female
Board of Directors	5	4	9	44%
Executive Management Team	6	5	11	45%
NWSC Staff	2,578	1,200	3,778	32%

**Gender and equity budgeting assessment**

The Equal opportunities commission (EOC) annually, assesses Ministerial Policy Statements (MPSs) for compliance with Gender and Equity requirements. The main objective of the assessment is to establish the level of compliance of the MPSs with gender and equity requirements. A report<sup>20</sup> from EOC for the MPSs of 2019/20, indicates that the Ministry and all Agencies including National Environment Management Authority, National Forestry Authority and Uganda National Meteorological Authority met the minimum score of 50% having scored 77%, 71%, 65.3% and 53% respectively. Table 69 below indicate trends in performance for the last four years.

**Table 69: Trend Gender and Equity Performance, Source, EOC, MPS, Gender and Equity Assessment FY 2019/ 2020.**

S/N	Vote Name	2016/17	2017/18	2018/19	2019/2020
	Ministry of Water and Environment	59%	51%	74%	77%
	National Environment Management Authority	66%	55%	63.7%	71%
	National Forestry Authority	47%	70%	50%	65.3%
	Uganda National Meteorological Authority	40%	50%	65.3%	53%

The improvement in the sector performance is attributed to:

- Annual Capacity building initiatives undertaken for MWE Planners, Economists and Sociologists.
- Technical support/ backstopping efforts provided by the Ministry of Gender, Labour and Social Development, Ministry of Finance, Planning and Economic Development and the Equity Opportunities Commission.
- Availability of guidelines such as the Gender and Equity guidelines and the MWE Gender Strategies for Water and Environment.
- The improved attitude towards gender and equity by the Ministry staff.
- The existence of a gender unit, in the Water and Environment Sector Liaison Department (WESLD), responsible for coordinating gender mainstreaming initiatives in the Ministry.

**11.4 Gender Analysis studies****Livelihood, Market and Gender Analysis Study**

The Ministry with support from the United Nations Programme, commissioned a study in eight districts<sup>21</sup> to inform the implementation of an eight-year Global Climate Fund program entitled, "Building Resilient Communities, Wetland Ecosystems and Associated Catchments in Uganda". The purpose of the study was to identify the gender gaps, employment needs and income streams that are resilient to climate change. The objective of this study was to improve agricultural practices and off-farm livelihoods and identifying viable livelihood alternatives in order to restore wetlands targeting communities deriving their livelihood from wetland and catchment areas.

<sup>20</sup> Assessment Report On Compliance of Ministerial Policy Statements with Gender and Equity Requirements Financial Year 2018/2019 - eoc.co.ug

<sup>21</sup> Pallisa, Butaleja, Tororo, Mbale, Kibuku, Ntungamo, Kabale and Kisoro

The study revealed that social and cultural norms among both men and women play a significant role in impacting female engagement in livelihood activities at both household and community level. Gender-based violence (GBV) was found to compound women's participation in livelihood activities. Whereas communities had GBV referral pathways, the GBV offenders very often went unpunished given that the elders and leaders lacked the training and skills required to undertake such cases. Other issues identified as impeding men and women participation in livelihood/ markets, included the lack of market information, inadequate access to land, limited financial information and the lack of resources.

The implementation of the Global Climate Fund Program would therefore be strengthened through implementing the following recommendations;

- (a) Fostering the social norms change to redistribute care within the family, from women to men and ensure that care is their equal right and responsibility.
- (b) Introduction of psychosocial care and support programs for survivors of GBV and perpetrators, leveraging existing government and non-government support programs.
- (c) Facilitating the access for communities to government development programs such as Social Assistance Grant for Empowerment (SAGE), Operation Wealth Creation (OWP) and Youth Livelihood Program (YLP) by working with government to re-assess participant criteria.
- (d) Strengthen GVB reporting and referral pathways at community level. This could be through introduction of community level call centres linked to the district, regional and National database and response units.

#### ***Gender Based Violence and Livelihood Strategies study***

The Ministry with support from UNDP, undertook a formative research on the linkages between Gender Based Violence (GBV), Climate Change and Livelihoods strategies. The research was conducted as part of an ongoing United Nations Development Programme (UNDP) and Ministry of Water and Environment (MWE) pilot initiative that aims at integrating GBV prevention actions into climate change mitigation and livelihood enhancement components of the Green Climate Fund (GCF). The study was undertaken in Bumbaie Sub County, Bushenyi District and Puti Puti Sub County, Pallisa District. These Sub-counties were chosen because of differences in use and level of degradation of the wetlands.

The findings confirm the intersectionality between livelihoods and GBV. Promotion of livelihood opportunities is happening in communities where attitudes, norms and behaviors that discriminate against women and girls is prevalent. There is a risk that if gender transformative programming is not systematically undertaken to address existing risk factors for GBV, project activities may exacerbate the already existing risk factors for GBV given that GBV response services are primarily focused on sexual and physical violence.

The study also revealed that informal referral systems exist but are to some extent guided by social norms that protect perpetrators and that the safety and security of GBV survivors and witnesses cannot be guaranteed by the police force. The study further indicated that the existing livelihood interventions are being implemented in a society which has social norms that tolerate violence against women and girls, and that the implementation of livelihood activities could exacerbate GBV.

The major recommendations for the study include:

- There is need to strengthen community based GBV prevention structures so as to ensure community-based safety of women and girls especially when they are collecting water, firewood and when girls are going and coming from school particularly in Puti Puti sub-county. This should be done by engaging local leaders and community structures to develop mechanisms for guaranteeing safety of women and girls
- There is need to develop a strategy on sustainability of the alternative livelihood options that should at the minimum address value chain concerns, diversification of livelihoods, linkages to extension services, environment protection etc.
- There is need to build capacity of stakeholders at district, sub county and community levels.

## 11.5 Economic Empowerment and Initiatives to support the poor and disadvantaged

In a bid to control over exploitation of water and environment resources and to economically empower and enhance skills of the poor, the sector has supported several women and men groups by providing them with alternative economic empowerment activities under various projects.

**The Multinational Lake Edward and Albert Integrated Fisheries and Water Resource Management (LEAF) project**, supported a total of 7,814 people including 3,735 women and 4075 men in 11 districts by imparting skills and providing equipment to support economic activities. The detailed list of groups empowered, the skills imparted, and the location are as indicated in table 70 below

**Table 70: Groups equipped with livelihood skills**

Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project						
No.	Skills imparted	DISTRICT	Group Name	No. of Women	No. of Men	Total
1	Sensitization of identified groups in alternative livelihoods as an incubator for alternative sources of income e.g. making of liquid soap, bar soap, disinfectant, hair shampoo, school chalk, cake baking	Kamwenge	Mahyoro	38	91	129
		Ntoroko		584	12	596
		Kasese		323	0	323
		Pakwach		50	80	130
		Kikuube		80	71	151
		Buliisa		58	64	122
2	Capacity building/training participating institutions in gender inclusive Integrated Water Resources Management	Kasese, Bundibugyo and Bunyangabu		46	0	46
		Hoima, Ntoroko and Rubirizi		30	43	73
3	Awareness raising and mobilization of lakeshore communities on effective sanitation	Kagadi	Kitebere	245	129	374
		Pakwach	Dei	30	18	48
		Hoima	Mbegu	65	44	109
		Kasese	Katwe-Kabatoro	126	117	243
4	Awareness raising and mobilization of communities in effective Catchment management	Kasese	Sebwe	186	439	625
		Bundibugyo	Tokwe and Humya	240	922	1162
		Ntoroko	Semuliki (Bweramule)	333	288	621
5	Capacity building/training of Beach Mgt Units/women associations in fish processing	Buliisa	Wanseko	126	218	344
		Buliisa	Walukuba	44	106	150
		Kikuube	Sebagoro	43	106	149
		Kamwenge	Mahyoro	18	46	64
		Kagadi	Kitebere	11	50	61
		Kagadi	Kabukanga	158	198	356
		Kasese	Katunguru	26	75	101
		Kasese	Kahendero	157	142	299

		Kasese	Hamukungu	99	107	206
6	Capacity enhancement of fishermen and women organizations through trainings	Kagadi	Kitebere	143	206	349
		Buliisa	Kabolwa	70	103	173
7	Sensitization on Mukene and ragoogi fishes utilization	Kikuube	Nsonga	54	187	241
		Kikuube	Kiina	152	40	192
		Hoima	Runga	69	21	90
		Kasese	Katwe Kabatoro	55	54	109
		Kasese	Katwe Kabatoro	50	35	85
		Kasese	Kazinga	26	67	93
<b>TOTALS</b>				<b>3735</b>	<b>4079</b>	<b>7814</b>

The Ministry with support from the **Green Climate Fund and the United Nations Development Programme (UNDP)**, provided alternative livelihood options to wetland user communities in Mitooma, Sheema, Bushenyi, Pallisa and Kibuku districts. This was aimed at reducing the community dependence on wetland resources by promoting alternative livelihood strategies within communities. A total of 475 people, including 237 women and 238 men were supported as indicated in table 71 Below.

**Table 71: Community groups supported with alternative livelihood options**

SN	Group	District	Livelihood Option	Members trained/ Supported	
				Female	male
1	SCODDI	Mitooma	Piggery training	21	14
2	Nshenga Abitega Association	Mitooma	Piggery training	16	15
3	Nyaruzinga	Bushenyi	Piggery training	11	11
			Fish farming (600 flies)	11	11
4	Masyoro group	Sheema	Apiary training	19	13
5	Masheruka	Sheema	Apiary training	19	14
6	Puti puti sub county	Paliisa	40 heifers	15	25
			40 heifers	22	18
			95 turkeys	49	46
7	Buseta Sub county	Kibuku	30 heifers	7	23
			30 heifers	5	25
			65 turkeys	42	23
<b>TOTAL</b>				<b>237</b>	<b>238</b>

#### **Public Sanitation facilities for the Urban Poor**

The Ministry constructed public sanitation facilities for the urban poor in highly populated areas including markets and slummy areas. A total of 6 public sanitation facilities were constructed in 5 towns of Busiika-Bugema, Kiwoko, Butalungu, and Lwemiyaga Rural Growth Centre. The constructed facilities have access ramps for wheel chairs and wide doors to ease entry for the disabled. In addition, the toilets have stances separated for women and men to promote privacy and dignity for the women.

### ***Kiosks for the urban poor***

NWSC is cognizant of the fact that access to safe water is a human right, thus provision of at least the basic water services to all sections of the population is paramount. One of the ways the Corporation reaches out to the poor living in urban areas is through the construction of Public Stand Pipes whose tariff is affordable. During the financial year 2018/19, the Corporation had installed 3,550 new PSPs in about 2,000 villages bringing the total number of PSPs to 17,186. The number of pro-poor connections installed grew by 136% from 3,342 installed in the FY 2017/18. This demonstrates the Corporation's commitment of improving access of water services to all income categories.

**Table 72: Annual Trend of PSPs/kiosks for the period 2015- 2019**

Financial Year	2014/15	2015/16	2016/17	2017/18	2018/19
<b>New PSPs/Kiosks</b>	924	1,093	1,087	1,503	3,550
<b>Total Active PSPs/Kiosks</b>	6,594	8,161	8,859	10,185	15,066
<b>Total Inactive PSPs/Kiosks</b>	2,488	2,680	2,378	2,120	2,120
<b>Total PSPs/Kiosks</b>	9,082	10,841	11,237	12,305	17,186

## **11.6 HIV/ AIDS Mainstreaming**

### ***MWE HIV AIDS Initiatives***

During this reporting period, one sensitization and capacity building workshops for mainstreaming HIV/AIDS and Life style diseases was conducted for MWE Headquarters staff. A total of 60 participants, including 35 women and 25 men from all departments attended.

As part of HIV transmission prevention programmes, the Ministry organized two events on commemoration of World AIDS in December 2018 and International Candle Light Memorial Day in May 2019. The events were undertaken at the ministry headquarters, during Friday tea meetings. Expert guest speakers were invited to give talk to the staff on the latest information of HIV and AIDS. In addition, condoms and IEC materials were distributed.

The Ministry joined other HIV and AIDS service organizations as well as line Ministries in the regional launch of the Presidential Fast Track Initiative to end AIDS in Karamoja and Eastern Regions. During the launch lessons learnt were shared on innovative ways on HIV transmission prevention.

### ***Voluntary Counseling and Testing***

The Ministry undertook Voluntary Counseling and Testing (VCT) for 289 people including 143 females and 146 males. The VCT was carried out in the towns of Kiwoko, Butalangu, and Kayunga- Busana. The HIV positive community members were provided with prophylaxis and referred to nearest health centers for enrollment on comprehensive treatment and care.

Condoms were also distributed during sensitization and awareness meetings in the towns of Kiwoko and Butalangu towns. The condoms were provided by Kiwoko Hospital.

### ***Local Government HIV and AIDS Initiatives***

During the reporting period, 12 districts reported implementing HIV and AIDS related activities. HIV and AIDS mainstreaming activities were carried out by the districts including; condom distribution; capacity building of extension workers in HIV and AIDS mainstreaming; inclusion of HIV and AIDS in bill of quantities for bidding for water construction jobs; collaboration / partnership with AIDS service agencies and referral of HIV positive stakeholders to receive care and support; Below is a table 73 of activities implemented by districts.

**Table 73: HIV/AIDS activities implemented by districts**

District	Activities
1. Luweero	Sensitization and condom distribution
2. Kalungu	Sensitization on HIV prevention and condom distribution.
3. Luuka	Sensitization on HIV prevention; condom distribution and capacity building of extension workers
4. Kassanda	sensitization; inclusion of HIV on bill of quantities; condom distribution collaboration with Health Department for service provision
5. Mubende	Sensitization and condom distribution; HIV & Hepatitis B testing in collaboration with PAC, Mild may and Red cross.
6. Kalangala	Sensitization and condom distribution
7. Rubanda	Sensitization and condom distribution
8. Kikube	Sensitization
9. Amudat	Sensitization and condom distribution in collaboration with Health Department and contractors.
10. Bunyangabu	Sensitization and condom distribution in collaboration with Health Department and making referrals for support and care of the infected.
11. Kaliro	Sensitization, condom distribution and referrals
12. Kaberamaido	Sensitization

**Challenges**

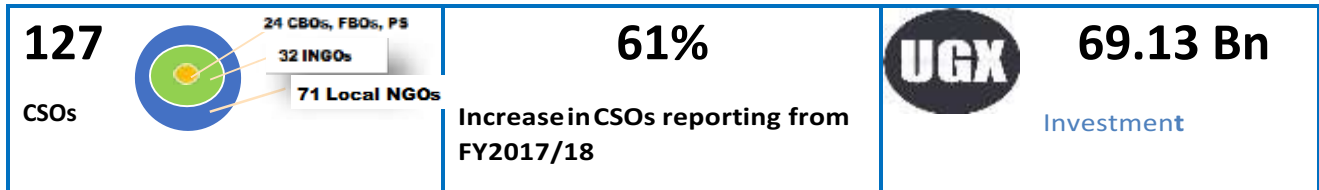
- i) The lack of sector specific gender and equity compact, to guide economists and planners in planning and budgeting.
- ii) Limited data on vulnerable and marginalized groups including elderly, youth, disabled, children and youth, who are usually most affected by inadequate service provision.
- iii) Capacity gaps on gender and equity planning and budgeting more especially for MWE senior staff.
- iv) Limited funding to support HIV/AIDS mainstreaming and the implementation of women and youth empowerment activities within the sector.
- v) Limited capacity to undertake gender analysis during programme formulation and implementation of activities.

**Recommendation**

Capacity of sector staff should be built in undertaking gender analysis of new programmes and projects for purposes of ensuring that projects address the needs of the vulnerable and disadvantaged members of the community.

## 12. CIVIL SOCIETY ORGANISATIONS IN WATER AND SANITATION

### 12.1 Reporting Status



This report is based on submissions from 127 CSOs as compared to 82 CSOs for the FY2017/18. The summary of submissions is presented in figure 48 below. Very impressive reporting has been realized this year with close to 61% increase from last year’s submissions. The reports received represent about 64% of an estimated 200 active WASH CSOs, of which 70% are UWASNET members. Statistically, the information contained provides a true representation of CSO performance in the Uganda water and sanitation sub-sector for the fiscal year 2018/19.

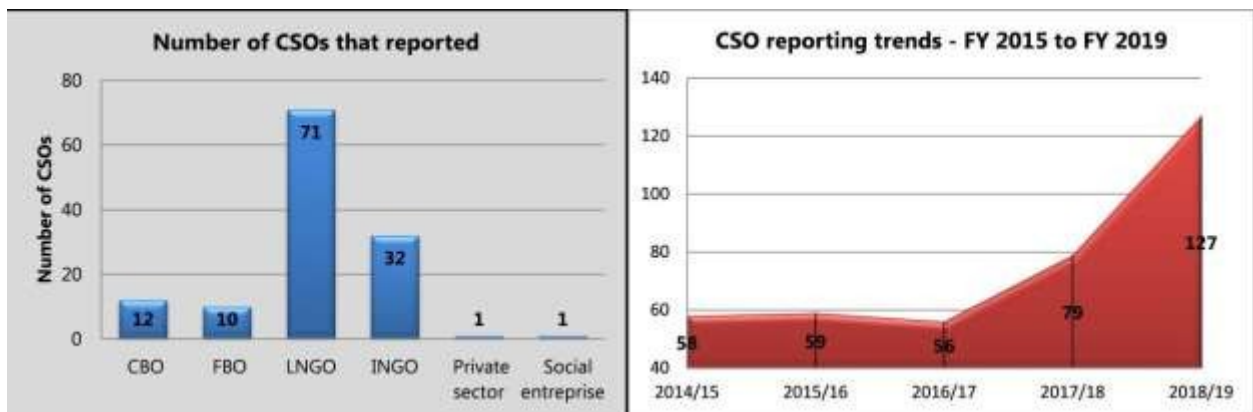


Figure 48: CSO reporting status

Local/ National NGOs (LNGO), with 71 submissions, constitute the highest proportion of submissions at 56% followed by International NGOs (INGO) at 25% with 32 INGOs. The reporting trend is consistent with performance last year that saw a positive trajectory in submissions to UWASNET.

### 12.2 Investment of CSOs in the Water and Sanitation sub-sector

#### Total CSO investments in the sub-sector

The Total CSO investment reported for FY 2018/19 is UGX 69.13 billion; out of which 71% was invested in non-emergency/ development programmes. Investment in water supply, WASH in emergency and sanitation accounted for a large share of the FY 2018/19 expenditure as depicted in figure 49.



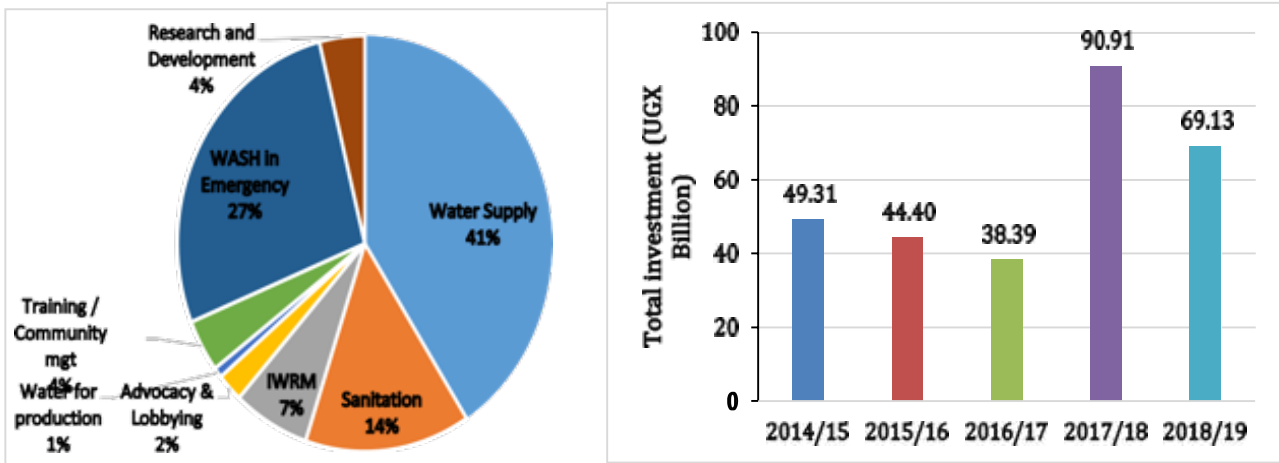


Figure 49: CSO Expenditure profile

The investment trends highlighted in figure 50 below, indicates an inconsistent trend in financing. The expenditure reported in FY 2018/19, however, is a increase when compared to expenditure prior to FY2017/18. There is a 29% decline from last year’s total investment amount, which is mainly attributed to the 50% reduction in amount reported for investments in WASH in Emergency.

**Investments in water supply infrastructure for development**



**Financing water supply infrastructure**

CSOs maintained the commitment to contributing to realizing the Uganda SDG 6.1 targets as evidenced by the continued investments in water supply interventions. A total investment of UGX 28.25 Billion was reported during FY2018/19 by 86 CSOs. The investment trend over the last 5 years, reflected in figure 50 below, is similar to that highlighted for total CSO investment. Generally, the FY2018/19 investment is slightly higher than the average amount of UGX 27.5 Billion recorded over the period FY2014/15 to FY2017/18 albeit a reduction from the UGX 31.22 billion reported in FY2017/18.

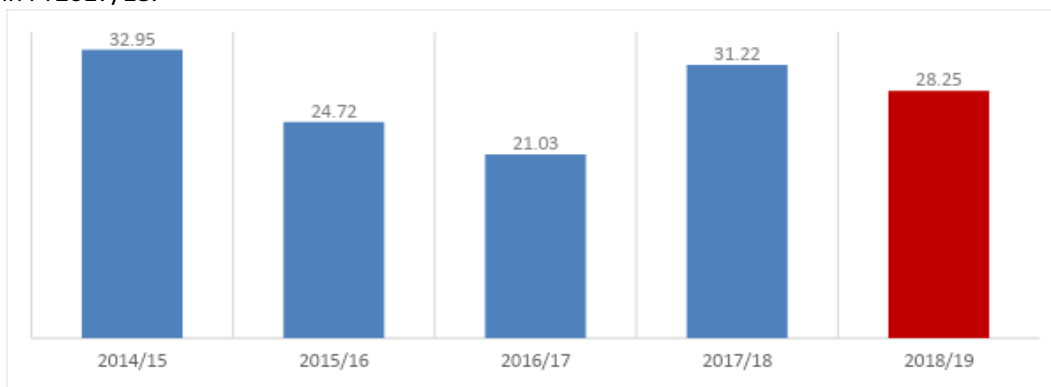


Figure 50: : Annual CSO investment trends in water supply infrastructure

The FY2017/18 investment profile indicates that majority of funds were spent on technologies providing higher levels of service that provide at least basic water access. These include piped water systems (gravity flow sand pumped piped) and boreholes, the former, directly contributing to the sector monitoring indicators on Water.

### Water supply infrastructure development interventions

The above reported investment was mainly (77%) towards new infrastructure and financed 1,651 new water supply facilities and the rehabilitation of 2,495 existing ones. Further, as shown in table 74 below, these investments benefited a total of 1,009,599 people and infrastructure provided was primarily at household level (92% of the total facilities). A population of 858,895 was provided with an improved drinking water source, of which at least 92% reside in rural areas and 128,730 with safely managed<sup>22</sup> drinking water services, of whom 99% reside in rural areas. The data provided indicates a rural focus of CSO water supply interventions.

**Table 74: Water Source Details**

Category	Technology	New systems/ facilities		Repaired/ Rehabilitated		Beneficiaries		
		Domestic	Institution	Domestic	Institution	Rural	Urban	Both
Basic water	Boreholes	933	53	859	86	486,234	15,000	35,000
	Shallow wells	178	14	514	47	271,614	19,000	0
	Springs	42	4	894	3	930	0	0
Safely Managed	Pumped	18	7	54	27	100,763	1,600	0
	Gravity flow	7	1	7	4	26,367	0	0
Other	RWH Systems	297	97	0	0	21,974	0	0
	<b>Total</b>	<b>1475</b>	<b>176</b>	<b>2328</b>	<b>167</b>	<b>907,882</b>	<b>35,600</b>	<b>35,000</b>

The sector seeks to promote value for money in its investments, with per-capita as one of the performance indicators. The per capita investment costs reported, as shown in table 75 below, are generally below the reported averages for rural and urban water supplies over the last two years (between USD 32 and USD 68) apart from the GFS where USD 110.61 was reported

**Table 75: Per-capita investment costs**

Technology	Investment (UGX)	Beneficiaries	Per capita cost (USD)	Per capita cost(USD)	
				Rural	Urban
Borehole supply	14,497,336,332	262,599	14.92	FY 2016/17 - 32	FY 2016/17- 62
Pumped piped system	2,246,585,936	17,213	35.27	FY 2017/18 - 68	FY 2017/18 - 58
Gravity flow system	1,556,769,637	3,804	110.61		

### Water supply infrastructure maintenance

CSOs have continued to respond to the challenge of O&M of water supply systems, especially for point water sources. During the FY18/19, CSOs financed the rehabilitation of sources and also invested in strengthening water management structures at community level through training water and sanitation committees. CSOs recognize hand pump mechanics (HPMs) as key players in the sustainability of the O&M supply chain and investment in training of HPMs contributes to provision of a resource for maintenance support and thus continued functionality of water supply systems.

In addition, CSOs continued to advance and provide new knowledge on the O&M models that were reported on in FY2017/18. Notably, following models are being implemented:

(i) Concession contracts for maintenance support between Local governments, communities and local service providers (mainly hand pump mechanics). International Lifeline Fund and WHAVE solutions are currently operating as pseudo utilities for borehole sources under “service maintenance contracts” with defined tariff structure (usually block) and performance indicators to ensure functionality. Up to 97% functionality levels have

<sup>22</sup> Basic water supply services refers to supply through an improved water source that is not on premises while safely managed refers to the higher service levels of supply including piped systems and RWH

been sustained in the operational areas of Apac, Mityana, Nakasekke, Kumi and Kamuli.



(ii) Water user committee savings groups to ensure availability of O&M funded by the Water Trust in the Districts of Kiryandongo and Masindi. The approach is an advancement of the “YY<sup>23</sup>” approach developed by Kamwenge district local government, which adopts a village saving O&M fund management approach.

(iii) “pay as you fetch”/ volumetric tariff for borehole systems, using post-paid or pre-paid metering systems as promoted by Water for People in Kamwenge district, Water Missions international (WMI) in Luuka district and Goal in Bugiri and Namayingo districts. This is a feasible management model that can be adopted under umbrella management especially for the small systems as it ensures 100% collection efficiency while meeting the supply

objective; Full cost recovery with almost no commercial operational expenditure (opex) costs has been reported by WMI, for solar piped systems using this model.

(iv) The sector umbrella model for piped water system management, currently in its second year of operation. Some piped water systems were transferred to umbrella authorities for management and Water Aid (Uganda) is supporting performance improvement measures for the Eastern Umbrella through providing meters for the Busolwe piped water system –to improve metering ratios and thus improved performance through revenue enhancement and non-revenue water (NRW) reduction.

**Investment in Sanitation and Hygiene**



CSOs reported interventions in the containment stage of the fecal sludge management (FSM) chain and supporting services, through direct provision of toilet infrastructure and hygiene and sanitation promotional activities as detailed below.

**FY 2017/18 Financial Investment in Sanitation**

Investment in sanitation for FY2018/19 was UGX 9.86 Billion, with almost equal financing for basic (54%) and safely managed sanitation<sup>24</sup> interventions. The current investment level, as indicated in figure 51, represents an 18% decline

<sup>23</sup> YY” is an O&M fund management approach developed in 2010 in Kamwenge district, involving organization of water source user communities into savings groups. Funds are utilized for member welfare through subsidized loans and source maintenance requirements through a reserve fund out of collections made.

<sup>24</sup> Basic Sanitation is defined as the use of improved sanitation facilities (hygienically separate excreta from human contact) which are not shared with other households. Safely managed sanitation also includes the safe disposal including treatment of waste from unshared improved sanitation facilities.

from amounts reported in the previous 4 years, for reasons yet to be established. However, this can be attributable to the lower number of facilities provided in the FY18/19.

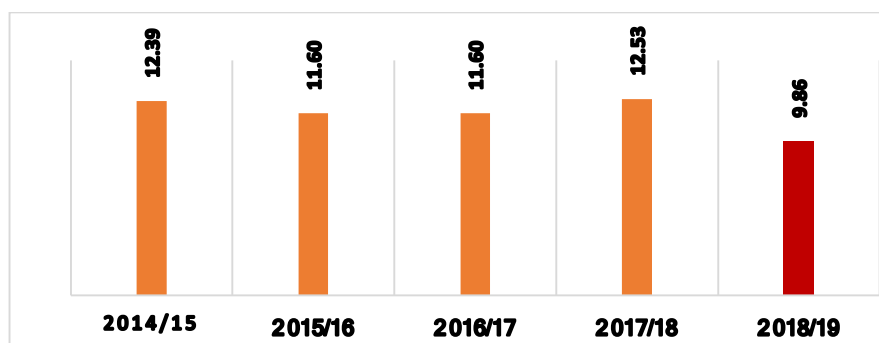


Figure 51: CSO Investment trends in Sanitation

Expenditure was skewed towards the drop and store technological options, as shown in figure 52. Investments in ventilated improved pit latrine category accounted for the highest proportion, at 60% under safely managed and 37% under basic sanitation respectively. There is also notable investment in traditional pit latrines (TPLs), this accounting for 28% of the total expenditure reported under the basic sanitation category

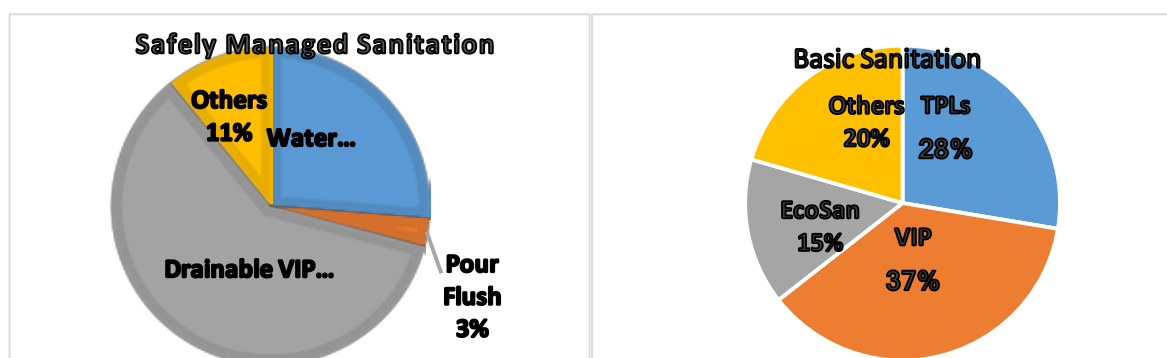


Figure 52: Investment by sanitation category and technology

### Household and Institutional/Public infrastructure

A total of 62,155 toilets were constructed by CSOs at both household and institutional level, during FY2018/19. Technologies invested in are largely of the drop and store type as shown in table 76 below. Infrastructure for providing basic sanitation constituted 98.7% of the total number of facilities provided in the year, these benefiting a population of 364,938. For safely managed sanitation, a total of 797 facilities were reported, down from the 2,365 reported in FY2017/18, these targeting 35,645 people.

Table 76: CSO investment in Sanitation infrastructure FY 2017/18

Sanitation Category	Facility	No. of Facilities			Total Investment (UGX Billion)
		HH	Inst.	Total	
Basic Sanitation	TPL	54,820	1127	55,947	0.96
	VIP Latrine	3,146	36	3,182	0.96
	EcoSan Toilet	187	25	212	0.39
	Other	2,004	13	2,017	0.69

<b>Safely Managed</b>	Water Borne Toilet	33	3	<b>36</b>	0.29
	Pour Flush Toilet	32	36	<b>68</b>	0.09
	Drainable VIP	0	544	<b>544</b>	1.05
	Other	145	4	<b>149</b>	0.28
<b>Total</b>		<b>60,367</b>	<b>1,788</b>	<b>62,155</b>	<b>4.72</b>

CSO interventions were mainly in rural areas as illustrated in the table 77 below on beneficiaries reached. Rural sanitation service level provided was majorly basic sanitation. Hence more investments are still required in moving up the sanitation ladder to meet the requirements for safely managed sanitation.

**Table 77: Sanitation Beneficiaries FY 2017/18**

Focus	Safely managed sanitation					Basic Sanitation				
	Water borne	pour Flush	Drainable VIP	Other	Total	TPL	VIP	Ecosan	Other	Total
Rural	4,800	16	25,046	910	30,772	262,482	18,137	4,267	19,079	303,965
Urban	511	10	2,310		2,831					-
Both		242		1,800	2,042	48,549	12,336	88		60,973
		<b>Total beneficiaries</b>			<b>35,645</b>		<b>Total beneficiaries</b>			<b>364,938</b>

### School Sanitation



CSOs investment in school sanitation during FY2018/19 was UGX 2.37billion, accounting for 24% of the total financing of UGX 9.86 billion for sanitation. This investment contributed to improvements in pupil stance ratios, in gender parity and inclusiveness through the facilities provided, as shown in table 78 below.

**Table 78: School sanitation interventions**

Stance type	User category	Basic Sanitation	Safely Managed Sanitation	Pupil stance ratio changes from interventions				
		stances	stances	Stance ratio	Girls		Boys	
					Before	After	Before	After
School Latrine Stance	Pupil - Male	419	246	Ave	1:72	1:42	1:72	1:40
	Pupil - Female	767	344	Max	1:125	1:80	1:140	1:83
	Teacher - Male	58	13	Min	1:28	1:10	1:39	1:8
	Teacher - Female	46	13					
	PWD - Male	74	5					

	PWD Female	- 125	8					
<b>Changing Room</b>	Female	224	24					
	Others	57						

On Average, CSO interventions were able to achieve ratios within the national recommended 1:40 for both boys and girls from an average of 1:72 before interventions. A maximum of 1:140 for boys and 1:125 for girls was noted before these interventions and cases of reduction of the stance ratio to 1:10 were also registered.

### Hygiene and Sanitation Promotion

 <b>3,805 Villages triggered</b>	 <b>590,663 Beneficiaries</b>		 <b>1,091 ODF Villages</b>	 <b>905 HWF</b>
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CSOs continued to support hygiene and sanitation promotion in intervention communities, using several approaches but predominantly community led total sanitation (CLTS) and its variants (follow up Mandona and Mandona Plus). From CLTS interventions, 1,091 villages were declared open defecation free and 590,663 beneficiaries reached including from triggering events intended to result in improved sanitation. Hand washing promotion campaigns also resulted in the installation of 63,905 facilities and improved practice of use of washing detergents. Impressive performance was registered by the 33 CSOs that reported CLTS related interventions. The 1,091 declared ODF is almost seven-fold, the 165 reported in the SPR of 2018.

### WASH in Emergency

 <b>18.83 Billion</b>	 <b>598,266 Safe water access</b>	 <b>241,015 Safely managed sanitation</b>	 <b>223,408 HWF</b>
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This is the second reporting year on CSO Investment in WASH in Emergency. CSO response to addressing the increasing service delivery requirements of refugees and host communities continued during FY2018/19. A total investment of UGX 18.83 Billion was reported by 19 CSOs, in water supply infrastructure, sanitation and hygiene, menstrual hygiene management and capacity development to improve the livelihood in the Settlements of Base camp, Bidibidi, Invempji, Rhino Camp, Omugo, Kikube, Kiryandongo, Kyaka II, Kyangwali and Palorinya

### Water supply

A total of 9 million refugees and host community members were reported to benefit from WASH interventions by CSOS as shown in table 79 below. were provided with a basic service and at least with a safely managed water supply

**Table 79: Water supply interventions – Refugee and Host communities**

Category	Technology	No. of Facilities		Total Investment	Total Beneficiaries
		New	Rehab		
Basic	Boreholes	18	188	981,821,684	112,474
	Shallow wells	13	140	27,018,000	36,125
Safely Managed	Pumped piped	46	61	8,997,080,796	312,570
	Gravity flow	1	18	438,993,683	285,696
Other	Other		4,755	966,477,485	8,117,324
	Water Trucking	N/A	N/A	253,150,000	172,157
<b>Total</b>		<b>78</b>	<b>5,162</b>	<b>11,664,541,648</b>	<b>9,036,347</b>

This year, there was a significant reduction in amount reported on water trucking and 80% of the UGX 11.6 Billion investment was spent on provision of safe water supplies (piped water systems). The reported per capita investment costs for new infrastructure are USD5 for boreholes, USD 18 for pumped piped systems and USD 73 for GFS.

### **Sanitation & Hygiene**

A total of 6.6 billion was spent on sanitation reaching out to 198,055 people, as shown in table 80, of which 22% were provided with safely managed sanitation. It is anticipated that with permanent settlement, this population will move up the sanitation ladder. Investments in Hygiene amounted to UGX 243.4 million and it is anticipated that health improvements will be realized by at least the 223,408 beneficiaries through use of the 29,164 HWF provided. The situation on sanitation indicates more investment in basic service provision, also given the national policy of self-supply on household sanitation.

**Table 80: Sanitation interventions – Refugee and Host communities**

Category	Technology	No. of Facilities	Total Beneficiaries	Total Investment (UGX)
Basic Sanitation	TPL	28,817	103,077	3,448,330,000
	VIP Latrine	10	200	291,000,000
	Other	2,606	51,818	1,215,601,100
Safely managed	Drainable VIP	513	42,960	1,647,701,256
	<b>Total – sanitation</b>	<b>31,946</b>	<b>198,055</b>	<b>6,602,632,356</b>
Hygiene	HW with Soap	23,360	120,476	222,229,150
	HW with other detergent	5,804	102,932	21,118,000
	<b>Total - Hygiene</b>	<b>29,164</b>	<b>223,408</b>	<b>243,347,150</b>

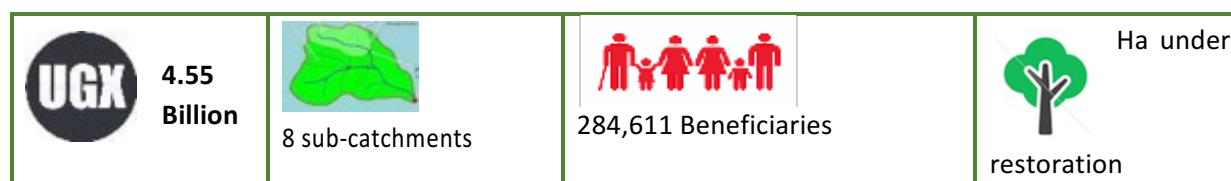
### **Capacity Development and Lobby & Advocacy**

As with non-emergency WASH, capacity building, lobbying and advocacy activities targeting refugees and host communities were undertaken and UGX 322.3 million spent with 29,643 beneficiaries recorded as shown in table 81. Most of the training was towards income generation activities, sanitation improvement and menstrual hygiene management.

**Table 81: CSO Investment in WASH for refugee and host communities**

Software	No.	Beneficiaries	Expenditure
Training	396	29,163	273,256,500
Lobby & Advocacy	13	480	49,000,000
<b>Total</b>	<b>409</b>	<b>29,643</b>	<b>322,256,500</b>

### 12.3 Integrated Water Resources Management (IWRM)



#### Investment in Integrated Water Resources Management

CSO investment in Integrated Water Resources Management (IWRM) has been on a positive trajectory, in response to the related sector challenges, including degraded catchments. This year, UGX 4.55 Billion was reported, which is 67% increase from last year’s investment, reflecting an alignment with the sector direction of a catchment-based planning approach to water resources planning and development.

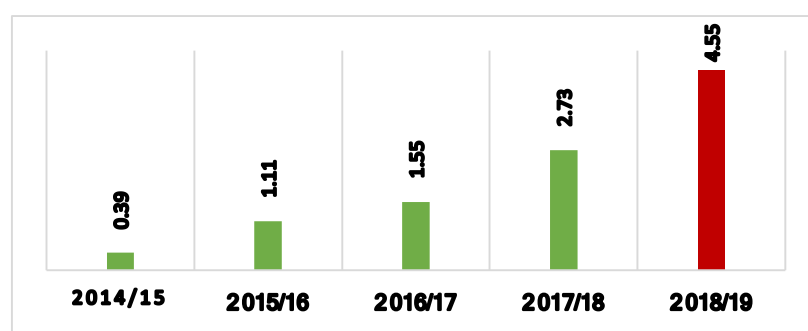


Figure 53: CSO Investment trends in IWRM

#### Integrated Water Resources Management Activities

CSOs reported investments in restoration, livelihood and policy support activities in the Awoja, Lotok, Lwakhakha, Maziba, Mpologoma, Rwizi, Mpanga, and Semiliki sub-catchments aimed at ensuring proper water resource and environment management. Activities financed during the year included wetland and river bank restoration, agro-forestry, alternative livelihood and conservation initiatives like briquette making, fish farming and energy saving stoves. These activities are reported to have benefited a total of 284,611 catchment residents.

CSO water development activities are mainly ground water based and continue to present pressure on the ground water resource. This year has seen an increase in the number of CSOs reporting to have obtained a permit for these developments. In addition, the collaboration with water management zones (WMZs) through sub-catchment and micro catchment level interventions and coordination meetings. Innovative conservation techniques including rain water harvesting, which process also involves gullies, Integrated WASH, community development and environment management by Protos and JESSE in South western Uganda. These initiatives, demonstrating all principles of IWRM, have resulted in improved catchment management, toilet coverage, water access and source yields

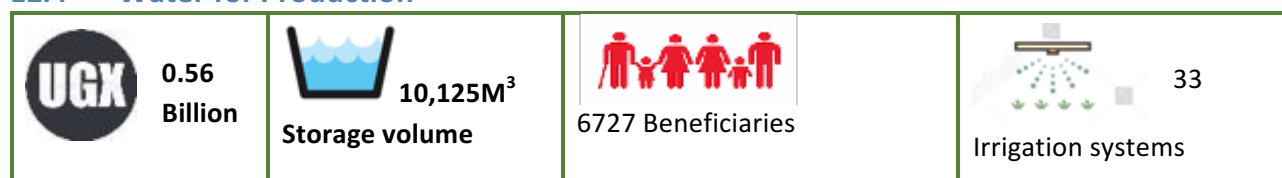
Research and development activities undertaken during FY2018/19 also tried to address key sector IWRM challenges, notably water pollution/ poor quality and water resource sustainability. Research undertaken in the Mpanga catchment including ground water mapping in Kamwenge by Water for People and pollution assessments by Generosity International Lifecare Development Coalition (GILDECO). A study by IIRR on vulnerability and risk assessment in refugee communities highlighted the need for an integrated and holistic approach to refugee response and resilience. Settlements are faced with environment stresses, with limited alternatives for non-wood fuel and construction materials that places a strain on the natural resources. Toilets are constructed and water sources are mainly ground water based.



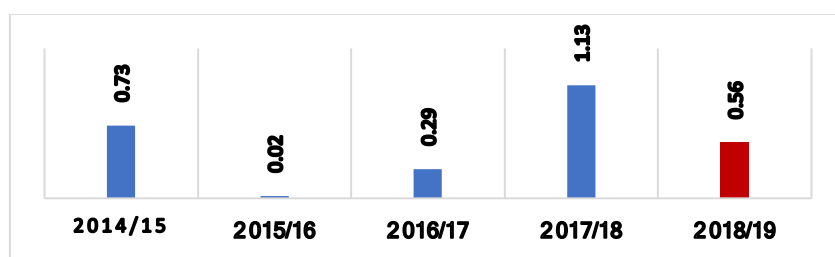
## Water Quality Management

CSOs also contributed to improvement of water quality at the final consumer points through provision of household water filters. During FY 2018/19, an investment of UGX 0.15 Billion was made for the provision of 401 water filters to benefit 17,708 people. Reports to UWASNET through the private sector indicate some new technologies being introduced to community. Uganda health marketing group (UHMG) is promoting micro filtration units that use the “Life Straw Technology” (mechanical reverse osmosis).

## 12.4 Water for Production



CSOs maintained investment in water for production activities with 21 CSOs investing a total of UGX 558 million during the year (see Figure 54 below). The investment trends indicate that the FY2018/19 investment is within the average registered in the last four years, albeit much lower than the FY2017/18 investment amount of UGX 1.13 Billion. The investment profile for this thematic area is summarized in the table 82 below.



**Figure 54: CSO Investment (UGX billion) trends in Water for production**

Funds supported installation of 33 irrigation systems from the 18 in FY2017/18, the construction of 2 valley tanks and capacity development for O&M support structures and community farmers targeting fish and livestock farmers to improve productivity, through agriculture value chain enhancement.

Overall, compared to last year, improved financial and economic efficiencies seem to have been realized, particularly in absolute terms of unit investment cost for irrigation systems, at UGX 19 million and UGX 5.1 million respectively.

**Table 82: Details of Water for production investments**

Output	Irrigation systems installed	Associations formed	Valley tanks constructed	Fish farmers supported	Livestock farmers supported
<b>Number</b>	33	93	2	105	4841
<b>Beneficiaries</b>	865	720	N/A	151	4991
<b>Cost (UGX Million)</b>	167.5	52.5	N/A	167.2	171.2

The associations formed are expected to contribute to improved functionality of the facilities provided and given that they are newly formed, it can be assumed that performance on the indicator on “Percentage of WFP facilities with actively functional water user committees” stands at 100%.

## 12.5 Capacity Development and Community Engagement



Capacity development continues to be a core element of CSO interventions to enhance sustainability and service delivery standards.

### **Investment in Training/Community Engagement**

A total UGX 2.83 Billion was spent on training events targeting community members including schools, communities, CSOs, local government staff and private sector participants. 147,972 persons, (including hand pump mechanics, water user committees, school pupils and teachers), of which 86,082 (58%) were female, benefited from these events on several topics relating to WASH planning, hygiene and sanitation promotion, IWRM, income enhancement, menstrual hygiene management, Operation and maintenance of water and sanitation infrastructure and latrine construction.

These engagements are intended to improve service delivery within the sector and thus the realization of related performance indicators, particularly those related to functionality, water resources management, hygiene and sanitation, gender and environment and natural resources.

New community engagement approaches advanced this year include the community assembly by PACHEDO and WASH community profiling by UMURDA. The latter is a community led baseline assessment and planning tool while the the community assembly is an advocacy platform that empower communities for self supply and to demand improved service delivery by duty bearers.

World Vision also implemented the Household Cluster and Accountability Approach that triggers communities to address WASH challenges within their community, with an outcome of a whole village of in Rakai mobilizing themselves to attain underground water tanks that now provide water all year through.

### **Research and Development (R&D)**





CSOs continued to contribute to sector knowledge through Research and development (R&D). During FY 2018/19, the reported total investment in R&D, by 19 CSOs, was UGX 2.71 billion in different thematic areas. The key topics included:

- (i) Water resources assessments, including ground water mapping in Kamwenge and water scarcity assessment in Apac by Water for people and Gildeco;
- (ii) O&M of water and sanitation facilities, including the review of functionality of management models (WUC) by AID, World vision and HEWASA;
- (iii) Action research on fecal sludge reuse and emptying technologies, including toilet waste recycling Unit, Use of Biosol, gulper 4 tech, Fecal sludge briquettes, nibbler by Water for people
- (iv) Sanitation assessments in fishing communities by Gildeco;
- (v) Water quality assessments at point water sources by Gildeco, Wells of Life and World Vision;
- (vi) Vulnerability assessment of targeted refugee and host communities by CIDI;
- (vii) Effectiveness of technological options and adoption rates of Pre-pay metering systems and water filters by Goal, AID, and World Vision; and

(viii) Pollution assessments in sub-catchments, including river Mpanga by Wells of Life.

The findings from these initiatives are important as they address key sector challenges. Further dissemination to stakeholders should provide this new knowledge to improve initiatives in improving WASH and water resources management in the country.

### Cross cutting issues

 10%-100% district budget	 55 MoUs, 20 Partnerships	 196,545 Beneficiaries	 58% female participation
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### HIV/AIDS

CSOs acknowledge the close link and inter-relationship between HIV/AIDS and WASH as illustrated from the reported training and advocacy events. The community sensitization on HIV/AIDS has increased awareness on these linkages, in particular, contributions to improved home based care and hygiene as well as related infections. The improved access to water supply is anticipated to contribute to the reduction of walking distances and thus vulnerability of women and the girl child to HIV/AIDS through rape and/ or compromised situations.

### Coordination and Collaboration

#### Collaboration

Collaborative efforts are evident in the sector, starting with the UWASNET secretariat and member involvement in sector thematic working groups and partnerships for activity implementation. Formalized collaboration arrangements in the form of Memorandum of Understanding (MoUs) and partnerships were also reported, as summarized in table 83. Major partners include District Local Government, CSOs, Central Government and Private Sector and collaboration is majorly on aspects of planning and implementation of WASH activities and IWRM.

Table 83 summary of collaboration arrangements

Partnership instrument	No. Of CSOs
MOU	55
Partnership	20
Tripartite MOU	1
<b>Grand Total</b>	<b>76</b>

The collaboration is further reiterated by the CSOs that reported budgets forming part of district budgets with 10-100% of CSO budget inclusion. For example ACORD, International lifeline Fund, Union of Community Development Volunteers reported more than 70% of their budget being reflected in the respective district budgets.

CSOs also reported collaboration and coordination with other sector actors. These engagements further affirm CSO commitment to knowledge management, improvement and prioritization of community and LG needs.

### Lobbying and Advocacy

CSOs continued their advocacy and lobbying role in the sector to support and promote good governance, ensure equity and inclusion, increased awareness on sector related policies and generally sustainable WASH service delivery. An estimated total of 96,545 beneficiaries were reached as a result of these engagements, of whom 61% were female (see table 84 below).

**Table 84: Lobbying and Advocacy engagements**

Thematic Area	Number of Engagements			Beneficiaries		Total
	Awareness	Dialogue	Community Mobilization	Male	Female	
Water Supply	86	53	267	7,735	6,329	14,064
Sanitation	64	60	99	3,143	4,488	7,631
Hygiene	134	43	128	39,775	27,906	67,681
IWRM	36	19	38	1,367	2,223	3,590
WFP	28	13	37	1,463	1,478	2,941
Policy/Law/Ordinance	64	32	60	7,678	4,460	12,138
Gender	267	281	36	5,727	5,266	10,993
Equity and Inclusion	25	31	47	9,395	10,572	19,967
HIV/AIDS	59	20	29	35,727	3,193	38,920
Good Governance	77	42	55	8,602	10,018	18,620
<b>Total</b>	<b>840</b>	<b>594</b>	<b>796</b>	<b>120,612</b>	<b>75,933</b>	<b>196,545</b>

**Gender**

Inclusiveness including general gender concerns continue to form part of CSO work. Related activities that reiterate this include provision of gender disaggregated and inclusive school sanitation facilities with provisions for persons with disability, gender disaggregated beneficiary data, targeting of women in training events (58 % female participants recorded) and lobbying and advocacy (61% female participants recorded) on gender and equity concerns. CSOs reported over 25 events related to training and formation of water and sanitation committees and water boards, given that CSO interventions are aligned with sector guidelines, it can be taken that CSOs the indicator on gender has been addressed.

The equity agenda is a key advocacy topic for CSOs and during the year, 103 events were undertaken that reached out to 19,967 people. The formal collaborative arrangements (MoUs) with district LGs are also expected to result in equitable service provision.

**Progress on recommendations from last NGO report and identified critical sector issues**

CSO reporting for the FY2017/18 made the recommendations below, against which a lot of progress has been registered as detailed.

**For UWASNET**

**Improved CSO reporting in line with the new sector performance reporting:** As highlighted in the key achievements by the UWASNET Secretariat, the physical mapping of all active WASH and Environment CSOs has greatly contributed to the 61% increment in membership reporting.

**Leveraging CSO expertise, to inform practical and workable models to address the O&M and safe sanitation challenges.** Several CSOs reported implementing management models to address the O&M challenges – notably the borehole service contracts, pre-pay meters for borehole supplies and user tariffs for non-piped systems. These models have reported successes which can inform service delivery in the sector. For safe sanitation, CSOs like Water for People are working on fecal waste and pit emptying solutions through action research with others promoting community-based development towards safe sanitation, using approaches like CLTS and group savings/ revolving funds. The ongoing efforts to revive the thematic working groups (TWG) and Regional Coordination structures is anticipated to provide a platform for increased CSO coordination and advocacy for effective sector influencing.

**Phasing out shallow wells.** CSOs continued to invest in shallow wells, albeit with lower numbers this year. A deliberate effort towards complete phasing out may be required and resources redirected to better achieve performance targets on water.

**Promote water safety planning for sustainable water supply systems.** CSOs reported investment in IWRM and plans to undertake targeted water safety planning initiatives are yet to be defined.

#### ***For MWE***

The **use of the new sector performance indicators** was initiated with the SPR for 2017/18. More guidance and improved reporting against this new framework is anticipated this year. Updating the MWE management information system is still outstanding.

**There is increased coordination of refugee response work** with more ongoing definition of the sector refugee response framework and implementation plan.

**Water resources monitoring and dissemination of state of water resources reports.** Catchment management plan (CMP) reports that define the state of water resources were developed for 4 catchments, and dissemination is ongoing to sector stakeholders. The monitoring network is also being improved including providing advice and capacity development services related to investment in ground water development.

**Guidance on the sector position regarding O&M of rural water supplies** is still being defined and management model for rural water supplies from both point and piped water systems remains a sector challenge.

The Ministry of Water and Environment embarked on **Town Sanitation planning** initiatives and providing and fecal sludge treatment facilities intended to benefit town clusters. Capacity building in sector professionals in the design and management of fecal sludge treatment facilities.

### ***Conclusion and recommendations***

#### ***Financing***

In spite of the Sector Investment Plan indicating a nine-fold increment in current sector financing, to meet the universal access targets, the sector budget allocation by Government has been sustained at within the current average of 2.8%. Additionally, this budget is financing mainly through external debt, with current development partner support comprising of 71% loans and 29% grants in 2017/2018 as per a UNICEF Financing Study. There is therefore need for renewed lobbying and engagement of key stakeholders to prioritize the sector.

Furthermore, the current level of CSO financing to the sector is comparable to the average over the last three years of government transfers to districts local governments (conditional and development grants) and expenditure on rural capex at UGX 56.5 billion and UGX 47.8 billion respectively<sup>25</sup>. Increased support to UWASNET to enhance member coordination and to align their planning, implementation and reporting to sector priorities and guidelines will be important to optimize this source of financing.

#### ***Implementation models***

CSOs are implementing different viable solutions for management of water supplies and fecal sludge management solutions which the sector can adapt to improve current levels of service and sustainability, notably the pre-pay meter systems, point source maintenance contracts, gulper emptying and fecal sludge resource recovery. In addition, the sector can leverage CSOs expertise in community engagement.

#### ***Refugee response***

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<sup>25</sup> Oxford policy management (2019): Assessment of the state of financing of water, sanitation and hygiene services the Eastern and Southern Africa region (ESAR) – Uganda report

Uganda is hosting over 1.2 million refugees primarily living in rural settlements across 11 Districts in north and south of the country. These refugees have contributed water, sanitation and environmental degradation. The comprehensive refugee response framework should be well mainstreamed in all key sector plans and budgets, and enhanced coordination of all stakeholders including NGOs.

### ***Access to Water***

Uganda has a commitment to provide all Ugandans with safe drinking water access, as per the SDG guidelines. It is noted that only 66% of rural villages are provided with safe water source, with only 85% of water systems functional at any given point of time. Hence there is need to augment the resources for accelerating coverage in the rural areas. At the same time there is need to provide more attention to strengthen the functionality of water systems. Various models tried for strengthening operation and maintenance system including community-based management system has led to limited results and there is need to refine these approaches and build on ongoing efforts that have contributed to improved functionality of water systems.

### ***Addressing Equity***

The 2018 Sector Performance Report indicates that 8 of the lowest served districts have an average water coverage of 35%, and 17 least served districts have an average of 55%. The situation is similar with respect to sanitation coverage. In a bid to “Leave No One Behind” as we progress towards attaining SDG 6, prioritization of the least served is critical. This also requires a reliable information base, with further assessment who are the underserved nationally to assist with the targeting and resource mobilisation.

### ***Institutional home for Sanitation***

The management of sanitation remains fragmented and it has no institutional home. The non-legally binding Memorandum of Understanding between the MoWE, MoH and MoES has not been successful in improving household and institutional sanitation and hygiene. This has contributed to continued underfunding of sanitation and lack of accountability for its performance. The sector needs to define a clear and practical operational framework to allow for the desired sanitation improvements

### 13. CIVIL SOCIETY ORGANISATIONS IN ENVIRONMENT AND NATURAL RESOURCES

#### 12.1 Introduction

This year, 46 member organizations, increasing from 20 last FY, of the Environment and Natural Resources Civil Society (ENR CSOs) Network contributed to the annual performance appraisal indicating an increase in number CSOs reporting (see **Error! Reference source not found.**). This is approximately 80% of the active CSOs that routinely contribute to this report and this is attributed to the fact that the self-performance process started early enough.

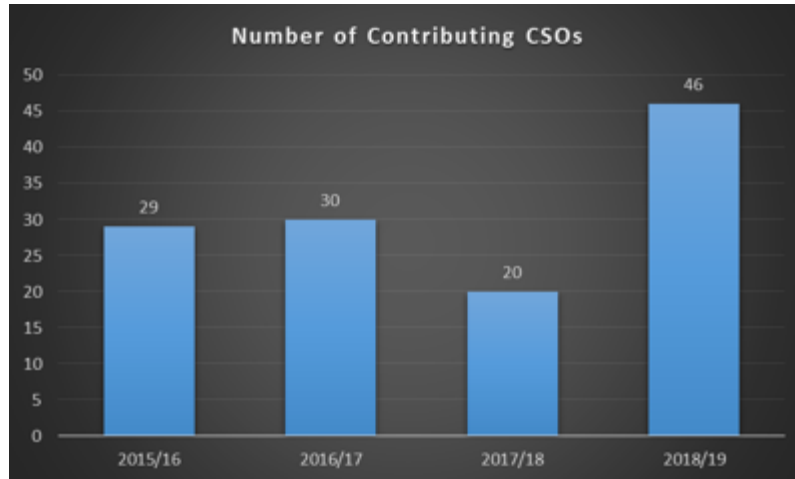


Figure 55: Number of contributing ENR CSOs.

#### 12.2 ENR CSOs Financial Contributions

This FY, there is a slight increase in financial resources from CSOs from USD 2,755,750 in FY 2017/2018 to USD 4,317,560 in FY 2018/2019. Whereas the increase can be attributed to the number of CSOs reporting, it is clear, too, that there were more resources for climate change, forestry and advocacy work around petroleum development in the Albertine Graben. Figure 57 here under is an illustration of the above.

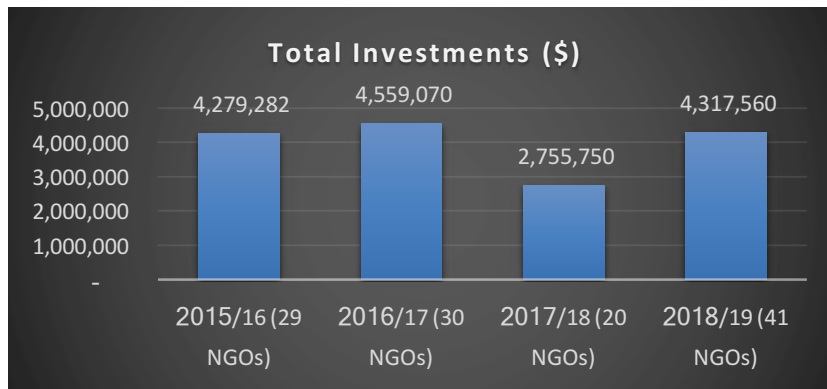
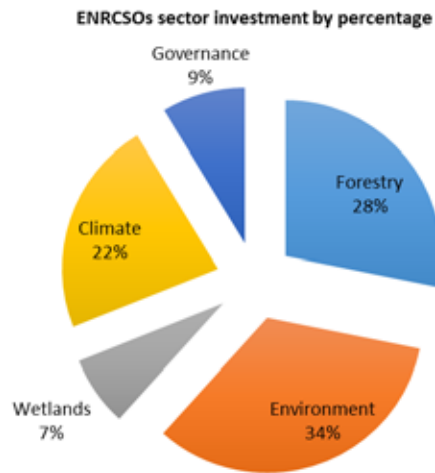


Figure 56: Investments by the ENRCSOs for the past 4 years.

ENRCSOs spent resources around advocacy aligned to petroleum development in the Albertine Region (reviewing environment and social impact assessments for Tilenga & King Fisher development as well as the East African Crude Oil Pipeline) and that accounts for the 34% in Figure 58 below. There is an increase in resources for wetlands from 3% last FY to 7%. This is associated to the revamped interest by stakeholders to review policy and legal framework for wetlands resource management this financial year.



**Figure 57:** Percentage investment in each of the thematic area.

### **Topical issues this financial year**

This FY, ENRCSOs network ***patterned with MWE*** in the implementation of the Inclusive Green Growth for Poverty Reduction (IGG4PR) project and was able to establish its **5 regional nodes** in the Albertine, Northern, Karamoja, Eastern and South Western regions. It has also been able recruit and initiated a process of **accrediting 66 new members** to the network including community-based organisation. This will form entry points for deeper engagements at sub-national level. The network has developed a new **Network Strategic Plan 2019-2029**, that is aligned to the SDGs, new development priorities of the country, new emerging sector issues and strategically positions the network to contribute meaningfully to development of the sector. Together with UWASNET, the network presented **proposals for consideration in the NDP III**.

For **forestry, court rulings in favour of private developers**, with contested land titles issued in forest reserves, continue to challenge sector actors on how to resolve the matter. Bugoma Central Forest Reserve (acquired by Hoima Sugar Works and Bunyoro Kingdom), Buto-Buvuma Central Forest Reserve (where World War II veterans acquired land titles), Mbarara Central Forest Reserve (with several individual titles) stand out as critical examples. CSOs have played their role of public watchdog around this concern.

The '**walk to Zoka Forest**' was an iconic advocacy and awareness raising event garnering support from civic and political leadership to fight illegal harvesting and trade in forest produce (logs, timber and charcoal) in West Nile and parts of Northern Uganda. ENRCSOs supported members of the Walkers Association, together with Friends of Zoka, constituting **12-man team, to walk 470 kilometres in 15 days** from Kampala to Zoka Forest in Adjumani District in a drive aimed at creating awareness of the plight of the forest. Through a post-event study, it was established that the event reached out to **4,410 people directly, 130,090 via social media, 5,105,000 via mass media**. This drew the attention of the leadership on the need to curb illegalities in Madi and Acholi sub-regions.





*Part of the team that walked 470 kilometres to Zoka in Adjumani district.*

Uganda Timber Growers Association was issued with a **Forest Stewardship Group Certificate, covering 3 members (with a total of approximately 1,250 hectares)**, in the Mubende cluster. An additional 3 members are at advanced stages of adding their plantation units to the certificate when they meet the certification requirements. Certification is a way of promoting “responsible forestry management” that emphasizes socially beneficial, environmentally appropriate and economically viable forest management. Throughout the extended rain season, CSOs have engaged communities, using work-based learning approaches and building their entrepreneurial and life skills, to plant, grow and protect trees whilst improving their livelihoods options.



*Allan Opio inspects a woodlot by a farmer in Ongo, Masindi district.*

For the **environment thematic area**, ENR-CSOs Network, together with the Civil Society Coalitions for Oil and Gas, reviewed, with intention to scrutinise proposed mitigation measures (based on severity of project threats and impacts) the **Environment and Social Impact Assessments (ESIA)** for King Fisher Development (for oil and gas) as well as the East African Crude Oil Pipeline (EACOP). Concerns raised for the two projects have been presented to the National Environment Management Authority, the Petroleum Authority of Uganda and the two developers for consideration. In addition, CSOs participated in the environment and water week towards commemoration of the world forestry, water and meteorological days 2019.

Members of the network have **undertaken research on the impacts of oil palm developments** in Kalangala and Buvuma with a view of highlighting the multiple negative impacts on the intended project beneficiaries as well as on the environment to be able to prevent their reoccurrence in the other suggested oil palm expansion hubs.

Members of the network participated in a comparative study (conducted in Uganda, Equador, Nepal, Switzerland and Kyrgyzstan) entitled **“leaving no one in mountains behind”**. It provides insights to methodological challenges and possible ways of meaningful assessment of SDGs in mountain areas.

Under **wetlands**, ENRCSOs have participated in consultation leading to the revised **wetlands policy and wetlands bill**. This is both at national and sub-national level.

For the **weather, climate and climate change thematic area**, ENRCSOs participation in Conference of Parties (COP 24), Katowice, Poland (by way of convening 4 pre-COP and 4 post-COP meetings) in addition to having participated in the development of a Climate Change Adaptation Training Manual as well as developing discussion papers on Climate change adaptation financing in Uganda.

On **natural resources governance**, through the Strengthening Resilience and Promoting Inclusive Governance Program CSOs supported District Local Governments in the refugee landscapes of Albertine Graben and West Nile, to discuss modalities for building resilience and reducing vulnerabilities in the refuge landscape, with special focus on women, girls and the youth. Consequently **15,240 trees were marked (6,600 trees marked in Rhino camp and 8,640 trees were marked in Imvepi refugee settlements)** with red and yellow painting, as a reminder to refugees that these trees shouldn't be cut down because of their role in building resilience at community level.

### 12.3 CSO Achievements in Forestry Sub-Sector

CSOs have undertaken research to inform advocacy for defending the **physical and legal integrity of Bugoma Central Forest Reserve and Buto-Buvuma Central Forest Reserves**. Under different counts, court ruled that the land titles issued in the two reserves were legal, contrary to the provisions of the Land Act and the National Forestry and Tree Planting Act. Reversing the two rulings would ensure that approximately **10,000 hectares are saved from degradation**.

In addition to the 7 nurseries established last financial year, **10 nurseries** (meeting certification standards) were established and maintained, producing various species (indigenous and exotic) including fruit trees. A total of **2,637,071 seedlings** (compared to 1,804,752 last FY) were distributed and planted, translating into **2,373 hectares** (compared to 1,624 hectares last FY). They took place in various parts of the country but targeted forest dependent communities, Collaborative Forest Management groups, Private Forest Owners, farmer associations/ organizations, women groups, small holder farmers (model farmers), refugee settlements and local communities. The purposes for which the trees were planted include fencing, boundary marking, hedge rows, preventing soil erosion, soil and water conservation and landslides among others.

In East Acholi sub-region, members of the network facilitated **4 district local governments** (Lamwo, Kitgum, Pader and Agago) to hold council meetings leading to the **endorsement of the forest landscape management plan** for the Agoro-Agu landscape. Endorsement of the forest landscape management plan by the 4 District Local Governments presents them with an opportunity for resource mobilisation to enhance forestry in the region.

In the South Western Region of the Greater Virunga Landscape, a **Special Purpose Vehicle (SPV)** was agreed upon by over 65 participants who participated in the second Forest Landscape Restoration (FLR) meeting held in Bushenyi. The SPV will sign off-take agreements with out-growers to **supply the raw material (logs), to add value through central processing and value addition facilities**. SPV will oversee marketing and selling the product to end users and will catalyse **restoration of at least 120,000 ha of forest cover** in the Greater Virunga by 2030.

Together with Participatory Ecological Land Use Management (PELUM Uganda) and the Farmer Managed Natural Regeneration (FMNR) Network, CSOs have maintained approximately **165 hectares of grasslands/woodlands, grazing lands among pastoral communities under FMNR**. These can be seen in parts of Karamoja, Arua, Mpigi, Kiruhura, Kiboga, Otuke and Alebtong districts among others. The approach is internationally appreciated as a low-cost approach for restoration.

**Over 80 participants**, drawn from **6 Communal Land Association**, finalised work-based learning sessions based on nursery establishment and management, woodlot establishment, and construction of energy saving stoves. They consequently established **6 nurseries, 80 woodlots (one acre each) and approximately 20 energy saving stoves**. For the same communal land association, boundary agreements were signed leading to the opening of approximately **80 kilometres of forest boundary** for forests covering an area of **326 hectares**, in Masindi district.

#### 12.4 CSO Achievements in the Environment Sub-Sector

Under the **extractives industry**, members of the network supported and facilitated consultation processes on the improvement of the legal and regulatory frameworks for sustainable management of the mining sector, with particular emphasis **on compliance to environmental laws, international conventions, international standards and international best practices**.

In the **energy sector**, the effort has been around engaging district local governments to **resist illegal trade in charcoal production and trade** as well as the promotion of **technologies with high thermal efficiencies**. Charcoal production and trade turned luxurious when neighbouring Kenya issued a ban charcoal production and trade.



*Torching of illegally produced and marketed charcoal in Gulu district.*

CSOs facilitated dissemination of 6,348 improved cook stoves to households benefiting about 16,000 people in the West Nile, Albertine Graben, Karamoja and Mayuge. Additionally, a total of 1,059 solar home systems were distributed to households benefiting about 6,200 people. In the same region, CSOs were able to reach 69 Village Savings and Loan Associations. In addition, CSOs installed solar PV systems of a capacity of up to 1000W each in 51 social institutions in the districts of Kasese, Rubirizi, Masindi, Kagadi, Maracha and Arua. These institutions include 31 schools (8 in Kasese, 3 in Rubirizi, 5 in Arua, 4 in Maracha, 3 in Kagadi and 8 in Masindi) and 20 health centres (11 in Kasese and 9 in Arua).

In addition, they have contributed to setting-up of an energy access fund as one of the financing schemes to increase renewable energy access in rural areas. By end of FY 19, the fund will have collected UGX 150, 000,000 from the distribution of improved cook stoves and solar home systems.

Among other:

- i. CSOs supported **189 Aquaponics<sup>26</sup>** farmers to raise fish (Cat & Tilapia) fingerlings **112,750**, in the districts of Kampala, Wakiso, Kamuli, Adjumani and Hoima among.
- ii. Engaged **4 district local governments, 15 community based organisation, 5 private sector actors and over 80 lower local governments** to set up a region-wide platform covering the district of Agago, Pader,

<sup>26</sup> Aquaponics is putting fish to work. It just so happens that the work those fish do (eating and producing waste), is the perfect fertilizer for growing plants. And, fish can grow a lot of plants when they get to work!

- Lamwo and Kitgum (including the Karenga Community Wildlife corridor) for discussing environment and natural resources concerns in the region.
- iii. Undertook a Capacity Needs Assessment and Capacity Building session aimed at improved understanding of the ***Inclusive Green Growth for Poverty Reduction***, bringing together **70 participants (49 men, 21 women)** drawn from Eastern, Northern, Karamoja, Albertine, Central and South Western regional nodes.
  - iv. Supported efforts to ***finalise the Catchment Management Plan for River Rwizi Catchment***, which will guide the role out of activities aimed at comprehensive restoration of the catchment, leading to improved quantity and quality of water upstream, midstream and downstream of the river.
  - v. In various parts of the country, CSOs were involved in initiatives to improve the ***management of waste*** by engaging communities through ***citizen action, radio talk shows, school waste management campaigns*** based on the need to reduce, recycle and reuse approaches.

### 12.5 CSO Achievements in the Wetlands Sub-Sector

In collaboration with the MWE, CSOs, with funding from the Adaptation Fund, are participating in the ***development of management plans for wetlands*** in the catchments of Aswa, Kyoga, and Maziba under the 'Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated management of Water and Related Resources in Uganda (EURECCCA) Project

CSOs conducted **6 trainings, (for six farmer groups, each with 20 members)** on alternative livelihood options for the wetland adjacent communities in the districts of Mitooma, Sheema and Bushenyi. The farmers were supported with start-up kits that included fingerlings, equipment and tools, beehives, and piglets among others.

CSOs undertook a study, leading to the ***development of a conservation strategy*** for the endangered grey crowned cranes, shoebills and waterbucks in the Lake Victoria Shores Habitats in Mayuge District

The other contributions in this thematic area included:

- i. Engaging communities to ***restore Rufuka wetland in Ntungamo district*** by filling the dug up channels that had dried the wetland. Approximately **6 hectares** are now restored.
- ii. Conducting awareness training (importance of wetlands, bye-laws) for **105 community members** on safe guarding and protecting wetlands in Ishongororo sub-county in Ntungamo district.
- iii. In collaboration with the Wetland Management Department and the DLGs, initiated awareness programs on the importance of Kitagata wetland.
- iv. Raising awareness through radio talk show about the ***deteriorating state of Lake Wamala, the associated Wetlands and its entire catchment***.
- v. In collaboration with the Wetlands Management Department, CSOs are supporting the ***review of Tochi Wetland Management Plan*** by way of supporting stakeholder engagements and consultations.

As far as awareness and sensitization is concerned in the Wetlands Sub Sector, CSOs produced public information and education materials on wetland conservation and supported awareness campaigns for resource user communities found around 15 wetlands.

### 12.6 CSO Achievements in the Weather, Climate and Climate Change Sub-Sector

CSOs have continued ***engaging stakeholders on the need to fast track the Climate Change Bill into law***. This has been through several tactics such as workshops, breakfast meetings and face-to-face engagements with concerned leaders. Alongside this engagement was the proposal ***advanced by CSOs to Parliament of Uganda to set up an independent Committee of Parliament*** to oversee climate change issues in the country. This has consequently been achieved.

Following the catastrophic landslides in Bududa, CSOs undertook a comprehensive study resulting into a policy brief on ***Understanding Climate Change Impacts in selected climate vulnerable groups – A Case Study of landslides in Bududa District, Mt. Elgon Region***. The brief commends government efforts in undertaking risk reduction and management interventions but also expresses the need to (i) Develop a comprehensive resettlement/relocation and management plan, (ii) Develop a costed ecosystem restoration plan supported at national level and implemented on ground, (iii) Upscale existing government programmes to support sustainable land management approaches, (iv) Support the enactment of bye-laws and ordinances within DLG and build their capacity to manage the early warning systems.

CSOs co-sponsored the first **Great Lakes and Catchment Management Conference (1st GLACAM)** that was held from 5- 7th June 2019, in Entebbe Uganda. The conference was organized by Makerere University College of Agricultural and Environmental Sciences (CAES) in collaboration with the Ministry of Water and Environment. It was an opportunity for ***CSOs to showcase Ecosystem Based Adaptation Approach (based on research findings from Mt. Elgon) as a tested solution for addressing the impacts of climate change on water and land resources***. The key output was the GLACAM conference declaration that ecosystem-based adaptation is an effective approach for enhancing resilience for both humans and the Ecosystem.

CSOs have supported communities to ***establish micro-irrigation pilot activities*** as a way of adapting to climate changes while lessening the effects of prolonged drought to farmers' livelihood in Mubende (through Kiganda Cooperative Society), Kassanda (through Kassanda Farmers Association and Bugagga Kulima Myanzi Farmers' Cooperative Society), Mpigi (through Kamengo Farmer's Cooperative Society), Bukomansimbi (through Butenga Farmers' Cooperative Society), Luweero (through Kikyusa Farmers' Cooperative Society), Mukono (through Ntunda Farmers' Association) and Wakiso (through Wakiso Farmers' Cooperative Society). ***So far, 80 members, from two districts have reported earning a total of UGX 9,180,000 from beans they produced under irrigation, while 35 Members from Wakiso reported earning a total of UGX 4,346,000 from production and marketing of vegetables.***

The other engagements included:

- i. Development of a ***Climate Change Adaptation Training Manual***.
- ii. Development of a ***discussion papers on Climate change adaptation financing in Uganda***.
- iii. Conducted a dialogue meeting on bridging the gap between the Nationally Determined Contributions (***NDCs***) and Sustainable Development Goals (***SDGs***).
- iv. Members of the network operating at sub-county level have continuously raised awareness about ***water harvesting*** (roof top for domestic use as surface run off for use in gardens by way of climate/organic smart farming).

## ***12.7 CSO Achievements in the Governance Sub-Sector***

The outstanding engagement platform is the monthly ***State of the Nation meetings***, aimed at engaging various actors in development to bring on the public agenda issues related to good governance of environment and natural resources.

Among other achievements under good governance, policy planning and advocacy, we have the following: CSOs have established the ***Uganda Green Economy Network***, which is a platform for CSOs to engage government on the transition path from brown economy to green/blue economy. Members of the network are drawn from various sectors of the economy including Operation Wealth Creation.

In a bid to save Bugoma Forest, CSOs formed a ***'Save Bugoma Platforms'*** that has been a key space for sharing information and tactics for engagement to demand leadership to reverse actions intended to decimate part of

the forest for sugarcane growing. **Three petitions have been delivered to Bunyoro Kingdom, a press conference has been held and a petition submitted to His Excellency the President.**

CSOs have continued to engage responsible entities (the National Environment Management Authority, Petroleum Authority of Uganda and the Joint Venture Partners in the petroleum sector on environmental and social impact assessments for all infrastructure associated with oil production, transportation and distribution with a view of making sure there is utmost compliance to the laws, international standards and agreed international best practices. **Consequently 5 engagements have been undertaken this FY to review ESIA as well as facilitating communities to express their views and concerns on proposed major developments.**

CSOs engaged Parliament on the establishment of the **Parliamentary Committee on Climate Change**. This was through a position paper submitted to the committee of rules, privileges and discipline.

CSOs have conducted consultations for the review of the **Wetland Policy as well as the Wetland Bill**. The concern is about the slow process whilst wetlands continue to suffer with encroachment as well as rice growing.

### 12.8 Research studies/ Surveys

The following is a list of studies undertaken by ENR CSO members.

**Table 85:** Research undertaken by ENR CSOs.

Research/ Study/ Survey	Organization
<b>A. Forestry sub-sector</b>	<b>Organization</b>
i. Validation of views of forest adjacent communities on the Constitutional Amendment Bill No.13 of 2017 with Masindi district Councillors.	Community Development and Conservation Agency
ii. Impact of oil palm on land cover and land use in Kalangala and Buvuma	ECO TRENDS
iii. Impacts and implications of oil palm on the landscape	ECO TRENDS
iv. Mapping timber dealers to inform decisions on eliminating illegal timber trade in the districts of Kampala, Mubende, Kyegegwa, Kyenjojo, Kasese, Kabarole, Hoima, Kikuube, Masindi and Kyankwanzi districts.	Anti-Corruption Coalition Uganda
<b>B. Environment sub-sector</b>	<b>Organization</b>
i) Issues and gaps in the draft urban solid waste management policy, 2017 & draft Green Jobs Strategy	Environment Management and Livelihoods Initiatives
ii) Gap Analysis on the Domestication and Application of International Best Practices and Provisions in the Extractive Sector of Uganda	Tree Talk Plus and Action Aid
iii) An analysis of oil palm projects in Uganda	ECO TRENDS
iv) Impacts of oil palm on employment, demography and gender issues in Kalangala districts	ECO TRENDS
v) Future economic trajectories for oil palm in Buvuma and Kalangala districts	ECO TRENDS
vi) An assessment of land deals undertaken by the National Oil Palm Project in Kalangala and Buvuma districts	ECO TRENDS
vii) Research on mining developments and impact on household vulnerability and economic empowerment in Karamoja: A gender approach	Ecological Christian Organisation
<b>C. Weather, Climate and Climate Change</b>	<b>Organization</b>
i) Participatory disaster risk mapping and review for the districts of Nabilatuk, Nakapiripirit and Napak	Ecological Christian Organisation
ii) Conducted a study on Market/livelihoods analysis to identify gaps, employment needs and income streams that are resilient to climate change and mapping on going initiatives amongst wetland adjacent communities of Mitooma, Sheema and Bushenyi.	Environment Alert
iii) Understanding Climate Change Impacts in selected climate vulnerable groups – A Case Study of landslides in Bududa District, Mt. Elgon Region. PELUM and Tree Talk Plus	PELUM and Tree Talk Plus
iv) An analysis of existing agricultural policies, plans, strategies and selected programmes with a view of integrating climate change thinking.	Advocates Coalition on Environment and Development
v) Capacity needs assessment for district and sub-county local governments and non-state actors at national and local level in the districts of Kyegegwa, Kyenjojo and Arua as far as building resilience of local communities (especially women and youth) to impacts of	Advocates Coalition on Environment and Development and Environment Alert

Research/ Study/ Survey	Organization
climate change and natural resource degradation and strengthening women and youth inclusion in the management of natural assets are concerned.	
vi) Gender sensitive climate vulnerability and capacity Assessment in Arua, Kyenjojo and Kyegegwa.	CARE International in Uganda
vii) Contributed a chapter on the Uganda CSO Agenda 2030 reference group (c/o NGO Forum) brief: implementation of sustainable development goals in Uganda - a statement based on civil society organizations' perspectives ahead of the UN High Level Political Forum that reviewed SDG 13.	Uganda Coalition for Sustainable Development and Climate Action Network-Uganda
<b>D. Wetlands sub-sector</b>	<b>Organization</b>
i. Study on Regulatory Impact Assessment of the National Wetlands Resource Management bill.	Ecological Christian Organisation

## 12.9 Challenges and Recommendations

The sector has continued to grapple with common challenges summarised in the **Table 86 below**

**Table 86: Summary of Challenges and Recommendations.**

Theme	Challenge	Recommendation
Forestry	Increased investments in agro-commodities that target forested landscapes e.g. Hoima Sugar Works encroaching on Bugoma Central Forest Reserve and oil palm, targeting forests outside protected areas in Kalangala and Buvuma.	MWE/FSSD/NEMA emphasise compliance to ENR laws.
	Court rulings in favour of illegal land titling in Bugoma and Buto-Buvuma defying the mandate of responsible bodies that protect forest reserves.	Parliamentary committee on natural resources scrutinises legal frameworks with a view of insulating protected areas against such acts (including options for cancellation of such titles, litigating those involved)
	Reduced tree cover in the rangelands (also known as cattle corridor) due to charcoal burning	District Forest Services pronounce affirmative action for Farmer Managed Natural Regeneration based on legal provisions through ordinances and bye-laws. The other options include: <ul style="list-style-type: none"> <li>i. Provide alternative options for fuel wood</li> <li>ii. Provide subsidies for renewable energy (hydroelectric power and gas etc.)</li> <li>iii. Promote improved livestock varieties</li> </ul>
	Lack of an Agro-forestry policy and commensurate research, innovation and technology in forestry	<ul style="list-style-type: none"> <li>i. MAAIF and MWE expedite the process for an Agro-forestry policy that has remained a draft for a number of years.</li> <li>ii. MWE and Private sector explore innovations and technologies to meet the available demand.</li> </ul>
	The other recurrent concerns are <ul style="list-style-type: none"> <li>i) Failure to curb illegal logging in northern Uganda.</li> </ul>	<ul style="list-style-type: none"> <li>i. Forest Sector Support Department implements the presidential ban on logging.</li> </ul>

Theme	Challenge	Recommendation
	<ul style="list-style-type: none"> <li>ii) The influx of refugees has presented stress on environment and natural resources</li> <li>iii) Failure to cancel land titles in forest reserves despite the plea from CSOs and commission of inquiry on land matters.</li> <li>iv) Inadequate funds to NFA, FSSD, DFS to implement their mandates.</li> <li>v) Delay in the finalisation of registration and recognition of community forests.</li> <li>vi) The District Land Board, sub-county chiefs (Senior Assistant Secretaries) and area land committees are not aware of their roles in ENR management, a reason for continued issuance of titles in reserves,</li> </ul>	<ul style="list-style-type: none"> <li>ii. MWE and OPM rolls out refuge response plan that is environmentally sensitive.</li> <li>iii. MWE, FSSD, NFA and affected DLGs fast track the cancellation of titles in forest reserves and wetlands across the country.</li> <li>iv. CSOs support MWE in lobbying for increased funding of the sector, especially at parliamentary level.</li> <li>v. MWE/FSSD fast tracks the registration of community forests.</li> <li>vi. MWE engages MoLG and MoLHUD on issuance of land titles in gazetted areas.</li> <li>vii. MWE/NFA needs to fast track work on demarcation of wetlands and forest reserve boundaries</li> </ul>
Wetlands	i). Increasing levels of cultivation of agro-commodities in wetlands.	i). NEMA, Environmental Protection Police Force and DLGs fast tracks compliance concerns and implementation of Environment and Social Management Plan.
	ii). Bigger proportions of wetlands in the rural areas are not demarcated and are affected by agricultural expansion especially by large scale farms and industrial parks.	ii). MWE to identify resources for demarcation of wetlands in rural areas.
	iii). District local governments have a challenge of developing management plans for wetlands and yet they are underfunded.	iii). MWE/CSOs should promote Ecosystem Based Adaptation approaches that aim at sustainable utilisation (for multiple benefits) of wetlands at community level.
Environment	i). Inter-institutional collaboration remains a challenge especially with the high impact sectors of energy, mineral development, land, petroleum development, agriculture and how these interface with wetlands, forestry, lands, petroleum infrastructure and wildlife among others.	i. The Office of the Prime Minister steps up the coordination of these sectors for effective delivery of development in the country.
	ii). Use of mercury in gold mining and crude methods of mining that exposes the miners to hazardous working environment and environmental degradation (Gold mining in Bugiri, Mubende, Buhwezu, Karamoja)	ii. MEMD and NEMA commission research to establish the practices in gold mining industry to generate recommendations to address the environmental concerns. This should be extended to other areas such as Oil and Gas exploration and production



Theme	Challenge	Recommendation
	<p>iii). The unregulated use of chemical fertilizers, pesticides, herbicides among others that kill living organisms in the soil, water pollution, loss of soil fertility among others leading to environmental degradation</p> <p>iv). Promotion of exotic tree species (pine and eucalyptus) in favor of indigenous species that tend to change soils and micro-climate as they create their own. These tend to destabilize the environment.</p>	<p>iii. MAAIF and NEMA regulate the use of agro-chemicals at community level.</p> <p>iv. CSOs roll out a strategy to reduce dependence on agro-chemicals at farm level.</p> <p>v. MWE/FSSD, NFA and CSOs undertake comprehensive campaign for growing indigenous trees</p>
Weather, Climate and Climate Change	<p>The main issues in the climate and climate change thematic area include:</p> <p>i. Delayed approval of the National Climate Change Bill</p> <p>ii. Lack of a standalone National Climate Change Fund</p> <p>iii. Lack of an overall National Adaptation Plan</p> <p>iv. Lack of a comprehensive vulnerability assessment to guide the whole country</p> <p>v. Limited contribution of ENRC SO Members to the Nationally Determined Contributions (NDC) Implementation Plan</p> <p>vi. Limited capacity (financial, technical)</p> <p>vii. Limited mainstreaming of climate change in District Development Plans</p>	<p>i. Parliament should expedite the approval of the climate change bill</p> <p>ii. CCD should expedite the process of developing a national climate change fund</p> <p>iii. CCD should advance the National Adaptation Plans development process to guide other sectoral NAPs</p> <p>iv. The ENRC SO Network should communicate members' contribution to the Nationally Determined Contributions Partnership Plan</p>
Governance	<p>The influx of refugees that are settled in ecologically fragile eco systems</p> <p>Possibility for failure to implement ESMMPs for petroleum developments in Tilenga, Industrial park, Kingfisher and the East African Crude Oil pipeline</p> <p>Lack of coordination of high impact sectors to integrate environment management and concerns in policies, programs and projects</p>	<p>Fast track the implementation of the comprehensive refugee response framework</p> <p>MWE and NEMA should ensure that Environment and social mitigation management plans are implemented in oil and gas development</p> <p>Fast track mainstreaming of ENR in high impact sectors</p>

## 14. GOOD GOVERNANCE IN WATER AND ENVIRONMENT

### 15.1 Monitoring governance in the water and sanitation sub-sector

#### % Implementation of the previous year's audit recommendations of financial statements

There are 10 governance indicators whose analysis of performance focuses on the Governance principles of **Accountability, Transparency and Participation**. The indicators are 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. This Monitoring Framework also supports the Civil Society and Development Partners in targeting their support to most critical areas of governance in the sector. The performance of these indicators is reported hereunder.

**Table 87: Performance on agreed indicators**

	Indicator	Principle	Entity	Target	Performance				
				2018/19	2018/19	2017/18	2016/17	2015/16	
1	% Implementation of the previous year's audit recommendations of financial statements	Accountable to audit office and its recommendations	MWE	100%	88%	N/A	N/A	16%	
			NWSC	100%	91%	85.7%	91.5%	91.5%	
2	Average weighed procurement performance	Accountable to procurement procedures	MWE	100	77.32	N/A	N/A	84.7%	
			NWSC	100	Not yet reported	78%	80.1%		
3	% of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area	Equity and inclusive water provision to the poor	NWSC	100	Not yet reported on.	83	79	75	
			Small towns	100	31%	38	N/A	N/A	
4	NWSC's Customer Satisfaction Index	Transparency to customers	NWSC	86%	86%	85%	84%	88%	
5	Percentage of gazetted water authorities and districts whose performance is published annually by the Regulation body	Transparency of gazetted water schemes and districts	WURD	100%	41%	56	DNFY	45%	
6	% of water for production facilities with actively functioning Water User Committees	Participation of users in the management of WFP facilities	WFP facilities	100%	84%	84%	82%	73%	
						71%	70%	48%	
7	% of permit holders complying with permit conditions	Accountability of permit holders to permit conditions	WRM	100%	59%	DNFY	72%	68%	

TBS = To Be Set

## Description and analysis of Governance indicators performance

### *% Implementation of the previous year's audit recommendations of financial statements*

The audit report for the year 2016/17 indicated an improved performance of 88% on the implementation of audit recommendations especially with in the MWE. The challenge was that some actions to be taken needed an input from various institutions like the Accountant General's office hence leading to the untimely implementation of he recommended actions. The SPR of 2018 indicates NWSC performance of 91% adherence to audit recommendations. From the reports analysed, the Performance fell below 100% because some audit queries required investments that have been planned for in the first quarter of the FY 2019/2020.

**Table 88: Average weighed procurement performance**

Compliance Indicator	Score %	Weight	Weighted Score
Average Compliance Indicator Score	76.6	0.4	30.64
Average Performance Indicator Score	77.8	0.6	46.68
<b>Entity's Weighted Procurement Performance Score</b>			<b>77.32%</b>

The performance result in FY 17/18 of 77.32% was a result of a high average compliance score of 76.6% for procurement systems, procurement processes and a disposal average performance score of 77.8%. Based on audit findings, PPDA issued a range of recommendations which all are in the process to be implemented or have been implemented. MWE PDU has taken the following actions and made additional recommendations to implement PPDA recommendations;

- (i) The Accounting Officer should caution; the Contracts Committee, the Head, Procurement and Disposal Unit and User Departments for failure to adhere to Regulations 27 and 37 of the PPDA (Rules and Methods for Procurement of Supplies, Works and Non-Consultancy Services) Regulations, 2014 in the preparation of solicitation documents;
- (ii) The Contracts Committee and Head, Procurement and Disposal Unit should ensure the use of competitive procurement methods to ensure competition and value for money. Where the direct procurement method is used, the Entity should adhere to the provisions spelt out in Regulations 8, 9 and 10 of the PPDA (Rules and Methods for Procurement of Supplies Works and Non-Consultancy Services) Regulations, 2014;
- (iii) The Accounting Officer should task Heads of User Departments and contract managers to ensure that contracts are implemented within the stipulated contract periods;
- (iv) The Head, Procurement and Disposal Unit should ensure that the Evaluation Committee members strictly adhere to the criteria set out in the solicitation document in accordance with Regulation 7 of the PPDA (Evaluation) Regulations, 2014; and

### **% of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area.**

The harmonized tool to be used in collecting comprehensive data for this indicator (UPMIS) is still under development. There is therefore no information this year. During the FY 2018/2019, NWSC constructed 2,596 pro-poor facilities, the WSDFs and Umbrella Organizations have constructed 267 pro-poor connections. The percentage of pro-poor facilities that provide water at a price less than or equal to the household tariff is at 31% for towns under Umbrella. The following recommendations were proposed to improve on the service delivery of the pro-poor facilities which in turn will lead to better standards of living for the people;

- NWSC needs to step up efforts in ensuring all PSP vendors charge a uniform tariff of 50 shillings per 20 litre jerrycan of water by putting price tags on the PSPs.
- There is need to have a formalised working relation with the PSP attendant i.e. having a formal PSP operation contract where the attendant is expected to follow the set rules in the contract.
- There is urgent need to increase the number PSP to increase access to water by the poor

***NWSC's Customer Satisfaction Index***

During the review period, NWSC conducted a Customer Satisfaction survey from which a Customer Satisfaction Index of **86%** was obtained. This was equal the target of 86% which was as a result of the Corporation's heightened commitment to serve all its customers efficiently as well as increased stakeholder engagement.

***Percentage of gazetted water schemes and districts whose performance is published annually by the Regulation body***

The Water Utility Regulatory Department produced a report with analysis of 188 small towns' performance out of the 458 small towns hence indicating 41% of the towns to have reported on their regular performance. In efforts to improve on the effective reporting by the small towns, a focal point person in NWSC has been trained on how to incorporate NWSC reporting into UPMIS.

***% of water for production facilities with actively functioning Water User Committees***

This analysis on management of WfP facilities only considers those under community management with support from Local Governments including private facilities constructed with support of Government. In the review period 363 facilities were assessed and registered a satisfactory performance of 84% functionality of the WUCs. This good performance is attributed to the effectiveness of the Farmer Field Schools (FFS) approach which focusses on enhancing and promoting self-driven approaches for community ownership and sustainability initiatives. Under this approach, MWE has supported the Local Governments to train the beneficiaries (farmers) together with the management committees mainly on their roles and responsibilities and establishment of the by-laws to ensure sustainability of the facilities.

***% of permit holders complying with permit conditions***

Overall, 371 permits (153 new and 218 renewal) were issued compared to 294 issued in FY 2017/18; representing 26% increase in performance. However the following reasons were singled out for the failure of the applied permits to get approval;

- (i) 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.
- (ii) Delayed or non- response by the applicants to the requests to provide additional information.
- (iii) Some applicants submitting application forms without payment of processing fees.
- (iv) Incomplete field assessments by the applicants.

## 15. DEVELOPMENT PARTNERS IN WATER AND SANITATION

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### Background

The Water and Sanitation (Water Supply, Water Resources, Water for Production, Sanitation) Sub-sector Development Partners' Group (WSSDPG) is one of several thematic and sector DPGs under the auspices of the Local Development Partners' Group (LDPG). It is one of two DPGs in the Water and Environment Sector, the other being the Environment and Natural Resources and Climate Change Sub-sector DPG (ENRCCDPG). Development Partners are committed to increasing the effectiveness of development cooperation in order to support the Government of Uganda in achieving its national development goals, in line with international agreements including the Paris Declaration on Aid Effectiveness (2005), the Accra Agenda for Action (2008) and the Busan Partnership for Effective Development Co-operation (2012).

Membership of the group is open to all development partners supporting the sector, including the Umbrella NGO for Water and Sanitation (UWASNET) who can invite a second NGO based on the topic of the meeting in question, or represent the organisation. Representatives of the Ministry for Water and Environment, and Ministry of Health, are welcome to participate in meetings when relevant and appropriate.

The objectives of the Group are to optimize the effectiveness and quality of humanitarian and development assistance to the Water and Sanitation Sub-sector, to coordinate common positions on sector-specific issues, including budget allocations, sector reform, performance and sector priorities, to trigger and inform policy dialogue with Government and other stakeholders on financing, to achieve and maintain effective division of roles within the sector, to increase members' knowledge of challenges and developments in the sector, and to ensure mainstreaming of environment and natural resources and climate change in Water and Sanitation Projects.

To achieve the above objectives and to promote an action- and results-oriented agenda, the members of the WSSDPG identified, at the beginning of the year (starting at the end of the annual Government of Uganda-Development Partners Joint Sector Review), a limited number of key priorities and expected results on which the individual WSSDPG members would focus. The performance of the WSSDPG in these highlighted areas was internally monitored and evaluated mid way and at the end of the 12-month period. For the reporting period, eight priorities were identified, under which strategic activities were identified and the progress performance is presented below:

### 12.10 Priority 1: Increase Sector Financing

UNICEF prepared the Uganda country analysis of Water, Sanitation & Hygiene (WASH) public financing. UWASNET developed its funding strategy. The Non-State Actors National Development Plan III Issue Paper was developed and submitted to National Planning Authority and MWE. UWASNET also carried out a national survey depicting a Community Voice regarding WASH Accessibility, to be launched in September 2019.

A credit facility agreement was negotiated with MoFPED and MWE for the AFD-funded Water for Production Project in Kiruhura district, with Cabinet and Parliament approvals pending before signature. Financing for the water and sanitation development project under the Rural water department has been approved by the Sector and is at the level of the Ministry of Finance for approval and funds request.

The World Bank funded Integrated Water Management Development Project became effective on June 28, 2019, with 19 lots now being at different stages of procurement. GIZ facilitated the implementation of a study to explore financing options for on-site sanitation infrastructure and services. Some financing options will be tested and followed up in the urban sanitation sector.

### **12.11 Priority 2: Improve Equity in Access to Water**

ICEIDA supported an increase in the proportion of population with access to safe water through construction of 26 mini solar powered systems serving 38 villages in Buikwe District.

### **12.12 Priority 3: Improve Sanitation and Hygiene**

In contribution to scaling up and accelerating achievement of basic sanitation in Uganda, UNICEF developed the Open Defecation Free (ODF) Roadmap and rolled out Community Led Total Sanitation (CLTS) in 23 districts resulting to 401 communities claiming to be ODF. ICEIDA supported the CLTS approach, and 14 villages were declared ODF in Buikwe District. JICA selected target villages and schools for CLTS sensitization and target demo sites for latrine construction in Mubende. AFD (with cofunding from KfW and GoU) procured contracts to increase access to sanitation in informal settlements in Kampala through construction of sanitation facilities.

To upscaling urban access to adequate and equitable sanitation and hygiene, GIZ constructed a Faecal Sludge Treatment Plant (FSTP) in Apac and handed it over to the Umbrella Authority North for operation; it will become a model plant for peer learning. Guideline development on FSTPs in small towns, including a national baseline of all FSTPs is underway as part of Undertakings 2 and 3. GIZ also supported local government authorities in regulating sanitation services; a regulating framework for private sector engagement was developed with Kampala Capital City Authority (KCCA), with a first Ordinance of Sewerage and FSM having been approved. Better understanding still needs to be generated on actual costs and possible efficiencies of service provision in order to commence tariff setting with local governments.

USAID supported the development of the draft National Sanitation Marketing Strategy, which will soon be shared with Ministry of Health for approval; baseline district data were collected, and an identification and improvement of WASH infrastructure in schools and health facilities is underway.

### **12.13 Priority 4: Strengthen Sustainability in Water Supply**

JICA analysed the O&M support system of rural water supply facilities in the public & private sector with a view of strengthening it in selected target districts and developed the District Direct Management System approach. A trial of the District Direct Management System has started, and the conclusions of the analysis have been used as input for the recently developed O&M Framework for Rural Water Supply. This O&M Framework was developed with support from Danida in a highly participatory approach and is awaiting formal approval by MWE. UNICEF's support to Kamuli, Adjumani and Kiryandongo District Local Governments for modelling of district-wide O&M is ongoing. The organisation supported the development of asset registers and asset analysis for water supply systems in Adjumani, Kiryandongo and Isingiro districts.

JICA improved the water supply coverage at 9 RGCs in 5 districts in lake Kyoga Basin by constructing piped water supply systems; the schemes were officially handed over. Other support within this framework included assistance in establishing water supply and sanitation Boards (WSSB), and training and sensitization for daily management, collection of user fees, and reporting.

### **12.14 Priority 5: Support Coordinated Refugee Response**

With support from UNICEF and UNDP, the final draft water and environment refugee and host community response plan was prepared within the framework of the Comprehensive Refugee Response Framework and a final draft report was disseminated to stakeholders. Together with the Task Team, the report is being finalised and launch of the Plan is expected by the end of the year. Meanwhile, KfW has supported the completion of the first phase of the Refugee and Host Communities infrastructure development plan for West Nile region process with a study on water resources availability versus water demand. The development the ToR for the main study is under way with funding secured. UWASNET finalised mapping and identified around 50 NGOs working in the refugee context; Reviving of regional coordination is ongoing through its Regional Coordinators.

AFD's ongoing project for water and sanitation development for Isingiro district under MWE's Rural water and sanitation department includes a component for service provision for the refugee population and host communities under grant financing from the EU.

#### **12.15 Priority 6: Support Sector Performance Monitoring and Monitoring of Sustainable Development Goals (SDG)**

UNICEF supported MWE to unpack sector performance monitoring indicators (that included SDG indicators) through a clear formulation for data collection and reporting. The indicators cover six themes (urban water supply, urban sanitation, rural water supply, rural sanitation, water for production and cross-cutting issues). A dissemination workshop for TSUs will be carried out and a monitoring guideline is being prepared. UNICEF has initiated consultations to strengthen monitoring of SDG 6.1 indicators. FAO developed SDG 6.4.1 and 6.4.2 indicator formula in consultation with national government. An activity is ongoing with support from FAO Headquarters and through the FAO-STAT system for monitoring these SDGs.

Jointly with the MWE and MoH, GIZ developed a management information system to monitor safely managed / basic sanitation through the local government structures in urban areas. The tool was tested in Apac Municipal Council (MC), and will be introduced in Gulu MC.

#### **12.16 Priority 7: Climate Change and ENR Mainstreaming**

MWE has commissioned a consultancy to develop micro-catchment management plans (m-CMPs) for three micro-catchments in West Nile, with support from Danida. Consultants have conducted inception workshops and produced the inception reports for developing the micro-catchment management plans.

FAO developed the terms of reference to promote climate resilient agricultural production practices in Central Cattle Corridor, Karamoja and West Nile Regions. Sub-counties for intervention as well as implementation partners were identified and selected, respectively.

#### **12.17 Priority 8: Support Catchment-Based IWRM Approach**

GIZ has started its support for the revision of the Operationalisation Strategy for DWRM's Catchment Management Guidelines. A project for restoration of degraded watershed ecosystems in 56 micro-watersheds in the West-Nile, Karamoja and Central Cattle Corridor Regions was developed with support from FAO. A partnership agreement between FAO and DWRM was negotiated and final drafts submitted for endorsement(s). Watershed level work expected to begin by October 2019.





# ANNEXS

## ANNEX 1: Information Sources and References

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	2018	Population Data for Urban Councils and Rural Sub-Counties
NEMA	State of Environment Report	2017	Information on environment and natural resources
MWE	Water and Sanitation Sub-Sector Investment Plan (SSIP)	2018	Investments
UBOS	National Population And Housing Census 2014	2014	Access
District Local Governments	District Water & Sanitation Situational Analysis Reports	2019	Access, functionality, investment, equity and gender
MWE	WSDB Database and NWSC-MIS Database	2019	Access, functionality, equity, gender, outputs, investment, WfP, performance, compliance and water quality
UWASNET	NGO Group Performance Report for 2015/16	2019	NGO Inputs and Performance
Environmental Alert	CSO Report for Environment and Natural Resources	2019	NGO Inputs and Performance

## **ANNEX 2: References**

Equal Opportunities Commission (Uganda), 2017. Assessment results on compliance of 136 MPS's with Gender and Equity for FY 2017/18

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

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.

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

## ANNEX 3: Overview of the Sector Institutional Framework

### 1.1 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) which is described in the subsequent chapter. The WESWG provides policy and technical guidance for the sector and comprises representatives from key sector institutions.

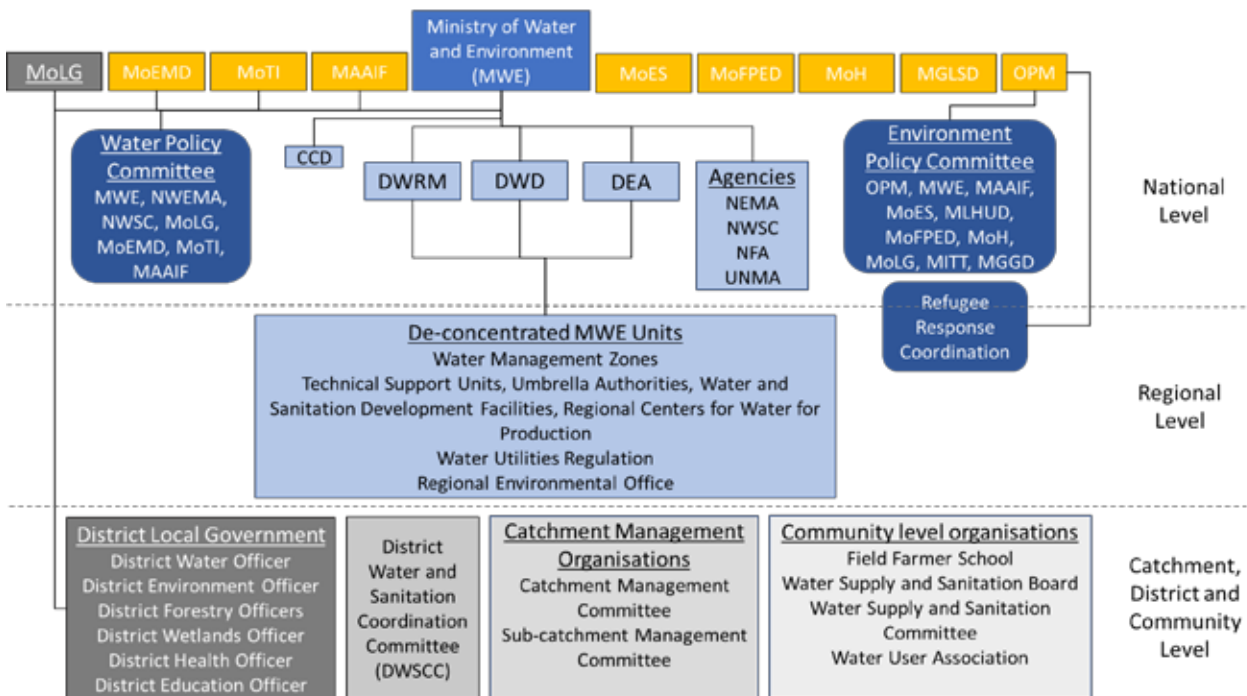


Figure 58: Water and Environment Sector Institutional Framework

#### 1.1.1 Policy Committees

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 **Environment Policy Committee** 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.

### 1.1.2 Ministry of Water and Environment

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). In response to the increasing number of districts and the need to provide support to local government, the MWE has established a number of de-concentrated entities which are outlined below.

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 **Water for Production** 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.

#### 1.1.2.1 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 trans-boundary 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 trans-boundary level, and the local level.

Trans-boundary 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.

**Water Management Zone** 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.

#### 1.1.2.2 Directorate of Water Development

**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.

**Technical Support Units (TSUs)** are established under the Rural Water and Sanitation Department in 10 locations 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. 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.

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.

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 infrastructure development, operation and maintenance it has set up two sets of regional deconcentrated units:

- **Water and Sanitation Development Facilities (WSDFs)** for the implementation of new water supply and sanitation schemes and major rehabilitations
- **Umbrella Authorities** for operation and maintenance

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. 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.

Since August 2017 the Ministry of Water and Environment has introduced a new management model that is tailored for piped water schemes supplying small towns and rural areas. The model builds on the structures and experience of the 6 regional “Umbrellas of Water and Sanitation” that were created between 2002 and 2014 to provide O&M backup support services for small water supply schemes. Under the new model the Umbrellas – now referred to as **Umbrella Authorities** – are appointed as Water Authorities. Instead of playing a supporting role as in the past they assume direct management responsibilities for the “gazetted” schemes. Umbrella Authorities continue to provide backstopping support to all piped water schemes outside NWSC regardless of their management arrangement and size.

The **National Water and Sewerage Corporation (NWSC)** is a parastatal that operates and provides water and sewerage services in more than 200 towns across the country including Kampala. NWSC’s activities are aimed at expanding service coverage within the water supply area while improving the quality and efficiency of service delivery. Key among its objectives is to plough back generated revenue surplus for infrastructure improvements and new investments.

The Water for Production Department has recently de-concentrated its services to 4 regions by creating **Regional Centers for Water for Production**.

### 1.1.2.3 Directorate of Environmental Affairs

**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).

DEA has recently de-concentrated its services and created **Regional Environment Offices**.

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.

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.

#### 1.1.2.4 Support or cross-cutting units outside Directorates

The **Water and Environment Sector Liaison Department** is mandated to ensure effective planning, coordination and management of the Water and Environment 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.

#### 1.1.3 Role of other Ministries in the Sector

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 (MAAIF)** 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.

#### 1.1.4 Non-Government Organisation Coordination

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.**

### 1.1.5 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.

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.

### 1.1.6 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.

### 1.1.7 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.



## ANNEX 4: Formulas Used for Calculating Indicators in MIS

Computation of the new Sector Indicators is found in the *Guide to Monitoring of Water, Sanitation and Hygiene Sector Indicators (Definitions, Methodology & Calculations) 2019* available at [www.mwe.go.ug](http://www.mwe.go.ug)

### Other Indicators

#### 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 Error! Reference source not found..

- a. For Point water Sources

$$\text{PopPWS} = \text{PS} * 200 + \text{SW} * 300 + \text{DBH} * 300 + \text{KSK} * 150 + \text{YTF1} * 150 + \text{RHTsmall} * 3 + \text{RHTbig} * 6$$

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

$$\text{PopPS} = \text{HC} * 6 + \text{IC} * 100 + (\text{YTF2} - \text{YTF1}) * 24$$

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.<sup>27</sup>

$$\text{total served}_{\text{NWSC subcounty}} = \text{PopPWS} + \text{PopServedNWSC}$$

$$\text{total served}_{\text{other subcounty}} = \text{PopPWS} + \text{PopPS}$$

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.<sup>28</sup>

<sup>27</sup> 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.

<sup>28</sup> 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.

$$total\ served_{NWS\ county} = sum(SC\ population) * 95\%$$

$$total\ served_{other\ county} = sum(SC\ population * Access\ SC)$$

5. On district level the population served based on capped access is summed up:

$$Access\ District = \frac{sum(total\ served_{county})}{sum(SC\ population)}$$

Where: Pop=population, PS= piped scheme, HC=house connection, IC=institutional connection, YTF=yard tap for public use, SC=sub county

**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

$$Functionality = \frac{Sum\ of\ functional\ point\ water\ sources}{sum\ of\ functional + sum\ of\ non\ functional\ pws}$$

Sources marked as “Functional (not in use)” (Fniu) are considered as functional if the downtime is less than 5 years or not specified.

**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

$$Equity\ SC = \left| \frac{rPop_{District}}{sum\ of\ district\ PWS} - \frac{Pop_{SC}}{sum\ of\ SC\ PWS} \right| \quad \text{equity}$$

- calculate

$$Equity\ district = \frac{sum\ of\ all\ district's\ sub\ county\ equities}{total\ rural\ sub\ counties\ in\ the\ district} \quad \text{equity}$$

- calculate

$$Equity\ national = \frac{sum\ of\ all\ sub\ county\ equities}{total\ rural\ sub\ counties} \quad \text{equity}$$

**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.

### **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.

### **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 5: NWSC Project and Financial Performance

### NWSC Performance of Projects

NWSC continued to implement a number of capital projects aimed at expanding the service delivery capacity to meet the growing demand for water and improved sanitation of the various communities. This is in line with the Government objective of attaining the Lower - Middle Income Status by 2020. These projects are financed using funding from Government of Uganda, Donor and NWSC internally generated resources. The table below provides a summary of the implementation status as at 30<sup>th</sup> June 2019;

**Table 1: Status of Implementation of Capital Development Projects as at 30<sup>th</sup> June 2019**

Project	Scope	Target 2018/19	Status
<b>Kampala Sanitation Programme Phase 2 (KSP – LVP2)</b> <b>Objective:</b> To provide improvements in the urban hygiene and sanitation services for Kampala city residents, and protection of Kampala’s natural Environment.	<ul style="list-style-type: none"> <li>Construction and operation of Nakivubo Waste Water Treatment Plant (<b>45,000 m<sup>3</sup>/day</b>),</li> </ul>	<ul style="list-style-type: none"> <li>Commence operations at the plant.</li> <li>Monitor performance of the wet part of the plant.</li> </ul>	<ul style="list-style-type: none"> <li>Process and test commissioning was completed.</li> </ul>
	<ul style="list-style-type: none"> <li>Construction of Nakivubo and Kinawataka sewers project (<b>30km</b>).</li> </ul>	<ul style="list-style-type: none"> <li>Complete tie-in/connection works</li> <li>Monitor performance of completed works</li> </ul>	<ul style="list-style-type: none"> <li>Process completed and monitoring of the system performance is ongoing.</li> </ul>
	<ul style="list-style-type: none"> <li>Construction of Kinawataka Pre-treatment and pumping station (<b>9,000 m<sup>3</sup>/day</b>)</li> </ul>	<ul style="list-style-type: none"> <li>Commission the plant</li> <li>Monitor system performance</li> <li>Attend to any snags that may emerge</li> </ul>	<ul style="list-style-type: none"> <li>The plant was commissioned and is now operational.</li> <li>Monitoring of system performance is ongoing.</li> </ul>
<b>Kampala Water Lake Victoria Water and Sanitation Project</b> <b>Objective:</b> To address water supply challenges in greater Kampala metropolitan area up to the year 2040	<ul style="list-style-type: none"> <li>Refurbishment of Gaba 1&amp;2 water treatment plants and limited water networks’ interventions.</li> </ul>	<ul style="list-style-type: none"> <li>Sign Contract and commence mediation services.</li> </ul>	<ul style="list-style-type: none"> <li>Limited water networks interventions was completed.</li> </ul>
	<ul style="list-style-type: none"> <li>Water network rehabilitation, extension and rezoning</li> </ul>	<ul style="list-style-type: none"> <li>Obtain contract signature for network rehabilitation.</li> </ul>	<ul style="list-style-type: none"> <li>Procurement of design and supervision consultant for the water network has been completed.</li> </ul>
	<ul style="list-style-type: none"> <li>New water treatment plant in Kampala East</li> </ul>	<ul style="list-style-type: none"> <li>Complete earthworks, installation of construction equipment, batching plant, laboratory, road and drainage concrete works.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed designs for the construction of the Kampala East Water Treatment Plant is at 95% completion and construction of treatment units commenced (25% progress).</li> </ul>
	<ul style="list-style-type: none"> <li>Katosi-Kampala Transmission main</li> </ul>	<ul style="list-style-type: none"> <li>Handover remaining pipelines sections to the Contractor.</li> <li>Complete Geo-nailing works at Sonde reservoir</li> <li>Installation of Electro-mechanical equipment at Namugongo Booster Station.</li> </ul>	<ul style="list-style-type: none"> <li>All pipelines delivered. <b>26.4 km</b> out of <b>54km (49%)</b> of the Katosi - Kampala Transmission main has been laid.</li> <li>Completed geo-nailing works at Sonde reservoir. Excavation works for the foundation have commenced.</li> <li>Pumps for Namugongo booster station have been delivered to site.</li> </ul>
	<ul style="list-style-type: none"> <li>Water and Sanitation in Informal Settlements</li> </ul>	<ul style="list-style-type: none"> <li>Initiate procurement for land for other project sites.</li> </ul>	<ul style="list-style-type: none"> <li>Initiated procurement for land for other project sites.</li> <li>Procurement of contractor for Water and Sanitation works in Informal Settlements is in progress.</li> </ul>
<b>Water Management and Development Project (WMDP)</b> <b>Objective:</b> To improve water supply and sewerage services in Arua, Bushenyi and Gulu towns.	<b>Bushenyi WatSan Project</b> <ul style="list-style-type: none"> <li>Construction of Kitagata Water Treatment Plant (3,150m<sup>3</sup>/day)</li> <li>Construction of reservoirs in Kikuba-Ishaka (1,600m<sup>3</sup>) and Kitagata (90m<sup>3</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>Monitor performance of completed works.</li> </ul>	<ul style="list-style-type: none"> <li>The Defects liability stage was completed in December 2018 and the plant is operational.</li> </ul>

Project	Scope	Target 2018/19	Status
	<b>Arua WatSan Project</b> <ul style="list-style-type: none"> <li>Refurbishment and upgrading of the current water treatment plant</li> <li>Increasing the storage capacity for treated water from 1,400,000 litres to 5,000,000 litres.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor performance of completed works.</li> </ul>	<ul style="list-style-type: none"> <li>The Defects liability stage was completed in December 2018 and the plant is operational.</li> </ul>
	<b>Gulu WatSan Project</b> <ul style="list-style-type: none"> <li>Upgrading and expansion of the existing water treatment plant to from 4,000,000 to 10,000,000 liters of water per day.</li> <li>Upgrading of the existing water supply and distribution network</li> </ul>	<ul style="list-style-type: none"> <li>Karuma intake works completed</li> <li>Rehabilitation of the Water treatment plant completed</li> <li>Rehabilitation of the sewerage ponds completed</li> <li>Laying of water network completed</li> <li>Laying of sewer network completed.</li> </ul>	<ul style="list-style-type: none"> <li>Karuma Intake Civil works are <b>70%</b> completed.</li> <li>Rehabilitation of the water treatment plant is <b>75%</b> complete.</li> <li>Rehabilitation of the sewerage ponds is <b>90%</b> completed.</li> <li>Laying of the water network is <b>96%</b> completed.</li> <li>Laying of the sewer network is <b>55%</b> completed</li> </ul>
<b>Integrated Water Management and Development Project (IWMDP)</b> <b>Objective:</b> To improve water supply and sewerage services in Adjumani, Gulu and Mbale towns including source protection in Adjumani, Gulu, Mbale, Arua and Bushenyi towns	<b>Adjumani</b> <ul style="list-style-type: none"> <li>Water supply and sanitation infrastructure improvements in Adjumani-Pakele and neighbouring towns.</li> </ul>	<ul style="list-style-type: none"> <li>Contract signature</li> </ul>	<ul style="list-style-type: none"> <li>Procurement of design and supervision consultant for Adjumani at tender evaluation stage.</li> </ul>
	<b>Mbale</b> <ul style="list-style-type: none"> <li>Water supply and sanitation infrastructure improvements in Mbale and neighbouring towns of Kibuku, Tirinyi, Kadama, Budaka, Busolwe, and Butaleja</li> </ul>	<ul style="list-style-type: none"> <li>Contract signature</li> </ul>	<ul style="list-style-type: none"> <li>Procurement of design review and supervision consultant for Mbale at tender evaluation stage</li> </ul>
	<b>Gulu</b> <ul style="list-style-type: none"> <li>Construction of water treatment plant at Karuma</li> <li>Bulk transfer of water from Karuma to Gulu and the six towns enroute to Gulu</li> </ul>	<ul style="list-style-type: none"> <li>Commencement of Project.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed design of all water supply infrastructure has been done.</li> <li>Construction of Karuma intake (capacity) at 85% progress.</li> <li>Review of tender documents for the Water treatment plant by KfW is in progress</li> </ul>
<b>Development of Water and Sanitation Infrastructure for the Isingiro, Mbarara-Masaka Areas- South Western Cluster.</b> <b>Objective:</b> To improve the living standards and productivity of the population in the project areas through provision of good quality water and improved sanitation services.	<b>Mbarara - Isingiro</b> <ul style="list-style-type: none"> <li>Construction of a new Water treatment plant in Kagera and associated infrastructure to meet the demand for Mbarara town up to the year 2040.</li> <li>Water supply and sanitation infrastructure improvements in Mbarara and neighbouring towns.</li> </ul>	<ul style="list-style-type: none"> <li>Commence detailed design consultancy</li> <li>Ensure that the inception report is submitted by the Consultant</li> <li>Ensure that the draft preliminary design review report &amp; draft ESIA and RAP report are submitted</li> </ul>	<ul style="list-style-type: none"> <li>Contracts for design and supervision consultancy were signed.</li> <li>Detailed design is ongoing.</li> </ul>
	<b>Masaka</b> <ul style="list-style-type: none"> <li>Water supply and sanitation infrastructure improvements in Masaka and neighbouring towns.</li> </ul>	<ul style="list-style-type: none"> <li>Commence detailed design consultancy</li> <li>Ensure that the inception report is submitted by the Consultant</li> <li>Ensure that the draft preliminary design review report &amp; draft ESIA and RAP report are submitted</li> </ul>	<ul style="list-style-type: none"> <li>Contracts for design and supervision consultancy were signed.</li> <li>Detailed design is ongoing.</li> </ul>
<b>Wakiso West WatSan Project (WWWSP).</b> <b>Objective:</b> To improve the quality of life, health and economy of people in the south and west of greater Kampala.	<ul style="list-style-type: none"> <li>Development of a new Water Treatment Plant, storage reservoir, pumping main, distribution system, a faecal Sludge Treatment Plant and Supply of Water in Informal Settlements.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate bids</li> <li>Fast track financing agreement with MoFPED and DANIDA signed</li> </ul>	<ul style="list-style-type: none"> <li>Process of procuring consultant for design and supervision.</li> <li>Feasibility tender documents to be finalised in September 2019.</li> </ul>
<b>Upgrading of Kapeeka Water</b> <b>Objective:</b> The project is aimed at addressing the current water	<ul style="list-style-type: none"> <li>Upgrading of the Electromechanical Installations to increase</li> </ul>	<ul style="list-style-type: none"> <li>Receive and install pumps, and generators</li> </ul>	<ul style="list-style-type: none"> <li>Upgrading of the Electromechanical Installations has been done</li> </ul>

Project	Scope	Target 2018/19	Status
supply and wastewater collection and treatment challenges for the Kapeeka community and industrial park.	<p>production from 1,100 m<sup>3</sup>/day to 2,500m<sup>3</sup>/day.</p> <ul style="list-style-type: none"> <li>▪ Laying of 7.6km DN 250mm Bulk transfer main from the Reservoir to the Industrial Park</li> <li>▪ Upgrading of the Water Treatment Plant (additional 5,000m<sup>3</sup>/day)</li> <li>▪ Development of groundwater system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure that laying of bulk transfer mains is substantially completed</li> <li>▪ Complete drilling of the boreholes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>6km out of 7.6km (78.9%)</b> of the bulk transfer to the industrial park has been laid</li> <li>▪ Contract for upgrading of the Water Treatment Plant has been awarded</li> <li>▪ Drilling of boreholes is in progress, <b>2 out of 3</b> boreholes have been completed</li> </ul>
<p><b>Kapchorwa Water Supply Project.</b></p> <p><b>Objective:</b> The project is aimed at improvement of water supply services in Kapchorwa town.</p>	<ul style="list-style-type: none"> <li>▪ Construction of New Water works (3000m<sup>3</sup>/day capacity) and 4km DN 200mm Delivery main.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supervise WTP works</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pipe works are at final stages, and civil works at the Water Treatment Plant are at <b>75%</b> completion.</li> </ul>
<p><b>Sembabule water supply improvement project.</b></p> <p><b>Objective:</b> To increase water production from 300m<sup>3</sup>/day to 3000m<sup>3</sup>/day and upgrading and extension of the water distribution network.</p>	<ul style="list-style-type: none"> <li>▪ Construction of new intake and water treatment line including; flocculator, coagulator, clarifier, filter and ancillary works.</li> <li>▪ Upgrading entire distribution network, and extension to surrounding towns (100km length, 90-200mm).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Evaluate bids</li> </ul>	<ul style="list-style-type: none"> <li>▪ Detailed designs completed.</li> <li>▪ Pipes have been delivered and contract for works awaiting signature.</li> </ul>
<p><b>Fort Portal Water Production Improvements.</b></p> <p><b>Objective:</b> To improve water quality and increase water production by 2500m<sup>3</sup>/day.</p>	<ul style="list-style-type: none"> <li>▪ Construction of flocculator, coagulator, clarifier, filter and ancillary works.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Construction works at WTP site ongoing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Construction of flocculator, coagulator, clarifier, filter and ancillary works.</li> </ul>
<p><b>Package Sewage Treatment Plants for Fort Portal.</b></p> <p><b>Objective:</b> The project aimed at addressing wastewater disposal challenges in Fort Portal town.</p>	<ul style="list-style-type: none"> <li>▪ Design, supply, installation and operation of sewage treatment plants.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Completion of Civil Works in Fort Portal</li> <li>▪ Installation and Operationalization of the Fort Portal Plant</li> <li>▪ Monitoring performance of both plants</li> </ul>	<ul style="list-style-type: none"> <li>▪ Installation and assembling of compact treatment units complete.</li> <li>▪ Test – running and operationalisation of the installed system.</li> </ul>

FUNDING AGENCY		ment	Project	Victoria	To	Isingiro	Subsidy		
		Develop ment Project (WMDP)	Project	Watsan Project (KW LVWATSAN)	Improve Living Conditions In Gulu				
		WB/GOU	KFW/GOU /AFD	GOU/KFW/E U/EIB	WB/KFW	AFD	GOU	GOU/N WSC	
NWS C	Budget 2018/19(UGX '000)	3,000,000	3,000,000	2,500,000	-	-	-	41,188,334	49,688,334
	Amount Disbursed July18-June19 (UGX '000)	1,173,763	-	217,613	-	-	-	47,167,555	48,558,931
	% Achieved	39%	-	9%	-	-	-	115%	98%
GoU	Approved Budget (UGX '000)	800,000	17,731,000	3,000,000	-	-	3,000,000	37,600,000	62,131,000
	Amount Disbursed July18-June19(UGX '000)	-	16,731,000	3,000,000	-	-	598,712	37,351,827	57,681,539
	% Achieved	-	94%	100%	-	-	20%	99%	93%
DON ORS	Budget 2018/19	43,555,366	102,876,400	360,550,244	1,951,451	1,148,364	-	-	510,081,825
	Amount Disbursed July18-June19 (UGX '000)	62,967,124	137,781,697	128,919,921	1,951,451	1,148,364	-	-	332,768,557
	% Achieved	145%	134%	36%	100%	100%	-	-	65%
TOTA L	Budget 2018/19	47,355,366	123,607,400	366,050,244	1,951,451	1,148,364	3,000,000	78,788,334	621,901,159
	Amount Disbursed July18-June19 (UGX '000)	64,140,887	154,512,697	132,137,534	1,951,451	1,148,364	598,712	84,519,382	439,009,026
	% Achieved	135%	125%	36%	100%	100%	20%	107%	71%

**Note**

\*\*The NWSC actual expenditure on Service Coverage Acceleration Project (SCAP100) was over the annual budgetary provision of Shs 41bn. This is attributed to increased financing requirements arising from the Government Directive to provide water supply to Kapeeka Industrial Park. The directive is being implemented under the framework of SCAP100. However, this affected the NWSC capacity to fully meet the other project financing obligations.



## ANNEX 6: District Water and Sanitation Development Conditional Grant Performance FY 2018/19

	District	Budget	Expenditure	Percent
1	Arua	836,144,372	836,144,372	100%
2	Maracha	280,441,881	275,006,171	98%
3	Nebbi	514,681,099	506,094,968	98%
4	Adjumani	273,904,986	24,234,000	9%
5	Yumbe	573,362,558	571,608,885	100%
6	Koboko	376,886,000	384,666,000	102%
7	Zombo	330,775,000	330,774,516	100%
8	Moyo	221,312,130	222,313,130	100%
9	Pakwach	401,181,648	394,670,448	98%
10	Agago	299,379,843	290,488,972	97%
11	Alebtong	277,530,966	277,587,546	100%
12	Amolatar	242,205,081	230,684,411	95%
13	Amuru	253,071,480	250,651,380	99%
14	Apac	382,013,696	384,083,296	101%
15	Dokolo	281,920,907	250,236,907	89%
16	Gulu	221,732,364	211,517,564	95%
17	Kitgum	253,947,732	253,946,000	100%
18	Kole	531,498,202	541,655,809	102%
19	Lamwo	229,086,214	226,118,214	99%
20	Lira	337,503,171	361,324,000	107%
21	Nwoya	364,382,098	366,072,865	100%
22	Otuke	222,232,684	222,232,684	100%
23	Oyam	582,091,374	561,801,523	97%
24	Pader	247,153,093	200,322,784	81%
25	Omoro	234,159,925	223,659,925	96%
	Kwania	481,419,586	480,564,763	100%
26	Bukedea	505,124,202	439,521,815	87%
27	Kumi	413,559,386	413,559,375	100%
28	Ngora	276,056,555	302,299,464	110%
29	Soroti	276,382,010	256,401,248	93%
30	Serere	419,468,248	408,591,784	97%
31	Amuria	-	-	0%
32	Katakwi	254,644,840	255,992,280	101%
33	Kaberamaido	410,068,838	410,059,832	100%
	Kapelebyong	241,687,304	227,988,036	94%

34	Busia	544,625,095	544,625,101	100%
35	Tororo	717,476,063	717,476,063	100%
36	Butaleja	509,254,900	521,090,439	102%
37	Manafwa	398,757,690	398,757,689	100%
38	Bududa	548,653,214	548,652,414	100%
39	Mbale	589,027,159	597,380,408	101%
40	Sironko	417,831,675	155,480,210	37%
41	Kapchorwa	225,901,814	225,901,813	100%
42	Bukwo	280,859,739	280,859,745	100%
43	Pallisa	516,173,103	75,539,696	15%
44	Budaka	301,340,693	300,340,693	100%
45	Kween	247,638,247	-	0%
46	Bulambuli	444,634,902	47,065,969	11%
47	Kibuku	508,248,715	507,579,519	100%
48	Namisindwa	499,236,273	499,236,994	100%
49	Butebo	407,263,098	37,748,517	9%
50	Luwero	626,756,527	618,340,608	99%
51	Mukono	669,446,450	678,307,909	101%
52	Nakasongola	427,529,535	427,529,535	100%
53	Wakiso	531,201,906	531,108,144	100%
54	Kiboga	263,695,593	263,715,773	100%
55	Masindi	271,645,140	270,328,405	100%
56	Nakaseke	307,036,778	299,583,383	98%
57	Kyankwanzi	509,431,422	507,431,182	100%
58	Kiryandongo	392,023,377	392,023,377	100%
59	Mityana	517,014,573	516,176,457	100%
60	Buliisa	369,900,939	366,373,549	99%
61	Kabarole	452,932,000	-	0%
62	Kamwenge	593,555,982	594,039,870	100%
63	Kasese	612,022,960	612,022,960	100%
64	Kibaale	453,798,760	451,650,054	100%
65	Kyenjojo	575,841,181	576,674,602	100%
66	Mubende	510,689,469	510,689,470	100%
67	Bundibugyo	498,811,951	496,827,529	100%
68	Ntoroko	228,898,894	228,898,894	100%
69	Kyegegwa	512,437,248	512,647,236	100%
70	Kagadi	534,666,190	534,556,429	100%
71	Kakumilo	501,622,623	501,622,623	100%
72	Hoima	528,149,317	521,121,317	99%
73	Bunyangabu	334,578,912	333,978,912	100%

	Kassanda	507,256,507	501,630,501	99%
	Kikuube	537,178,999	532,938,999	99%
<b>74</b>	Lyantonde	436,094,000	418,742,068	96%
<b>75</b>	Masaka	447,263,689	447,263,689	100%
<b>76</b>	Kalangala	325,662,000	300,942,000	92%
<b>77</b>	Rakai	522,256,419	520,699,219	100%
<b>78</b>	Sembabule	527,548,969	527,547,341	100%
<b>79</b>	Kalungu	261,420,704	261,171,514	100%
<b>80</b>	Bukomansimbi	277,486,314	277,486,243	100%
<b>81</b>	Lwengo	517,201,282	517,970,699	100%
<b>82</b>	Mpigi	294,443,265	293,473,066	100%
<b>83</b>	Butambala	185,900,570	181,354,860	98%
<b>84</b>	Gomba	297,927,209	297,927,185	100%
<b>85</b>	Kyotera	458,825,752	341,358,304	74%
<b>86</b>	Isingiro	562,066,907	562,066,907	100%
<b>87</b>	Kiruhura	556,957,597	556,710,823	100%
<b>88</b>	Mbarara	590,649,960	590,365,827	100%
<b>89</b>	Ntungamo	598,668,984	594,338,984	99%
<b>90</b>	Kanungu	316,558,609	316,146,582	100%
<b>91</b>	Bushenyi	252,106,532	252,070,464	100%
<b>92</b>	Rukungiri	324,484,805	324,356,439	100%
<b>93</b>	Mitooma	260,542,043	260,682,043	100%
<b>94</b>	Sheema	209,253,597	209,253,595	100%
<b>95</b>	Buhweju	454,813,907	455,168,785	100%
<b>96</b>	Kisoro	510,487,265	510,487,265	100%
<b>97</b>	Kabale	286,147,283	282,573,014	99%
<b>98</b>	Ibanda	462,754,545	462,744,736	100%
<b>99</b>	Rubirizi	326,679,381	329,699,252	101%
<b>100</b>	Rubanda	491,273,893	296,261,151	60%
<b>101</b>	Rukiga	191,409,666	191,409,666	100%
<b>102</b>	Abim	218,568,729	204,183,900	93%
<b>103</b>	Kaabong	367,573,026	277,398,000	75%
<b>104</b>	Kotido	397,609,803	333,843,869	84%
<b>105</b>	Moroto	293,001,930	292,501,930	100%
<b>106</b>	Nakapiripirit	384,352,910	401,714,805	105%
<b>107</b>	Napak	333,679,600	338,748,524	102%
<b>108</b>	Amudat	465,978,336	453,755,647	97%
	Nabilatuk	302,436,913	300,679,913	99%
<b>109</b>	Kayunga	581,671,729	352,544,762	61%
<b>110</b>	Buvuma	461,846,605	457,852,086	99%

<b>111</b>	Buikwe	470,303,962	470,303,962	100%
<b>112</b>	Jinja	561,975,693	561,975,693	100%
<b>113</b>	Kamuli	645,428,394	642,944,896	100%
<b>114</b>	Mayuge	588,766,240	-	0%
<b>115</b>	Iganga	529,797,135	529,796,735	100%
<b>116</b>	Kaliro	514,709,368	514,709,368	100%
<b>117</b>	Bugiri	561,001,621	561,000,577	100%
<b>118</b>	Namutumba	524,210,068	524,210,068	100%
<b>119</b>	Luuka	488,038,680	488,038,680	100%
<b>120</b>	Buyende	519,772,254	252,926,028	49%
<b>121</b>	Namayingo	503,318,096	503,186,679	100%
	Bugweri	479,175,452	35,430,142	7%
GRAND TOTAL		52,612,156,777	47,908,845,940	91.1%

**ANNEX 7: Rural Access, Functionality and Equity per District, June 2019**

<b>District</b>	<b>Access</b>	<b>Functionality</b>	<b>Equity</b>
Abim	81%	74%	150
Adjumani	93%	90%	47
Agago	95%	71%	15
Alebtong	94%	69%	28
Amolatar	91%	78%	30
Amudat	49%	76%	40
Amuria	77%	93%	47
Amuru	88%	78%	49
Apac	77%	75%	29
Arua	74%	86%	439
Budaka	82%	93%	55
Bududa	71%	90%	75
Bugiri	66%	94%	124
Bugweri	67%	95%	94
Buhweju	59%	94%	82
Buikwe	78%	92%	78
Bukedea	68%	92%	60
Bukomansimbi	85%	87%	10
Bukwo	79%	89%	68
Bulambuli	74%	86%	100
Buliisa	70%	71%	120
Bundibugyo	59%	85%	88
Bunyangabu	74%	88%	53
Bushenyi	93%	85%	49
Busia	79%	94%	48
Butaleja	63%	91%	46
Butambala	95%	79%	26
Butebo	66%	92%	70
Buvuma	32%	89%	980
Buyende	37%	92%	133
Dokolo	87%	81%	52
Gomba	87%	62%	53
Gulu	92%	76%	35
Hoima	72%	87%	151
Ibanda	59%	74%	352
Iganga	68%	93%	52
Isingiro	45%	97%	82
Jinja	77%	85%	185
Kaabong	85%	77%	102
Kabale	91%	87%	54
Kabarole	79%	82%	97
Kaberamaido	81%	88%	42
Kagadi	60%	61%	430

District	Access	Functionality	Equity
Kakumiro	34%	84%	506
Kalangala	64%	90%	62
Kaliro	51%	95%	312
Kalungu	92%	82%	19
Kampala	0%	0%	0
Kamuli	77%	88%	86
Kamwenge	79%	85%	59
Kanungu	90%	93%	64
Kapchorwa	77%	92%	72
KAPELEBYONG	88%	96%	36
Kasanda	38%	83%	485
Kasese	60%	79%	146
Katakwi	92%	93%	32
Kayunga	71%	87%	70
Kibaale	67%	84%	130
Kiboga	84%	72%	70
Kibuku	69%	91%	95
Kikuube	58%	88%	220
Kiruhura	42%	87%	94
Kiryandongo	78%	86%	93
Kisoro	43%	87%	154
Kitgum	95%	59%	12
Koboko	83%	89%	56
Kole	76%	81%	67
Kotido	79%	74%	150
Kumi	82%	87%	47
Kwania	75%	71%	55
Kween	84%	92%	70
Kyankwanzi	60%	85%	468
Kyegegwa	32%	73%	172
Kyenjojo	66%	75%	164
Kyotera	64%	67%	90
Lamwo	95%	80%	26
Lira	94%	86%	19
Luuka	79%	96%	80
Luwero	70%	86%	84
Lwengo	75%	79%	52
Lyantonde	45%	94%	42
Manafwa	71%	94%	111
Maracha	91%	85%	26
Masaka	79%	80%	59
Masindi	94%	88%	27
Mayuge	55%	93%	178
Mbale	66%	87%	133

District	Access	Functionality	Equity
Mbarara	79%	95%	18
Mitooma	92%	92%	35
Mityana	80%	68%	102
Moroto	79%	81%	114
Moyo	95%	82%	33
Mpigi	83%	72%	65
Mubende	37%	93%	275
Mukono	69%	86%	277
Nabilatuk	58%	65%	166
Nakapiripirit	60%	81%	99
Nakaseke	83%	75%	98
Nakasongola	78%	82%	92
Namayingo	59%	81%	696
Namisindwa	70%	98%	86
Namutumba	57%	86%	163
Napak	82%	84%	76
Nebbi	73%	78%	79
Ngora	86%	92%	42
Ntoroko	88%	74%	72
Ntungamo	80%	82%	83
Nwoya	69%	78%	95
Omoro	92%	76%	19
Otuke	93%	77%	34
Oyam	71%	90%	81
Pader	95%	77%	30
Pakwach	58%	72%	43
Pallisa	65%	97%	99
Rakai	37%	82%	69
Rubanda	74%	95%	33
Rubirizi	69%	95%	47
Rukiga	95%	82%	28
Rukungiri	93%	86%	22
Serere	81%	94%	36
Sheema	84%	88%	76
Sironko	83%	89%	52
Soroti	89%	85%	36
Ssembabule	39%	85%	68
Tororo	61%	87%	89
Wakiso	45%	84%	230
Yumbe	47%	93%	86
Zombo	86%	75%	56
<b>National Level</b>	<b>69%</b>	<b>85%</b>	<b>120</b>

																									S C	
Abim	1 1	1 1	1 2	2 0	8 8	2 8	3 0 0	9 4	3 9 4	1 3	1 3	2 6	0	3	3	0	0	0	8	0	8	5 1 7	5 1 1	9	No	
Adjumani	3 6	5 1	4 2	6 2	1 2	7 4	6 5 5	6 5	7 2 0	4 4	2 4	4 6	1	2	3	0	0	0	6 5	1 2	7 7	1, 3 6 4	2 5	4 5	No	
Agago	1 7	4 1	2 1	8 4	7 1	1 5	7 3 5	2 2 5	9 5 7	6 9	4 3	1 1 2	5	8	1 3	1	0	1	2 7	4 5	7 2	0	0	0	No	
Alebtong	3 0 3	7 1 4	3 7 4	1 4 9	1 1 4	2 6 3	2 9 1	1 0 4	3 9 5	2 1	1 9	4 0	5	1	6	0	0	0	1 0	2 7	3 7	0	0	0	No	
Amolatar	2	3	5	3	8	1 1	4 5 4	8 3	5 3 7	4	2 9	3 3	6	5	1 1	0	0	0	1	5	6	3 0	4	1	No	
Amudat	1	1	2	8	1	9	1 6 3	4 9	2 1 2	0	0	0	0	0	0	0	1	1	8	1	9	9	0	4	No	
Amuria	1 0	1 1	2 1	5 6	2 2	7 8	4 4 5	3	4 4 8	0	2	2	5	2	7	0	0	0	0	0	0	0	0	0	0	Yes
Amuru	1 2 4	9 3 3	1 3 3	5 6	2 6	8 2	4 0 2	1 0 2	5 0 4	1 0	3 9	2 2	0	0	0	0	0	0	3	2 5	2 8	0	0	0	No	
Apac	9	2	1 1	3 4	3 3	6 7	3 9 4	5 8	4 5 2	5 6	5 9	1 1 5	1	0	1	5	4	9	8	1	9	0	0	0	Yes	
Arua	9 6 2	8 3	1, 0 4 5	1 0 6	3 5	1 4 1	9 7 8	1 8 8	1, 1 6 6	1 1 7	4 3	1 6 0	0	0	0	5	1	6	7 5	1 0	8 5	7	0	1	Yes	
Budaka	1 4 5	1 0	1 5	1 2	6	1 8	5 0 5	2 2	5 7	7	1 2	1 9	1	1	2	0	0	0	3	6	9	2 8 6	1 9	1 3	Yes	
Bududa	5 7 1	1 6	5 8 7	3	1	4	1 5	5	2 0	5 0	3 3	5 3	0	0	0	1	0	1	3 1 4	8 7	4 0 1	4	0	1	No	
Bugiri	1 9 7	1 6	2 3	1 5 2	1 5	1 6 7	6 7 9	2 4	7 0 3	1 2 4	1 4	1 4 0	0	0	0	0	0	0	4 0	5 5	4 5	7 8 4	3 2	1 0 9	Yes	
Bugweri	3 9	3	4 2	1 0 6	0	1 6	2 6 8	8	2 7 6	6 9	1 5	0	0	0	0	0	0	0	1 1 1	0	1 1 3	7 5 3	5 2	1 2	No	
Buhweju	2 7 4	8	2 8 2	2 6	3	2 9	1	0	1	4 2	3	4 5	1	0	1	0	0	0	1 4 1	1 4	1 5 5	0	0	0	No	
Buikwe	8 5 7	3 0	8 8 7	1 4 8	4 6	1 9 4	1 9 3	4 4	2 3 7	7 1	4	7 5	1	0	1	0	0	0	1 0 7	1	1 0 8	3 2 0	3	1 3	Yes	
Bukedea	2 2 0	1 0 0	2 3 0	1 2 1	2 5	1 4 6	2 3 3	1 4 6	2 4	1 1	6	1 7	0	2	2	0	0	0	1 3	0	1 3	3 5 0	7 9	1	No	
Bukomansi mbi	1 3 3	2 5 8	1 5 5	2 3 5	5 9	2 9 4	8 9 2	2 1	1 0 3	2 7 0	6	2 7 6	1	0	1	7	2	9	1 3 4	9	1 4 3	4 9 3	6 5	1	No	
Bukwo	1 1 2	1 0 2	1 2 2	1 7	2	1 9	2	1	3 9	1 4	2 3	2 3	0	0	0	0	0	0	4 3 6	7 5 1	5 1 1	0	0	0	No	



bugyo	17	85	4						1	2	2	4						8	2	0	3	0	0	o	
Bunya ngabu	205	149	218	148	228	170	220	132	322	474	141	611	0	0	0	0	0	275	388	313	0	0	0	No	
Bushe nyi	679	1466	825	1224	366	160	200	99	299	666	319	694	1	0	1	3	1	420	116	217	366	2	0	Yes	
Busia	228	1947	295	85	813	1055	535	327	587	360	146	2	0	2	0	0	0	515	960	614	1,499	1,002	87	Yes	
Butaleja	3	1	4	32	9	41	514	47	561	15	0	0	0	0	0	0	0	0	1	1	307	6	12	Yes	
Butambala	227	330	265	155	855	2480	528	222	880	455	50	1	0	1	0	0	0	43	245	478	173	13	3	No	
Butebo	171	980	183	183	81	219	216	135	239	83	11	0	0	0	0	0	0	0	0	0	0	0	0	0	No
Buvuma	26	176	26	46	84	544	644	50	17	21	19	0	0	0	0	0	0	21	23	20	0	0	0	No	
Buyende	0	0	0	5	16	44	556	399	495	244	28	2	0	2	7	4	11	10	0	1	4	0	0	No	
Dokolo	131	378	168	137	433	180	291	399	330	289	37	0	0	0	0	0	0	13	25	14	228	19	1	No	
Gomba	98	275	211	281	148	409	655	672	232	831	104	12	1	1	3	0	0	26	251	55	54	40	1	No	
Gulu	67	207	89	591	281	890	294	711	365	228	40	0	0	0	0	0	0	18	9	0	0	0	0	Yes	
Hoima	356	3590	350	2540	555	2915	2355	338	248	472	69	0	1	1	0	0	0	36	17	37	49	17	7	Yes	
Ibanda	147	3683	1836	2376	2173	1353	100	145	514	45	55	0	0	0	0	0	0	298	188	466	1,712	1,917	80	Yes	
Iganga	116	399	177	247	241	436	146	450	256	166	42	0	0	0	0	0	0	19	0	19	12	0	3	Yes	
Isingiro	68	472	701	2091	2300	1335	565	191	354	334	3,544	14	2	1	2	2	2	59	28	57	464	160	70	No	
Jinja	340	1151	357	270	1370	3766	536	419	381	164	54	0	0	0	0	0	0	7	6	13	3,870	1,022	1,054	Yes	
Kaabong	2	1	3	38	3	41	456	1440	600	20	2	1	0	1	4	0	4	9	1	10	1	0	0	No	
Kabale	539	771	616	40	4	13	5	18	194	218	1	0	1	0	0	0	0	942	159	1,101	130	17	7	Yes	
Kabar	2	6	3	4	9	4	2	8	3	9	1	0	0	0	0	0	0	1	2	1	1	1	9	Ye	



Kisoro	400	85	485	0	0	0	1	1	2	417	25	442	0	0	0	1	0	1	248	42	290	1,324	742	81	Yes	
Kitgum	4	0	4	14	11	25	76	299	209	1,005	56	227	517	3	8	0	0	0	6	4	10	516	168	245	Yes	
Koboko	219	33	252	90	14	10	24	297	244	322	94	13	0	0	0	0	0	0	33	2	35	198	9	5	No	
Kole	176	43	219	20	25	23	28	41	326	17	54	71	6	2	8	0	1	1	12	8	20	8	1	2	No	
Kotido	0	0	0	1	1	2	36	157	518	34	4	38	29	4	3	1	4	1	74	4	78	286	7	19	No	
Kumi	187	7	192	14	48	17	37	336	408	214	42	32	5	1	0	1	0	1	85	13	430	90	52	No		
Kwana	12	14	276	7	42	13	38	697	405	26	51	77	0	1	1	2	1	7	9	1	10	292	0	9	Yes	
Kween	264	14	278	2	0	2	56	10	66	12	13	0	0	0	0	0	0	0	143	17	160	10	4	5	Yes	
Kyankwazi	22	1	23	13	34	17	25	231	277	85	28	11	2	0	2	4	1	4	66	0	66	359	0	0	No	
Kyegega	49	25	74	17	43	21	84	432	132	24	47	1	0	1	1	3	2	5	64	0	64	56	0	0	No	
Kyenjojo	421	90	515	49	18	66	143	748	218	94	25	11	0	0	0	0	0	0	100	31	131	319	42	30	No	
Kyoter	54	13	67	10	71	17	71	49	120	13	34	14	0	0	0	3	0	3	14	1	15	1,290	73	101	Yes	
Lamwo	25	0	25	9	5	14	73	178	91	8	15	23	6	8	1	0	1	1	22	2	4	27	0	1	No	
Lira	538	67	605	40	70	50	40	54	44	40	30	70	1	4	5	0	0	0	21	10	31	7	0	1	Yes	
Luuka	125	4	129	13	11	20	39	145	412	12	11	13	2	0	2	0	2	2	7	0	7	7	0	0	No	
Luwer	15	1	16	38	84	46	53	47	61	91	33	12	1	0	1	3	2	3	53	3	56	2,503	145	157	Yes	
Lwengo	64	45	109	18	24	44	14	87	229	63	83	63	7	5	1	2	8	0	8	29	4	33	915	99	29	No
Lyantonde	0	0	0	21	5	26	80	28	108	46	47	11	6	7	1	1	6	2	30	0	30	0	0	0	Yes	
Manafwa	31	6	32	5	0	5	20	21	22	32	33	35	0	0	0	1	0	1	52	4	56	0	0	0	No	

di	33	67	49	06	55	71	19	11	80	92	11					2		88		04	66	22	s	
Mayuge	27	72	27	36	35	31	43	33	46	11	01	00	00	00	00	00	00	60	00	60	53	00	3	Yes
Mbale	58	35	61	38	75	45	29	47	34	33	10	43	00	00	00	00	00	40	10	50	01	00	0	Yes
Mbarara	44	44	49	66	25	91	13	42	18	28	35	29	11	28	20	53	88	82	79	80	99	00	0	Yes
Mitooma	83	95	92	11	79	12	91	11	20	83	00	83	10	00	13	30	33	27	44	27	49	11	10	Yes
Mityana	87	31	11	21	55	43	27	10	32	49	51	46	18	11	23	33	66	19	61	20	03	26	8	Yes
Moroto	22	13	32	20	22	30	70	37	37	36	99	16	77	40	40	40	40	00	00	05	55	37	3	No
Moyo	22	12	34	24	88	32	42	10	53	72	15	87	00	00	00	00	00	17	27	20	62	86	38	No
Mpigi	25	17	27	34	19	54	64	44	10	70	27	97	00	00	00	00	00	25	27	27	19	43	18	Yes
Mubende	36	55	41	22	24	25	19	95	20	58	15	59	30	03	45	00	45	99	11	10	24	05	0	Yes
Mukono	59	57	60	24	56	30	36	55	47	15	18	17	32	00	30	00	00	99	41	14	00	29	32	Yes
Nabitaluk	00	00	02	10	12	19	46	33	19	74	41	11	00	11	40	40	40	20	10	30	50	04	4	No
Nakapiririt	54	49	19	39	23	24	36	33	17	94	41	03	01	11	72	99	51	13	64	00	00	00	0	No
Nakasike	91	10	13	28	99	37	32	76	38	15	36	18	09	00	02	13	26	61	67	34	10	16	Yes	
Nakasongola	10	01	11	35	46	45	34	48	77	98	60	15	50	56	13	14	14	44	28	46	88	59	33	No
Namayingo	18	19	37	10	40	16	29	31	20	79	39	12	00	00	03	03	19	21	21	19	02	8	8	No
Namisi ndwa	52	48	52	12	02	12	84	71	91	36	39	30	00	00	00	00	00	17	30	10	66	12	3	No
Namutumba	63	03	63	99	12	11	33	67	40	18	31	20	00	00	00	00	00	20	02	34	62	29	2	No
Napak	60	06	10	00	11	40	80	48	38	67	43	10	00	11	41	55	16	00	16	13	04	4	Yes	
Nebbi	12	61	18	39	20	59	47	96	56	41	19	60	02	22	04	44	45	40	45	25	00	00	0	Yes

amo	53	36	37	53	68	59	20	79	07	33	30						39	21	01	50	03	3s		
Nwoya	71	90	81	29	48	32	74	39	89	11	19	00	00	00	00	00	88	11	19	00	00	00	No	
Omoror	83	25	10	63	25	88	35	10	46	21	41	00	00	00	00	00	77	07	70	00	00	00	No	
Otuke	12	23	35	31	35	66	34	32	37	24	17	19	11	12	00	00	88	77	15	00	00	00	No	
Oyam	22	57	23	31	40	35	49	48	57	32	16	48	00	00	00	01	18	15	13	13	44	00	00	No
Pader	22	24	20	30	21	51	87	17	1,06	14	43	55	10	01	11	01	33	88	41	00	00	00	Yes	
Pakwach	11	00	11	19	19	38	13	37	17	18	15	33	11	23	31	01	20	11	21	28	99	88	03	No
Pallisa	11	85	12	50	12	62	44	44	44	90	99	10	01	00	00	00	20	66	26	00	00	00	No	
Rakai	27	41	31	16	10	21	17	20	19	90	95	10	30	14	62	88	22	12	34	38	11	79	69	Yes
Rubanda	52	21	54	13	00	18	10	10	28	34	15	35	00	00	02	66	88	23	59	29	40	63	03	No
Rubirizi	17	12	18	61	88	69	60	66	21	48	22	22	00	00	00	00	24	10	25	49	20	43	64	Yes
Rukiga	18	25	21	23	13	32	42	12	54	48	55	33	00	00	00	00	44	96	54	44	00	00	00	No
Rukungiri	11	14	13	62	21	83	36	28	64	28	42	33	11	00	10	00	43	64	49	98	27	58	96	Yes
Serere	29	54	35	25	25	28	63	20	65	18	97	24	10	01	00	00	22	00	24	44	66	41	47	No
Sheema	32	59	38	14	21	16	19	20	39	14	14	11	00	00	00	00	52	78	59	90	96	04	84	Yes
Sironko	48	16	49	12	77	19	84	14	98	28	53	33	10	01	12	33	46	84	59	14	49	49	76	Yes
Soroti	71	31	10	13	34	16	58	63	68	57	21	78	54	49	11	01	34	11	35	00	00	00	00	Yes
Ssembabule	00	00	07	94	11	65	45	36	18	64	61	13	23	15	50	99	20	33	23	27	66	16	16	No
Tororo	23	50	23	37	30	41	71	12	84	52	13	65	10	01	00	00	33	11	47	23	13	39	39	Yes
Wakis	99	99	91	41	14	13	35	33	55	45	45	25	00	20	00	00	77	11	88	88	55	55	Ye	

	3	7	0	3	6	9	2	4	7	8	6	4											2	4	2										s
	1	0	0				6		0																6										

**ANNEX 9: Coverage of Source per Village by District as of June 2019**

	District	Total Admin Units in Analysis				Village without a source		Village with a source	
		County	Sub-county	Parishes	Villages	Total	%	Total	%
1	Abim	1	8	35	311	163	52%	148	48%
2	Adjumani	1	10	54	208	16	8%	192	92%
3	Agago	1	16	78	935	341	36%	594	64%
4	Alebtong	1	9	45	618	142	23%	476	77%
5	Amolatar	1	11	58	435	123	28%	312	72%
6	Amudat	1	4	13	169	69	41%	100	59%
7	Amuria	1	11	64	404	234	58%	170	42%
8	Amuru	1	5	32	67	0	0%	67	100%
9	Apac	2	8	31	339	50	15%	289	85%
10	Arua	5	28	166	1,373	345	25%	1,028	75%
11	Budaka	1	13	59	268	36	13%	232	87%
12	Bududa	1	16	96	956	512	54%	444	46%
13	Bugiri	1	11	71	396	56	14%	340	86%
14	Bugweri	1	6	32	134	7	5%	127	95%
15	Buhweju	1	9	37	227	51	22%	176	78%
16	Buikwe	1	12	65	485	134	28%	351	72%
17	Bukedea	1	6	71	156	11	7%	145	93%
18	Bukomansimbi	1	5	25	255	28	11%	227	89%
19	Bukwo	1	12	66	525	246	47%	279	53%
20	Bulambuli	1	19	109	1,209	770	64%	439	36%
21	Buliisa	1	7	30	131	42	32%	89	68%
22	Bundibugyo	2	23	83	615	281	46%	334	54%
23	Bunyangabu	1	10	36	254	54	21%	200	79%
24	Bushenyi	2	13	64	570	213	37%	357	63%
25	Busia	2	16	63	543	79	15%	464	85%
26	Butaleja	1	12	64	423	118	28%	305	72%
27	Butambala	1	6	25	159	28	18%	131	82%
28	Butebo	1	7	32	238	63	26%	175	74%
29	Buvuma	1	9	36	192	123	64%	69	36%
30	Buyende	1	6	38	351	53	15%	298	85%
31	Dokolo	1	11	60	466	116	25%	350	75%
32	Gomba	1	5	37	271	51	19%	220	81%
33	Gulu	2	10	41	139	57	41%	82	59%
34	Hoima	2	10	42	338	229	68%	109	32%
35	Ibanda	2	17	60	648	436	67%	212	33%
36	Iganga	2	10	51	231	48	21%	183	79%
37	Isingiro	2	18	91	765	256	33%	509	67%
38	Jinja	3	12	58	418	150	36%	268	64%
39	Kaabong	1	19	82	518	238	46%	280	54%
40	Kabale	2	13	65	684	197	29%	487	71%
41	Kabarole	2	18	56	494	171	35%	323	65%

	District	Total Admin Units in Analysis				Village without a source		Village with a source	
		County	Sub-county	Parishes	Villages	Total	%	Total	%
42	Kaberamaido	2	12	40	452	97	21%	355	79%
43	Kagadi	1	18	82	715	236	33%	479	67%
44	Kakumiro	1	9	47	406	274	67%	132	33%
45	Kalangala	2	7	17	103	24	23%	79	77%
46	Kaliro	1	12	39	307	36	12%	271	88%
47	Kalungu	1	7	39	281	30	11%	251	89%
48	Kampala	1	5	96	870	870	100%	0	0%
49	Kamuli	2	16	82	699	90	13%	609	87%
50	Kamwenge	2	15	76	622	128	21%	494	79%
51	Kanungu	1	17	71	518	81	16%	437	84%
52	Kapchorwa	2	15	86	673	383	57%	290	43%
53	KAPELEBYONG	1	5	32	237	176	74%	61	26%
54	Kasanda	1	9	77	569	368	65%	201	35%
55	Kasese	3	32	152	758	255	34%	503	66%
56	Katakwi	2	10	55	343	48	14%	295	86%
57	Kayunga	2	9	61	387	50	13%	337	87%
58	Kibaale	1	8	36	259	105	41%	154	59%
59	Kiboga	1	8	39	240	64	27%	176	73%
60	Kibuku	1	15	41	245	50	20%	195	80%
61	Kikuube	1	6	21	256	97	38%	159	62%
62	Kiruhura	2	18	91	578	167	29%	411	71%
63	Kiryandongo	1	8	23	237	21	9%	216	91%
64	Kisoro	1	16	38	400	96	24%	304	76%
65	Kitgum	1	10	56	538	101	19%	437	81%
66	Koboko	1	7	49	394	70	18%	324	82%
67	Kole	1	7	42	569	203	36%	366	64%
68	Kotido	1	6	26	201	28	14%	173	86%
69	Kumi	2	8	83	170	63	37%	107	63%
70	Kwania	1	6	34	399	88	22%	311	78%
71	Kween	1	12	71	490	234	48%	256	52%
72	Kyankwanzi	1	12	75	349	124	36%	225	64%
73	Kyegegwa	1	8	42	463	212	46%	251	54%
74	Kyenjojo	1	19	99	656	163	25%	493	75%
75	Kyotera	1	8	38	214	47	22%	167	78%
76	Lamwo	1	11	55	384	64	17%	320	83%
77	Lira	2	13	93	775	210	27%	565	73%
78	Luuka	1	8	43	270	72	27%	198	73%
79	Luwero	2	13	91	596	169	28%	427	72%
80	Lwengo	1	8	39	458	146	32%	312	68%
81	Lyantonde	1	7	28	220	61	28%	159	72%
82	Manafwa	1	17	81	615	320	52%	295	48%
83	Maracha	1	8	42	414	67	16%	347	84%



	District	Total Admin Units in Analysis				Village without a source		Village with a source	
		County	Sub-county	Parishes	Villages	Total	%	Total	%
84	Masaka	2	9	39	356	98	28%	258	72%
85	Masindi	3	9	32	317	83	26%	234	74%
86	Mayuge	1	14	72	493	102	21%	391	79%
87	Mbale	2	26	121	960	458	48%	502	52%
88	Mbarara	3	17	84	773	232	30%	541	70%
89	Mitooma	1	12	62	553	110	20%	443	80%
90	Mityana	3	14	89	639	228	36%	411	64%
91	Moroto	2	6	26	154	45	29%	109	71%
92	Moyo	2	9	44	229	23	10%	206	90%
93	Mpigi	1	7	56	370	91	25%	279	75%
94	Mubende	2	10	76	597	435	73%	162	27%
95	Mukono	3	15	80	631	173	27%	458	73%
96	Nabilatuk	1	3	15	55	9	16%	46	84%
97	Nakapiripirit	2	5	19	123	39	32%	84	68%
98	Nakaseke	1	15	70	372	99	27%	273	73%
99	Nakasongola	1	11	57	319	57	18%	262	82%
100	Namayingo	1	9	43	275	68	25%	207	75%
101	Namisindwa	1	16	83	829	448	54%	381	46%
102	Namutumba	1	9	37	361	118	33%	243	67%
103	Napak	1	8	32	251	63	25%	188	75%
104	Nebbi	1	10	58	530	156	29%	374	71%
105	Ngora	1	5	64	138	9	7%	129	93%
106	Ntoroko	1	9	41	176	80	45%	96	55%
107	Ntungamo	4	21	107	981	245	25%	736	75%
108	Nwoya	1	5	24	65	11	17%	54	83%
109	Omoro	1	7	29	150	3	2%	147	98%
110	Otuke	1	8	39	462	184	40%	278	60%
111	Oyam	1	12	63	978	387	40%	591	60%
112	Pader	1	12	52	634	142	22%	492	78%
113	Pakwach	1	5	25	356	171	48%	185	52%
114	Pallisa	1	12	52	350	68	19%	282	81%
115	Rakai	2	14	67	545	147	27%	398	73%
116	Rubanda	1	9	46	460	171	37%	289	63%
117	Rubirizi	1	11	53	297	73	25%	224	75%
118	Rukiga	1	6	28	293	53	18%	240	82%
119	Rukungiri	3	12	80	832	178	21%	654	79%
120	Serere	2	12	51	248	18	7%	230	93%
121	Sheema	2	14	55	574	355	62%	219	38%
122	Sironko	1	21	130	1,329	741	56%	588	44%
123	Soroti	2	10	50	407	116	29%	291	71%
124	Ssembabule	2	8	39	431	124	29%	307	71%
125	Tororo	3	21	88	836	221	26%	615	74%

	District	Total Admin Units in Analysis				Village without a source		Village with a source	
		County	Sub-county	Parishes	Villages	Total	%	Total	%
126	Wakiso	5	23	146	725	150	21%	575	79%
127	Yumbe	1	13	102	673	169	25%	504	75%
128	Zombo	1	13	46	599	62	10%	537	90%
<b>Total</b>		<b>188</b>	<b>1,453</b>	<b>7,421</b>	<b>57,974</b>	<b>19,538</b>	<b>34%</b>	<b>38,436</b>	<b>66%</b>

## ANNEX10: Catchment Management Interventions in FY2017/18

### *Catchment Management Planning in Uganda*

#### *(i) Status of formation of CMOs*

Water resources planning, development and management is being undertaken within catchment boundaries, as opposed to administrative boundaries. Each catchment is being transformed into 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 **three** CMOs and **9** sub-catchments were instituted in catchments of Maziba, Aswa and Awoja, which makes a total number of **17** CMOs formally established and operational in the country as of end of June 2019.

In addition, catchment management structures at catchment, sub-catchment and micro catchment have also been created and established. 9 sub-catchment management committees each chaired by Local Council 3 Chairpersons have been created in Awoja, Aswa and Maziba catchments. Similarly, 7 micro catchment management committees have been created in Sipi sub-catchment in Awoja catchment and in Albert Nile around Refugee settlements.

Catchment management plans have continued to be prepared and implemented for various catchments in the country to guide planning, development and management of water and related resources in Uganda. Fifteen Catchment management plans so far been developed and are being implemented. This reporting period, with support from various donors five CMPs for (Awoja, Aswa, Albert Nile, Mpologoma, Victoria Nile) were developed together with an Upper Nile Water management strategy and action Plan. These CMPs were launched by the Speaker of Parliament this FY.

#### *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. The zones have continued to implement some interventions in **11** catchments namely Maziba, Rwizi, Mpanga, Semliki, Aswa, Awoja, Ruhenzamyenda, Katonga, Lokok, Lokere and Mpologoma.

These Catchment Management Plans are already being implemented through projects that were developed by MWE, NGO or through District Local Governments which have mainstreamed identified priority investments into their District Plans.

**Table 89: The CMPs developed and CMOs established**

WMZ	Catchment	Status of the Catchment Management Plan	Status of Catchment Management Committees (CMC)	No of CMC members by Gender
<b>Albert</b>	Mpanga	Finalized	Present	6 Female & 16 Male
	Semliki	Finalized	Present	2 Female & 26 Male
	Ruhenzamyenda	Finalized	Present	2 Female & 15 Male

WMZ	Catchment	Status of the Catchment Management Plan	Status of Catchment Management Committees (CMC)	No of CMC members by Gender
	Kiiha	Finalized	Present	8 Female & 23 Male
	Muzizi	December 2019	Present	3 Female & 18 Male
	Nkusi	December 2019	Present	1 Female & 9 Male
<b>Kyoga</b>	Awoja	Finalized	Present	4 Female & 18 Male
	Mpologoma	Finalized	Present	6 Female & 25 Male
	Victoria Nile	Finalized	Present	2 Female & 18 Male
	Lokere	Finalized	Present	5Female & 26 Male
	Lokok	Finalized	Present	2 Female & 23 Male
	Lumbuye	Finalized	Present	2 Male & 18 Male
<b>Upper Nile</b>	Aswa	Finalized	Present	3 Female & 30 Male
	Albert Nile	Finalized	Present	4 Female & 26 Male
	Kidepo	December 2019	January 2020	
<b>Victoria</b>	Rwizi	Finalized	Present	11 Female & 31 Male
	Maziba	Finalized	Present	6 Female & 20 Male
	Katonga	Finalized	Present	6 Female & 22 Male
	Victoria Lake Shore	December 2019	January 2020	

**Table 90: Sub catchment Management Committees (SCMC)**

Catchment	Sub Catchments	Total no of SCMC members	No of Women	No of Women in Key Positions
Awoja	Opeta Bisina	29	12	0
	Lake Kochobo	33	13	1
	Kelim Taboki	44	13	1
Maziba	Upper Maziba	30	11	1
	Middle Maziba	29	8	1
	Lower Maziba	33	10	1
Aswa	Pager Matidi	22	7	1
	Aswa 1	23	6	1
	Agago	21	6	0

**EURECCCA PROJECT**

The Ministry of Water and Environment (MWE) received funding from the Adaptation Fund through Sahara and Sahel Observatory (OSS) for implementing the “**Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda**” (EURECCCA) Project. The project among others is supporting the Government’s efforts to implement Integrated Water Resources Management (IWRM) through Catchment Management approach and increase the resilience of communities to the risk of floods and landslides in Maziba, Aswa and Awoja Catchments. The project is multi-sectoral and multi-disciplinary and is being implemented in a very participatory and integrated manner right from the national level to the catchment, district and the community levels. It is being executed by the Directorate of Water Resources Management (DWRM) through the Water Management Zones (WMZs), in close

collaboration with key stakeholders at national and local levels including the participating local governments.

The overall goal of the project is to increase the resilience of communities to the risk of floods and landslides of Awoja, Maziba and Aswa Catchments through promoting catchment based integrated, equitable and sustainable management of water and related resources.

### **Beneficiaries and Actors**

The primary beneficiaries of the project interventions are the local communities in the three catchments and 9 sub catchments who are most vulnerable to the impacts of climate change especially, floods and landslides. Within the communities the members most vulnerable to floods and landslides such as women, elderly and youth have been given priority and are the main beneficiaries of the project interventions.

The secondary beneficiaries of the project include catchment management committees, field extension staff, local governments institutions (at all levels), WMZ management team at field level and Project management team at national level, service providers and suppliers such as consultants and other stakeholders that are working with MWE/DWRM to implement the different activities across the components of the project. Secondary beneficiaries are also benefiting from the project through the knowledge, skills acquired and or incorporated while undertaking catchment management planning, integrating climate change issues into the three CMPs and revising the catchment management planning guidelines.

### **Achievements of the Project**

During this reporting period, the project implementation program has achieved the following:

#### **Component 1.0 Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments**

*Outcome 1.1 Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba catchments*

##### **Output 1.1.1 The existing catchment management planning guidelines revised to include aspects of climate change**

The Final guidelines have been finalized, final popular versions produced and procurement for printing services is on-going. The activity is at **85%**.

##### **Output 1.1.2 The Catchment Management Plans (CMPs) of Awoja, Maziba and Aswa revised to address climate change issues**

- Catchment Management Guidelines and catchment management plans for Aswa, Awoja and Maziba have been reviewed to identify areas where Climate Change need to has incorporated. The Water Resources Assessment under Climate Change Report has been submitted to MWE
- The Options and Scenarios assessment is ongoing and the assignment is expected to be completed in October, 2019. The activity is at **70%**

##### **Output 1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba and 3 for Aswa)**

Planned meetings in response to establishment of catchment community management structures were held for the nine sub-catchments this FY. Formalization of the establishment of community management structures in the 3 catchments has been completed.

***Component 2: Implementing concrete adaptation actions for resilient and sustained ecosystems, control of floods and landslides across agricultural landscapes and diversification of livelihood strategies.***

***Outcome 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced.***

***Output 2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation***

- Various Tree species have been identified, verified, and quantified in consultations with Communities, District/regional technical officers and MWE.
- 9 tree nurseries to be supported to produce and supply seedlings for the various Tree species were engaged and discussions on the required support (costed) and inputs (costed) were concluded. Aspects of post planting care and after-sale services to be provided by the supplier have also been discussed
- A total of 1,450,000 seedlings are to be planted over 1,000ha under this project with 36,500 seedlings to be planted by December 2019. During this FY a total of 7,430 seedlings (12.55ha) acquired from NFA Jinja and Soroti nursery have been planted in Awoja and 320 Community members (57 women and 263 Men) participated. The activity is at **40%**

***Output 2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation***

Improved cooking stoves will be promoted using women groups. The Women groups shall be supported (technical and financial) to produce 8000 improved cook stoves for selected households and communities. The selected households and communities shall only provide materials for use for construction. This reporting period MWE has been procured consultancy to carry out this assignment for Maziba catchment while for Aswa and Awoja catchments the procurement is in final stages. These Trainings commences this August, 2019, and a total of 3,000 cook stoves are to be produced by December, 2019. As per now a total of 621 women (269 in Maziba, 210 in Aswa, & 142 in Awoja) grouped in 18 groups (6 per catchment and 2 per sub catchment) have been mobilised for engagement. The activity is at **25%**.

***Output 2.1.4 Communities in 3 catchments supported to rehabilitate degraded wetlands***

Four (4) degraded wetlands were selected in each of the 3 catchments for restoration. Wetland management plans for restoration activities have been prepared. Stakeholder workshops and meetings are ongoing and restoration is expected to begin late August 2019. A total of 1,065 Community members (320 Maziba, 296 Awoja and 449 in Aswa) have been sensitized in wetland restoration. Activities and Community restoration groups have been established. The activity is at **30%**.

***Output 2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones***

During this reporting period, a total of 712 community members (242 in Awoja, 250 in Maziba & 220 in Aswa) have been engaged in the stakeholder workshops and meetings for preparation of river banks and buffer zones restoration activities. Implementation groups have been formed. Restoration is has started and is expected to continue into September 2019. The activity is at **30%**.

***Outcome 2.2: Resilience of agricultural landscapes to floods and landslides enhanced***

***Output 2.2.1: Communities in 3 catchments supported to harvest water and control floods***

- Intervention sites for water harvesting and biophysical structures were confirmed and mapped in the different catchments.
- Preparations for water harvest and flood control management plans for actual construction bench terraces are ongoing. This FY total of 68 bench terraces of average 20x3m each and 6 trenches of 8x3 ft. have been constructed in Kanyante and Terraces on area of 50x20m with an average of 5m each have been constructed at Kazardi in Maziba catchment
- Consequently, 1,571 Community Members (748 in Awoja, 323 in Maziba and 300 in Aswa) have been engaged in preparation for actual construction.
- Stakeholder workshops and meetings have been conducted and community implementation groups have been formed.
- Tools for use in construction of water harvesting and flood control structures have been procured using the existing frameworks and delivered for Maziba. The activity is at **40%**.



Staff of MWE conducting assessment of potential sites for flood control and water harvesting in Aswa Catchment; Showing a Flood control infrastructure in Maziba catchment

***Outcome 2.3: Resilience of livelihood systems to climate change impacts enhanced***

***Output 2.3.1 Revolving fund schemes introduced to diversify sources of income in 3 catchments***

Beneficiary communities have been identified in the 3 catchments and awareness raising is ongoing. Guidelines for establishment of revolving fund schemes have been developed. The activity is at **20%**.

***Output 2.3.2 Alternative income generating activities-IGAs (Bee keeping, Eco-tourism, zero grazing, Hand crafts etc.) supported***

Beneficiary communities for Alternative income generating activities (IGAs) have been identified in the 3 catchments. The IGAs have been prioritised in the catchments and include among others: Livestock production (animal fattening, dairy, piggery, poultry etc.), High value crop growing (cotton, maize, sunflower, mushroom etc), Horticulture, Shear Nut Butter production, Aquaculture/Fish farming, Tree nursery establishment/ management, Apiary (bee wax, honey, propolis, venom etc), Energy saving appropriate technologies (e.g. Eco stoves, bricks, Soap making, candle making), Craft making, Weaving & embroidery, and Eco-tourism.

***Component 3: Building capacities of extension services and institutions at sub catchment, catchment, water management zone and nation level to support local communities and managing knowledge***

***Outcome 3.1: Capacities of extension services and trainers strengthened***

***Output 3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities***

Capacity Needs Assessment and Training Plan have been completed. Training modules, ICE materials have been developed and Trainers of Trainees identified. The activity is at **80%**.

**Output 3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities regarding ecosystems conservation, climate smart agriculture and alternative income generating activities established.**

- Land for setting up demonstrations was selected. Infrastructure designs were identified, bills of quantities and specifications prepared, and bidding documents prepared.
- Memorandum of Understanding between MWE and NARO was developed, and submitted to Solicitor General for clearance.
- The Construction and setting up of the demo plots has commenced. Activity is at **20%**.

#### Component 4: Project execution (Coordination and organizational aspects)

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##### **Project Coordination & Management.**

The Sahara and Sahel Observatory (OSS) conducted a second supervision mission of the EURECCCA Project in Uganda from 13<sup>th</sup> to 24<sup>th</sup> May 2019. The mission was to assess the effectiveness of the project management and implementation and to recommend corrective actions. During the mission progress of the project was reviewed, and strategies to fast track project activities discussed and action plan developed for period May-October 2019. During the mission it was agreed to have Mid Term Review of the Project in October 2019. Additionally, the fourth Project Steering Committee was held on 7<sup>th</sup> August 2019, preceded by a field visit to Kazardi in Maziba catchment to assess the progress on implementation of the project. It was concluded that the project is running on course and the communities are appreciating the interventions and are participating actively

##### **ALBERT WATER MANAGEMENT ZONE (AWMZ)**

The Albert Water Management Zone has continued implementing the Catchment Management Plans that were developed since 2015. The Catchment Management Plan (CMP) highlights the vital socio-economical concerns and identifies remedial measures in hotspot areas within Mpanga Catchment. The implementation of the developed CMPs has been guided by the constituted Catchment Management Committee (CMC) that comprises of a cross-sectoral representation of stakeholders. This FY most interventions were implemented in the following catchments among others i) Mpanga Catchment, ii) Semiliki Catchment, iii) Kiiha Catchment. Below is a brief on the interventions that have been undertaken:

##### **Mpanga Catchment**

Training of stakeholder groups and beneficiary community members in; soil and water conservation measures in the upper catchment: (Karago Sub County-Fort Portal)

All areas in Karago like any other areas along the slopes of the Rwenzori are profoundly affected by runoff predominantly from upstream due to high levels of degradation. The most appropriate means, therefore, for soil and water conservation, in this case, was to use water infiltration pits, trenches and stabilisation of the soil bands using reusable grass species like Guatemala, planting trees, grass strips and bamboo along the river banks. All these activities have been ably undertaken with a participatory approach





**Community Members inspecting the construction of a Water Infiltration pits for harvesting run-off at a banana plantation in ukumbi cell**

- i) **Using Grass Strips on Bare Lands and Fanya Chini;** Due pressures from agricultural activities to satisfy the food security needs of the ever-growing population, most areas upstream have been rendered bare, and hence soil is always washed away by running water due to sporadic rains. These hills have therefore been planted with elephant grass that is also used as cattle feed and at times is used for mulching banana plantations. Other areas have been covered/planted with vetiver grass, which is very vital because of its fibrous root system that binds the soil. It also has a thick canopy that provides manure to the soils. Below is a pictorial manifestation of the grass strips along a riverbank and planted vetiver in a banana plantation to aid in mulching.
  
- ii) **Agro-Forestry;** The rapid loss of trees and shrubs threatens livelihoods that are dependent on those resources. Human populations, in the catchment, depend very much on plant resources for their sustenance and economy, for example, the use of fuelwood for cooking among others. This FY AWMZ in collaboration with communities and other stakeholders undertook agro-forestry program by planting priority tree species that are multipurpose and yield products that are of economical beneficial to the communities. The species planted included *Mangifera indica*, *Gravella robusta*, and *Persea Americana*, and these are mostly valued for their edible fruits. *Milicia excelsa* and *Pinus* spp. are preferred for their timber. Some species, primarily *Coffea canephora* Froehner, are sold to earn incomes. For example, all species except *Carica papaya* are used as firewood, but the topmost species for firewood is *Maesopsis eminii*. Some species are known to deliver other ecosystem services, e.g. providing shade for crops (e.g., *Ficus sycomorus* L.); creating windbreaks; contributing to rainfall formation; enriching soils (fixing nitrogen in the soil), keeping soils moist, and controlling soil erosion; and adding scenic beauty are also being used for agroforestry



### District Forestry Experts Demonstrating to the farmers on agroforestry processes in Bukuku Cell

iii) **Protection of River Degradation Using Bamboo;** Many tributaries of river Mpanga are being degraded due to human activities like stone and sand mining. These are not short term activities and are likely to go on continuously. With the high levels of unemployment, communities have no option other than exploiting the available resources around them, especially river and natural forests. To avert this calamity, we have started planting bamboo trees along rivers. About 100km of river banks have been planted with bamboo trees to stabilise and protect the buffer zones of these tributaries.

#### a) **Tree Nursery bed preparations for both local and improved tree varieties and afforestation in the mid catchment - Kyenjojo District**

The AWMZ embarked on upscaling of nursery bed preparation in the Mpanga midstream during the financial year 2018/2019. Over 200 people from the beneficiary communities were mobilised and trained in tree nursery bed establishment and the importance of catchment restoration. Two tree nursery sites were established in Kyenjojo District within Butiti and Nyabuharwa Sub Counties and maintained by the host communities. The tree nurseries were stocked with various tree species totalling to over 40,000 and the varieties include; Mahogany, Musiizi, Albesia, Jackfruit, “Kabaka Njagala”, Mujwamata, Grevaria Robusta, Maesopsis eminii. The tree seedlings had been raised in the nursery since September 2018 and were distributed to communities for planting during the rainy season in May 2019.



**Team Leader AWMZ and Officials from Kyenjojo Local Government Inspecting the tree nursery beds; Communities inspecting the tree nursery beds and Officials from AWMZ handing over the tree seedlings to one of the beneficiaries**

The AWMZ has registered remarkable progress through improved collaboration and capacity building in implementation of IWRM interventions within the catchments. The reported progress is mainly from the highly mobilized and motivated stakeholders that include mostly CBOs such as Water for People, Joint Effort to Save the Environment (JESE), IRC, Kyaniga Forest Foundation, Natural Resources Defence Initiative (NRDI), CARITAS (HEWASA), WWF, PROTOS and *ILES DE PAIX*, among others.

#### Semliki Catchment

- a) **Training of WRUGs in River Bank Stabilisation and Restoration of Degraded Watersheds in Karusandara that is Mubuku-Nyamwamba sub-catchment.**

The AWMZ has carried out riverbank stabilisation along River. Mubuku that is found in Mubuku Town Council, this involved community sensitisation meetings, group formation, demarcation of River Banks, and planting the demarcated area with Bamboo and other environmentally friendly trees. The carried out activities include:

- An assessment was carried out by a team from MWE/AWMZ, Kasese District Local Government, Mubuku Town Council, Mubuku Integrated Farmers Association-the implementing agency and Community Members. The aim was to identify the critical hotspot areas along the Mubuku river. The team later agreed on having restoration measures carried out within Mubuku town council on the Left-hand bank of the river.
- Sensitisation of landowners adjacent to the Mubuku river followed. The focus of the awareness campaign was on good agronomical practices to avert soil erosion, role, and advantages of planting Bamboo in a fragile ecosystem, benefits of planting environmentally friendly tree species, group formation, and rules and regulation governing the use of river Banks in Uganda. The awareness meetings attracted over 57 landowners adjacent to the riverbank with whom 20 were Female and 37 Male.
- Setting up demonstration sites on farmer plots for practical training on Catchment Based Water Resources Management formed the third step. This included: tree planting, a 1km by 40m woodlot planted with 3 rows of trees at a spacing of 3 by3 meters and the total number of seedlings planted were 2,106 trees. The demonstration site located on the upstream of Kasese- Fortportal bridge is on the left bank of the River Mubuku. The area was fenced off to avert pastoralists from accessing the demonstration site since it would lead to the destruction of the planted seedlings. Downstream of the left bank of R. Mubuku on the Kasese- Fort Portal Bridge, AWMZ planted 2 rows for each of the species (Bamboo, Gruveria, and Albezia trees) at a spacing of 3 by3 for a distance of 1km downstream. The survival rate has been noted at 99 % for the Bamboo and 79 % for the Tress

### Kiiha Catchment

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A joint partnership between the Ministry of Water and Environment, Kinyara Sugar Limited and GIZ was set up to address the shared water risks in the Kiiha Catchment. Key players in the implementation of this partnership in Kiiha Catchment are: Ministry of Water and Environment (MWE)-DWRM, Kinyara Sugar Limited and GIZ. The overall goal of the project was to improve water security for water users in the Kiiha Catchment by tackling shared water risks through the collective action of all stakeholders and increase sustainable access to water for the communities.

### Achievement

The following were achievements during the financial year 2018/2019

- Two deep wells were drilled in Kisoga and Marongo villages to address the issue of poor water quality consumption by communities
- Four motorised tricycles were procured and made operational to support the management of solid waste in Kabango Town Council, which was observed as a source of water pollution.



**MWE staff demonstrating the use of gabbage collection and transportation of solid waste at Kabango Town Council; Field inspection of Kasubi Wetland under restoration by Kiiha CMC members**

- Catchment Management Committee (CMC) was formed and constitutes 31 members who are multidisciplinary in composition.
- Two (2) local communities' associations were formed to sustain conservation of water sources, wetlands and land cover structures. These two are; KIKAWECA and KAKAMUWECA, respectively.
- In total 73 ha up from 48 ha in the last reporting cycle of the wetland was restored by the association and Kinyara Sugar Limited, a private sector in the partnership as a way of retaining water to allow slow release out of the catchment. The areas where this intervention was implemented include Kiihura Kisalizi, Kasubi wetlands, respectively.
- Knowledge products were developed inform of stakeholders maps, environmental hotspots areas (including catchment delineation), solid waste assessment of Kabango Town, sugarcane study, economical water risk and opportunity assessment.

### **KYOGA WATER MANAGEMENT ZONE (KWMZ)**

#### **Improved Water Resources Management at the Water Management Zone**

The zone has continued to monitor and assess quantity and quality of water resources (surface water, groundwater, compliance to drinking water standards and pollution impact on water resources) as well as water resources regulation and allocation through the issuance of water resources permits.

During this reporting period **100** Permit Holders were monitored for compliance to permit condition and water act and its regulations. Of 100 permit holders monitored **70%** of the Permit Holders complied to most of the permit conditions and the laws. In addition, 234 illegal water users were identified and issued with water permits application forms. With respect to water quantity monitoring, 41 surface water and 15 groundwater monitoring were operated and maintained. All the data collected and archived and all station observers were paid their honoraria and station maintenance. In order to improve the quality of data collected, a number of stations were rehabilitated these are: Sironko, Lwakhakha, Kachung and Muyembe surface water monitoring stations. The rehabilitation mainly included installation of damaged and vandalised staff gauges as well bench-marking these rivers



**Rehabilitation works on River Lwakhakha Surface Monitoring Station going on**

With respect to Water Quality monitoring, a total of 513 water quality samples (from the Water Quality Monitoring Network) as well as 136 client samples were received and analysed in the Mbale Water Quality Regional Laboratory. A total of **UGX 10,264,000** as Non Tax Revenue (NTR) was realised from sample analysis from client.

**Implementation of Catchment based Water Resources Management Plans**

Implementation of Awoja, Lokok, Lokere, Mpologoma and Victoria Nile/Lumbuye Catchment Management Plans in collaboration with various stakeholders is ongoing. In addition to interventions undertaken under EURECCCA project, KWMZ has completed restoration plans for Ogino Aakum and Adoka wetland, soon demarcation and restoration activities will commence. Furthermore, demarcation and restoration of buffer zone for rivers Siti-Grik, Tabagon-Chepyakamiet is ongoing about **50%** of works have been completed during this reporting period. The Zone has further undertaken establishment of flood control and biophysical structures as well as training communities in Awoja catchment in this aspect. So far inception and stakeholder consultation as well as site selection is complete



**Mpologoma, Victoria Nile / Lumbuye Catchment Management Plans**

The implementation of Mpologoma catchment management plans is ongoing. This FY **10km** of River Manafwa and **4km** of River Namikhoma buffer zone were restoration. The restoration activities were preceded by intensive and extensive engagement and capacity building of stakeholders down up to community level.

Capacity building included taking community members through water buffering techniques using the 3R (Recharge, Reuse, Retention) concepts. The knowledge gained was later put into practice by constructing various Soil and Water Conservation (SWC) structures on their lands. These include diversion channels, water retention/infiltration pits among others



**Farmers being trained on buffer zone conservation of River Manafwa; Constructed Water conservation Structures on River Manafwa**

More interventions in Mpologoma catchment include: i) demarcation and restoration of Mpologoma wetland in areas of Kintintalo village, Tirinyi Town Council and Kiyalyo I and Kiyalwo II in Tirinyi Sub County ii) establishment of fish ponds on the fringes of this wetland as alternative income generating activities for communities. This exercise started with extensive and intensive stakeholders' engagement involving the DISO, RDC, DPC, LCV, CAO and other local government offices up to the community level. the district to community level.



RDC Kibuku Sensitising community members on the need to protect Mpologoma



Community members and members of Kibuku district local government demarcating Mpologoma Wetland



**Implementation of Lokok and Lokere Catchment Management Plans**

With the funding from WelthungerHilfe (WHH) and German Federal Ministry for Cooperation and Development (BMZ), three-year (2019-2021) **Protection and Conservation of Lokere Catchment to improve Living Conditions in Karamoja/Uganda** project has been established in the Sub-Counties of Rupa, Katikekile and Tapac, Moroto district. The goal of the project is to improve the livelihoods of

the agro-pastoralist populations of Karamoja through appropriate management of natural resources, starting with the upper Lokere. During this reporting period the following has been achieved:

- Trained beneficiaries on pitting, manure application, pit curing and general water source management in Kalozi primary school, Musupo primary school, Nakiloro PAG
- Construction of Najota valley tank.
- Planted 2000 duranta and 200 shade/timber tree seedlings, sisal, euphorbia, fruit seedlings and vetiver grass at Najota Valley Tank.
- Tools (pick axes, wheelbarrows, spades and watering cans) were delivered for use for the beneficiaries at Najota valley tank.



**Plate showing the Water Source Protection Activities in Rupa Sub-county undertaken by Welthunger Hilfe with support from KWMZ**

Furthermore, the implementation of interventions identified in the of Lokok and Lokere Catchment Management plans is now on going. Under the **Enhancing Climate Resilience through increased Water for Production Capacities in Karamoja** a project funded by **German Development Cooperation** and the European Union's **Development Initiative for Northern Uganda (DINU)**, a total of 15 Valley tanks will be constructed in Karamoja Districts of Kaabong, Kotido and Amudat. Water Source Protection Plans (**WSPPs**) for these valley tanks will be prepared under this project. The Water Source Protection measures will be elaborated based on the Ministry of Water and Environment **Water Source Protection Guidelines**

## **VICTORIA WATER MANAGEMENT ZONE (VWMZ)**

### **Improved Water Resources Management at the Water Management Zone**

#### **Compliance to wastewater discharge**

Victoria Water Management zone together with the Rwizi Catchment Management Committee (CMC) worked closely with the industries and other wastewater dischargers in Mbarara municipality to improve the quality of wastewater discharged into the environment. Key success stories were with Salim Bin Hem abattoir and GBK dairies that were able to put in place wastewater treatment facilities.



**Solid and Wastewater Management at Salim Bin Hem Abattoir in Kirehe Cell, Mbarara Municipality**



**Top Effluent from dairy Company (GBK) after Wastewater Treatment Facility was Installed at GBK and bottom effluent before the Wastewater Treatment Facility was installed**

**Digitalisation of groundwater monitoring stations**

Eight (8) out of ten (10) groundwater monitoring stations in VWMZ have been upgraded to telemetric technology. This will enable capturing of real time data but also reduce on the cost of operating the stations. The upgraded stations are Entebbe-DWRM, Bugolobi, Sembabule, Nkozi, Rakai, Isingiro, Rwonyo-L. Mbuuro and Ntungamo.





**Installation of Telemetric Equipment at one of groundwater monitoring station**

### **Construction of Laboratory structure**

A basic laboratory structure for Victoria Water Management Zone regional laboratory was set up at the Ministry of Water and Environment South Western regional offices in Mbarara. Whereas the laboratory structure has been set up, it's not yet equipped with the necessary equipment and tools to kick start operation.

### **Implementation of Catchment based Water Resources Management Plans**

#### **Kakondo micro catchment restoration/ Water source protection**

The Kakondo micro catchment with an area of approximately 100 hectares is located upstream of R. Rwizi catchment in Bukiro Sub County, Mbarara district. The micro catchment houses the Kakondo gravity flow scheme (GFS) which serves a large part of Bukiro Sub County. The micro catchment was heavily degraded and has been suffering severe erosion, landslides and flush floods. The GFS infrastructure was in 2011 has particularly been washed away. VWMZ I partnership with Advocacy Coalition On Research and Development (ACORD) have carried out interventions to restore the micro catchment. Key outputs are as summarised in the table below.

**Table 91**Key outputs for Kakondo micro catchment

<b>Intervention type</b>	<b>Unit of measure</b>	<b>Quantity</b>
<b>Community members engaged</b>	Numbers	571
<b>Gabions to plug gullies (10mX3m average)</b>	Numbers	53
<b>Earth bunds to enhance water infiltration &amp; tame erosion (30No.)</b>	kilometres	6.3
<b>Infiltration trenches to enhance water infiltration &amp; tame erosion 89No.</b>	kilometres	8.9
<b>Water retention ditches</b>	Numbers	3
<b>Stone bunds to tame speed of water runoff</b>	kilometres	1.5

#### Impact created

- Landslides and flush floods have not been experienced in the past rainy season.
- Flow at the gravity flow scheme has slightly improved
- Reduced erosion in the gardens and hill slopes
- Attraction of tourism to the area, over 1000 people have visited the site to learn.



Construction of Gabions to plug gullies



Construction of earth bunds



Construction of infiltration trenches



Construction of stone bunds



Visit by IWRM working group



Visit by Mpanga catchment CMC

#### Restoration of River banks for Rwizi

Following the demarcation of the River Rwizi buffer zone in Mbarara Municipality, VWMZ embarked on the development and implementation of buffer zone management and utilisation plans. Plans have been developed for and implementation started in four (04No.) cells of Medical, Kirehe, Kateera and Ruharo. Key among the interventions has been the **planting of 11,900 bamboo seedlings** with the objective of stabilising the river banks and to act as a substitute for eucalyptus in the buffer zone. Communities under the political leadership of the Nyamitanga and Kamukuzi divisions have kick started monthly community work to remove water hyacinth from the river.

#### Opportunities

The ministry of Water and Environment through DWRM-VWMZ in Partnership with World Wide Fund for Nature (WWF)-Uganda secured funding amounting to **\$138,00** (one hundred thirty-eight thousand dollars) from **AB In Bev, the parent company to Nile Breweries Ltd** towards a project called **“Multi-Stakeholders Partnership for Water Stewardship and Community livelihoods in the Rwizi Catchment”**. The project is for one year (**April 2019-April 2020**) and will be implemented in Kakigani micro Catchment in Rwampara district. AB In Bev has promised an **additional \$200,000** for the **period 2020-22** upon successful implementation of the first phase, a proposal for the same has already been submitted.

Additionally, the ministry of Water and Environment through DWRM-VWMZ in Partnership with Global Water Partnership East Africa (GWPEA) has submitted a project proposal to the Adaptation fund for a project called **“Enhancing Resilience of Communities and Fragile Ecosystems to Climate Change in Katonga Catchment, Uganda”**. The estimated cost for the project is **\$2,249,000**.

## UPPER NILE WATER MANAGEMENT ZONE (UNWMZ)

### **“Improved Climate Change Resilience in Northern Uganda through Water Resources Management, including for refugees and host communities”**

The Ministry of Water and Environment through the Directorate of Water Resources Management (DWRM) with support from DANIDA is implementing a project titled ***“improved climate change resilience in Northern Uganda through water resources management (WRM), including for refugees and host communities”*** code named ‘Water Resources Management Northern Uganda Project’

- 3 micro catchments identified: Yelulu in Arua district, Nyamrwodo (Nebbi district) and Ora (Zombo district) to develop micro catchment Management Plans.
- Field verification, familiarization and introduction of selected sites to the beneficiaries done
- A project office has been set up and is housed at the Upper Nile Water Management Zone office complex
- A multi sectoral project steering committee (PSC) chaired by the Permanent Secretary, Ministry of Water and Environment was constituted as well as the Project Management Team,
- Procured Consultants to prepare the 3 micro catchment management plans and work is in progress.

### **Implementation of Catchment based Water Resources Management Plans**

During this reporting period Upper Nile Water Management Zone to identified and confirmed the priority catchment management measures specifically in the Aswa II and Kochi sub-catchments in the Aswa catchment and Albert Nile catchment respectively. UNWMZ together with World Wide Fund for Nature (WWF-UCO) have undertaken the assignment through a highly participatory process that involved all key stakeholders in the two sub-catchments, and reports for each sub-catchments detailing the hotspots and the catchment management measures that needs to be undertaken to rehabilitate the hotspots, while improving community livelihood benefits and opportunities has been produced .

The priority catchment management interventions and investment measures as defined in the plans aims at: limiting soil erosion, river siltation and sedimentation and flooding risks, henceforth ensuring reliable quality and quantity of water, at the same time increasing community livelihood benefits and opportunities hence contributing to improved food security, reduced water resources variability, improved livelihoods and poverty alleviation. The table below summarises the interventions implemented by UNWMZ this reporting period.

Table 92: interventions implemented by UNWMZ

CMP intervention list (project)	Geographical area/micro catchment	Number of beneficiaries	Gender aspects	Impacts on livelihood	Targets achieved
<b>Micro-catchment Hotspot Restoration and Capacity Building Initiatives</b>	Aswa catchment, Aswa 1 sub catchment, Otuke District, Okwang sub county (Opejal micro catchment)	1827 households 21 villages	<ul style="list-style-type: none"> <li>• 65% women participation during meetings.</li> <li>• 50% women access to the revolving fund/ Community Environment Conservation Fund (CECF).</li> <li>• 90% of Women borrowers engaged in business enterprises</li> <li>• Cohesion (reduction in gender violence cases).</li> <li>• Women established music and drama groups.</li> <li>• Quarter activity chart/schedule</li> </ul>	<ol style="list-style-type: none"> <li>1. Enhanced ecological integrity (improved shea butter production and wetland plant materials for weaving (“otit”) hence income generation.</li> <li>2. Accumulated savings.</li> <li>3. Community self-help initiatives.</li> <li>4. Alternative livelihoods options (business enterprises)</li> <li>5. Improved social wellbeing of individuals through cohesion.</li> </ol>	<ol style="list-style-type: none"> <li>1. Demarcated 30km (Auma, Achola and Okee streams)</li> <li>2. Distributed 10,000 seedlings</li> <li>3. Enacted Opejal Parish Natural Resource Management by - Laws ratified by Otuke District</li> <li>4. Reduced charcoal production to 1%</li> </ol>
<b>Micro-catchment Hotspot Restoration and Capacity Building Initiatives phase 2</b>	Aswa catchment, Aswa 1 Sub Catchment, Lira District, Agweng Sub County (Orit micro catchment)	1,246 households 14 villages	<ul style="list-style-type: none"> <li>• 45.9% women participation during meetings.</li> <li>• 54.01% women access to the revolving fund/ Community Environment Conservation Fund (CECF).</li> <li>• 90% of Women borrowers engaged in business enterprises</li> <li>• Cohesion (reduction in gender violence cases).</li> <li>• Women established music and drama groups.</li> <li>• Quarterly activity chart/schedule</li> </ul>	<ol style="list-style-type: none"> <li>1. Enhanced ecological integrity of (Otoll and Apong Pong wetland systems)</li> <li>2. Accumulated savings.</li> <li>3. Community self-help initiatives.</li> <li>4. Alternative livelihoods options (business enterprises)</li> <li>5. Improved social wellbeing of individuals through cohesion.</li> </ol>	<ol style="list-style-type: none"> <li>1. Demarcated 9.4km (Otoll and Apong pong stream)</li> <li>2. Distributed 50,000 seedlings</li> <li>3. Enacted Orit Parish Natural Resource Management Bye-Laws ratified by Lira District</li> </ol>
<b>Sustainable use of</b>	Albert Nile catchment,	9,300 households	1. Election of Women representatives in	1. Access to credit under the Community Environmental	1. 40.6 hectares earmarked

CMP intervention list (project)	Geographical area/micro catchment	Number of beneficiaries	Gender aspects	Impacts on livelihood	Targets achieved
<b>natural resources and energy in the refugee context</b>	Enyau Sub Catchment <i>Arua District, Odupi, Oriama and Rigbo sub counties</i> <i>Onua, Ozurugo and Abunia – Ayunga</i>	3 micro catchments	Micro Catchment Management Committees. 2. 50% women participation in planning meetings/community engagement	Conservation Fund (CECF) 2. Enhanced ecological integrity. 3. Social cohesion.	for restoration. 2.24 hectares under management 3.3 MCMC established 4.206 farmers trained. 5. A community learning centre 6. 100,000 seedling produced locally and distributed.
<b>EURECCCA</b>	Aswa 1(Napak, Kapelebyong, Amuria, Alebtong, Otuke & Lira)  Agago (Agago, Pader & Abim)  Pager (Matidi (Kotido, Kaabong & Kitgum)	Over 24000 households	1.50% women beneficiaries 2.50% women representation in Sub Catchment Management Committees (Agago, Pager Matidi & Aswa 1)	1. Project orientation to marginalized/vulnerable groups. 2. Project implementation is ongoing.	1. Baselines survey conducted. 2.6 women groups for energy efficient technologies 3.4 wetlands earmarked for restoration 4.3 local tree nurseries selected 5.85 km earmarked for River Bank restoration 6.3 Sub Catchment Management Committees constituted (Pager Matidi, Agago and Aswa 1) 7. Partnership with (Ngetta ZARDI) to establish a demo centre.

CMP intervention list (project)	Geographical area/micro catchment	Number of beneficiaries	Gender aspects	Impacts on livelihood	Targets achieved
					8.382,694 seedlings earmarked for distribution.
<b>Source protection measures</b>	Albert Nile catchment, Enyau Sub Catchment <i>Arua District</i>	331 households	17% women direct beneficiaries 83% male direct beneficiaries 497 (366 males and 151 females) trained in sustainable land management.	4. Access to credit under the Community Environmental Conservation Fund (CECF) 5. Enhanced ecological integrity. 6. Social cohesion	1. 1150 napier grass bags planted 2. 2.5 hectares of land greened around the Arua NWSC treatment plant. 3. 4.2km demarcated (interval of 30metres buffer zone)

	Max		10		10		15		25		15		10		15	100
	Nat'l Target/Avg		2.5%		10,000 UGX		01:40		77%		50%		Required		Required	
			>=3% = 10		Top 10 - 10		<=40, 15		>70% = 25		>=50% = 15		>=51 = 10		>=51 = 15	>=76
			2% = 5		11th to 20th - 7		41-50 = 10		50-69% = 20		23-49% = 10		21 to 50 = 8		21 to 50 = 10	51-75
			1% = 3		21st to 30th - 3		51-60 = 5		25-49% = 15		10-22% = 5		1 to 20 = 5		1 to 20 = 5	26-50
			<1% = 0		>=31 - 0		>61 = 0		<24% = 0		<9% = 0		Nil = 0		Nil = 0	0-25

#	District	Reporting	Submitting Annual Report	Avg Increase in HH San Cvg (2017-18)	SCORE	Financial Efficiency: Software Cost per HH Toilet	Financial Efficiency Rank	SCORE	Pupil:Latrine Stance Ratio	SCORE	% HH San Cvg	SCORE	% HW Coverage	SCORE	# of ODF villages	SCORE	%age of worked in villages that are ODF	SCORE	GRAND SCORE
1	Abim	1	Yes	1.1	3	0	47	0	69.0	0	71.1	25	0.0	0	0	0	0%	0	28
2	Adjumani	1	Yes	8.1	10	61763	12	3	45.0	10	88.6	25	43.5	10	29.0	8	24%	10	76
3	Agago	0	No	0.0	0	513426	1	10	NA	0	66.5	20	0.0	0	18	5	28%	10	45
4	Alebtong	0	No	0.0	0	0	48	0	NA	0	84.0	25	29.6	10	0	0	0%	0	35
5	Amolatar	1	Yes	1.0	3	0	49	0	68.0	0	86.0	25	0.0	0	0	0	0%	0	28
6	Amudat	1	Yes	2.5	5	70788	11	3	38.0	15	27.5	15	0.0	0	13	5	5%	5	48
7	Amuria	0	No	0.0	0	82000	9	7	80.0	0	86.5	25	3.5	0	0	0	0%	0	32
8	Amuru	1	Yes	-6.3	0	-68314	130	0	66.0	0	64.7	20	21.6	5	30	8	70%	15	48
9	Apac	0	No	0.0	0	0	50	0	NA	0	86.4	25	86.4	15	0	0	0%	0	40
10	Arua	1	Yes	2.9	5	4317	42	0	108.0	0	76.9	25	43.0	10	8	5	5%	5	50
11	Budaka	1	Yes	1.3	3	0	51	0	54.0	5	74.0	25	134.4	15	0	0	0%	0	48
12	Bududa	1	Yes	1.8	3	11747	31	0	79.0	0	76.8	25	9.5	0	10	5	50%	10	43
13	Bugiri	1	Yes	0.0	0	0	52	0	80.0	0	81.7	25	6.9	0	0	0	0%	0	25
14	Bugweri	0	No	0.0	0	0	53	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
15	Buhweju	1	Yes	-2.3	0	210933	3	10	37.0	15	87.7	25	25.2	10	0	0	0%	0	60
16	Buikwe	1	Yes	0.0	0	0	54	0	NA	0	75.0	25	0.0	0	0	0	0%	0	25
17	Bukedea	1	Yes	0.0	0	0	55	0	60.0	5	89.0	25	60.0	15	0	0	0%	0	45
18	Bukomansimbi	0	No	0.0	0	0	56	0	138.0	0	63.5	20	18.0	5	0	0	0%	0	25
19	Bukwa	1	No	2.2	0	210247	4	10	57.0	5	74.0	25	10.4	5	4	5	70%	5	55

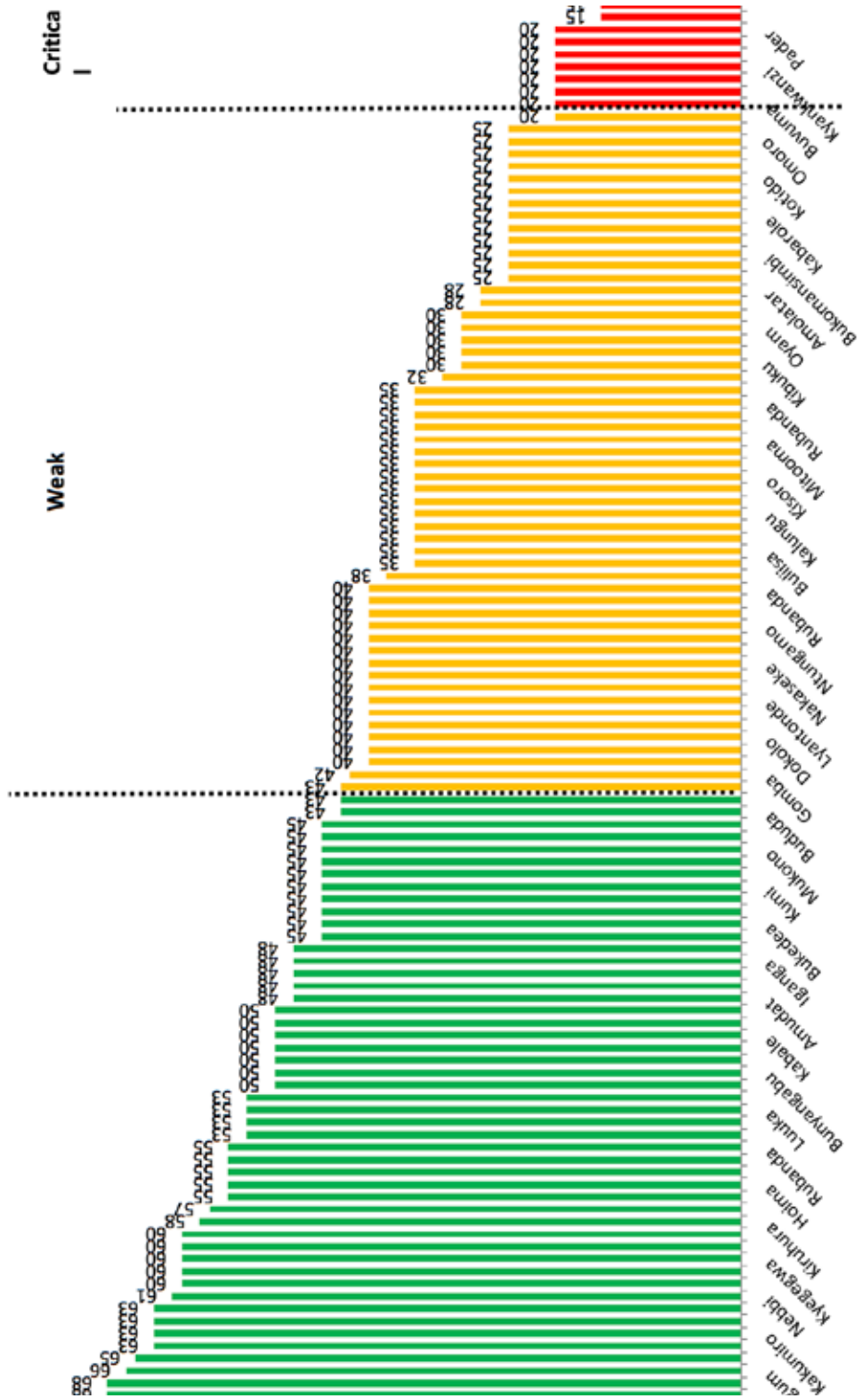
23	Bunyangabu	0	No	57.0	10	1129	46	0	60.0	5	57.0	20	12.6	5	320	10	0%	0	50
24	Bushenyi	1	Yes	-0.9	0	0	59	0	50.0	5	96.0	25	47.5	10	0	0	0%	0	40
25	Busia	0	No	0.0	0	0	60	0	47.0	10	89.0	25	51.0	15	0	0	0%	0	50
26	Butaleja	0	No	0.0	0	0	61	0	103.6	0	63.2	20	19.4	5	0	0	0%	0	25
27	Butambala	0	No	0.0	0	0	62	0	70.0	0	67.0	20	0.0	0	0	0	0%	0	20
28	Butebo	0	No	0.0	0	0	63	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
29	Buvuma	0	No	0.0	0	0	64	0	75.0	0	41.0	15	14.0	5	0	0	0%	0	20
30	Buyende	1	Yes	0.5	0	8679	35	0	138.0	0	86.4	25	28.0	10	8	5	40%	10	50
31	Dokolo	1	Yes	2.1	5	0	65	0	NA	0	92.1	25	48.8	10	0	0	0%	0	40
32	Gomba	1	Yes	0.0	0	85527	8	7	100.0	0	55.0	20	19.7	5	3	5	12%	5	42
33	Gulu	1	Yes	3.4	10	6967	38	0	67.0	0	81.1	25	32.0	10	10	5	50%	10	60
34	Hoima	1	Yes	9.7	10	11971	30	0	70.0	0	88.4	25	39.9	10	3	5	11%	5	55
35	Ibanda	0	No	0.0	0	31739	19	3	81.0	0	84.5	25	25.3	10	6	5	24%	10	53
36	Iganga	1	Yes	1.7	3	9089	34	0	51.0	5	80.5	25	10.2	5	4	5	9%	5	48
37	Isingiro	1	Yes	0.1	0	59456	13	3	69.0	0	93.9	25	46.6	10	80	10	94%	15	63
38	Jinja	1	Yes	13.3	10	0	66	0	49.0	10	87.0	25	3.9	0	0	0	0%	0	45
39	Kaabong	1	Yes	-5.1	0	-15702	127	0	85.0	0	25.9	15	5.0	0	0	0	0%	0	15
40	Kabale	1	Yes	-2.0	0	-80779	132	0	56.0	5	95.0	25	22.3	5	10	5	34%	10	50
41	Kabarole	0	No	0.0	0	0	67	0	65.0	0	85.0	25	0	0	0	0	0%	0	25
42	Kaberamaido	0	No	0.0	0	0	68	0	67.0	0	93.8	25	51.9	15	0	0	0%	0	40
43	Kagadi	0	No	0.0	0	0	69	0	NA	0	68.9	20	0.0	0	0	0	0%	0	20
44	Kakumiro	1	Yes	5.0	10	7248	37	0	NA	0	83.0	25	47.8	10	41	8	45%	10	63
45	Kalangala	0	No	0.0	0	0	70	0	39.0	15	69.0	20	0.0	0	0	0	0%	0	35
46	Kaliro	0	No	0.3	0	0	71	0	68.0	0	74.5	25	32.0	10	0	0	0%	0	35
47	Kalungu	0	No	0.0	0	0	72	0	197.0	0	97.0	25	36.0	10	0	0	0%	0	35
48	Kamuli	1	Yes	0.4	0	375444	2	10	50.0	5	77.0	25	32.4	10	34	8	22%	10	68
49	Kamwenge	1	No	-6.6	0	-43425	129	0	53.0	5	80.0	25	36.1	10	22	8	11%	5	53
50	Kanungu	1	Yes	-1.0	0	96190	7	7	75.0	0	93.0	25	49.0	10	7	5	35%	10	57
51	Kapchorwa	1	Yes	4.0	10	17051	27	0	65.0	0	89.0	25	50.5	15	0	0	0%	0	50
52	Kapelebyong	0	No	0.0	0	0	73	0	0.0	15	0.0	0	0.0	0	0	0	0%	0	15
53	Karenga	0	No	0.0	0	0	74	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
54	Kasanda	0	No	82.7	10	0	75	0	71.0	0	82.7	25	9.4	0	14	5	11%	5	45
55	Kasese	1	Yes	5.0	10	0	76	0	57.0	5	83.0	25	57.6	15	13	5	76%	15	75
56	Katakwi	0	No	0.3	0	0	77	0	74.0	0	77.3	25	48.4	10	0	0	0%	0	35



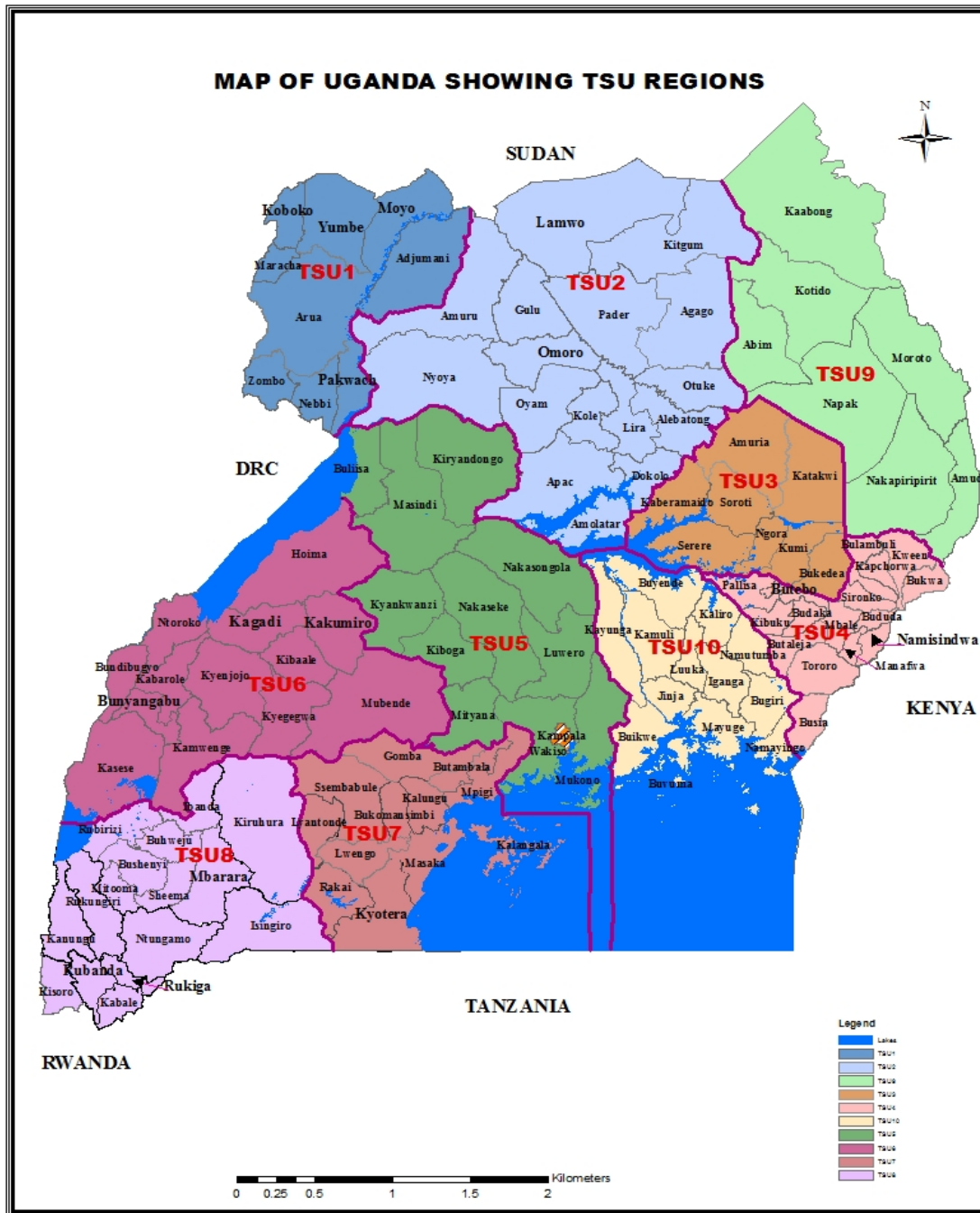
61	Kibuku	1	Yes	2.7	5	0	82	0	NA	0	84.3	25	0.0	0	0	0	0%	0	30
62	Kikuube	0	No	0.0	0	0	83	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
63	Kiruhura	0	No	0.7	0	19403	24	0	67.0	0	93.7	25	45.6	10	22	8	85%	15	58
64	Kiryandongo	1	Yes	3.9	10	11368	32	0	57.0	5	78.9	25	15.7	5	13	5	76%	15	65
65	Kisoro	0	No	0.0	0	0	84	0	85.0	0	76.6	25	26.0	10	0	0	0%	0	35
66	Kitagwenda	0	No	0.0	0	0	85	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
67	Kitgum	1	Yes	0.9	0	43262	17	3	47.0	10	61.2	20	25.2	10	42	8	81%	15	66
68	Koboko	0	No	0.0	0	0	86	0	NA	0	80.3	25	0.0	0	0	0	0%	0	25
69	Kole	0	No	0.0	0	0	87	0	NA	0	79.1	25	0.7	0	0	0	0%	0	25
70	Kotido	0	No	-8.9	0	-15045	126	0	85.0	0	4.1	0	60.3	15	4	5	14%	5	25
71	Kumi	1	Yes	0.9	0	195072	5	10	75.0	0	88.9	25	27.3	10	0	0	0%	0	45
72	Kwania	1	Yes	87.4	10	0	88	0	77.0	0	87.4	25	0.0	0	0	0	0%	0	35
73	Kween	1	Yes	7.7	10	2532	44	0	53.0	5	75.7	25	27.5	10	14	5	70%	15	70
74	Kyankwanzi	0	No	0.0	0	0	89	0	68.0	0	59.0	20	0.0	0	0	0	0%	0	20
75	Kyegegwa	1	Yes	4.0	10	18419	25	0	68.0	0	83.0	25	32.4	10	7	5	28%	10	60
76	Kyenjojo	1	Yes	1.6	3	8603	36	0	68.0	0	88.9	25	44.3	10	0	0	0%	0	38
77	Kyotera	0	No	0.0	0	0	90	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
78	Lamwo	0	No	0.0	0	0	91	0	NA	0	59.3	20	35.8	10	0	0	0%	0	30
79	Lira	1	Yes	6.4	10	0	92	0	62.0	0	86.4	25	40.0	10	0	0	0%	0	45
80	Luuka	1	Yes	2.0	5	34510	18	3	145.0	0	69.0	20	35.0	10	7	5	35%	10	53
81	Luwero	1	Yes	20.0	10	3785	43	0	50.0	5	99.6	25	29.9	10	14	5	64%	15	70
82	Lwengo	0	No	0.0	0	0	93	0	NA	0	76.0	25	45.0	10	0	0	0%	0	35
83	Lyantonde	0	No	0.0	0	0	94	0	NA	0	89.0	25	58.0	15	0	0	0%	0	40
84	Madi-Okollo	0	No	0.0	0	0	95	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
85	Manafwa	1	Yes	-1.5	0	23787	22	0	86.0	0	81.5	25	30.9	10	5	5	25%	10	50
86	Maracha	1	Yes	-1.0	0	31057	20	3	125.0	0	90.0	25	69.3	15	13	5	5%	5	53
87	Masaka	1	Yes	-2.2	0	-69506	131	0	43.0	10	84.0	25	46.6	10	8	5	32%	10	60
88	Masindi	0	No	-8.3	0	0	96	0	45.0	10	70.7	25	11.6	5	0	0	0%	0	40
89	Mayuge	0	No	0.0	0	0	97	0	74.0	0	67.4	20	36.0	10	0	0	0%	0	30
90	Mbale	1	Yes	0.0	0	0	98	0	140.0	0	65.0	20	0.0	0	0	0	0%	0	20
91	Mbarara	1	Yes	0.0	0	74047	10	7	30.0	15	98.9	25	0.6	0	48	8	96%	15	70
92	Mitooma	0	No	0.0	0	0	99	0	125.0	0	94.4	25	38.8	10	0	0	0%	0	35
93	Mityana	0	Yes	-13.0	0	0	100	0	45.0	10	75.7	25	26.0	10	0	0	0%	0	45
94	Moroto	0	No	0.0	0	0	101	0	36.0	15	45.6	15	11.0	5	0	0	0%	0	35

## Uganda Water and Environment Sector Performance Report 2019

99	Nabilatuk	0	No	0.0	0	0	103	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
100	Nakapiripiriti	1	Yes	9.9	10	0	104	0	61.0	0	46.3	15	28.2	10	0	0	0%	0	35
101	Nakaseke	1	Yes	-9.6	0	-7384	125	0	74.0	0	74.8	25	15.2	5	2	5	10%	5	40
102	Nakasongola	1	Yes	-15.3	0	-27133	128	0	43.0	10	71.7	25	27.4	10	10	5	33%	10	60
103	Namayingo	1	Yes	11.5	10	16621	28	0	68.0	0	73.0	25	42.5	10	25	8	44%	10	63
104	Namisindwa	1	Yes	0.0	0	0	105	0	NA	0	0.0	0	0.0	0	0	0	0%	0	0
105	Namutumba	0	No	0.0	0	0	106	0	60.0	5	84.1	25	23.0	10	0	0	0%	0	40
106	Napak	1	Yes	0.0	0	0	107	0	60.0	5	30.5	15	12.9	5	0	0	0%	0	25
107	Nebbi	1	Yes	-2.0	0	56999	14	3	102.0	0	81.0	25	38.2	10	30	8	70%	15	61
108	Ngora	0	No	0.0	0	0	108	0	74.0	0	87.0	25	52.0	15	0	0	0%	0	40
109	Ntoroko	1	Yes	0	0	0	109	0	140	0	67.5	20	0	0	0	0	0.0	0	20
110	Ntungamo	1	Yes	0	0	0	110	0	50	5	95.6	25	24	10	0	0	0	0	40
111	Nwoya	1	Yes	-3.6	0	0	111	0	104	0	76.4	25	0	0	0	0	0	0	25
112	Obongi	0	No	0	0	0	112	0	NA	0	0	0	0	0	0	0	0	0	0
113	Omoro	0	No	0	0	20973	23	0	NA	0	71	25	0	0	0	0	0.0	0	25
114	Otuke	0	No	0	0	0	113	0	NA	0	71	25	0	0	0	0	0	0	25
115	Oyam	0	No	0	0	0	114	0	NA	0	82.5	25	17.09072	5	0	0	0	0	30
116	Pader	0	No	0	0	0	115	0	NA	0	59	20	0	0	0	0	0	0	20
117	Pakwach	0	No	0	0	0	116	0	NA	0	0	0	21.89649	5	0	0	0	0	5
118	Pallisa	1	Yes	0.8	0	48056	16	3	61	0	83.8	25	12.30663	5	8	5	0.1904762	5	43
119	Rakai	1	Yes	-30.3	0	-1391	124	0	72	0	53.7	20	25.49853	10	7	5	0.3	10	45
120	Rubanda	1	Yes	-1	0	-4116201	133	0	62	0	91.4	25	43.72354	10	10	5	0.6	15	55
121	Rubirizi	1	Yes	3.1	10	9091	33	0	53	5	93.1	25	16.68208	5	50	8	0.6666667	15	68
122	Rukiga	1	Yes	-1.8	0	28683	21	0	38	15	92.3	25	51	15	7	5	0.4	10	70
123	Rukungiri	0	No	0	0	0	117	0	60	5	98.9	25	0	0	0	0	0.0	0	30
124	Rwampara	0	No	0	0	0	118	0	NA	0	0	0	17	5	0	0	0	0	5
125	Sembabule	0	No	0	0	0	119	0	67	0	70	25	66	15	0	0	0.0	0	40
126	Serere	0	No	0	0	0	120	0	140	0	89	25	32.0907	10	0	0	0.0	0	35
127	Sheema	1	Yes	-2.2	0	0	121	0	88	0	94.6	25	34	10	0	0	0	0	35
128	Sironko	0	No	0	0	0	122	0	82	0	72	25	63	15	0	0	0.0	0	40
129	Soroti	1	Yes	0.7	0	6289	40	0	60	5	87.9	25	25.54849	10	39	8	0.5	15	63
130	Tororo	1	Yes	-26.8	0	5940	41	0	57	5	56.2	20	12.2029	5	311	10	0.5280136	15	55
131	Wakiso	1	Yes	1.4	3	1501	45	0	NA	0	89.6	25	22.96999	5	9	5	0.3	10	48
132	Yumbe	1	Yes	-3.1	0	18402	26	0	66	0	80.8	25	43	10	8	5	0.1	5	45



## ANNEX 12: Location of TSUs and Umbrella of Water and Sanitation Authorities



### MAP SHOWING REGIONAL UMBRELLA FOR WATER AND SANITATION

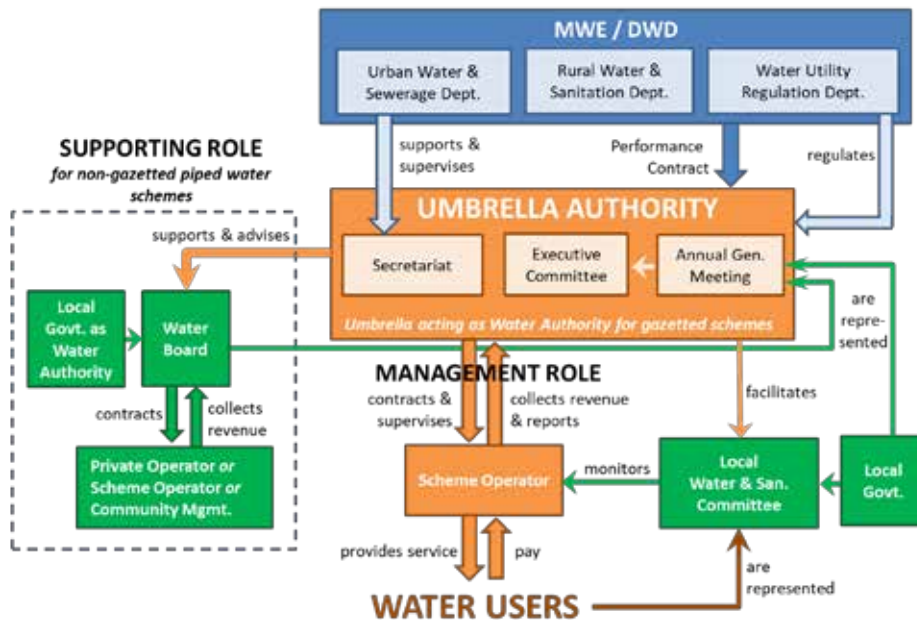


**Map of Gazetted Schemes (UAs gazetted as Water Authorities before 30<sup>th</sup> of June 2019)**

Schemes shown in grey are submitting monthly performance data through UPMIS. Schemes shown in red (which means not yet reporting) were gazetted but not yet taken over.



**The New Umbrella Authority Model**



**Organisational Setup of the Umbrella Authority Model**

The model is adapted to the situation in small towns and rural areas by maintaining a lean staffing structure, moderate salaries, involvement of the local communities, and flexible tariffs.

The size of the individual UA schemes varies in a wide range, from about 5 to 1,000 connections. The systems were constructed by WSDFs, the RWSS Dept., District Local Governments, NGOs and other stakeholders.

## **ANNEX 13 List of CSOS in Water and Sanitation that Reported in FY 2018/19**

1. Abanya Rwenzori Association
2. Action Africa Help-Uganda
3. Action for Rural Women's Empowerment (ARUWE)
4. Advocate for Water and Environment Conservation
5. African Agency for Integrated Development (AAID)
6. African Community Technical Services (ACTS)
7. African Evangelistic Enterprise (AEE)
8. African Rural Development Initiative (ARDI)
9. Agency for Accelerated Regional Development (AFARD)
10. Agency for Cooperation and Research in Development (ACORD)
11. Agency for Integrated Rural Development (AFIRD)
12. Albertine Interventions for Development
13. All Nations Christian Care (ANCC)
14. Alliance Water Solutions
15. AMREF Health Africa
16. Appropriate Revival Initiative for Strategic Empowerment ( ARISE )
17. Association of Professional Women in Agric.& Environment (AUPAWE)
18. Bringing Hope to the Family
19. Build Africa Uganda
20. Bunyoro Social Centre Works
21. Butakoola Village Association for Development
22. BYEPA International Foundation Uganda
23. Caritas Arua
24. CARITAS Fort Portal - HEWASA
25. Caritas Gulu Archdiocese
26. Caritas Justice and Peace of Archdiocese of Kampala.
27. Caritas Lira
28. Caritas Moroto Diocese
29. Caritas Uganda
30. Catholic Relief Services (CRS)
31. CCAYEF-MHM Pilot Project
32. CESA Uganda
33. Christ the King Healthy Support Care Center for the Needy
34. Christian Women and Youth Development Alliance.( CWAY )
35. Church of Uganda Teso Diocese Planning and Development Office (COU-TEDDO)
36. CIANEA Uganda
37. Community Integrated Development Initiative (CIDI)
38. Community Empowerment and Rehabilitation Initiative for Development (CERDID)
39. Community Empowerment for Rural Development (CEFORD )
40. Community Health Empowerment Development and Relief Agency (CHEDRA)
41. DDS-NK
42. DECODI
43. Diocese of Muhabura for Improved Livelihoods of Communities (DOM-WATSAN)
44. Divine Waters

45. DRC Uganda
46. Ecological Christian Organisation (ECO )
47. Efforts Integrated Development Foundation ( EINTEDEF )
48. Emesco Development Foundation
49. Engineers Without Borders- USA
50. Environmental Alert
51. Evidence Action
52. Fields of Life
53. Fontes Foundation Uganda
54. Foundation for Policy Dialogue and Development (FPDD)
55. Generosity International Life care Development Coalition
56. GOAL Relief and Development Organisation
57. GOSAP
58. Hope for Kids International
59. Integrated Community Health Network (ICHN )
60. International Aid Services
61. INTERNATIONAL INSTITUTE OF RURAL RECONSTRUCTION ( IIRR)
62. International Lifeline Fund
63. International Union for Conservation of Nature (IUCN)
64. IRC Uganda
65. JEDOVIC
66. Jinja Area Communities Federation
67. John Foley Well Works Africa
68. Joint Effort to Save the Environment
69. Joy Drilling Deliverance Church Uganda.
70. KALI
71. Kaliro Community Development Foundation
72. Karamoja Peace and Development Agency (KAPDA)
73. Karucani International
74. Katosi Women's Development Trust
75. Kigezi Diocese Water and Sanitation Programme
76. Kikandwa Environmental Association
77. Knowledge Support and Research Centre
78. Kokwech Agro Based Youth Project (KABYP)
79. Kumi Human Rights Initiative
80. Life Changing Water
81. Lifewater International
82. LifeWorth Vision International (LWV)
83. Link to Progress
84. Livelihood Improvement Program of Uganda (LIPRO- Uganda)
85. Living Water International Uganda
86. Malteser International
87. Mbarara District Farmers Association (MBADIFA)
88. Mukono Multipurpose Youth Organisation (MUMYO)
89. National Association of Professional Environmentalists (NAPE)



90. NAWAD
91. Network for Water and Sanitation Uganda (NETWAS - Uganda)
92. North Kigezi and Kinkiizi Dioceses WASH programme
93. ODS
94. Oxfam
95. PAMO Volunteers
96. Partners for Community Health and Development Organisation (PACHEDO)
97. Partners In Community Transformation (PICOT)
98. Pentecostal Assemblies of God Kumi (PAG – Kumi)
99. Plan International Uganda
100. Protos-Join For Water.
101. Real Action for Community Empowerment (RACE)
102. Rural Initiative for Community Empowerment- WESTNILE (RICE-WN)
103. Rural Mother at Risk- Africa ( RURMOR )
104. RWIDF- Uganda
105. SNV
106. Soroti Catholic Diocese Integrated Development Organisation
107. Sule Integrated Development Organisation (SIDO)
108. Temele Development Organisation
109. The Association of Rwenzori Community
110. The Busoga Trust
111. The Water Trust
112. TUF Agency for International Development
113. Twaweza
114. UCSD
115. Uganda Health Marketing Group (UHMG)
116. Uganda Muslim Rural Development Association (UMURDA)
117. Uganda Rainwater Association (URWA)
118. Uganda Red Cross Society (URCS)
119. Unite for the Environment (UNITE)
120. UWESO
121. Vision Teso Rural Development Organisation
122. Voluntary Action for Development (VAD)
123. WaterAid Uganda
124. Water for People
125. Water Mission Uganda
126. Wells of Life (WOL)
127. WHAVE Solutions
128. World Vision Uganda
129. Youth Environment Service (YES – Busia)
130. Youth With A Focus Teso