
Government of Uganda

Ministry of Water and Environment

# Water and Environment

# Sector Performance Report 2018

## Foreword

I have the pleasure to present Uganda's Water and Environment Sector Performance Report for 2017/18FY (i.e. SPR 2018). This report highlights the need to manage our water and environment resources in a sustainable manner to be able to meet all the different development economic activities and also for our ecosystem. Moreover, this is moreover in environment of increasing population, which is exacerbated by the refugee influx especially in Northern Uganda and climate change challenges.

As of June 2018, the percentage of Uganda's rural population with access to safe water is estimated to be 70% which has remained unchanged since June 2017. This implies that with the available resources, we just managed to keep up with the population growth. Nevertheless, the total number of villages with at least a safe water source increased from 57,585 (i.e. 64% of all villages) in FY 2016/17 to 57,974 (i.e. 66% of all villages) in FY 2017/18.

Access to safe drinking water in the urban water has increased to 74% as of June 2018 (up from 71%). The management of water and sanitation by the National Water & Sewerage Corporation (NWSC) has expanded to cover a total of 238 towns.

In order to reduce our dependency on rain-fed agriculture and to increase our food security, my ministry in collaboration with the Ministry of Agriculture, has rehabilitated a number of large irrigation schemes in the country. New large and micro irrigation schemes are still being developed in various locations. Water for production storage capacity has increased from 38.86 million $m^3$ (June 2017) to 39.32 million $m^3$ (June 2018).

Implementation of catchment based integrated water resources management activities is on-going at the level of the 4 Water Management Zones (WMZs). About thirty surface and groundwater monitoring stations have been upgraded from manual to telemetric data collection and transmission, which forms a major component in the development of an Early Warning Telemetry System since it enables quick dissemination of the information products to the public and researchers. The monitoring stations form a vital component of the national water information system which is also being established, with the overall objective of providing real time accurate data on the state of our water resources.

In order to prevent further degradation of our environment and to ensure reliability of water supply infrastructure, the sector institutions and other stakeholders, including CSOs, are implementing a number of activities which include restoration of wetlands, demarcation of national forestry boundaries and eviction of encroachers, re-afforestation in Central Forestry Reserves, tree planting at community level, protection of major river banks, and water source and catchment protection activities. Approximately 3,240 Ha of wetlands have been restored, and 2160 Ha of degraded forests replanted with trees.

Sector financing still remains one of the major challenges to achievement of national development targets under the NDP-II. The ministry has developed a sector strategic investment plan which clearly indicates that the sector requires at least 9 times the present annual level of funding over the next 12 years if we are to achieve the water and environment related national targets under the Vision 2040 and the Sustainable Development Goals (SDGs). Additional resource mobilisation, coupled with efficient use of available resources, is therefore one of the key sector priorities which is being pursued.

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

Hon. Sam Cheptoris

**Minister for Water & Environment**
**Hon. Cheptoris Sam**

**MINISTER FOR WATER AND ENVIRONMENT, UGANDA**

## Executive Summary

This report is the 10th Water and Environment Sector Performance Report (SPR). It presents the performance of the sector during the financial year (FY) 2017/18 in terms of investments, targets, achievements, outputs and challenges. The performance assessment was based on new Sector Performance Indicators which replaced the golden and platinum indicators. It covered access, functionality, management, investment cost and water quality of improved water supplies; sanitation and hygiene; water for production; water resources management; environment and natural resources and cross cutting issues of gender, HIV/AIDS and governance.

### Introduction

Data used for this report is derived from databases in the Ministry of Water and Environment, District Local Governments, Sector semi-autonomous agencies, Ministry of Health, Ministry of Education, and the Uganda Bureau of Statistics (UBOS).

### Sector Finances

The total financing to the Sector including on-budget and off-budget resources was approximately UGX 1,770.53bn, of which UGX 1,669.14bn was on-budget having been appropriated by Parliament for 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)), and UGX101.39bn was off-budget. The donor On-budget allocation within this total allocation amounted to UGX 320.135bn, representing 18.5% 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 889.8 bn; representing 52% of the Sector budget. In terms of releases, the total amount released to the Sector was UGX 1,725.82 bn; representing 97.5%. The Government (treasury) released UGX 423.52 bn representing 92% of GoU budget, Donors UGX 320.14 bn (100%), AIA UGX 88.79 bn (99.7%) and off-budget UGX 101.9 bn (100%).

The Government of Uganda (GoU) through its Ministry of Water and Environment (MWE) and its Development Partners (DPs) has been implementing a 5-year joint funding programme which was earlier on scheduled to end in June 2018 but was extended to June 2019. Formulation of the new programme (JWESSP-II) has been completed but is awaiting approvals by the relevant institutions.

### Rural Water Supply

The main technology options used for water supply improvements in rural areas include deep boreholes (44%), shallow wells (24%), and protected springs (21%). Others include tap stands/kiosks of piped schemes and rainwater harvesting tanks (11%).

As of June 2018, the national safe water coverage in rural areas was estimated at **70%.** There was no change in coverage from that of June 2017. Out of the 57,974 rural villages in Uganda, 38,183 **(66%)** of the villages had valid water sources as of June 2018.

The functionality for rural water supplies remained the same (85%) as last financial year.

A total of UGX 131.2bn was used to serve 531,938 persons with new improved water supplies. The overall per capita cost for rural water supplies was UGX 246,663 (68 USD) higher than UGX 114,295 (32 USD) for FY 2016/17.

982 new boreholes were constructed and 1,571 rehabilitated. 30 solar powered mini schemes under construction progressed up to 65% completion. 70 piped water systems with 861 taps and 167 protected springs were constructed. 751 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 2018 slightly higher than 88% of June 2017

### Urban Water Supply

The population using an improved drinking water source in urban areas increased from 71% in June 2017 to **77%** in June 2018. This apparent increase

is partly due to a new baseline survey produced for the urban areas covered by NWSC where coverage was 83.7% compared to 79% in 2017. Access to safely managed water (available on premises) was estimated at 20%. 515 villages (local council 1s) in urban areas had an improved water source.

Construction of 31 small towns' water supply systems with 236 public stand posts (PSP), 9,477 yard taps and 258 institutional connections was completed. 26 town water supply schemes were under construction. 66 designs were completed.

Functionality of small towns and rural growth centres increased from 92% in June 2017 to 93% in June 2018.

The average per capita investment cost for the new water facilities was US$ 58. This was slightly lower than USD 62 in the FY 2016/17.

MWE gazetted the six Umbrellas of Water and Sanitation Organisations as Water Authorities to manage 259 piped water supply and sanitation systems as of June 2018. 18 small towns' water supply and sanitation schemes were handed over to NWSC for management. The sanitation regulation framework was developed. Non-revenue water (NRW) was reported at 41% for small towns and 30.7% in towns under NWSC.

**Water for Production**

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

During the reporting period, the cumulative water for production (WfP) storage capacity increased from 38.865 million $m^3$ in FY 2016/17 to 39.32 million $m^3$ in FY 2017/18; representing a 1% increase.

16 Small scale Irrigation schemes in the Districts of Bugiri, Soroti, Abim, Amuria, Kaabong, Napak, Oyam, Alebtong, Lira, Nwoya, Lwengo, Mbarara, Isingiro, Mokena, Rukiga and Masaka were completed. Olweny irrigation scheme works reached 92% completion.

Construction works are ongoing for 14 Windmill powered water Supply Systems in Karamoja Sub-region, 9 Valley tanks in the Districts of Otuke, Apac and Katakwi and Mabira Dam in Mbarara District. 4 communal valley tanks in the Districts of Kiruhura, Gomba, Kyegegwa and Kiboga were completed.

Functionality of WfP facilities increased from 86.1% in FY 2016/17 to 86.7% in FY 2017/18. 84% of WfP facilities had functional management systems.

**Water Resources Management**

32 surface water and 17 groundwater stations were upgraded to transmit data in real time (telemetry).

MWE carried out water quality assessments on rural and urban water sources. A total of 551 samples were collected from improved water sources in the rural areas out of which 64% complied with the national standards for drinking water with respect to *E. coli*. A total of 356 water samples were taken from urban water supply systems. In the small towns, 60% complied with *E. coli* standards and in large towns managed by NWSC 87%.

Compliance to abstraction permit conditions improved from 73% in FY 2016/17 to 77% in FY 2017/18. Compliance to waste water discharge permit conditions improved from 59% in 2016/17 to 63%. Enforcement efforts continued and 794 illegal water users were identified and stopped.

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) and Inter Governmental Authority on Development (IGAD). Implementation continued of trans-boundary projects; Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF), Nyimur Multipurpose Water Resources Management and Development Project, Sio-Malaba-Malakisi River

(SMM) Basin Management Project, Kagera Transboundary Integrated Water Resources Management and Development Project and Lake Victoria Environmental Management Project II (LVEMPII).

Under LVEMPII the construction of a model waste recycling plant for Kampala Capital City Authority and rehabilitation of Kirinya waste water treatment plant were completed.

Implementation of catchment-based water resources management is ongoing in 4 Water Management zones and 15 catchments. 15 Catchment Management Organisations (CMOs) were formally established and are operational.

Implementation of some interventions in 11 catchments (Rwizi, Mpanga, Semliki, Aswa, Albert Nile, Awoja, Maziba, Katonga, Lokok, Lokere and Mpologoma) is ongoing.

The revised Water Policy and amendments to the Water Act were submitted to Cabinet for approval.

**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 rural (basic) sanitation reduced from 80% in FY 2016/17 to 79%. The coverage of hand washing facilities also slightly reduced from 37% in FY 2016/17 to 36.5%.

The national standards recommend a pupil to stance ratio of 40:1 in schools. According to district reports, the national pupil: stance ratio worsened from 71:1 in FY 2016/17 to 73:1 in FY 2017/18. However, access to hand washing facilities in schools increased from 35% in FY 2016/17 to 40% in FY 2017/18.

District reports show that 8% of the rural population were practising open defecation, a reduction from 9% reported in the FY 2016/17.

**CSOs Contribution to Water and Sanitation**

Civil Society Organizations (CSOs) investment in FY 2017/18 was UGX 91.02 bn out of which UGX 31.16 bn was invested in water supply and UGX 12.53 bn in sanitation. UGX 36.74 bn was invested in WASH emergency interventions in refugee settlements and host communities in Arua, Adjumani, Ntoroko, Yumbe, Kiryandongo, Lamwo, Kyegegwa, and Moyo.

CSOs constructed 1,603 new water supply facilities and rehabilitated 1,584. A total of 688,229 household sanitation facilities and 1,850 school latrine stances were constructed.

CSOs continued to collaborate with ministries and their agencies, local governments and development partners. In their districts of operation, most CSOs are members of the district water and sanitation coordination committees (DWSCCs). They attended DWSCC quarterly meetings and shared reports with the Local Governments.

**Wetlands Management**

According to the 2015 wetland cover data set, currently the wetlands converge is at 8.9% intact and 4.1% degraded and 2.6% completely lost.

During the FY2017/18, MWE demarcated 283.7km of critical wetlands, and restored 487 hectares (ha) of degraded wetlands. Coding of wetlands for Albert Nile, Aswa and Victoria Nile was completed.

**Forestry Management**

The major challenge for forest management in Uganda is de-forestation which led to decline of forest cover from 24% in 1990 to 11% in 2015. Forest coverage in the country is now at **9%** and only 12% is under strict nature reserve.

During the FY 2017/18, 446km of boundary were demarcated with concrete pillars; 2160ha of degraded forests restored through planting trees**;** 2,748.5ha pplantations were established by tree Farmers on Central Forest Reserves (CFRs); 13,400ha were freed from encroachment; 1,167 ha of new tree plantations were established and 30,862,965 assorted seedlings were produced and supplied.

**Environmental Support Services**

NEMA approved a total of 807 Environment Impact Assessment (EIA) reports for development projects in order to take care of environmental and social safeguards.

1,518 inspections were carried out with compliance level of 75-80%. Oil/gas sector was the best performing. NEMA supported the restoration 100ha of Mpologoma-Limoto system and 900 ha of Rwizi catchment.

75- 80% of the approved EIAs were compliant to conditions of approval. 36-49% of municipal solid waste was safely disposed of in 12 urban authorities.

**Meteorology, Weather and Climate Services**

The contract for supply and installation of weather radar was signed. 20,723 terminal Aerodrome forecasts and flight folders were issued. A report on the *Impacts of Climate change on Lake Victoria basin* and *Status of climate of Uganda 2016-17* was published.

There are 52 major weather stations of different categories (Synoptic, Agro met and Hydro met); out of which 29 were functioning. 23 non-functional weather stations lack both instruments and personnel.

The Uganda national Metrological Authority (UNMA) supports districts by establishing functional weather stations which generate data that is used in producing early warning information. By June 2018, UNMA had established automated weather observation stations in 36 out of 122 Districts; representing 29%.

**Climate Change**

The Climate Change Bill was drafted and submitted to Cabinet Secretariat for review. 9 staff members were trained on specialized critical skills (GIS, Climate Change Negotiation, Drought and Flood Hazard Mapping).

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

CSOs active in ENR reported a contribution of USD 2,755,750 in FY 2017/2018. This was 50% less than what they contributed in FY 2016/17.

Forestry continued to be the dominant thematic area for CSOs investment taking up 55% of the resources. This was followed by the non-green environment (25%), climate change (7%) and wetlands management received the lowest portion (3%) and others (10%)

ENR CSOs supported the establishment of 7 tree nurseries; participated in planting and distribution of 1,804,752 of assorted tree seedlings covering an estimated 1,624ha. They supported communities to demarcate 68km of river banks and 10ha of wetlands in Agago and Amuria districts.

**Cross cutting issues**

The Water and Sanitation Gender Strategy (2010) was revised and launched. The percentage of Water Source Committees (WSC) with women holding key positions was 85%. 53% of Catchment Management Committees (CMCs) had women holding key positions. HIV/AIDS mainstreaming trainer's Manual and a participant's handbook were developed.

**Good Governance Activities**

The sector has incorporated good governance indicators in its reporting framework. The governance principles assessed were accountability, transparency and participation. The performance of MWE as rated by Public Procurement and Disposal of Public Assets Authority (PPDA) audit for FY 2017/18 was 77.9%. This was a decline in performance from 94% in FY 2016/17. NWSC Customer Satisfaction Index was 85%. This was as a result of the Corporation's commitment to serve its customers efficiently.

**Critical Issues for the Sector**

The Joint Water and Environment Sector Support Programme Phase II (JWESSP 2018-2023) is yet to be approved which is constraining sector funding.

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. The sector capacity development strategy and plan were prepared but cannot be fully implemented because of inadequate resources.

**WATER AND ENVIRONMENT SECTOR PERFORMANCE INDICATORS**

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

| **Performance Indicators** (n/a = not applicable, ND = No Data) | | **2015/16** | **2016/17** | **2017/18** |
|---|---|---|---|---|
| 15. Cumulative Water for Production Storage Capacity (million $m^3$) | | 37.2 | 38.9 | 39.3 |
| 16a. Irrigation: Proportion of irrigation potential utilized | | n/a | ND | ND |
| 17a. Irrigation: Proportion of actual water abstraction to total irrigation water requirement | | n/a | ND | ND |
| 18. WfP Functionality: % of water for production facilities that are functional at time of spot-check | | 84% | 85% | 86.7% |
| 19. WfP Management: % of water for production facilities with actively functioning Water User Committees | | 81% | 83% | 84% |
| Water Resources Management | | | | |
| 20. Compliance with permit conditions: % of permit holders complying with permit conditions | | 72% | 71% | 72% |
| 21. Proportion of wastewater safely treated | | n/a | ND | ND |
| 22. Proportion of bodies of water with good ambient water quality | | n/a | ND | ND |
| 23. Water use efficiency: Gross Value Added by irrigated agriculture per vol. of water used [USD/$m^3$] | | n/a | ND | ND |
| 24. Level of water stress: Water withdrawal as a proportion of available water resources | | n/a | ND | ND |
| Environment and Natural Resources | | | | |
| 25. % Uganda's land surface area covered by forest | | 10-11% | 9% | 9% |
| 26. % forest area under management plans | | 35% | 36% | 34% |
| 27. Proportion of population with primary reliance on clean fuels and technology | | n/a | ND | ND |
| 28. % Uganda's land surface area covered by wetlands | | 10.90% | 10.90% | 10.9% |
| 29. % wetland area with approved management plans | | 11.30% | 11.30% | ND |
| Meteorology and Climate Change | | | | |
| 30. % urban solid waste safely disposed of or recycled in municipalities | | 65%-70% | 65%-70% | 24% - 52% |
| 31. % weather observation stations operational and submitting data throughout the year | | n/a | ND | 56% |
| 32. % of districts with functioning early warning systems | | n/a | 28% | 29% |
| 33. CC Mitigation: | | n/a | ND | ND |
| 34. CC Adaptation: % change in budgets for CC adaptation * ministries | | n/a | ND | ND |
| 35 % change in Uganda's climate change vulnerability index | | n/a | ND | ND |
| Cross-cutting Issues | | | | |
| 36. Gender: % of Water User Committees/Water Boards/Environmental management/Water catchment management committees with women holding key positions | Rural | 86% | 86% | 85% |
| | Urban | 67% | 82% | ND |
| | WfP | 73% | 73% | 83% |
| 37. Auditing: % Implementation of the previous year´s audit recommendations | MWE | n/a | ND | ND |
| | NWSC | n/a | 85.7% | 86% |
| 38. Procurement: Average weighed procurement performance | MWE | n/a | ND | 77.9% |
| | NWSC | n/a | ND | 80.1% |

| **Performance Indicators** (n/a = not applicable, ND = No Data) | | **2015/16** | **2016/17** | **2017/18** |
|---|---|---|---|---|
| 39. CSOs´ contributions: % Districts´ budgets that reflect CSOs´ contributions | | n/a | ND | ND |
| 40. Adequacy of Sector Funding: % of sector funding needs (SIP) covered by actual budget releases | Subsector | n/a | ND | ND |
| 41. External Funding: % of sector expenditure covered by GoU budget | Subsector | n/a | ND | 19% |
| 42. Reporting: % of districts and piped water schemes complying with reporting obligations | Rural | n/a | ND | ND |
| | STs | n/a | ND | 56% |

***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[1] USD 1 = UGX 3,700 EUR 1 = UGX 4,400**

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

## Glossary and Definitions

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

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

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

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

**Consolidated Fund**: the consolidated fund is the main treasury account where all Government and external funds are received. Funds are then allocated according to approved budgets to the ministries and via fiscal decentralisation mechanisms to the local Governments.

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

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

**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 particular sector will not necessarily raise the sector ceiling. Sector budget support will, generally speaking, not increase the sector ceiling and is therefore not additional funding. Sector earmarking is thus only notional. The strict imposition of sector ceilings means that earmarking only offsets the Government budget.

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

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

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

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

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

**Water and Environment Sector Working Group (WESWG):** comprising stakeholders from GoU institutions within a sector, civil society organisations and Development Partners, the WESWG meet to agree sector budget submissions and new projects proposed for the sector, as well as to review sector performance and to deliberate on key sectoral policies.

# 1. INTRODUCTION

## 1.1 About this Report

The Uganda Water and Environment Sector Performance Report (SPR) is the most important document for assessing the performance of the water and environment sector. It provides an annual assessment of investments, targets, achievements, outputs and also highlights the major challenges or strategic issues which effect performance. The report includes data and analysis with respect to the agreed key indicators in the following water sub-sector performance themes: access, functionality and equity of improved water supplies and sanitation, hygiene, per capita investment cost, water quality, water storage, gender and community management, water resources management and water for production. The SPR also covers the performance of the environment and natural resources management subsector. Annual SPRs for Water and Sanitation were produced from 2003 to 2008. Since the merger of the water and environment sectors in 2008, this is the 10$^{th}$ Water and Environment Sector Performance Report.

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 a number of individual donor specific projects and reviews were phased out, and the first Joint Government of Uganda – Development Partners Water and Sanitation Sector Support Programme (JWSSPS, 2007 to 2013) was implemented. The five-year Joint Water and Environment Sector Support Programme (JWESSP) ended in June 2018. In addition, the Joint Sector Review (JSR) for the water and environment sector has been held annually since the merger of the water and environment sectors in 2008. The SPR forms the basis for discussions at the Joint Sector Review, during which a number of Undertakings for the subsequent year are formulated and agreed.

The SPR has been prepared through a participatory process with inputs from the Ministry of Water and Environment (MWE), the National Water and Sewerage Corporation (NWSC), the National Environment Management Authority (NEMA), the National Forestry Authority (NFA), the Uganda National Meteorological Authority (UNMA), the Water and Sanitation Programme of the World Bank (WSP/WB), the Environment Health Division (EHD) of the Ministry of Health (MoH) as well as the Uganda Water and Sanitation NGO Network (UWASNET) and Environment and Natural Resources CSO Network. A senior management team from MWE collated, quality assured and synthesised these inputs. The primary data sources are Local and Central Government reports and databases at District Local Governments and MWE, and these are listed in **Annex 1** and **Annex 2.**

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

Chapter 0 on Sector Planning, Human Resources Development and Finance includes an analysis of on-budget and off-budget resources, Government (GoU) and Development Partner contributions, and contributions from large cross-sectoral projects and programmes. The on-budget GoU financial data was obtained from the Integrated Financial Management System (IFMS), while the donor funding was obtained from the Joint Partnership Fund (JPF) and directly from the few development projects that are outside the JPF (like the Lake Victoria Environment Management Project and the Water Management Development Project). The off-budget financial information was obtained from the sector agencies (NWSC, NEMA, UNMA and NFA) and from the CSO umbrella organisations (UWASNET and ENR-CSO Network). Chapter 3 of the SPR provides a brief summary of the status of the undertakings agreed at the last JSR in 2017.

The structure of the SPR from Chapters 4 to Section 10 considers each component within the sector in the order of the Vote Function numbering under the Sector Budget Framework and Ministerial Policy Statement, namely (Chapter 4) Rural Water Supply, (Chapter 5) Urban Water Supply, (Chapter 6) Water

for Production, (Chapter 7) Water Resources Management, (Chapter 8) Sanitation and Hygiene, (Chapter 9) Environment & Natural Resources and (Chapter 10) Climate Change.

Chapters 4 to 10 of the SPR provide an overview of the objectives, strategies, achievements and challenges for each component. Each component examines the status and trends of outcomes from the work undertaken in FY 2017/18. The relevant sector indicators, which form the core of the sector performance measurement framework, are presented within the respective sections. This structure is intended to take the reader through a logical progression from the inputs, activities and outputs to outcomes and analysis. Recommendations are provided for each component.

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

## 1.2 Sector Institutional Framework

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

- The Ministry of Water and Environment with the Directorates for Water Development (DWD), Water Resources Management (DWRM) and Environmental Affairs (DEA);
- Local Governments (Districts and Town Councils), which are legally in charge of service delivery under the Decentralisation Act;
- A number of de-concentrated support structures related to MWE, are at different stages of institutional establishment, including Technical Support Units (TSUs), Water Supply Development Facilities (WSDFs), Water Management Zones (WMZs), and Umbrella 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 3**.

### 1.3 Joint Water and Environment Sector Support Programme 2018-2023 - Phase II (JWESSP II)

The Ministry of Water and Environment together with its Development Partners (DPs) decided to develop a successor programme to the Joint Water and Environment Sector Support Programme 2013 – 2018. Through a participatory process and with support of the Austrian Development Agency, a Programme Document has been developed and submitted for approval to MoFPED and the supporting DPs.

The Joint Water and Environment Sector Support Programme 2018-2023 - Phase II will be implemented by the Government of Uganda (GoU), represented by the Ministry of Water and Environment (MWE), with support from the water and environment sector DPs. The JWESSP II will help the water and environment sector to achieve its targets and improve its performance through consistent and harmonised support that is aligned to government objectives, policies and delivery modalities.

The JWESSP-II constitutes the framework for collaboration between DPs and the GoU and embraces all support to sector which is on-budget. While the JWESSP-I was centred on joint financing modalities (Joint Partnership Fund and Sector Budget Support), the JWESSP-II will more be understood as a coordination than financing framework.

The sector is looked at as divided into three levels: **level one** includes the total water and environment sector funding, both off- and on- budget. The JWESSP-II covers **level two**, which is all support provided by the GoU and DPs to the Water & Environment Sector, including the Ministry of Water & Environment and its semi-autonomous agencies (i.e. the National Water and Sewerage Corporation (NWSC), National Forestry Authority (NFA), Uganda National Meteorological Authority (UNMA), National Environmental Management Authority (NEMA)). DP support to the GoU is usually provided through bilateral agreements. **Level three,** a sub level of level II**,** contains support provided by DPs and the GoU based on provisions in a Joint Financing Agreement and following the JPF Operations Manual. Figure 1 shows these three levels of support to the water and environment sector.

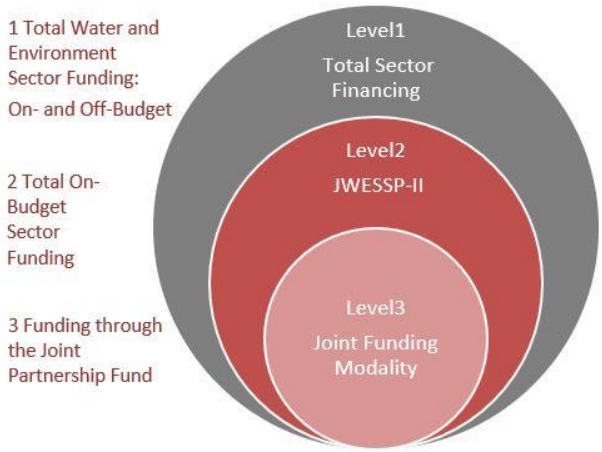



***Figure 1: Three levels of support to the water and environment sector in the JWESSP-II***

The JWESSP-II will support the achievement of the targets for the Strategic Sector Investment Plan (SSIP) 2018 - 2030, which are in line with the international (SGD) and national (NDP) overarching target frameworks. Progress will be monitored using the revised Sector Performance Measurement Framework (2017) which has now been aligned to the Sustainable Development Goals (SDGs). It will support national sector priorities, strategies and investment plans as described in the component descriptions and investment plans. The added value of the JWESSP-II is to provide a framework for coordinated support and strong accountability, and to monitor progress on sector targets.

The JWESSP-II will be implemented in components corresponding to MWE directorates/departments in terms of planning, reporting, budgeting and accounting. The JWESSP-II will have nine components, compared to the eight components of JWESSP 1, as the Water Utilities Regulation Department became a separate Department in 2016 and will therefore be a separate component rather than a sub-component under the Urban water Component.

The components of JWESSP-II are:

1 - Sector Programme Support – SPS

2 - Rural Water Supply and Sanitation – RWSS

3 - Urban Water Supply and Sanitation – UWSS

4 - Water Utilities Regulation – WUR

5 - Water for Production – WFP

6 - Water Resources Management – WRM

7 - Water Management Zones – WMZ

8 - Environment and Natural Resources Management – ENR

9 - Climate Change – CC

As in the prior programme, the overall governance and coordination structure is centred on the Water and Environment Sector Working Group (WESWG) to ensure efficient and effective long-term and annual planning, monitoring, and policy guidance for the water and environment sector. The WESWG coordinates the implementation of all water and environment programmes / projects / activities in view of national priorities, policies and strategies, and provides overall management and coordination of the Water and Sanitation Subsector (WSS) and ENR & CC Subsector Working Groups, as well as all subgroups and committees.

It is anticipated that the JWESSP-II will be approved before the end of 2018 and implementation will commence in 2019.

# 2. SECTOR PLANNING, HUMAN RESOURCES DEVELOPMENT AND FINANCE

## 2.1 Introduction

The section presents the performance of sector planning, monitoring, capacity building and finance functions during the financial year 2017/18. It end with challenges and recommendations.

## 2.2 Sector Planning Framework

The Water and Environment Sectors links its development goals and plans to the second National Development plan (NDP II) covering the period 2015/16 – 2019/20 and Uganda's Vision 2040 targets. The Sector planning and budgeting is guided by the Government set procedures issued by the Ministry of Finance, Planning and Economic Development. The authority to approve sector plans and budgets is vested in the Water and Environment Sector Working Group (WESWG) before submission to Parliament for appropriation. The WESWG is supported by two sub-sector working groups – Water and Sanitation (WSS) sub-sector and Environment and Natural Resources (ENR) sub-sector for coordination and monitoring of operations of the sector.

### *2.2.1 Planning and budgeting process for FY 2018/19*

The Budget for FY 2018/19 was prepared during the period September 2017 to February 2018. It was prepared under the Programme-Based Budgeting system which focuses on outcomes in relation to the budget. Detailed outcomes are provided in the respective programme reports.

The guiding factors for the budget 2018/19 were the NRM Manifesto pledges, the budget speech 2018 which focused on source per village, water for production, 100% service coverage in all towns under National Water operations, catchment management, wetland restoration, tree coverage and source protection measures.

### *2.2.2 Formulation of new Projects*

The sector prepared new projects for financing alongside the approval processes and procedures instituted by Ministry of Finance, Panning and Economic Development. Fourteen (14) projects concepts were submitted for approval to MoFPED but only 3 were approved. The delayed approval of projects affected approval of financing by the development partners.

The ministry proposes a change in the stage by stage approval required by MoFPED such that once the project concept is approved by Sector Working Group and MoFPED, then it should be allowed to proceed with preparation of project proposal for funding.

### *2.2.3 Sector Monitoring and Reporting*

The MWE coordinated and produced the Sector quarterly performance reports and annual performance report and submitted to Office of the Prime Minister and Ministry of Finance, Planning and Economic Development. Quarterly monitoring exercises were carried out focusing on utilization of local government conditional grants, and specific projects under solar mini powered water supply systems and the micro irrigation schemes.

The MWE accompanied the Parliamentary Committee on Natural Resources to monitor projects. The monitoring exercise focused on water project implemented by the Ministry including:

(i) The Water Management Development Project (WMDP) in Gulu Area;
(ii) The SCAP100 projects in Gulu, and Kasese ;
(iii) Water for production activities in Mubuku Kasese; and
(iv) Water and Sanitation Development facilities in Northern and Eastern Uganda

**Box 1 Key findings of monitoring visits in FY2017/18**

**NWSC projects:** The Gulu project faced a major challenge. Works at Oyitino dam and power extension to this new dam had been suspended due to complaints by the Civil Aviation Authority (CAA) which is neighbouring the project site. This affected works for over 6 months.

**SCAP 100:** The project implementation area targets all the villages under NWSC As of June 2016, the Corporation operated in 170 towns spread over 62 districts, 400 sub counties and 15,500 villages. Kasese Area has a total of 162 villages, 96 villages served with water and the remaining 66 villages to be served by 2020 through SCAP100 programme. This financial year, the plan was to serve 39 villages and as of March 2018, 13 villages had been served (Nyangereka, Nyangereka, Kinyabwamba, Kendahi lower, Kendahi upper, Karambi, Kadindimo, Kaina, Karambi, Kidodo, Kahokya, Kirembe, and Nyamirangara).
The major challenges found here related to inadequate budgetary provision for SCAP100 project. Whereas Government committed to provide UGX 30 billion over a period of three years, UGX 22.5 bn was allocated in the budget for FY 2017/18, creating a funding gap of UGX 7.5 billion. This negatively impact on the NWSC ability to achieve the set SCAP100 targets for FY 2017/18.

The Committee appreciated what the ministry was doing under water for production development in Kasese District as well as catchment protection of River banks using Bamboo trees along River Nyamugasani in the promotion of agricultural productivity and value addition. The Committee recommended to publicise the activities implemented by the sector for stakeholders to appreciate and know what is going on.

| | |
|---|---|
|  |  |
| Visit to Mubuku irrigation scheme in Kasese district MPs | Meeting with stakeholders in Mubuku by MPs |

## 2.3 Accreditation of the Sector for Adaptation funding

The Ministry of Water and Environment reviewed its application for Adaptation funding. Submission was made to the board and this was followed by a review mission to the ministry. The Mission reviewed the application and found a few items in the application that require further clarification. The Mission appreciated the systems in place by the ministry and thus proposed increased system strengthening for effective performance. The Ministry expects to be accredited by end of 2018.

## 2.4 Sector Capacity Development

### *2.4.1 Sector Capacity Development*

The Capacity Development Strategy (CDS) and Capacity Development Plan (CDP) for the National Water and Sewerage Corporation (NWSC) were finalized. The alignment of the capacity development plan to the strategic goals and priority areas of NWSC will help to focus training on achievements of the NWSC's strategic objectives.

Development of the Capacity Development Strategy and the Capacity Development Plan for the Rural Water and Sanitation Sub Sector (RWSS), THE Departments of Water and Environment Sector Liaison (WESLD) and the Environment Sector Support Services (ESSD) commenced and the exercise will be completed in the FY 2018/19.

### *2.4.2 Development of learning materials*

Development of training manuals on borehole siting and construction, drilling supervision and test pumping, review of technical specifications and preparation of engineers estimates for the development of water well borehole sources started and will be completed in the FY 2018/19.

### *2.2.3 GIZ support to training in NWSC*

Under the GIZ/Enhanced Water Security and Sanitation (ENWASS) programme, Capacity Development support continued to be provided to NWSC focusing on Vocational Training for Water Professionals. During the reporting period, technical and financial support was extended to NWSC in three work streams which included (1) development and certification of training curricula, (2) development of a financing concept for vocational training and (3) study of vocational training sector in Water and Sanitation subsector in Uganda. Achievements were registered in developing assessment training packages (ATPs)/national qualifications for borehole maintenance mechanic, photovoltaic panel maintenance mechanic and sewerage plant operator, updating of the ATP for Customer Service Advisor in line with Directorate of Industrial Training (DIT) procedures.

Internal capacity of NWSC staff were enhanced through the ATP development process as part of training of trainers (TOT). NWSC trainers had orientation on training module design, facilitation of learning within a competence-based environment, as well as assessment and moderation techniques. NWSC was accredited as a training centre by the Ministry of Education and Sports (DIT) under a tripartite Memorandum of Understanding (MoU) framework (MWE-MoES and NWSC). The renewed MoU has been approved and is pending signature.

Work stream 1 support was provided to the training of NWSC staff in order to receive the Workers Practically Acquired Skills (PAS), a qualification that recognizes informally acquired skills. A comprehensive cost capturing system for the training at NWSC that provides an understanding of actual cost of training would ensure sustainability of its implementation. The study on vocational education in Uganda will provide a deeper understanding of the current demands and shortages in vocational training provision, as well as offer alternative solutions on how to address these gaps to improve infrastructure functionality and O&M of water supply and sanitation systems

### *2.2.4 Training Plan for the Ministry of Water and Environment (MWE)*

Comprehensive costed training plan for the MWE staff was developed for the period 2018 to 2023.The exercise involved the use of questionnaires that were distributed to individual officers, discussions with relevant heads of directorates and departments and managers of the different de-concentrated structures (Water and sanitation Development Facilities (WSDFs), Water Management Zones (WMZs), Water for Production (WfP), Umbrella Authorities (UAs), Technical Support Units(TSUs) as well as consultations with the accredited regulatory institutions for some of the cadres(e.g. Uganda Institution of Professional Engineers). Workshops were organized for key stakeholders for purposes of validation and ownership. The information collected was analysed and aggregated into thematic capacity gaps and a training plan developed to address the gaps.

The main capacity gaps identified included technical skills, leadership and management, performance management, resource mobilization, information and knowledge management and communication, stakeholder engagement and wider issues related to succession planning. The costed training plan is due for submission to the Ministry of Public Service for consolidation into the overall public service training plan.

***Other On-going Capacity Development Interventions***

- Short term performance improvement training interventions in procurement, contract management and amendments to the PPDA Act 2003 was conducted for 53 (38 males + 15 females) sector personnel drawn from the de-concentrated structures (WSDFs, TSUs, WMZs & UAs), the local governments and the private sector. In addition, routine quarterly support supervision and monitoring on the performance of de-concentrated structures was jointly conducted with the team from PPDA for the two WSDFs (North and South West). The overall aim was to promote good governance and capacity building for better and improved service delivery. The results of the exercise revealed remarkable improvements in procurement and contract management by the delegated Procurement and Disposal Units (PDU's) in the de-concentrated structures since the exercise commenced in 2012.
- Short term performance improvement training was conducted for staff of Nyabyeya Forestry College in the areas of Procurement and Contract Management, Budgeting and Planning as well as technical back up support towards setting up a resource centre for the College. A total of 38 (30 male + 8 Female) staff attended the two programmes.
- Short term technical advisory support was provided to DWD in system performance monitoring (Management Information System and Utility Performance Management Information System (UPMIS) and institutional strengthening of the Umbrella Authorities. Additional Technical advisory support was also provided to Directorate of Water Resources Management (DWRM) in the areas of communication, water quality monitoring and flood management.
- Implementation of the standard capacity development programmes aimed at equipping the fresh graduates and undergraduates with practical skills through attachment to on-going projects continued. A total of 127 fresh graduates (73 male and 54 female) of not more than two years of field experience were admitted to the one year graduate training programme. 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.

Under the Enable/Skills Development for the Human Resources (SDHR) project, 28% of the training activities were implemented. The focus was on Monitoring and Evaluation, Negotiation Skills, Performance Management, Strategic Planning and Management, Public Relations, Branding and Partnership development, teamwork and staff motivation. 17% of the trainees were trained. A total of 161 (100 Male and 63 Female) participated in the training programmes under this project.

## 2.5 Sector Finance

### *2.5.1 Introduction*

Funding to the sector under the FY 2017/18 is categorised into two (i) On budget funding which is appropriated by Parliament of Uganda to all Ministries, Departments and Agencies (MDAs) including Appropriation in Aid (internally generated funds that are spent at source) and (ii) Off-budget funding composed of funds to the Sector that do not go through the national treasury or the MDAs but instead are spent by the funding partners themselves on sector activities and outputs.

This section provides an overview of funding to the sector in relation to the approved budget for the FY 2017/18, releases of the funds and utilisation.

The section provides the various funding sources and their category of expenditures in the sector during the FY 2017/18. The Sector mobilised funds from the Government, Development Partners, Civil Society Organizations (CSOs) and the Private Sector.

**Table 1: Funding Sources for the Sector 2017/18**

| Funding Source | Approved Budget including supplementary [bn UGX] | Released | % of budget Released |
|---|---|---|---|
| GoU | 459.207 | 423.507 | 92.2% |
| Donor | 320.135 | 320.135 | 100.0% |
| AIA | 889.80 | 880.79 | 99.0% |
| Off- Budget | 101.39 | 101.39 | 100.0% |
| Total | 1770.53 | 1725.82 | 97.5% |

The total approved sector budget was UGX 1,770.53bn including off-budget funds to water and environment activities by CSOs, under the umbrella of UWASNET (for water and sanitations CSO's) and Environmental Alert (for Environment CSOs) and Appropriation in Aid (funds raised and spent at source by agencies). This budget included the supplementary funding appropriations to National Water and Sewerage Corporation (for Kampala Sanitation Project- KSP) under the GoU component to a tune of UGX 50bn and from external funding component to Water Management Development Project of UGX40.8bn and Farm Income Enhancement and Forest Conservation Project with UGX37.14bn that increased in sectoral budget from UGX 1,634.52bn at the beginning of the financial year to UGX 1,770.53bn.

**Trends in sector funding over the 7 year period 2010/11 to 20117/18**

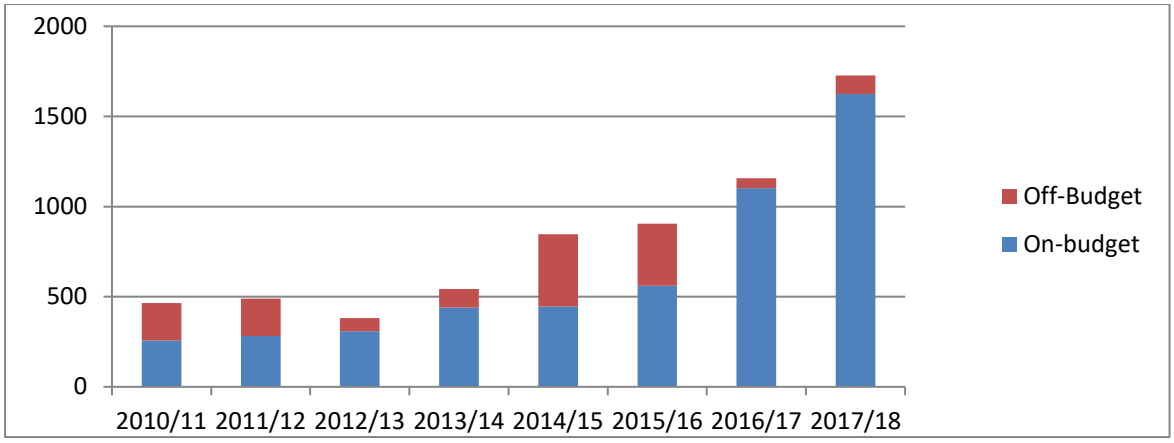
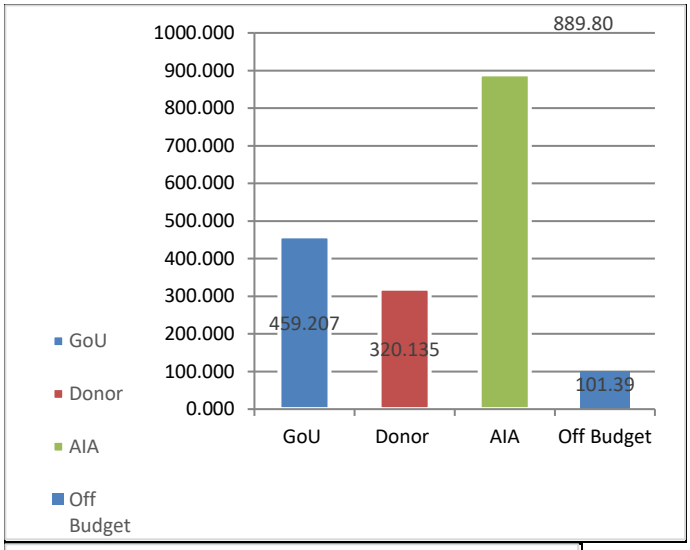



***Figure 2: Trends in sector funding over the period of 7 years (2011/12 – 2017/18)***

At the time of budget approval in May 2017, Appropriation in Aid (AIA) contribution to the sector budget took the biggest share of 51% ; followed by GoU contribution (26%); external Funding (18%) and Off-budget funding (6%).

By the end of June 2018, Appropriation in Aid still had the biggest contribution to the sectors releases with UGX 889.8bn (51%). These are funds collected by agencies and approved by Parliament to be spent by the collecting entity at source. This was followed by GoU-treasury releases which reduced from 27% at budget time to 24% at release (UGX 459.2bn), external funding (Loans and Grants) at 19% (UGX 320.13bn) and then contributions from NGOs, CBOs at 6 %( UGX101.39bn).



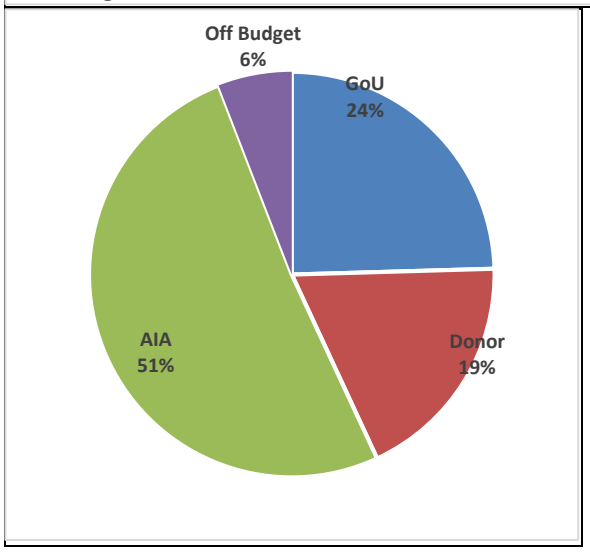




***Figure 3: Contributing by source of funding at Budget*** ***Figure 4: Percentage contribution by funding source from actual releases perspective***

The sector had a total budget of UGX bn 1,770.53 and this was distributed as follows: Vote 019 allocated UGX 668.9 bn (37.7%), Vote 0150 (NEMA) was allocated UGX 24.49 bn (1.4%), Vote 0157 NFA was allocated UGX 29.55 bn (1.7%), Conditional Grants totalled up to UGX 58.73 bn (3.3%), NWSC budgeted for UGX 858.97 bn (48.5%) .

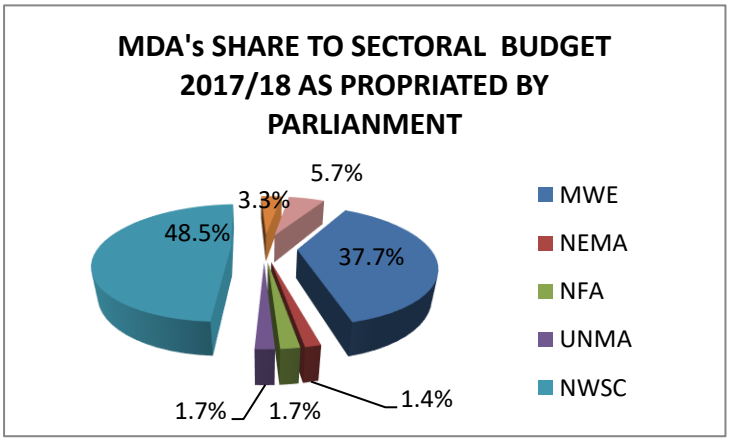



***Figure 5: Share of the budget by MDAs***

UNMA was allocated UGX 29.55(1.7%) and the off budget figures totalled to UGX 101.39(5.7%). A total of UGX 58.73 bn was allocated as Conditional Grants to Local Governments comprised of:

District Water and Sanitation Development Conditional Grant for Rural Water: UGX bn 52.7

Urban Water Operation and Maintenance Grant: UGX bn 2.50

District Health and Sanitation Conditional Grant to selected districts: UGX 2.00 bn and Natural Resources Grant, more specifically Wetlands Conditional Grant: UGX 1.29 bn. The local government budgets

remained small compared to the required. The situation is worsen by increasing number of districts sharing the same amount of money. This has resulted in reduced outputs.

### *2.5.2 Strategic sector investment plan*

The sector investment plan 2009 proposed an increased allocation for the sector lest the water coverage was bound to stagnate at 70% in urban areas by 2020 and in rural areas the coverage was to reduce to 60% by 2020 and to 40% by 2030. From the estimates then, the sector required UGX 811bn per annum up to 2016 and later to increase UGX 1.2 trillion annually to 2020 (this was exclusive of the ENR subsector). Although the funding to the sector increased from UGX 123.8bn in 2008/09 to UGX 779bn in FY 2017/18 it fall short of the annual target.

The sector reviewed and updated SIP 15 in 2017 to include the ENR subsector. The annual financial requirement is UGX 5.10 trillion. This is to be gradually increased to UGX 10 trillion by 2030. As reflected in the chart below, the sector still has a huge funding requirement to meet her set goals amidst the ever growing population and huge service delivery demands. Figure 6 shows the funding requirements for the sector.

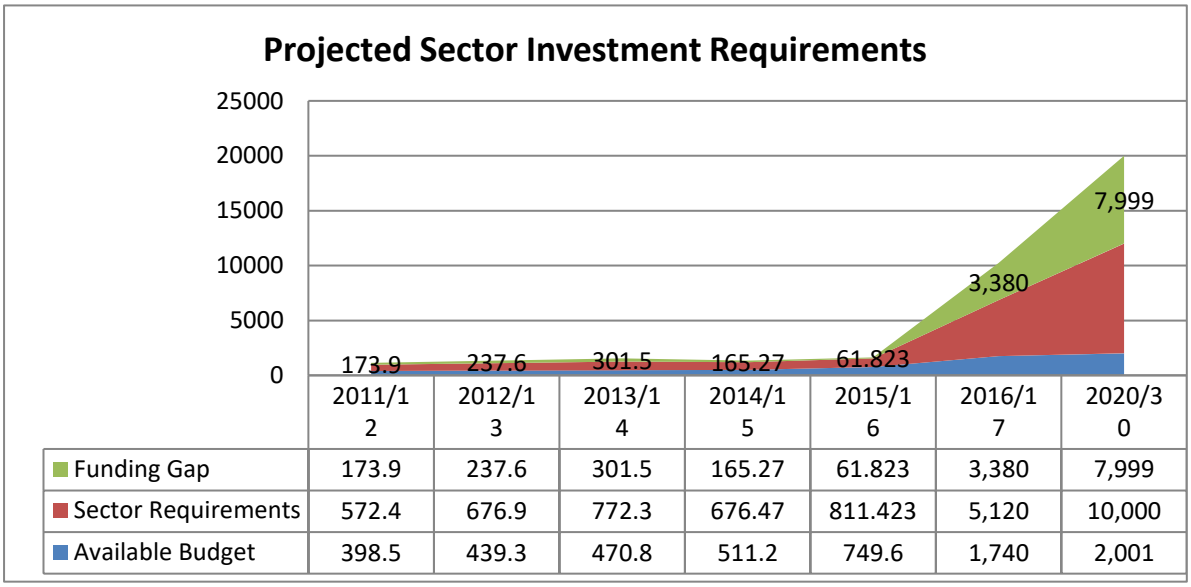



**Figure 6: Sector financing requirements**

### *2.5.3 Budget Performance*

Funds released to the sector against the approved budget were 97.5%. This was attributed to increased expenditure by the CSO under UWASNET (WASH Emergency funding) and supplementary release to National Water and Sewerage Corporation (UGX 50bn), Water management Development Project (UGX 40.8bn) and Farm Income Enhancement and Forest Conservation Project (UGX37.14bn). GOU releases was 92.2% of which 98.1% was spent. The donor release was 100% and utilisation was 83.8%.

*Table 2: Budget performance by source*

| Source | Budget [bn UGX] | Released | Spent | % Released | % release spent |
|---|---|---|---|---|---|
| GoU | 459.207 | 423.507 | 415.547 | 92.2% | 98.1% |
| Donor | 320.135 | 320.135 | 268.289 | 100.0% | 83.8% |
| AIA | 889.80 | 881.64 | 878.23 | 99.1% | 99.6% |

| | | | | | |
|---|---|---|---|---|---|
| Off Budget | 101.39 | 101.39 | 101.39 | 100.0% | 100.0% |
| Total | 1770.53 | 1726.67 | 1663.46 | 97.5% | 96.3% |

The GoU funding had a shortfall of 7.8% translating into UGX 35.7bn. The performance of the off budget component was 100%.

With regard to utilisation of funds, GoU funds performed at 98.1% and external funding at 83.8%. The unutilised GoU funds were for Land due to long processes involved in approval of land compensations and verification of the beneficiaries by various government agencies. For consultancy it was due to delays to submit payment invoices.

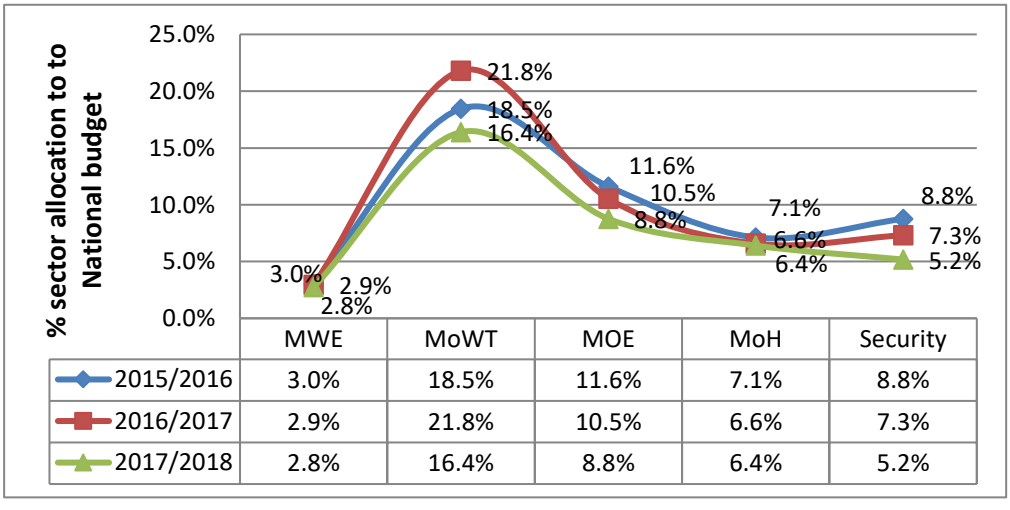
The utilisation of donor funds was affected by late approval of the supplementary funds request by Parliament. This request was submitted in September 2017 but approved in April 2018 which left the entity with less time to absorb all the funds released.

***Table 3: Budget Performance 2017/2018 by Votes***

| Vote Function/Centre | Approved budget [bn UGX] | Actual Realised | Spent | % of Budget Realised | % release spent |
|---|---|---|---|---|---|
| MWE | 668.08 | 318.36 | 317.59 | 47.7% | 99.8% |
| NEMA | 13.10 | 12.28 | 10.98 | 93.8% | 89.4% |
| NFA | 12.27 | 11.04 | 10.67 | 90.0% | 96.6% |
| UNMA | 27.35 | 23.27 | 22.42 | 85.1% | 96.3% |
| Grants to LG | 58.55 | 58.55 | 53.89 | 100.0% | 92.0% |
| GRAND TOTAL | 779.34 | 423.51 | 415.55 | 54.3% | 98.1% |

### *2.5.4 Sector funding as a share of national budget*

Figure 7 shows the sector funding as a share of the national budget. The sector's share to the National budget decreased by one percentage point from 2.9% in the FY 2016/17 to 2.8% in the FY 2017/2018. In order to have a more realistic analysis, one looks at the sector allocation less the appropriation in aid funding.



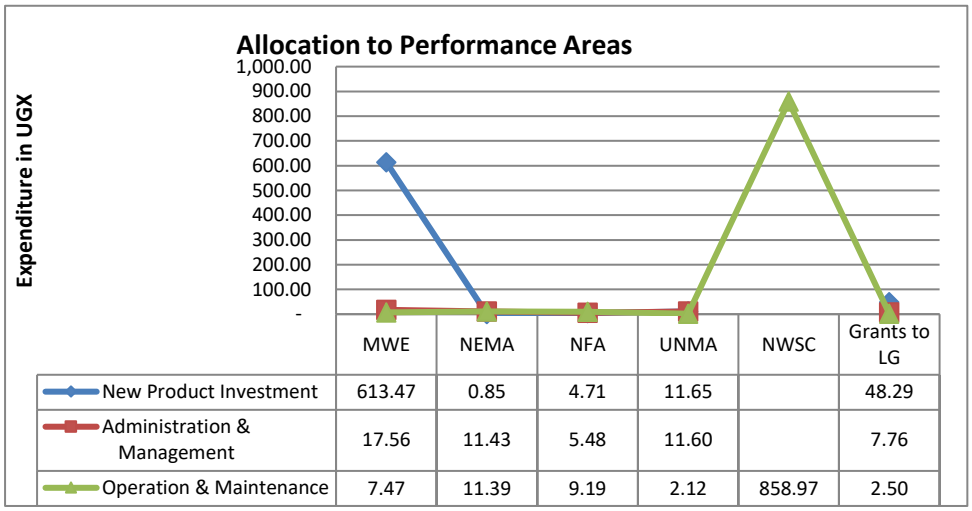

| | MWE | MoWT | MOE | MoH | Security |
|---|---|---|---|---|---|
| 2015/2016 | 3.0% | 18.5% | 11.6% | 7.1% | 8.8% |
| 2016/2017 | 2.9% | 21.8% | 10.5% | 6.6% | 7.3% |
| 2017/2018 | 2.8% | 16.4% | 8.8% | 6.4% | 5.2% |

These funds are collected and spent at source by the various votes for operation and maintenance of the infrastructure rather than investments (see figure 8 below). In other words funds are spent on existing infrastructure or service activities without necessary creating new service coverage.

***Figure 7: Sector funding as share of national budget***

A case in point is National Water and Sewerage Corporation whose revenue corrections are invested in service operations like chemicals, maintenance of the pumping stations and replacement of old services lines as opposed to construction of new water supply schemes or stations.

As per the recommendations the Economic study on "contribution of Water development and Environment resources development 2016", the sector requires increased expenditure/allocation up to five (X5) the current level of expenditure. Results of a national integrated bio-physical and economic modelling framework show that from 2015 to 2040 enhanced investment in water resource development and environmental management would increase per capita GDP by 9% by 2040.




| | MWE | NEMA | NFA | UNMA | NWSC | Grants to LG |
|---|---|---|---|---|---|---|
| New Product Investment | 613.47 | 0.85 | 4.71 | 11.65 | | 48.29 |
| Administration & Management | 17.56 | 11.43 | 5.48 | 11.60 | | 7.76 |
| Operation & Maintenance | 7.47 | 11.39 | 9.19 | 2.12 | 858.97 | 2.50 |

***Figure 8: Budget Allocation to key performance areas***

This will translate into US$111 per person in that year. Although water resources are plentiful in Uganda, in order to ensure that water reaches the right locations, at the right times, at the right level of quality, it requires significant investments in water infrastructure, preservation of environmental resources, and increased capacity in water and environmental management.

This analysis shows that failure to do so will have significant negative ramifications on economic growth. 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.

Government has been advocating for performance based budgeting over years and thus has been allocating the available resources based on the sectors' key performance improvement areas. Analysing the budget allocation to the sector in relation to the National budget, there is needed to look at the sector allocations to its key result areas. Figure 8 above shows expenditure on the key result areas based on 2017/18 release expenditure allocations. These are based on the core mandate of the sector which should generally be commensurate to the proportion budget allocations. The highest resource intensive performance area is operation and management of urban water and sewerage services especially under

the NWSC at 55% of actual funds utilised during the year followed by new product investment (investments in new/fresh per the core outputs of the MDA) at 44%.

**Table 4: Performance of Appropriation in Aid 2017/2018**

| Vote Function/Centre | Budget | Release | % release spent |
|---|---|---|---|
| NEMA | 11.39 | 11.39 | 100.0% |
| NFA | 17.24 | 9.20 | 53.3% |
| UNMA | 2.20 | 2.09 | 94.8% |
| NWSC | 858.97 | 858.97 | 100.0% |
| GRAND TOTAL | 889.80 | 881.64 | 99% |

The respective votes performed at 99% in this area due to the fact that they are responsible for collection and spending of these funds. Save for National Forestry Authority which has still failed to hit it planned target that performed below average at 53.3%. This is partly due to;

A) A total of UGX 1.85 billion from Forest Products not collected:

i. Due to environmental concerns related to mining of Sand, NFA suspended the mining of sand in the CFRs leading to non-collection of over UGX600 million.
ii. UGX 600m had been planned to be realized from the carbon credits however, World Bank audit team did verify the stocks in Rwoho. Over UGX 450 million compensation along way leaves was not received from UECTL and Standard Gauge Railway awaiting for the same in FY 2018/19.
iii. Over UGX 800 million (200m3) in Rwoho not harvested and thinning in South Busoga and Achwa range not done due to flooding of the market by private tree planters/dealers.

b) Over UGX 2.7 billion from Seed and seedlings not collected:

i. Seed importation from Brazil and South Africa not done due to mismatch of release of funds and rain seasons.
ii. Free distribution of Community Tree Planting Program seedlings to potential buyers reduced the market from would be buyers.
iii. Planned sales of seedlings (UGX 2.7 billion) were affected by delay in land allocation within CFRs thus affecting revenue collections by the institution.

The off- budget contribution was mainly from funds form the NGO and CBOs in the Water and Environment subsectors under the umbrella organisations i.e. UWSNET and Environment and Natural Resources Civil Society (ENR CSOs) respectively. Contributions to this is from 82 CSOs UWASNET members as compared to 82 CSOs for the FY2017/18 (details in the NGO report) and 26 Environment and Natural Resources Civil Society (ENR CSOs). Table 5 shows the off-budget performance.

It should be noted that the off- budget component is not limited to the NGO/CBO performance. Although there are many private sector investors in the sector, information on their actual performance was not readily available.

***Table 5: Off – budget performance***

| Subsector | Vote | Budget | Release | Spent | % Budget Released | % of release spent |
|---|---|---|---|---|---|---|
| Water supply subsector | UWASNET | 91.02 | 91.02 | 91.02 | 100% | 100% |
| Environment and Natural Resources | CSOs | 10.37 | 10.37 | 10.37 | 100% | 100% |
| Total | | 54.77 | 101.39 | 101.39 | 100% | 100% |

The trends in off –budget funding is shown in figure 9.

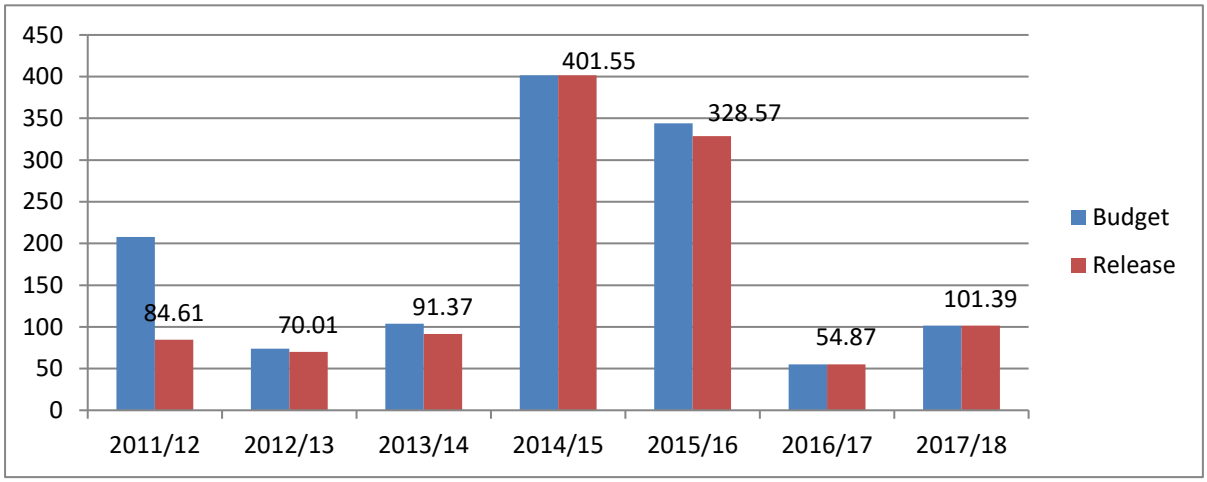



***Figure 9: Trends in off-budget funding for the period 2011/12 to 2017/18***

NGOs/CSOs have continued to make significant investments in water supply infrastructure as well as Natural resource contributions over the years with a total investment of UGX 101.3bn in the FY 2017/18 up from UGX 54.93bn in the FY 2016/2017. These funds have been investment in financing water supply infrastructure, like drilling of bore holes, piped water supply, sanitation, community management, water for production investment integrated water resource management and forestry services, wetland management and weather and climatic change.

### *2.5.5 Overall budget performance*

Table 6 shows the overall budget performance by vote.

***Table 6: Sector Budget Performance by vote function including off budget by category. FY 2017/2018***

| Vote | Budget Category | | Approved budget [bn UGX] | Released | Spent | % of Budget Released | % release spent |
|---|---|---|---|---|---|---|---|
| VOTE 019 (MWE) | Recurrent Component | Wage | 4.735 | 4.689 | 4.652 | 99.0% | 99.2% |
| | | Non-wage | 13.647 | 12.869 | 12.77 | 94.3% | 99.2% |
| | Development Budget | GoU | 322.089 | 293.335 | 292.697 | 91.1% | 99.8% |
| | | Donor | 320.135 | 320.135 | 268.289 | 100.0% | 83.8% |
| | | Arrears | 7.47 | 7.47 | 7.47 | 100.0% | 100.0% |
| | Vote 019 Total | | 668.08 | 638.50 | 585.88 | 95.6% | 91.8% |
| Vote 0150 (NEMA) | Recurrent Component | Wage | 6.116 | 6.116 | 4.832 | 100.0% | 79.0% |
| | | Non-wage | 5.931 | 5.309 | 5.297 | 89.5% | 99.8% |
| | Development Budget | GoU | 1.048 | 0.853 | 0.853 | 81.4% | 100.0% |
| | | AIA | 11.391 | 11.391 | 9.123 | 100.0% | 80.1% |
| | Vote 0150 Total | | 24.49 | 23.67 | 20.11 | 96.7% | 84.9% |
| Vote 157 (NFA) | Recurrent Component | Wage | 5.40 | 5.40 | 5.40 | 100.0% | 100.0% |
| | | Non-wage | 0.09 | 0.08 | 0.08 | 88.3% | 97.6% |
| | Development Budget | GoU | 5.93 | 4.71 | 4.34 | 79.5% | 92.2% |
| | | AIA | 17.24 | 9.20 | 8.06 | 53.3% | 87.7% |
| | Arrears | | 0.85 | 0.85 | 0.84 | 100.0% | 98.7% |
| | Vote 157 (NFA) Total | | 29.51 | 20.24 | 18.73 | 68.6% | 92.5% |
| Vote 302 (UNMA) | Recurrent Component | Wage | 7.41 | 7.41 | 6.63 | 100.0% | 89.4% |
| | | Non-wage | 4.40 | 4.18 | 4.17 | 95.1% | 99.6% |
| | Development Budget | GoU | 15.51 | 11.65 | 11.60 | 75.1% | 99.6% |
| | | AIA | 2.20 | 2.09 | 2.08 | 94.8% | 99.6% |
| | Arrears | | 0.03 | 0.03 | 0.03 | 100.0% | 100.0% |
| | Vote 157 (NFA) Total | | 29.55 | 25.36 | 24.50 | 85.8% | 96.6% |
| NWSC | Development Budget | AIA | 858.97 | 858.97 | 858.97 | 100.0% | 100.0% |
| Conditional Grants | Rural Water Development | Dev't | 48.29 | 48.29 | 44.10 | 100.0% | 91.3% |
| | | Recurren | 4.47 | 4.47 | 4.00 | 100.0% | 89.5% |

| Vote | Budget Category | | Approved budget [bn UGX] | Released | Spent | % of Budget Released | % release spent |
|---|---|---|---|---|---|---|---|
| to LG | | t | | | | | |
| | 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 | | 58.55 | 58.55 | 53.89 | 100.0% | 92.0% |
| KCCA | Development Budget | GoU | 0 | 0 | 0 | 0.0% | 0.0% |
| | | AIA | 0 | 0 | 0 | 0.0% | 0.0% |
| | Total KCCA | | 0.00 | 0.00 | 0.00 | 0.0% | 0.0% |
| OFF BUDGET | WSS | | 91.02 | 91.02 | 91.02 | 100.0% | 100.0% |
| | ENR | | 10.37 | 10.37 | 10.37 | 100.0% | 100.0% |
| | Off-Budget Total | | 101.39 | 101.39 | 101.39 | 100.0% | 100.0% |
| GRAND TOTAL | | | 1770.53 | 1726.67 | 1663.46 | 97.5% | 96.3% |

### *2.5.6 Grants to Local Governments*

The sector has four conditional grants of which two are development grants (Rural Water Development Conditional Grant and Sanitation Development Grant), while Urban O&M Grant and the Wetland Grant are recurrent grants. The Conditional Grants are transferred directly to the district local governments from Treasury. The annual budget for these grants was UGX 58.55 bn in the FY 2017/18. As agreed and promised by MoFPED, the LG conditional grant budget was released to local governments at 100% by the end of the 3rd quarter of the financial year. The FY 2017/19 absorption level rate stood at 92.1 % compared to 87.2% for the FY 2016/17.

Performance on each of the various categories of the grants varies as per the table 7. Although MoFPED has consistently provided and improved financial releases on time, reporting and absorption in some of the local governments is still low.

***Table 7: Conditional Grants to Local Governments FY2017/18***

| 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% |
| Vote 0580 LGs | | 58.55 | 58.55 | 53.89 | 100.0% | 92.0% |

Details of the disbursements to Local Governments are shown in **Annex 6.**

### *2.5.7 Budget performance of externally funded projects*

Table 8 shows the performance of the externally. Many projects did not perform well. For example Kampala Water Lake Victoria WATSAN Project had challenges of court cases and cost variations which took long to conclude.

***Table 8: Performance by externally funded projects***

| Project Title | Date of effectiveness | Initial Closure Date | LOAN Amount Committed (US$ m) | Amount Disbursed to by July 2018 | % of Original Lifetime Covered | % Disbursed | Remark |
|---|---|---|---|---|---|---|---|
| Water Supply and Sanitation Programme | 5-Oct-11 | 13-Dec-17 | 63.29 | 62.29 | 99% | 98.4% | Completed in June 2018 |
| Kampala Sanitation Programme Phase I | 28-Feb-10 | 31-Dec-14 | 53.19 | 43.6 | 129% | 82.0% | Extended for one year |
| Kampala Water Lake Victoria WATSAN Project | 28-April-11 | 30-Jun-15 | 108.18 | 48.68 | 129% | 45.0% | Extended to FY 2018/19 |
| Kampala Water Lake Victoria WATSAN Project | 28-April-11 | 23-Nov-17 | 108.18 | 48.68 | 70% | 45.0% | Extended to FY 2018/19 |
| Lake Victoria Environment Management Project II - 4531-UG | 25-Jan-10 | 30-Jun-13 | 27.5 | 27.07 | 182% | 98.4% | Completed in June 2018 |
| Water Management and Development Project | 8-Dec-13 | 31-Dec-18 | 135 | 95.3 | 55% | 70.6% | On-going |
| Multi-National Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF II) | 6-Jan-16 | 30-Jun-21 | 7.3 | 2.9 | 15% | 39.7% | On-going |

| Project Title | Date of effectiveness | Initial Closure Date | LOAN Amount Committed (US$ m) | Amount Disbursed to by July 2018 | % of Original Lifetime Covered | % Disbursed | Remark |
|---|---|---|---|---|---|---|---|
| Farm Income and Forest Conservation Project Phase II | 6-Jan-16 | 30-Jun-21 | 76.7 | 11.46 | 15% | 14.9% | On-going |
| Water Supply and Sanitation Programme WSP II | 11-May-16 | 30-Dec-20 | 92.12 | 35.8 | 10% | 38.9% | On-going |
| Total - Water Sector | | | 671.46 | 375.779 | | 56% | Ongoing |

The sector received funding from development partners including the World Bank, Arab Bank for Economic Development in Africa (BADEA), African Development Bank (AfDB), European Investment Bank (EIB) and French Development Fund (AFD). From these Partners, Government secured **USD 689.19 million** to finance **9 projects.** By the end June 2018, 56% (US$375.78million) had been disbursed to the 10 loans; which was an improvement from 40.2% (US$170.3million) in June 2017.

***Fiscal performance:*** 55.6% of the assessed projects had satisfactory fiscal performance and 44.4% were moderately satisfactory by June 2018. This was an improvement because two projects were completed. The proportion of projects ranked satisfactory increased from 40.2% in June 2017 to 55.6%.

***Physical progress*:** 56% of the projects were ranked on-track and 44% were moderately satisfactory.

Trends in budget performance over the years are shown in **Annex 5**

### *2.5.8 Challenges*

The key challenges in the implementation of the sector capacity development include (i) inadequate coordination and information sharing about planned and ongoing CD interventions in the various sub sectors (ii) the perception of training and capacity development as 'consumptive' item hence not eligible for development funding.

Appreciation of Monitoring and evaluation in some of the programs is low. The activities implemented sometimes are different from what is originally planned. The findings of monitoring do not influence the implementation of activities as the structure is not well entrenched into management of the sector.

The sector accumulated huge tax burden due to the change in VAT management. Though the ministry has tried to reduce the tax obligations the requirements are still above the project allocations.

## 3. JOINT SECTOR REVIEW UNDERTAKINGS 2017

The report on the progress of the implementation of the undertakings is below:

***Undertaking 1: Continue with the implementation of the ongoing undertaking of mainstreaming ENR and Climate Change into agriculture, infrastructure, lands, energy and water sectors in order to achieve reduced contributions to degradation by these 5 sectors by the end of FY 2017/18.***

The following has been achieved

- Task teams to spearhead the stakeholder engagement constituted;
- Hold stakeholder consultative meetings is ongoing;
- TORs finalized and recruitment of a consultant ongoing;
- Preparation of a mainstreaming checklist completed; and
- Preparation of mainstreaming guidelines ongoing.

Constraints to Implementation

- Limited sector information on environment mainstreaming to effectively track performance; and
- The multi sectoral nature of stakeholders requires a lot of time and lengthy discussions.

Next Actions

- Procure a consultant to develop the guidelines; and
- Engage the sectors and other stakeholders to prepare the guidelines.

This undertaking was partially achieved

***Undertakings 2 &12: Commence implementation of new Sector Performance Measurement Framework in the Sector by the end of FY 2017/18.***

The following has been achieved

- 7 sub-committees according to the thematic areas under the sector formed;
- 2 meetings held to clarify on the data to be used and calculation of indicators for the SPR; and
- Baselines and 2030 targets for the 24 investment-related indicators determined.

Constraints to Implementation

- Difficulties in coming up with baselines and targets especially for the new/revised indicators
- Undertaking has received low prioritization within MWE departments

Next Actions

- Hold an internal workshop to further sensitize sector on these new/revised indicators
- Aim at reporting on all indicators in the next reporting cycle

This undertaking was partially achieved

***Undertaking No.3: Integrating climate change adaptation and source protection measures in the water and environment sector work plan and budget for implementation in the financial year 2018/19***

The following has been achieved

- Government of Uganda issued Budget Call Circulars directing all MDAs and LGs to mainstream climate change into annual work plans and budgets for 2018/2019;
- The Permanent Secretary, Ministry of Water and Environment issued planning guidance for 2018/2019 setting a side 3% of water projects budgets to cater for source protection measures, Environment and Natural Resources, and climate change mainstreaming;
- Climate Change Department staff trained in integrating climate change adaptation and source protection measures in the water and environment sector work plan and budget;
- Screening tools for integrating climate change for Local and Central Government developed
- Implementation of climate change Adaptation projects in the MWE is ongoing.

Constraints to Implementation

- Weak or coordination mechanisms;
- Low stakeholder engagement and consultation necessary to galvanize stakeholders to take sustainable actions in integration of climate change adaptation into MWE;
- Inadequate monitoring and support supervision for the integration process in the MWE components.

Next Actions

The ministry of Water and environment has secured indicative support from the Austrian Development Agency towards mainstreaming of climate change adaptation into its interventions beginning in 2018/2019 financial year. This support will contribute to;

- Establishment of climate change mainstreaming coordination structures;
- Procurement of mainstreaming consultants;
- Dissemination of mainstreaming guidelines;
- Development of climate change mainstreaming monitoring framework; and
- Implementation of mainstreaming activities.

This Undertaking was largely achieved

***Undertaking 4: Operationalise the proposed coordination, implementation and funding mechanisms for catchment-based IWRM in at least 8 catchments in the 4 WMZs by end of FY17/18***

The following has been achieved

- Catchment Management Organisation Procedures Manual developed;
- Guidelines for establishment of coordination mechanisms for catchment-based IWRM at Sub-catchment and Micro-catchment levels developed;
- Proposed coordination and implementation mechanisms for catchment-based IWRM at catchment level operationalized in 9 catchments (Aswa, Albert Nile, Maziba, Awoja, Mpanga, Semliki, Lokok, Lokere and Rwizi);
- Proposed coordination and implementation mechanisms for catchment-based IWRM at sub-catchment level operationalized in 4 catchments (Aswa, Albert Nile, Maziba and Awoja);
- Proposed coordination and implementation mechanisms for catchment-based IWRM at micro-catchment level operationalized in 5 catchments (Rwizi, Mpanga, Semliki, Aswa and Awoja); and

- Proposed funding sources and mechanisms for catchment-based IWRM operationalized in 9 catchment (Rwizi, Mpanga, Maziba, Aswa, Awoja, Albert Nile, Semliki, Lokok, Lokere) in 4 WMZs.

Constraints to Implementation

- Inadequate staff numbers; and
- Inadequate funds.

Next Actions

Operationalization of coordination structures and funding mechanisms in all catchments in the country.

This undertaking was largely achieved

***Undertaking 5 Finalize and pilot the national framework for drinking water quality management and regulation in the four WMZ by the end of financial year 2017/18.***

The following has been achieved

- Lessons and experiences from Austria water sector incorporated and the final national framework submitted;
- Policy, legal and institutional recommendations of the national framework incorporated into the draft water policy and water bill; and
- Initial discussions held with WHO UNICEF for seed funding for piloting.

Constraints to Implementation

- Initiate pilot of the national framework in four water management zones.

Next Actions

- Secure seed funding and initiate pilot of the national framework for drinking water in four water management zones; and
- Publish and disseminate the national framework for drinking water monitoring and regulation.

This Undertaking was partially achieved

***Undertaking 6:Improve utilization of existing water for production facilities and expand the data management system to amongst others demonstrate increased agricultural production by the end of FY 2017/18.***

The following has been achieved

- In FY2017/18, Sixteen (16) small scale irrigation systems were installed at the existing WfP facilities. Works are ongoing for construction of twenty one (21) more Small scale Irrigation schemes.
- Six (6) Sociologists were trained in agriculture farmers based and institutional management approaches.
- The department established 40 FFS at WfP facilities in the Districts of Sembabule, Kiboga, Mubende, Luweero, Nakaseke and Nakasongola.
- In FY 2017/18, 30 WfP facilities were constructed with water delivery systems to the farmers

- Available database manuals were reviewed, consultations with key stakeholders carried out and gaps identified and documented.
- Consultant was procured
- New districts included in the database
- Final data collection form with new parameters developed
- Different roles in the database for users, data entrants and administrators created.
- Shape files of districts and sub-counties from UBOS uploaded and programing web interface to display the map with data done
- The crop production at Small scale Irrigation schemes using valley tank sources which were previously only utilized for livestock watering, has been boosted. The farmers are now growing a variety of crops and vegetables (onions, cabbages, tomatoes, egg plants etc) and nurseries for tree seedlings

Constraints to Implementation

- Limited funding to support installation of small scale irrigation systems and established of farmer field schools at the existing /old WfP facilities.
- Understaffing especially to support establishment of farmer field schools by technically trained and competent officers.
- Rigid and slow data collection tools (data collection forms) .
- Creation of new administrative units (districts, sub-counties, parishes and villages).

Next Actions

- Annual data update.
- Installation of more small scale irrigation systems.
- Establishment of more FFS at the old/existing WfP facilities.

This undertaking was partially achieved

***Undertaking 7 Establish the Bulk Water Unit by the end of FY 2017/18:***

The importance, objectives and outputs of this undertaking have remained unclear and cannot be achieved within a period of execution of this undertaking.

This undertaking was not achieved

**Undertaking 8: Implement the criteria for the transfer of water and sanitation schemes to NWSC and regional umbrella utilities and also demonstrate their respective performance improvements by the end of FY2017/18.**

The following has been achieved

- Current guidelines and criteria for gazetting schemes to NWSC have been reviewed and challenges have been documented;
- Performance review meetings have been carried out with participation of Umbrella Authorities and selected managers of NWSC schemes; and
- Proposed criteria for the transfer of towns to Umbrella Authorities developed.

Constraints to Implementation

- Evaluation of town water supply and sanitation schemes by NWSC, WSDFs and Umbrella Authorities before the preparation of gazettes without the involvement of the WURD;
- Erroneous data that is uploaded into UPMIS that makes it difficult to properly analyse the performance data; and

- Political interference in the appointment of a water authority for some towns has also hindered the implementation of the strategy.

Next Actions

- Increase the involvement of the WURD in the evaluation of feasibility of water and sanitation supply schemes before they are gazetted and water authorities are appointed.
- Circulate and popularize the performance review reports that have been prepared to highlight the areas that have registered improvements and well as areas where they have underperformed.

This undertaking was partially achieved

**Undertaking 9: Finalize and commence implementation of the one source per village /cell strategy (Central, NWSC, District Local Government) by the end of FY 2018/19.**

The following has been achieved

- All District Local Governments were trained in water mapping and updating of databases;
- As of June 2018, 38,207 LC1 villages out of a total of 57,974 villages in a country had a safe water source representing coverage of 66%;
- A District Investment Planning strategy was developed for all DLGs and lower LG staff with investment requirement of UGX 6.3 trillion;
- The SCAP100 is under implementation under NWSC. Substantial progress registered so far in pipelines laid and new connections;
- The 2017 Revised Uganda Water Atlas was launched. The revised atlas is also available on *www.mwe.go.ug*
- The report has been compiled. Dissemination of the findings is included in this Sector Performance Report

Constraints to Implementation

- The Undertaking is being implemented by two different central institutions viz NWSC and MWE – DWD with action centres in District Local Governments.
- There is a mix up in reporting on cells in urban areas as villages, and therefore the level of implementation in terms of numbers covered mixes cells (in urban areas) and Local Council 1 villages in the rural areas
- The investment requirements are not comparable with the available funding but provide a basis for resource allocation.

Next Actions

- The first part of the undertaking completed (SCAP100, SSIM, SSIP2030, DIPs). Challenge is implementation and monitoring as this will take considerably long time. Use of an indicator as a performance measurement framework in this Sector Performance Report has greatly improved the monitoring aspect of the implementation of the undertaking.

The undertaking was achieved

**undertaking No. 10: Reinstate a budget line for software activities under the district water and sanitation conditional grant by the end of FY 2018/19.**

The following has been achieved

- Steering Committee established
- Concept note/ proposal to support undertaking developed
- Two Steering committee meetings to discuss proposal and action plan held
- Consultation with stakeholders including districts, Technical Support Unit Staff and MWE staff undertaken
- Proposal Submit to MoFPED and LGFC.(6th September 2018) Yet to hold discussions

Next Actions

- Follow up with MoFPED to hold negotiations (September 2018); and
- Dissemination of the reinstated/ approved software budget line guidelines. (October 2018).

This undertaking was partially achieved

**Undertaking 11: Develop water and sanitation planning, implementation and O&M framework for refugees and host communities by the end of FY 2017/18**

The following has been achieved

- The development of a comprehensive water supply, sanitation and hygiene water master plan for at least one settlement in the West Nile region was overtaken s by the Comprehensive Refugee Response Framework which is a requirement by all key sectors working in the refugee environment.
- The ToR have been developed and are ready for call of consultancy services to undertake the study
- Four studies related O&M of facilities in the refugee settlements were conducted. An abridged summary report that captures the recommendations in each of the studies is under review.
- Discussions are underway with NWSC taking management of Rwamanja settlement water supply in Kamwenge District as means of rolling out some of the key recommendations from the abridged summary report

This undertaking was partially achieved

**Undertaking 14: Finalize the accreditation requirements for the Ministry of Water and Environment as the National Implementing Entity (NIE) for access to financing from the Adaptation Fund (AF) and the Green Climate Fund (GCF) by the end of FY 2017/18.**

The following has been achieved

- TOR prepared and approved by the ATWG.
- Procurement of consultants finalized and work started.

Constraints to Implementation

- Long procurement process which resulted in delayed consultation of stakeholder.

Next Actions

- Final stakeholder consultations for the three drafts,
- Final approval of the drafts by the Senior Management
- Submission to the Adaptation Fund Panel and Green Climate Fund Secretariat respectively by mid October 2018.

This undertaking was partially achieved

# 4. RURAL WATER SUPPLY

## 4.1 Introduction

The Uganda Bureau of Statistics projected Uganda's population to be 38,669,810 persons by mid-year 2018 at an average annual growth rate of 3.0 percent with 80 percent (30,967,593 persons) living in rural areas.[2] The provision of rural water supply and sanitation covers communities or villages (at the level of Local Council 1 (LC1) with scattered population in settlements up to 1,500 people, and Rural Growth Centres (RGCs) with populations between 1,500 and 5,000.

The main technology options used for water supply improvements in rural areas are summarized in the Table 9.

***Table 9: Categories of safe water supply technology as of June 2018***

| Source of water | Number | No. of persons served | % |
|---|---|---|---|
| **Deep boreholes** | 40,233 | 12,069,900 | 44% |
| **Shallow wells** | 21,567 | 6,470,100 | 23.6% |
| **Protected springs** | 28,908 | 5,781,600 | 21% |
| **Tap stands** | 19,885 | 2,982,750 | 11% |
| **Rainwater Harvest Tanks** | 20,187 | 121,122 | 0.4% |
| **Total** | **130,780** | **27,425,472** | **100%** |

***Source: Uganda Water Supply Database, June 2018***

The table indicates that the rural population is predominantly served by the borehole technology. However, according to SDG No.6, it is a commitment to achieve universal and equitable access to safe and affordable drinking water for all by 2030 which can only be achieved through piped water supplies. Therefore there is urgent need to invest heavily in piped water supplies in order to raise the percentage of persons served by piped water supplies in rural areas from the current 11% up to 50% by 2030.

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

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

These programmes are implemented through district local governments based on work plans and budgets approved by MWE. The DWSDCG finances construction of water supply and sanitation facilities, community sensitization and mobilization in rural areas. The 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. Details of the allocation per district are shown in Annex 7.1.

***Achievements under DWSDCG for FY 2017/18***

District Local Governments planned to implement a total of 2,567 water sources and a total 79 sanitation facilities but achieved a total of 2,380 (93%) water sources and a total 50 (63%) sanitation facilities. A total of 390,178 persons were served with safe water sources. Table 10 below shows the targets and achievements under the DWSDCG

[2] Uganda Bureau of Statistics, 2016; Abstract Statistical Report

***Table 10: Targets and achievements under the DWSDCG for 2017/ 2018***

| Type of water source | 2017/18 | | taps | % Achieved | No. of persons per source | Persons served |
|---|---|---|---|---|---|---|
| | Planned[3] | Achieved | | | | |
| Protected springs | 174 | 167 | | 96% | 200 | 33,400 |
| Boreholes | 863 | 756 | | 88% | 300 | 226,800 |
| Piped Water Systems | 77 | 70 | 861 | 93% | 150 | 129,150 |
| Rainwater Harvesting Tanks 10m$^3$ | 136 | 138 | | 101% | 6 | 828 |
| Valley Tanks | 10 | 9 | | 90% | | |
| Dams | 1 | 1 | | 100% | | |
| Rehabilitation of water sources | 1,306 | 1,239 | | 102% | | |
| **Grand Total** | **2,567** | **2,380** | | **93.00%** | | 390,178 |
| Sanitation facilities (Public) | 79 | 50 | | 63% | | |
| Designs of Piped Water Systems | 56 | 44 | | 79% | | 0 |

Details of the status of water sources by district are shown in **Annex 8**.

The physical performance of 93% for water supply hardware facilities is attributed to the timely procurement whereby 70% of DLGs had signed contracts for water activities by January 2018. In addition, release of 100% of the DWSCDG to the DLGs by the first month of the 4$^{th}$ Quarter facilitated contract management for the water activities. However a total of UGX 6.5billion remains unaccounted for because 14No. DLGs failed to submit annual reports as of August 2018 (Buvuma, Kamuli, Kotido, Rukungiri, Ntoroko, Kasese, Butebo, Sironko, Bududa, Manafwa, Ngora, Amuria, Alebtong, and Pakwach).

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

During the FY 2017/18, the activities implemented through centrally managed projects by MWE are outlined in Table 11. These activities include the construction of large gravity flow piped water systems, solar powered mini-piped water supply systems based on groundwater, and boreholes fitted with hand-pumps. A total of 141,760 persons were served with MWE central government interventions. Borehole rehabilitation restored water supply to 69,600 persons in rural areas.

[3] This report is a reflection of 83 DLG out of the 121. Therefore, 38 DLG had not submitted their DLG report to the Department of Rural Water Supply and Sanitation.

***Table 11: Performance of development projects managed by MWE***

| Description | Target | Achieved | Comment |
|---|---|---|---|
| **Construction of Large Gravity Flow Schemes** | | | |
| Nyarwodho GFS-Phase II in Nebbi district | 70% | 95% | Construction works for Nyarwodho Phase II designed to serve a population of 23,360 persons in Jonam and Padyere Counties were substantially completed and successfully promoted **415** household connections. |
| Bududa – Nabweya GFS in Bududa District Phase II | 100% | 95% | Construction works for Phase II substantially completed to serve a population of 37,156 through 400 promotional connections. |
| Bukwo GFS in Bukwo District Phase II | 70% | 95% | Construction works for Phase II substantially completed to serve a population of 13,440 through 560 promotional connections. |
| Rwebisengo Kanara GFS in Ntoroko District | 40% | 50% | The scheme is targeting a population of 67,649 persons and plans to promote 2,500 households connections. |
| Nyamiyonga- Katojo Water Supply System in Isingiro District | 50% | 60% | The system targets a population of 30,000 persons and is expected to connect 700 households to safe and clean water. |
| Nyabuhikye- Kikyenkye GFS in Ibanda district | 30% | 45% | Construction works on schedule and the scheme is targeting a population of 45,105. |
| Lirima GFS in Manafwa District Phase II | 60% | 36% | The scheme targets a population of 179,000 persons and is expected to connect 1,700 households to safe and clean water. Delays by the contractor to mobilise on site. |
| Bukedea GFS in Bukedea District | 30% | 10% | The scheme targets a population of 262,343 persons and is expected to connect 2,700 households to safe and clean water |
| Shuuku Masyoro GFS in Sheema District | 75% | 10% | The scheme targets a population of 55,105 persons and is expected to connect 2,000 households to safe and clean water. Administrative review during the procurement process delayed contract signing. |

| Description | Target | Achieved | Comment |
|---|---|---|---|
| Bukedea Upper Sipi in Kapchorwa, Bulambuli and Bukedea GFS | - | - | The system targets a population of 17,500 persons and is expected to connect 200 households to safe and clean water. |
| Kabuyanda Water Supply System in Isingiro District | - | - | Contract signed and site handed over to contractor. |
| Lukalu-Kabasanda GFS in Butambala district | 100% | - | Contract signed but site yet to be handed over to the contractor. Delays to finalise the design documents. |
| Orom GFS | 15% | - | Orom water supply design review was completed; however, the supply will be based on ground water sources rather than Gravity Flow Scheme because of the low yields for the proposed GFS source. Bid documents completed for submission to African Development Bank for no objection. |
| Nyamugasani GFS in Kasese District | - | - | Design review as well as the ESIA study ongoing. |
| Potika Gravity Flow Scheme in Lamwo District | - | - | Detailed feasibility and design Study completed and design reports submitted. |
| Bwera GFS in Kasese District | - | - | Detailed feasibility and design Study completed and design reports submitted. |
| Kahama Phase II in Ntungamo District | - | - | The contract was signed and works are scheduled to commence in FY 2018/19. |
| **Solar powered Solar Powered mini piped schemes** | | | |
| Solar Powered mini piped systems | 40 | 30 | Construction works for 30 sites ongoing and physical performance is estimated at 75%.<br><br>Designs and tender documents for the 40 solar sites completed. Works to be tendered out in September 2018. |
| **Rain Water Harvest Tanks** | | | |
| Ferro cement tanks, Plastic tanks and Communal | 900 | 613 | **613** tanks were constructed that included 164 ferro cement tanks, 171 plastic tanks and 22 communal tanks with varying capacities from 10, 8 and 6 cubic meters. These tanks were able to serve 3,330 |

| Description | Target | Achieved | Comment |
|---|---|---|---|
| | | | persons. |
| **Drilling of Boreholes** | | | |
| New Boreholes with hand pumps and productions wells ( including 5 large diameter wells in Nakasongola) | 300 | 226 | Drilled boreholes with hand pumps and production wells in water stressed areas are serving **67,800** persons. |
| **Rehabilitation of Chronically Broken down boreholes** | | | |
| Rehabilitation of Boreholes | 232 | 232 | 232 boreholes were rehabilitated and water supply restored for **69, 600** persons. |

**NB:** 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.

*Commissioning Lirima water treatment Plant and Ground breaking for Lirima Phase II in Namisindwa District: Commissioner, Rural Water Supply Department, explaining the design to H.E. President Yoweri K. Museveni*


*Ground breaking of Kikyenkye- Nyabuhikye Gravity Flow Scheme by H.E. President Yoweri K. Museveni and State of Minister for Water, Hon. Ronald Kibuule in Ibanda District*

### *4.2.3 Technical Support to Local Governments*

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. Please refer to the new map showing geographical location of each TSU in the **Annex 12**.

***Key activities implemented under the Technical Support to DLGs***

***Coordination of Negotiations with ULGA on DWSCDG*:** Negotiations with Uganda Local Government Association (ULGA) on grant implementation guidelines for FY 2018/19 were successfully conducted and concluded with signed minutes in September 2017. The agreed actions by parties were reviewed in April 2018.

***Conducted District Water Officers' meeting*:** The MWE organized and held the annual District Water Officers meeting during the month of November 2017 in Mbale. The meeting was aimed at assessing performance as well as sharing experiences in the implementation of water and sanitation programmes in DLGs. 90% (105) of the district water officers participated. The participants agreed that the most pressing issues in DLGs included inadequate non-wage recurrent budget, lack of capacity in borehole drilling supervision and the lack of transport facilities. The meeting resolved that MWE should engage MoFPED to ensure the recurrent budget is increased to 14% and also fast track the JSR undertaking to emphasize software mobilization.

***TSU performance evaluation review*:** The TSU performance evaluation meeting was conducted in November 2018 to review the quarterly performance of TSUs during July – September 2017 period. Participants included TSU, MWE Staff and District. The meeting highlighted inadequate funds for O&M of water & sanitation facilities in the DLGs due to reduced grant allocation to district most specifically the nonwage budget, lack of transport and the delays in the procurement processes in the districts as the key factors affecting timely service delivery and absorption of funds.

***Support to improve District Local Governments Staffing levels for FY 2017/18:*** TSUs followed up with and supported their respective districts on a monthly basis to establish staffing levels and give technical guidance where staffing gaps were identified. The districts without DWOs were identified and advised on recruitment options. As at 30th June 2018, out of the 127 districts, 82 districts (65%) had substantive DWO up from 57% in FY 2016/17. In addition, 17 districts (13%) had DWOs doubling as District Engineers an improvement from 25% in FY 2016/17. These staffing challenges in DLGs affect Water Grant planning, budgeting, implementation and reporting of activities. Figure 10 shows DLG staffing levels.

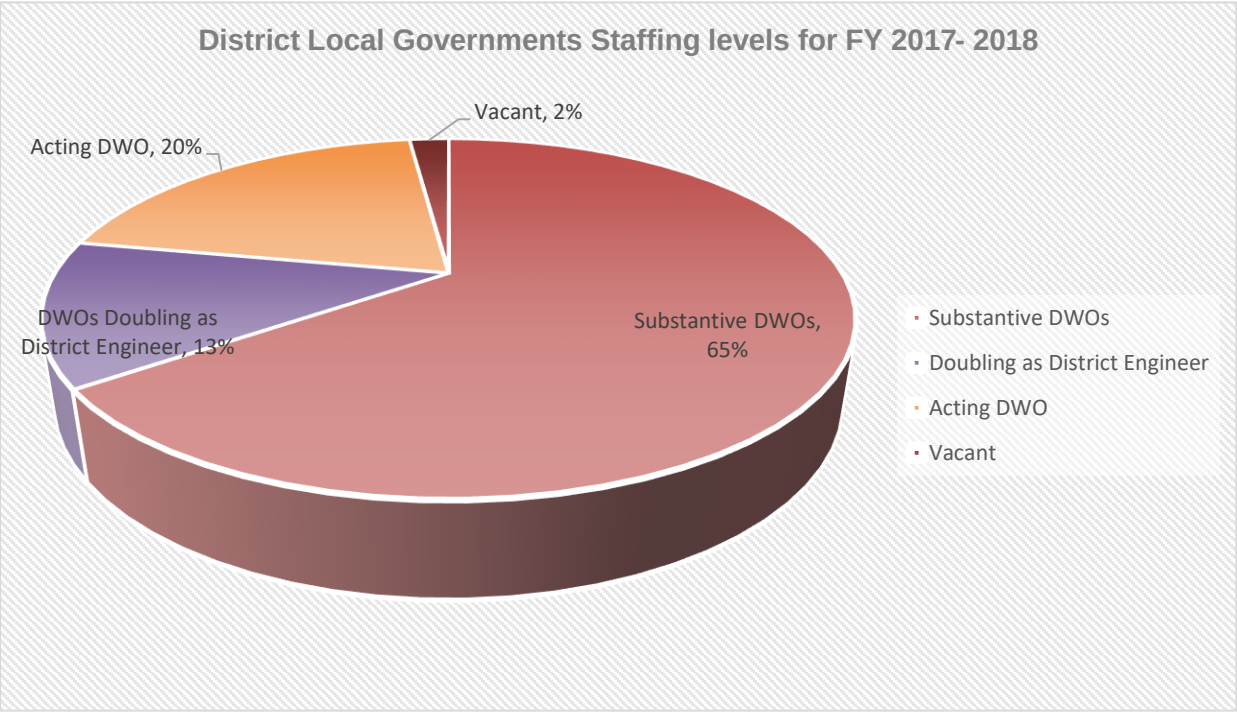
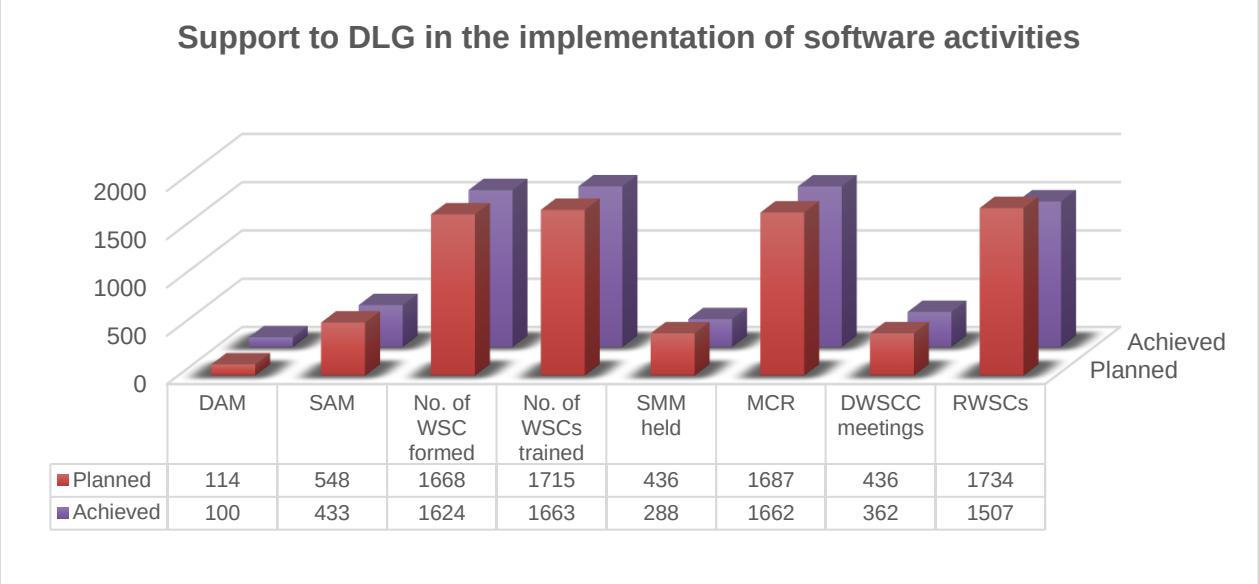



*Figure 10:* ***District Local Governments Staffing levels for FY 2017 -2018***

**Support districts in planning, coordination and implementation of software activities:** TSUs supported DLGs 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 2017/18, TSUs supported and ensured that 87% of the planned software activities were implemented as compared to 67% achieved in FY 2016/17. Figure 11 shows progress in implementation of software activities supported by TSUs.




| | DAM | SAM | No. of WSC formed | No. of WSCs trained | SMM held | MCR | DWSCC meetings | RWSCs |
|---|---|---|---|---|---|---|---|---|
| Planned | 114 | 548 | 1668 | 1715 | 436 | 1687 | 436 | 1734 |
| Achieved | 100 | 433 | 1624 | 1663 | 288 | 1662 | 362 | 1507 |

***Figure 11: Progress in implementation of software activities supported by TSUs***

**Physical Verification of reported district outputs:** TSUs supplement accountability in DLGs through regular monitoring of the activities of the Districts and Sub counties. This was done through physical verification of water and sanitation facilities as reported by DLGs. For the FY 2016/17, 75% of the facilities reported by districts were verified down from 81% achieved for FY 2015/16. The fall in number of water and sanitation facilities verified is partly due to inflation that affected fuel prices and the unfavourable weather conditions making some roads impassable.

### *4.2.4 Appropriate Technology Centre for Water and Sanitation, Mukono*

Appropriate Technology Centre for Water and Sanitation (ATC) continued to conduct applied research, training and development of capacities of sector actors and promotion of appropriate water and sanitation technologies for the FY2017/18. The achievements by the ATC during the year under review are summarised in line with the Centre's objectives as follows:

***Production of low cost sanitary pads for bridging the technological gap in Menstrual Hygiene Management in schools*:** The ATC continued with bulk production of sanitary pads from waste papers and banana stems. Throughout the year, two research assistants produced a total of 2932 sanitary pads. These pads were distributed in the nearby schools of Bishop West Mukono and Misindye Church of Uganda primary school. In addition, individuals who visited the Centre for learning purposes bought off some of the pads. This project of sanitary pads production was intended to directly benefit girl children hailing from poor family background as a way of supporting their school retention as well as catalyse their teaching and learning. However, in-school production of sanitary pads was limited by lack of resources to facilitate the

planned activities.

***Briquetting of organic waste as an alternative to wood fuel*:** Briquetting of organic waste was undertaken by ATC as an initiative to concretize possible solutions to the rampant environmental degradation in the country. During the FY 2017/18, 62 prisoners at Kauga prison (20 females: 42 males) were trained in briquetting and in a three weeks intensive training exercise, 25 bags of briquettes (50kgs each) were produced.

In addition, a Knowledge, Attitude and Practices (KAPs) study was carried out to assess communities' readiness to adopt briquettes in place of wood fuel. The study that was conducted in Mukono indicated that knowledge was still very low, attitudes negative and practices equally low. People are still in the comfort zone of old practices i.e., looking at organic waste as waste, briquettes as not viable and thus the high preference for continued use of charcoal partly because it cooks faster. As a way forward, the study recommended government to taken on stringent measures to ensure uptake of briquettes by communities since research finds them a viable and eco-friendly alternative.

***Vermiculture and closing the sanitation loop:*** In a bid to provide technological solutions to sanitation challenges in the country, the ATC continued vermiculture i.e. growing of earthworms to be used for managing faecal sludge using tiger toilet technology that is suitable for peri-urban soils with fair percolation. Worms are both fed on degradable organic wastes and faecal sludge. Monitoring results indicated that the conversion rate of feeds into compost is 80% and seven months of close monitoring indicated an increase of 7.7cm from 3 cm.

In the same period, the ATC carried out an experiment of growing tomatoes using the harvested vermicompost. A control plot was set up using soil other than vermicompost to compare results. Results from plots of the same size indicated that the control plot had 2.81kg of tomatoes and 12.83kg of tomatoes from the plot with vermicompost. Such promising results warrant need to carry out an experiment on a wider piece of land to validate the findings.

***Piloting the Joint Monitoring Program (JMP) Tool for Water, Sanitation and Hygiene (WASH) in Schools*:** The ATC in partnership with University at Buffalo (USA), UNICEF - USA and WaterAid carried out a field-testing of the JMP tool for monitoring WASH in schools. The focus was on assessing the extent to which the tool accurately measures aspects of equity and inclusion to water, hygiene and sanitations services i.e. catering for the needs of learners with disabilities. The pilot that was carried out in 27 schools in Mukono, Wakiso and Kampala indicated that the tool could not accurately measure issues of WASH for learners with specific disabilities i.e. those with visual impairment and physical disabilities. Besides the shortcomings associated with the tool itself, the study revealed that catering for WASH needs of learners with disabilities has not been fully embraced by schools. There is little appreciation and knowledge of how best they can do it and thus gap may continue to exist unless affirmative legislations are implemented. Results of this pilot were disseminated during the 2017 WEDC conference held in Loughborough.

***Technology reference and Learning Centre*:** As a one-stop technology reference and learning Centre, the ATC hosted visitors from within and outside Uganda. This year, the Centre hosted 119 visitors from organizations such as USAID, Samaritan Purse, KARITAS Uganda, World Vision, Ministry of Health, GRANDFOSS and secondary schools from within Mukono in addition to universities i.e. Makerere – School of Public Health, UIAHMS Mulago, Uganda Christian University and University at Buffalo USA. Besides the Centre has continued to exhibit appropriate technologies on different sector forums i.e. Global Hand Washing Day to allow participants an opportunity to learn.

***Promotion of rainwater harvesting using revolving fund:*** Promotion of rainwater harvesting using revolving is one of the identified approaches to accelerate public private investment in WASH. The ATC is piloting this approach partnership with District Local Governments (DLGs) and four NGOs i.e. Katosi Women Development Trust (KWDT), Shuuku Development Foundation, Busoga Trust (BT) and Uganda Muslim Rural Development Association (UMURDA). The MWE sent seed money to these NGOs and individual households and institutions in the districts of Mukono, Sheema, Kaliro and Namayingo respectively are accessing this

money as soft loans for rainwater harvesting.

For this reporting period, the ATC carried out monitoring of this project in the districts of Kaliro and Namayingo. Results indicated that; at first the project was challenged by people's fear to take loans and reluctance by those who had borrowed to repay the loans. Reluctance to repay the loans was attributed to the fact that this is government money and people expected government to give them donations as opposed to loans. However, with continuous sensitization and collaboration of implementers with the district authorize, people's perceptions have gradually changed.

### *4.2.5 UNICEF WASH Interventions*

UNICEF has continued to support Government of Uganda to deliver WASH services to the Ugandans, refugee settlements and host communities through provision of water systems, rehabilitation of existing sources, supporting establishment and activation of management structures of water and sanitation facilities, promotion of improved sanitation through Community Led Total Sanitation (CLTS) and construction of institutional latrines, hygiene promotion and support to water quality monitoring.

In the FY 2017/18, UNICEF's supported an estimated number of 380,930 persons in refugee settlements and host communities through the construction and rehabilitation of water facilities in communities, schools, emergency wash interventions and hygiene and hygiene promotions. Supported the rehabilitation of boreholes and piped water systems and restored supply to 64,850 persons at a cost of 831,393,138 as per Table 12.

***Table 12: Water facilities Constructed and Rehabilitated in FY 2017/18***

| Activity | Number achieved | Locations | Number of persons served | Direct cost (UGX) |
|---|---|---|---|---|
| Rehabilitation of boreholes | 179 | Amudat, Wakiso, Moyo, Adjumani, Bulissa, Hoima, Kiryandongo, Arua, Napak, Kotido, Kaabong, Kagadi, Nakapiripirit, Moroto, and Nebbi districts | 52,350 | 703,803,790 |
| Rehabilitation of piped water systems | 2 | Isingiro and Rubiziri districts | 12,500 | 127,589,348 |

***WASH in institutions (Schools and health care facilities):*** UNICEF supported construction of latrine facilities in schools serving 12,000 persons at a cost of 585,795,708 as shown Table 13.

***Table 13: Institutional latrines constructed by UNICEF***

| Activity | Number achieved | Locations | Number of persons served | Direct cost (UGX) |
|---|---|---|---|---|
| Construction of School latrine blocks | 20 | Iganga, Kamuli, and Yumbe districts | 4,000 | 488,223,708 |
| Construction of school latrine blocks in health facilities | 5 | Iganga district | 8,000 | 97,572,000 |

**Emergency WASH interventions:** UNICEF supported emergency intervention through construction of motorised water supply systems in refugee settlements and host communities serving 115,000 persons at a cost of 7,155,245,670 as shown in Table 14.

***Table 14: UNICEF water supply interventions in refugee settlements***

| Activity | Number achieved | Locations | Number of persons served | Direct cost (UGX) |
|---|---|---|---|---|
| Construction of motorised water systems | 9 | Yumbe, Arua and Adjumani districts | 115,000 | 7,155,245,670 |

Provided comprehensive WASH services to approximately 145,000 South Sudanese refugees in Kiryandongo, Arua, Lamwo and Adjumani districts.

***Sanitation and Hygiene promotion*:** UNICEF supported promotion of sanitation activities using CLTS approach in 19 districts of Ntungamo, Kanungu, Kabale, Rubiziri, Iganga, Buvuuma, Wakiso, Ntungamo, Gomba, Lamwo, Agago, Kitgum, Pader, Kiryandongo, Amudat, Kotido, Kaabong, Nakapirpirit and Napak through which 568 villages were triggered of which 94 were certified open defecation free (ODF).

***Other activities:*** Supported Uganda Red Cross Society (URSC) and district partners in the containment of cholera outbreaks in three districts of Kasese, Hoima and Kyegegwa through provision of supplies, funds for social mobilisation and communication for development.

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

- Supported the Ministry of Water and Environment in developing a comprehensive workplans to remove WASH bottlenecks using WASH BAT tool in the of Adjumani, Arua, Moyo, Adjumani and Nebbi.
- Supported Ministry of Water and Environment in the training district officials under TSU 1 and TSU 6 on the use of hand washing with soap behavioural change communication tool kit.
- Supported the training Hand Pump Mechanics, and orienting HPMA on Community Based Maintenance persons on O&M in Kotido, Napak, Kaabong, Abim, Nakapirpirit, and Moyo districts.
- Supported Ministry in the review of the Environmental Health Strategic Plan.
- Supported Ministry of Education and Sports in the development of three-star approach for guiding the promotion of schools WASH intervention.

## 4.5 Status and trends of key indicators for rural water and sanitation

### *4.5.1 Percentage of population using an improved drinking water source*

This indicators refers to the percentage of population using an improved water source. The computation of access excludes non-functional water facilities (which are reported to be down for more than 5 years). The average access per district as of June 2018 is shown in Figure 12. The formula used to compute access is shown in **Annex 4**.

The percentage of population using an improved water source was 70%. There was no change in coverage from that of June 2017. However, the analysis shows that 67% of the districts had a population using an improved water source compared to 65% of the districts in FY 2016/17.

Details of rural access, functionality and equity are shown in **Annex 7.**

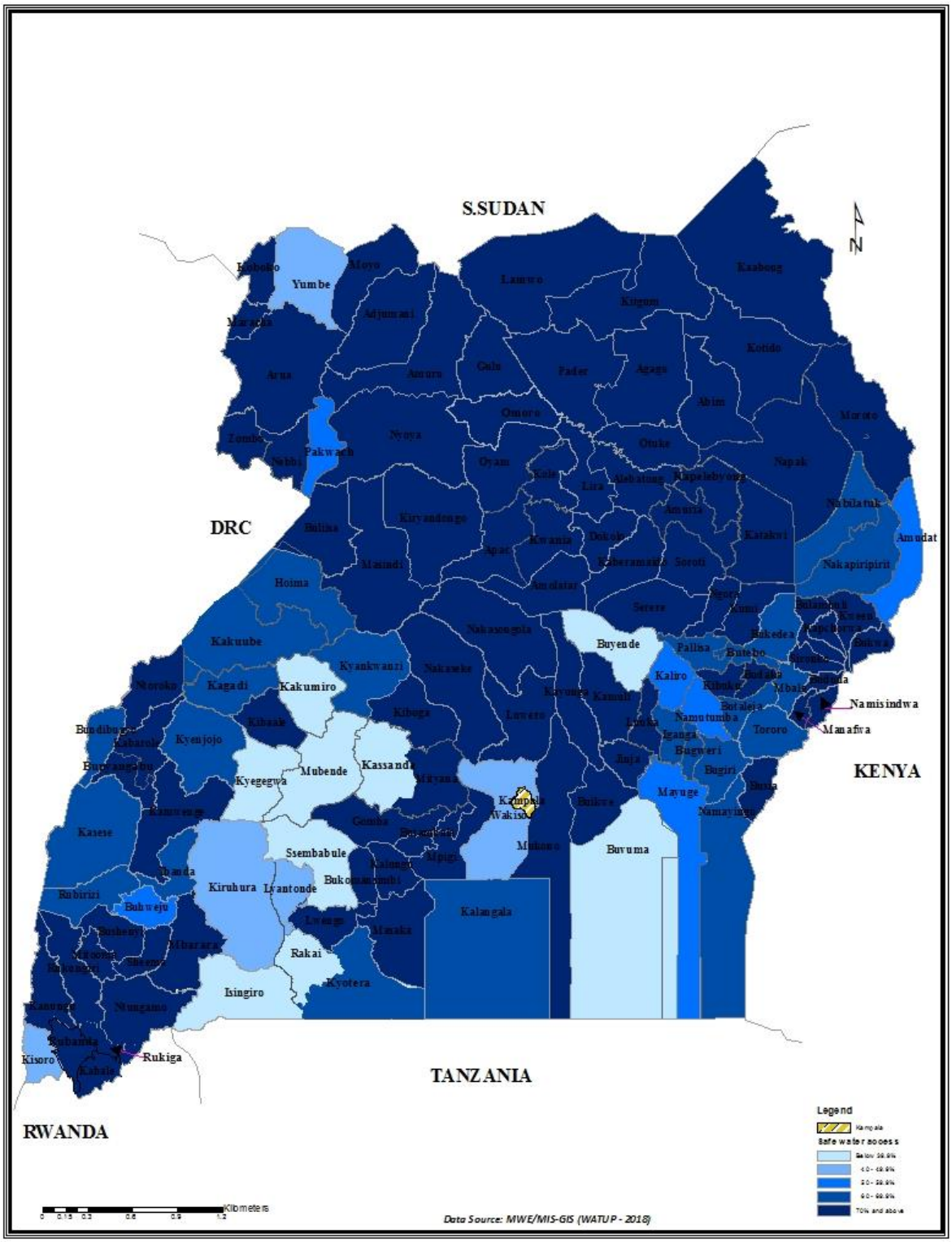



***Figure 12: Population using an improved drinking water source***

### *4.5.2 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 (LC1). The water supply atlas indicates that out of the 57,974 villages recorded, only 66% (38,183) of the villages had valid safe water sources. This excludes towns covered by NWSC and all water sources that are non-functional for the last 5 years and those recommended for decommissioning. Details are shown in Annex 7.3.

Although the number of villages increased from 57,585 in FY 2016/17 to 57,974 in FY 2017/18, the number of villages with a valid water source increased from 64% in FY 2016/17 to 66% in 2017/18. This was as a result of the following measures:

- The districts were supported technically by the TSUs to come up with District investment plans. These plans were able to clearly guide the districts in identifying the areas that needed to be prioritized in the next year's investments in order to achieve equity in the districts.
- The piped schemes constructed provided a backbone of infrastructure that has potential to connect additional users over the design life of the system. Initial estimates indicate that there is potential for additional 500 connections per year as the population grows and system distribution is extended.
- There was promotion of appropriate technologies through construction of mini solar powered piped systems, and scaling up of rainwater harvesting using the revolving fund approach in areas where groundwater potential is low or the water quality is poor.

Details of source per village coverage per district are shown in **Annex 9**.

### *4.5.3 Percentage of point 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 in Figure 13.

The functionality for rural water supplies was 85%. There was no change from the functionality of 2016/17. Overall, 56% of the districts had functionality above the national average compared to 50% in 2016/17. The stagnation of the national functionality rate was attributed to the rate of repair of water facilities was similar to the rate of breakdown.

In FY 2017/18, 56% of the districts were above the national average of 85% a slight increase from 50% in FY 2016/17. The five districts with lowest functionality remained the same as in FY 2016/17. These were Kitgum (59%), Napak (61%), Mityana (66%), Ntoroko (68%) and Alebtong (70%). The five districts with highest functionality were; Luuka (97%), Isingiro (97%), Rubirizi (95%), Manafwa (95%) and Budaka (95%).

Details of the functionality by district are shown in Annex 7.

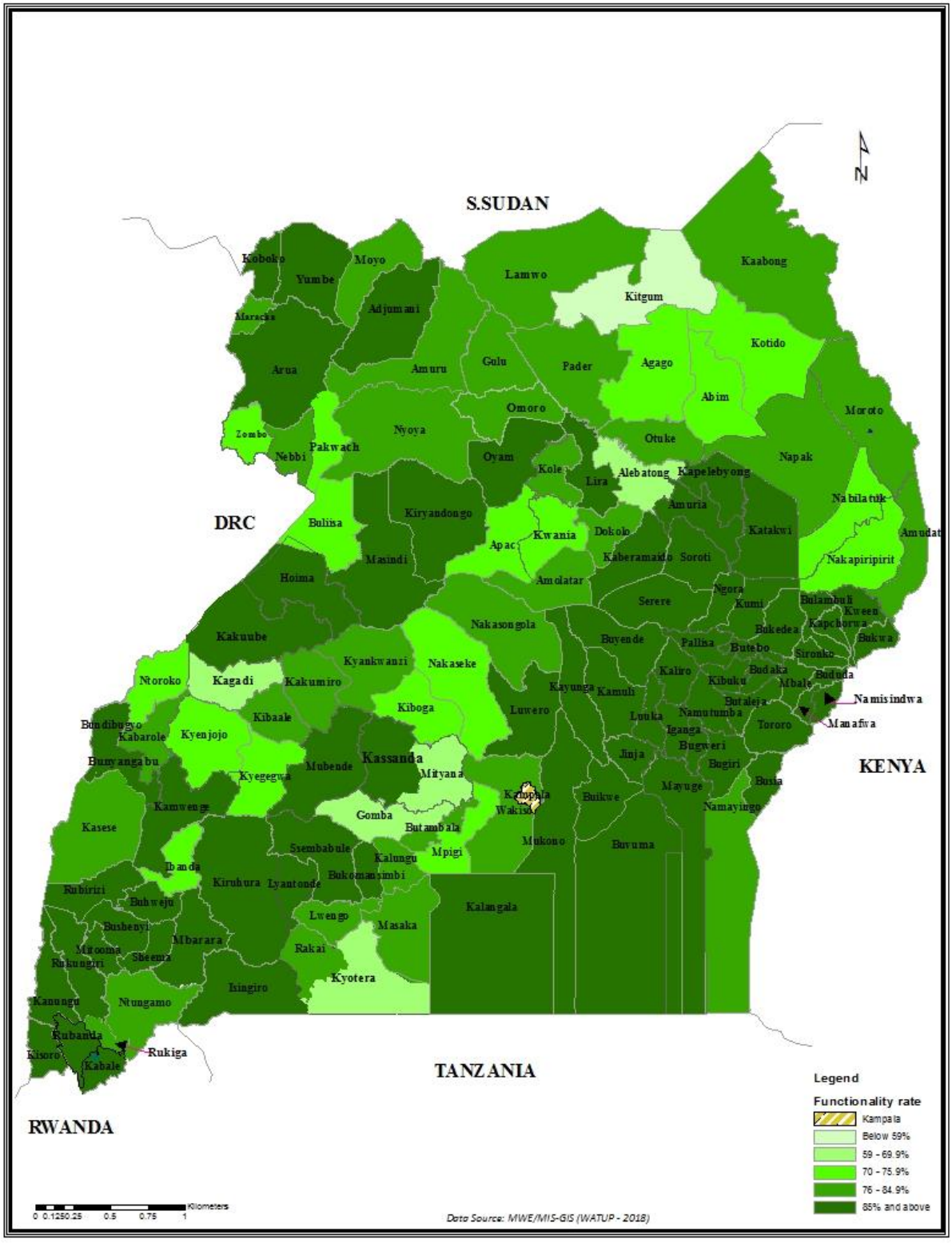



***Figure 13: Functionality for Rural Water Supplies by District***

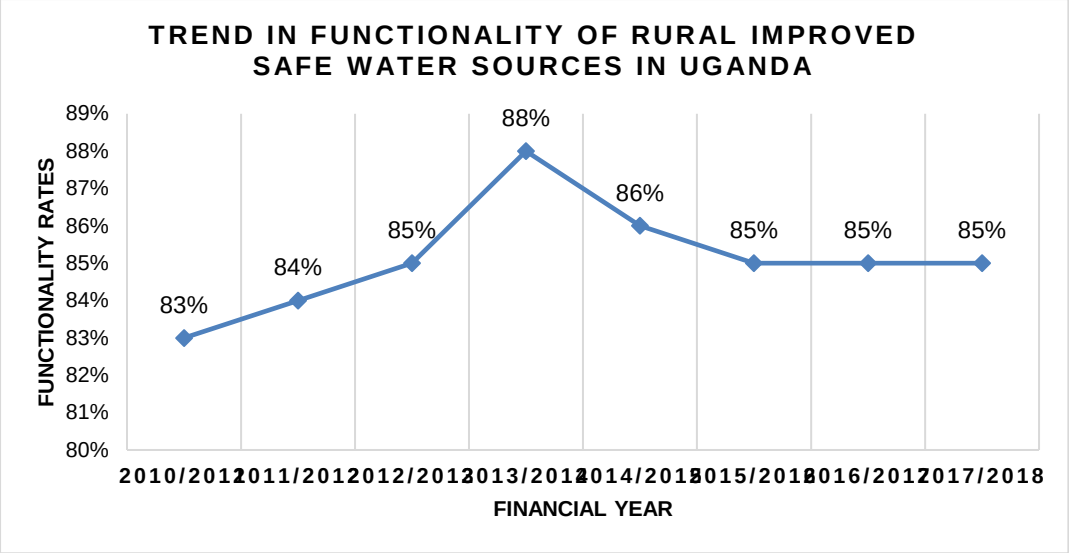



***Figure 14: Trend in functionality of rural improved safe water sources in Uganda***

### *4.5.4 Average cost per additional beneficiary served of water and sanitation schemes4*

The average cost per additional beneficiary served of water and sanitation schemes is calculated as the "*total MWE and District Local Governments expenditure divided by the total of new people served*". It is estimated that, a total of 531,938 people were served by MWE and DLGs with new water supplies in 2017/18 (i.e. 390,178 by the DWSDCG and 141,760 by MWE).

A total of UGX 131,209,617,357 was used to serve 531,938 persons with new improved water supplies. The overall per capita cost for rural water supplies was UGX 246,663 (68 USD) higher than UGX 114,295 (32 USD) for FY 2016/17. The high average cost per additional beneficiary served is because substantial funds totalling to UGX 51billion was expended on ongoing multiyear projects specially GFS and solar powered water systems and UGX 10billion was expended by the DLGs for rehabilitation and recurrent nonwage.

It was also evident that there has been a significant increase in the budget allocation from UGX 106.5billion in FY 2016/17 to UGX 131.2 billion especially from WSSP II to fund the construction of GFS in the districts of Manafwa, Bududa, Bukwo, Ibanda, Ntoroko, Sheema, Nebbi and Bukedea, Kapchorwa, Bulambuli, Sironko, Tororo and Mbale. The infrastructural investments are at initial stages and works are ongoing.

### *4.5.5 Percentage of water points with actively functioning water and sanitation committee*

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 indicate 96,775 (82.5%) being communal water sources under CBMS. The database shows slight increase of functional WSCs from 88% by end June 2017 to 89% by end of June 2018. Figure 15 shows the trends in functionality.

[4] These investments are restricted to land acquisition, infrastructural investment and the 80% of the district grant for development/ construction of water sources as per the guidelines only.

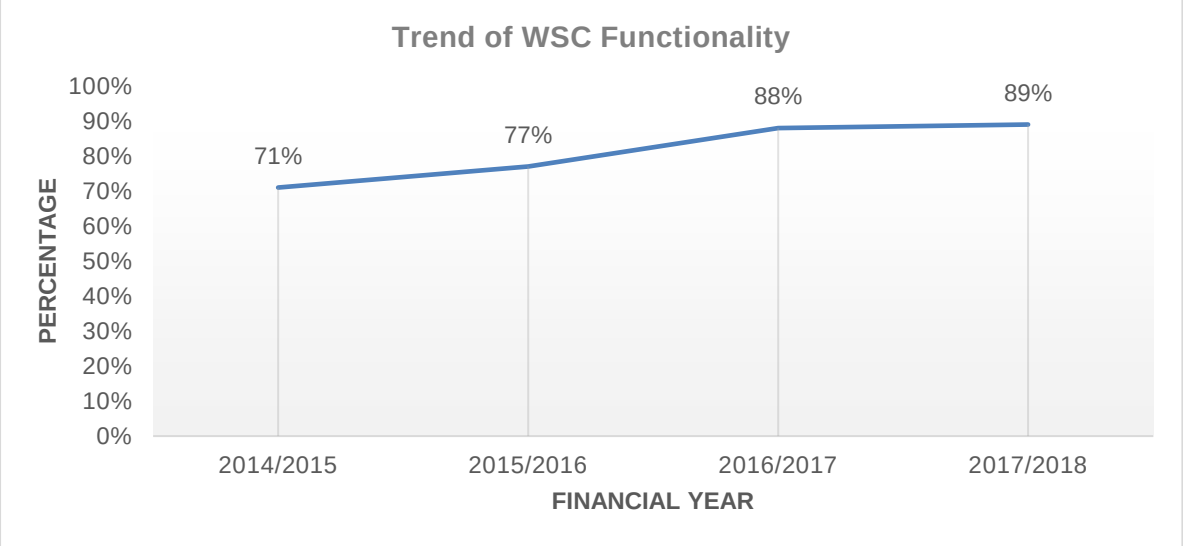



***Figure 15: Trend of WSC Functionality***

## 4.5 Challenges and Recommendations

a) As a result of budget cuts, the MWE carried forward paid bills from service providers amounting to UGX **12bn** in the FY 2018/19 which is going to affect the planned outputs 2018/19.

b) For Large gravity flow schemes development, community demands during implementation for more connections and additional supply areas has resulted in increased scope of works.

c) There is ambiguity in delineating rural vis-à-vis urban population for purposes of water developments, exerting pressure on the already strained budget for rural water development. There were incidences of stretching approved investments to cover urban areas in constructing large gravity flow schemes primarily for rural communities.

d) There are capacity gaps within the district local governments (DLGs) leading to underutilization of the rural District Water and Sanitation Development Conditional Grant. There is also a challenge of newly created districts low capacity staff who need continuous support.

e) Inadequate allocation for the non-wage recurrent budget of the water grant. DLGs are allocated 9% as opposed to the proposed 14% which greatly undermines the operations of the District Water office.

To address these challenges, the following recommendations are made:

I. There is need to set up a seed fund for Development of solar technology in rural areas. Investment of resources in higher level technologies will ensure over 50% of population is supplied through piped water schemes by 2030.

II. Continued Technical Support to the district local governments is essential to minimise the capacity gaps in planning, budgeting, procurement, implementation and O&M of water facilities.

III. Operationalization of the rural water supply strategy with regard to the water-stressed areas. This calls for emphasis on the use of multiple approaches to ensure a water source per village through large gravity flow schemes, solar powered mini-piped water schemes, boreholes, rainwater harvesting and self-supply. This approach will lead to a higher per capita cost, and therefore needs more financial resources.

IV. A national programme needs to be developed at all levels involving all sector players including NGOs to rehabilitate rural water supply infrastructure to enhance water facilities' capacity and improve reliability, followed by an enhanced O&M structure both at the source and by district local governments.

V. The budget for software activities falls under the Non-wage recurrent which is basically used for district water office administrative costs. It is recommended that MWE and stakeholders engage MoFPED to increase the water grant to enhance the non-wage recurrent budget.

# 5. URBAN WATER SUPPLY

## 5.1 Introduction

Uganda's urban population is about 10 million and is expected to increase to over 20 million by 2040. Policy makers need to act now to ensure that this urbanization process is managed well, so it can contribute to Uganda's sustainable and inclusive economic growth. Providing infrastructure for save water supply and sewerage services is a key element of this process.

Uganda's urban areas face a high population growth that tends to outrun gains in infrastructure development. Uganda's level of urbanization is still relatively low compared to the global trends. However, further urbanisation is an explicit strategic national goal, as stated in the Vision 2040.

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

The new Strategic Sector Investment Plan (March 2018) clearly demonstrates that the sector goals cannot be achieved without a substantial increase of the rate of investment. Apart from investment in new infrastructure substantial investments need to be made to rehabilitate or replace infrastructure that has reached the end of its design life, or that has become insufficient to cover the growing demand. Finally, effective operation & maintenance and regulatory frameworks are needed to ensure the sustainability and affordability of water and sewerage services in the longer term.

Uganda has a total of 498 urban centres comprising a City, 55 Municipalities and 442 Town Councils and Town Boards hosting 21% of the Ugandan population. In contrast there are more than 1,100 rural growth centres (RGC) with a population of about 3.3 million which are expected to be gazetted as urban centres in the near future.

The UWSS Department puts strong emphasis on supplying these emerging growth centres. As many of these are not yet gazetted as urban councils, a substantial part of the activities of the Department is therefore targeting areas outside the urban boundaries in the administrative and statistical sense.

## 5.2 Urban Water Service Coverage

### *5.2.1 Alignment of coverage indicators to the Sustainable Development Goals (SDGs)*

With the introduction of new sector performance indicators during FY 2017/18 the "old" Golden Indicator No. 1 – Access – was replaced by two new indicators that are in line with the definitions used for monitoring the SDGs. The same indicators were also used in the Strategic Sector Investment Plan (SSIP).

The new indicators are:

1. Basic Water: Percentage of population using an improved drinking water source
2. Safely Managed Water: Percentage of population using safely managed drinking water services located on premises.

The international Joint Monitoring Programme (JMP, WHO/UNICEF) uses household survey data to calculate the indicator values. The most recent JMP data available for Uganda / urban areas are for 2015:

| | |
|---|---|
| Basic Water: | 72.6% |
| Safely Managed Water: | 17.5% |

The same calculation method cannot be used for regular monitoring because household surveys are not available every year and because they are based on representative samples. The MWE therefore uses connection data to estimate the annual increments of both indicators.

NWSC uses the same approach – estimating the number of people served from the number of connections – in its new baseline survey published in July 2018.

The first indicator – basic water – is comparable to the former Golden Indicator No. 1. However, due to the new NWSC baseline the values are not entirely comparable in the time series.

### *5.2.1 Basic Water – Population using an improved drinking water source*

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

The 2018 value of the indicator for urban areas is **77%**. The significant increase from last year's 71% is mainly due to an improved data base. NWSC conducted a baseline survey that came up with considerably higher number of people served than the assumptions in the previous years (Baseline Survey on Water and Sewerage Coverage for NWSC, Final Report, and July 2018). For the first time this survey distinguished between people served within and outside the boundaries of urban councils. It thus established a water service coverage of 83.7% for urban areas served by NWSC, compared to 79% assumed in 2017.

The coverage indicators shown in table 15 below refer to urban areas only, in line with the SDG and UBOS definitions. Both NWSC and MWE/DWD also supply rural areas which are not reflected by this indicator.

***Table 15: Trends in access to improved water supply in urban areas - 2011 to 2018***

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

Notes:

1. The sudden drop of no. of people supplied and coverage in MWE/DWD towns from 2014/15 to 15/16 is due to the handover of numerous towns to NWSC.
2. The exceptional increase of total coverage from 16/17 to 17/18 is mainly due to the new baseline of NWSC.

The actual increase of urban coverage is approximately 175,000 people, equivalent to an increase of 1.5

percent points. This refers exclusively to urban areas, i.e. supply areas within urban council boundaries. The figure of 348,000 people served by MWE/DWD projects given in chapter 5.3 includes project that supply rural areas.

### *5.2.1 Safely Managed Water*

Safely Managed Water, according to the SDG/JMP definition, is an "improved source located on premises, available when needed, and free from microbiological and priority chemical contamination."

In practice this is calculated as the percentage of the population that uses piped water with private connections (house connections or yard taps) from systems that meet the targets for continuity (hours of supply) and water quality (free of contamination). Point water sources are generally not taken into account in urban areas as they are usually not located on the users' premises and frequently affected by contamination.

The number of NWSC domestic connections in urban areas is 284,861, according to the baseline survey. Assuming 6 persons per connection, service availability of 95% and water quality compliance of 97% (see section 5.2.8) this is equivalent to 22% access to safely managed water in NWSC areas. In small towns not supplied by NWSC access is estimated at 3%.

This results in an overall value of **20% access to safely managed water**. This is plausible in comparison with the 18% given for 2015 by the JMP.

### *5.2.2 Coverage gaps and demand for infrastructure development*

The Water and Sanitation Development Facilities (WSDF) employ a demand driven approach in identifying Small towns and Rural Growth Centres for support where interested ST and RGC submit their applications. After verification of applications they are scored and ranked according to a transparent procedure. Finally WSDF give a recommendation to put the towns to a "selected towns list" and a "waiting list" according to available funds. Figure 16 gives the overview of the listed towns in the different regions of WSDFs. It is planned to enter the data of these towns to a separate portal of UPMIS to visualise the existing demand all over Uganda.

The implementation includes WSDFs, Integrated Water Management Development Program (IWMDP), Lave Victoria Water and Sanitation (LV WATSAN III), Strategic Towns Water and Sanitation Program (STWSSP), and Umbrella Authorities for Upgrading and Expansion of Piped Water Supply and Sanitation Systems. The following table 16 shows the different WSDF regions and the specific coverage and demand in this areas. It shows a big supply gap for 797 ST and RGC with no piped water supply and additional 31 non-functional towns.

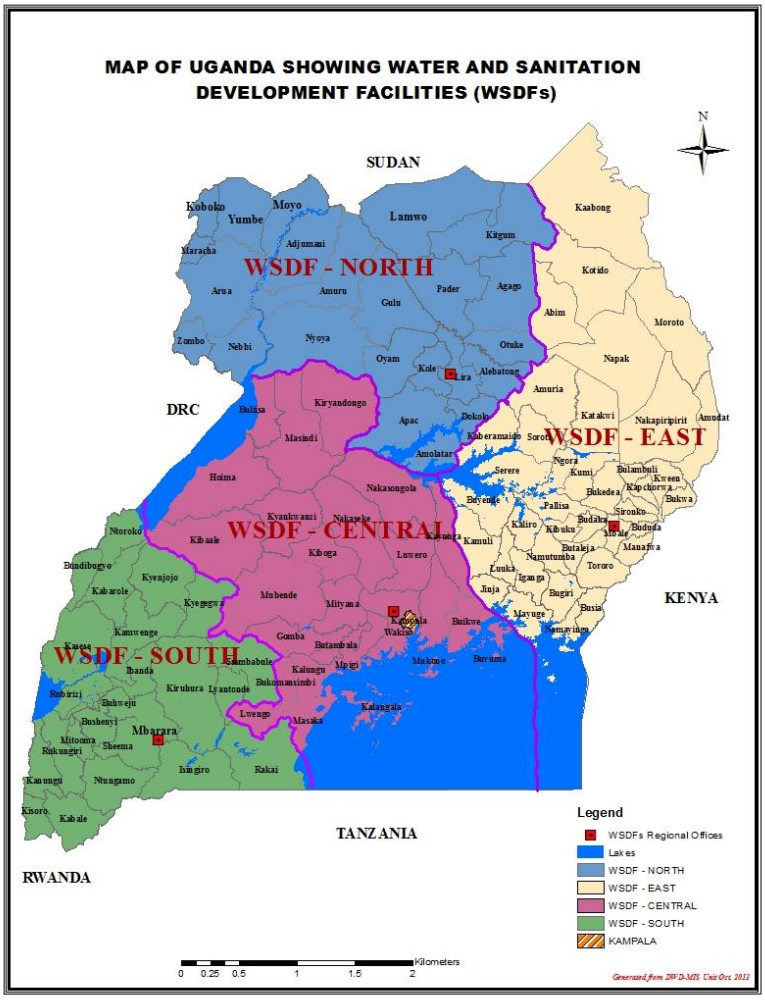



***Figure 16: Regions of WSDF and status of coverage versus expressed demand***

| Region | No. of Towns | Towns with Piped scheme | Towns Without Piped scheme **Demand Gap** | Managed by NWSC | Managed by UWAs | Fully Functional Schemes | Functional with Problems | Non-Functional |
|---|---|---|---|---|---|---|---|---|
| **Northern** | 265 | 177 | **88** | 26 | 76 | 60 | 6 | 14 |
| **Eastern** | 498 | 183 | **315** | 50 | 92 | 32 | 143 | 4 |
| **South Western** | 311 | 228 | **83** | 68 | 148 | 16 | 10 | 3 |
| **Central** | 502 | 191 | **311** | 27 | 108 | 153 | - | 10 |
| **Total** | **1,576** | **779** | **797** | **171** | **424** | **261** | **159** | **31** |

***Table 16: Specific coverage and demand by WSDF***

Sources: 1) National Bureau of Statistics, 2) Application Lists from District Water Offices

## 5.3 Water Supply Development in Small Towns and Rural Growth Centres

### *5.3.1 Overview*

During the reporting period, the MWE completed 31 Towns Water Supply Systems.

The schemes have a combined total of 236 public stand posts (PSP), 9,477 yard taps and 258 institutional connections. They are expected to serve a population of 347,890 people and a design population of 548,350 in 515 villages.

These schemes were Gombe-Kyabadaaza, Kikyusa, Kiwenda-Namulonge, Zigoti-Ssekanyonyi, Kyakatwanga-Nyamarwa, Kabwoya, Bugoigo-Walukuba-Butiaba, Kabembe-Kalagi-Nagalama, Namagera, Kasambira, Nakapiripirit, Kapelabyong, Ocapa, Kyere, Iziru, Busede-Bugobya, Buyende, Bubwaya, Kashaka-Bubare-Nsiika, Kainja, Kiko, Kihihi, Namugora, Lagora, Mucwini, Loro, Paloga, Palabek-Ogil, Pacego and Pabbo.

Construction of water supply and sanitation systems is on-going in 26 STs/RGCs. The towns are Buyamba, Kambuga Phase1, Kambuga Phase 2, Kayunga Busaana, Butemba, Nalukonge, Butenga-Kawoko, Kakunyu, Kiyindi, Kikandwa, Kiwoko, Butalangu, Kagadi, Busika-Bamunanika, Koboko, Katwe-Kabatooro, Rukungiri, Palisa, Kuumi, Ngora, Nyero, Bulegeni, Namwiwa, Namwenda, Namayingo and Amudat.

Three Faecal Sludge Management Facilities are under construction in Kamuli, Ishongororo and Kasaali towns. Procurement for Construction Contractors has been completed for 66 towns' water supply and sanitation systems including ERT Interventions. The designs of 66 town's water supply and sanitation systems was completed and 42 towns are under design.

Solar Powered Piped Water Supply and Sanitation System in Kibaale District

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

The regional Water and Sanitation Development Facilities (WSDFs) are the Ministry's de-concentrated

structures for implementation of water and sanitation interventions in small towns (STs) and rural growth centres (RGCs). 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 – commenced in FY2016/17 – is implementing in Karamoja Region, Large towns with bigger investment requirements are constructed by MWE´s central programme (e.g. LV WATSAN II and WMDP, see section 5.3.3).

In the FY 2017/18 these four WSDFs where supported through the Joint Partnership Fund (JPF) a basket fund within the framework of the Joint Water and Environment Sector Support Programme (JWESSP 2013 – 2018) which came to an end in June 2018. The Government of Germany through KfW is supporting WSDF- North and East (ending 2018), African Development Bank is supporting WSDF-Central. EU (ADA) support for WSDF-South –West and East ended in 2017. The table 17 shows the implementation of water supply and sanitation systems by each WSDF and other Ministry of Water and Environment Projects.

### *5.3.3 Centrally implemented water and sanitation projects*

***Lake Victoria Water and Sanitation project****:* LVWATSAN II constructed and completed 3 FSM in Mayuge, Bukakata and Ntungamo LVWATSAN III - Feasibility studies were completed and detailed engineering designs are ongoing for water supply and sanitation systems. The prospective areas 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).

***Water Management Development Programme:*** Continued with the construction of Koboko, Rukungiri and Katwe-Kabatooro Towns Water Supply and Sanitation Systems. The construction of Pallisa and Nyero-Ngora-Kuumi systems reached substantial completion stage. Completed the design of Butalejja, Busolwe, Budaka, Kadama, Tirinyi and Kibuku water supply and sanitation systems.

***Energy for rural Transformation (ERT III):*** **C**ontracts for the installation and commissioning of solar photovoltaic (PV) energy packages for water supply systems in Lot 1 (Buvuma, Irundu, Namayumba, Namwiwa, Buhunga) and Lots 2 (Amudat, Kubala, Dzaipi, Oromo, Minakulu, Kapelabyong, Kotido) were signed. Buvuma, Irundu, Namwiwa, Namayumba and Buhunga sites were handed over. Due diligence on the equipment was done and shipment commenced. Mobilization for civil works for Lot 1 commenced. Lot 2 sites were handed over in Oromo, Minakulu, Dzaipi, Kotido, Kaperabyong, Kubala and Amudaat. Due diligence on equipment was done and shipment commenced. Mobilization for civil works for Lot 2 commenced. Table 17 shows the physical performance of WSDFs.

***Table 17: Summary of physical performance of WSDFs and other projects in FY 2017/18***

| WSDF | Completed water supply | Under construction | Under procurement | Completed designs | Under design | FSM complete | FSM under construction |
|---|---|---|---|---|---|---|---|
| North | 8 | 2 | - | 17 | 7 | | 1 |
| Central | 8 | 5 | 10 | - | 1 | | 3 |
| East | 10 | 4 | 4 | 23 | 2 | | 1 |
| South-West | 5 | 4 | 3 | 14 | 11 | | 2 |
| **Total WSDF** | **31** | **15** | **17** | **54** | **21** | | **7** |
| | | | | | | | |
| Other Projects | | | | | | | |
| WMDP | - | 7 | 7 | - | - | | 1 |
| IWMDP | - | - | - | 1 | 3 | | |
| Karamoja | - | 2 | 2 | - | - | | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LV Watsan | | - | - | - | 27 | 3 | - |
| Support to STs | - | 2 | - | - | 1 | | - |
| ERT II & III | | - | 3 | 11 | - | | - |
| Total Other Projects | **-** | **11** | **12** | **12** | **31** | **3** | **1** |
| | | | | | | | |
| **Grand total** | **31** | **26** | **29** | **66** | **52** | **3** | **8** |

*Source WSDF figures and other projects: Monthly Performance Report Update 06/2018*

### *5.3.4 Monitoring & Supervision of WSDF*

The Water and Sanitation Development Facilities (WSDFs) continue to be the most important implementation modality for piped water supply in small towns and rural growth centres (RGCs). In the frame of the Joint Water and Environment Sector Support Programme (JWESSP, 2013-18) they have attracted significant donor funding. Investments are financed through earmarked contributions to the Joint Partnership Fund (JPF), combined with GoU counterpart funding of the WSDFs.

Over the years of implementation of activities under the WSDFs, the Ministry has encountered the following challenges which requires urgent intervention at the ministerial level for increased effectiveness and results realization: main activities of the Monitoring Group are

- Regular Supervision of De-concentrated Units
- Supervision and finalization of construction works
- Enforcement of design and standard of technical equipment
- Internal and public reporting, information management and lobbying

With support from KFW a data bank system ("ToolsV2") has been developed by the Financial Cooperation Consultant CES for two WSDF branches (WSDF North and WSDF East). This is an important step towards consistent data management and reporting. The clear benefits and motivation to use the data bank are due to referential integrity, implicit/automated error checking, data entry only once (no need to enter already stored data), only one version of data, safety against manipulations, automatic Navision interface amongst others (compare presentation made by CES in May 2017).

It is intended to develop of this tool including data entry, data check, and analysis and reporting, and to discuss the necessary steps to roll out for all WSDF and MWE to support Management and teams of WSDF including the coordination of the WSDF.

### *5.3.5 Pro –poor measures*

The MWE serves the poor through water kiosks and the public stand posts. During the reporting period, 98,800 poor people were served through construction of 258 kiosks and 236 public stand posts. 28,800 additional poor people were served compared to FY 2016/2017.

### *5.3.6 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. Pilot town water safety plans were developed and are under implementation by the six Umbrellas for water and sanitation Authorities.

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 Pallisa, Kumi, Ngora, Nyero, Koboko, Rukungiri, and Katwe-Kabatooro were implemented.

### *5.3.7 Sector Indicator 10: average cost per beneficiary of the new water and sanitation scheme (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 structure, 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 31 towns' water supply systems in FY 2017/18 was USD 58. This was slightly lower than USD 62 in the FY 2016/17.

## 5.4 Rollout and Performance of the Umbrella Authorities Management Model

### *5.4.1 Outline of the Umbrella Authorities model and progress of gazetting*

During FY 2017-18 the Directorate of Water Development has introduced a new management model that is tailored for piped water schemes supplying small towns and rural areas. Under the new model the Umbrellas – now referred to as Umbrella Authorities (UAs) – are appointed as Water Authorities. Instead of playing a supporting role as in the past they assume direct management responsibilities for the "gazetted" schemes.

Up to the end of June 2018 six gazettes were issued whereby the Umbrellas were declared as Water Authorities for a total of 259 supply areas. These schemes were gradually taken over, depending on the time needed for stakeholder interaction and for the setup of contracts, water offices and revenue collection systems. Figure 17 shows progress up to July 2018 but both the gazetting and the takeover processes are continuing at the time of writing.

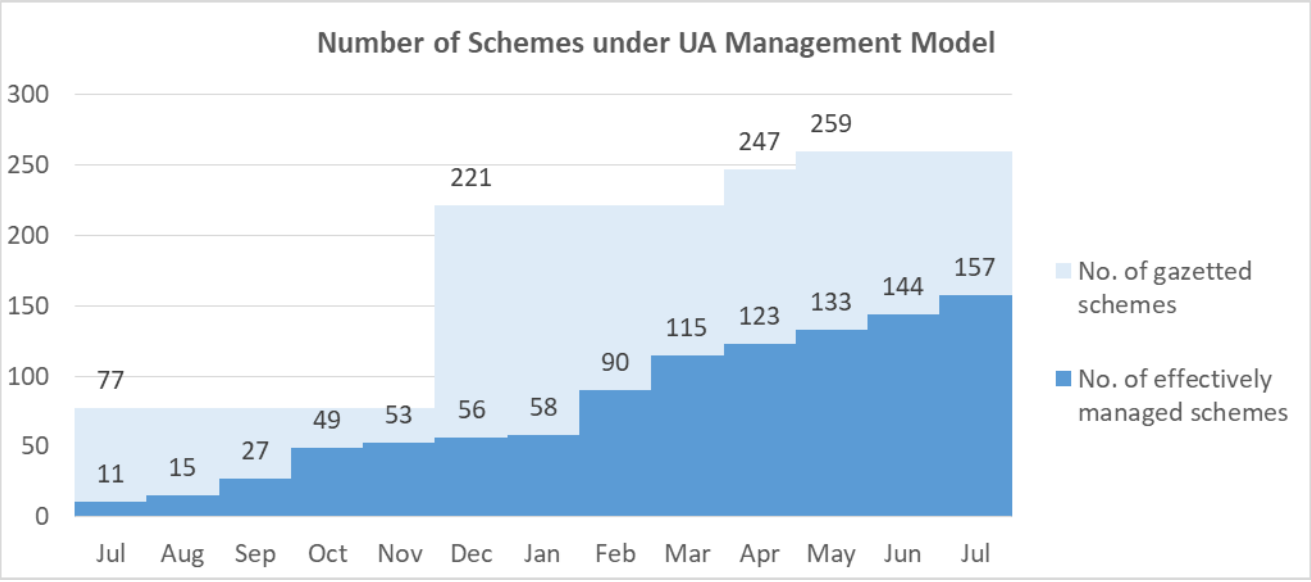



***Figure 17: Progress of gazetting and takeover of schemes by UAs in 2017/18***

The UA 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. Backup support to the schemes that were not yet under direct UA management will be maintained.

Under the new model the UAs directly contract and supervise the local scheme operators. Revenue collection is done by electronic payment collection systems. Local water users can still pay cash but each payment is recorded electronically and transferred to the Umbrella's regional collection account without delay. Payments of most operation costs (scheme operators' remuneration, energy costs etc.) as well as investments are directly made by the UA. A local Water and Sanitation Committee, where the water users and local government are represented, monitors the operational performance and suggests improvements to the system.

After taking over a town the UAs

- Establish/refurbish the local water office
- Contract and retrain the scheme operator staff
- Provide a motorcycle for local transport, if possible
- Provide a terminal for electronic revenue collection
- Install billing software, to be replaced by an integrated billing and payment system in 2018/19
- Start monthly performance reporting through UPMIS, where this was not done before
- Provide meters for unmetered and new connections
- Undertake urgent repairs and replacements, as required.

Figure 18 shows the organisational set up of the Umber all Authorities.

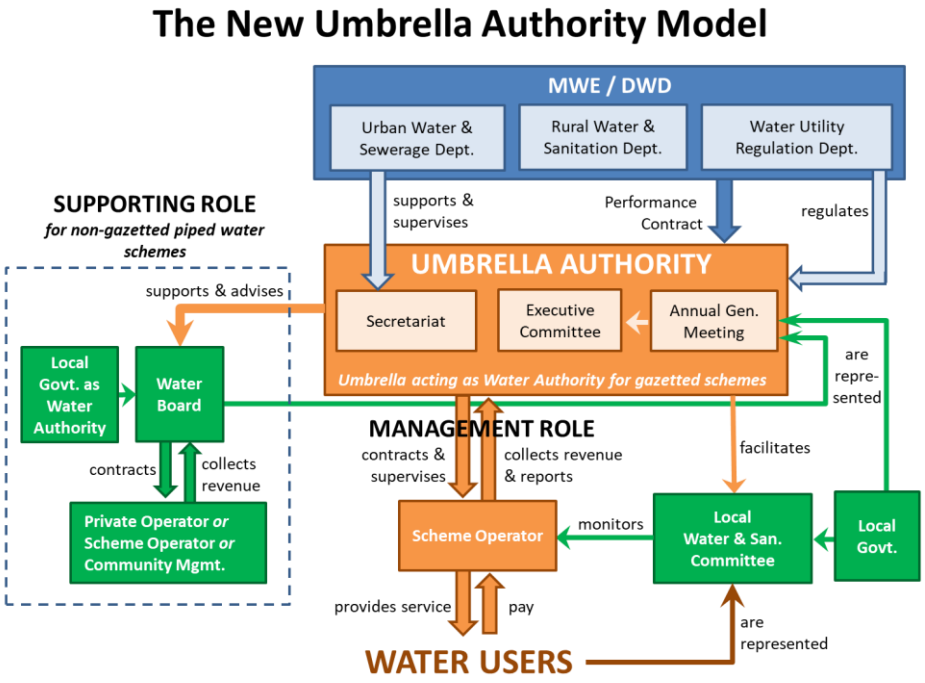



***Figure 18: Organisational Setup of the New Umbrella Authority Model***

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.

The **reason for introducing the new UA management model** is that the sustainability and service quality of earlier management models were not satisfactory. In their supporting role the Umbrellas had to work mainly in a "fire-fighting" mode, with insufficient resources to keep up with the task, and were dependent on donor funding and GoU grants to meet the costs of their support services.

Local revenue collection was insufficient and no savings were made to pay for repairs, capital maintenance and extension investments. As a result the infrastructure deteriorated and service quality was (and still is) often poor. Effective regulation turned out to be unrealistic with the presence of hundreds of small Water Authorities.

The new Umbrella model aims at achieving sustainability by introducing professional management practices, emphasising preventive maintenance, and raising revenue collection to sustainable levels. The increased revenue will be used to invest in maintaining, upgrading and expanding the infrastructure.

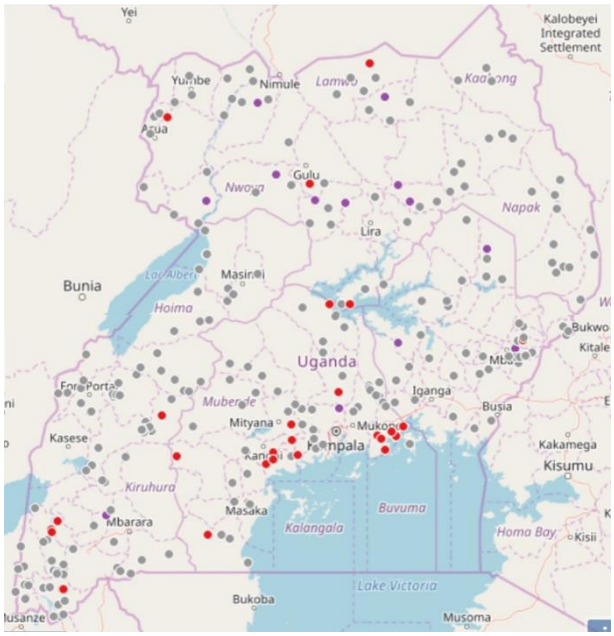



***Figure 19 Map of Gazetted Schemes (UAs gazetted as Water Authorities before 30th of June 2018)***

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.

***Figure 20: Map of the 6 Regional Umbrella Authorities***

### *5.4.2 Performance of Umbrella Authorities during the first year of operations*

The analyses presented in this section were made using UPMIS, the web-based Utility Performance Monitoring and Information System (http://upmis.geocodis.com).

Complementary sources of information used are the automatic records of the electronic revenue collection system (EzeeMoney) and the UAs' quarterly progress reports.

***Table 18: Key Performance Indicators for Umbrella Authorities, Oct 2017 to June 2018***

Blue: 144 schemes, taken over before or in June 2018
Orange: First 58 schemes, taken over before or in January 2018

UPMiS

| All 6 Umbrella Authorities combined<br>Oct 17 Nov 17 Dec 17 Jan 18 Feb 18 Mar 18 Apr 18 May 18 Jun 18 | Total / Average Quarter 4<br>All 144 schemes | Change Oct 17 -> Jun 18<br>First 58 schemes |
|---|---|---|
| **No. of active connections**<br>50,000 0<br>17,167 17,373 17,240 19,542 20,978 22,570 22,385 22,560 26,338<br>8,417 8,821 8,553 9,048 9,645 9,810 9,649 10,156 10,145 | 26,338 | + 1728 (+ 21%) |
| **Water sales (water billed)** **m³ per month**<br>200,000 0<br>122,898 118,930 140,112 153,829 160,454 144,290 122,808 116,969 163,111<br>55,871 60,572 74,383 79,360 81,169 69,632 62,300 62,174 69,109 | 134,296 | + 24% |
| **Non-revenue water**<br>50% 0%<br>38% 39% 39% 37% 36% 44% 42% 40% 42%<br>44% 38% 36% 32% 35% 31% 35% 31% 36% | 42% | -8% points |
| **Continuity of supply**<br>100% 90% 80%<br>89% 88% 93% 90% 89% 92% 90% 94% 94%<br>91% 90% 93% 91% 89% 90% 89% 92% 92% | 91% | + 5% points |
| **Revenue collections** **mUGX per month**<br>500 0<br>255 272 295 372 371 376 373 352 414<br>128 148 167 214 192 184 181 175 194 | 380 | + 51% |
| **Collection efficiency**<br>200% 0%<br>87% 80% 78% 93% 79% 87% 96% 90% 98%<br>83% 80% 79% 87% 79% 86% 95% 95% 93% | 94% | + 12% points |
| **Operating cost coverage ratio**<br>250% 0%<br>125% 155% 142% 178% 166% 169% 163% 159% 147%<br>126% 139% 131% 151% 140% 157% 166% 157% 151% | 158% | + 22% points |

In table 18 above, the lines and figures in blue refer to all gazetted schemes (as of June 2018) that were reporting at any given month. The number of values used is increasing from month to month as many of these schemes were not reporting before the takeover,

The data shown in orange refer to a selection of schemes, i.e. those 58 schemes that were gazetted and taken over before January 2018. Using this sub-set removes the effect of the takeover process and can therefore be used to analyse the improvements achieved by introducing the new management model.

The **number of connections** is steadily increasing, partly by constructing extensions and partly by adding additional customers to the existing networks. Demand for new connections is high but the rate of increase is limited by funding as many interested customers cannot pay the full costs of being connected.

**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). In the first group of towns NRW decreased from 44% to 36%. This is mainly due to improved management practices. Further reductions are expected when funds become available for the investments needed to reduce physical losses.

The **continuity of supply** – the number of days when water was available divided by the total number of days of the month – stood at 91%, on average, during the last quarter of FY 2017/18. It improved from 89% to 94% in the first group of schemes that were taken over.

**Revenue collections** are increasing rapidly. The total collections of all UAs combined reached UGX 414m in June 2018 and continue to rise from month to month. In the first group of 58 towns collections increased by about 50% between October 2017 and June 2018. This was mostly achieved by introducing improved billing and collection systems, not by infrastructure investments. 83% of the collections are being made using electronic systems (Ezee Money), as of June 2018.

The overall **collection efficiency** – amount collected divided by the amount billed – has reached 94% during the last quarter of 2017/18. Willingness to pay is satisfactory in most towns.

The last KPI shown above, the **operating cost coverage ratio**, is defined here 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 UAs incurred at the regional level. The chart clearly illustrates how increasing revenue collections have substantially improved cost coverage. This is a clear indication that financial viability can be achieved through the new management model (see also section 5.4.4 below).

Further performance improvements are expected from:

1. Repair, extension and metering investments being made through Revolving Fund (see below);
2. The introduction of an integrated electronic billing and payment system, which is currently under development and expected to be operational from October 2018.

The performance of each UA is being monitored internally – in addition to the activities of the Water Utility Regulation Department - by a team based at the Support to Utility Management Division.

The following table provides a breakdown of the same Key Performance Indicators (KPIs) for each of the six UAs. The data given are for the last quarter of the financial year, and for all schemes that were being managed by the respective UA at this time.

***Table 19: Performance of Individual Umbrella Authorities - KPIs***

**Quarter 4, 2017/18 – 144 Schemes managed in June 2018**

| | CUWS | EUWS | KUWS | MWUWS | NUWS | SWUWS | Total / Average |
|---|---|---|---|---|---|---|---|
| *No. of schemes gazetted (June 2018)* | *65* | *43* | *23* | *43* | *45* | *40* | ***258*** |
| *No. of schemes effectively managed (June 2018)* | *40* | *22* | *10* | *31* | *25* | *16* | ***144*** |
| No. of active No. | 9,444 | 4,854 | 913 | 5,876 | 3,861 | 1,390 | **26,338** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| connections | | | | | | | | |
| Water sales (water billed) | $m^3$ / month | 44,428 | 17,671 | 5,713 | 34,687 | 22,475 | 9,323 | **134,296** |
| Non-revenue water | % | 43% | 40% | 45% | 32% | 46% | 38% | **42%** |
| Continuity of supply | % | 87% | 87% | 88% | 95% | 92% | 98% | **91%** |
| Revenue collections | mUGX / month | 159 | 43 | 11 | 90 | 55 | 22 | **380** |
| Collection efficiency | % | 104% | 83% | 76% | 97% | 91% | 88% | **94%** |
| Operating cost coverage ratio | % | 187% | 165% | 95% | 178% | 167% | 105% | **158%** |

*Source: UPMIS analysis and EzeeMoney collections*

The data clearly show that the Karamoja and South-Western UAs are lagging behind in terms of customers, water sales and - hence - revenue collection. This is mainly due to the characteristics of the schemes taken over (small gravity flow schemes in the South West, small remote systems in Karamoja). In Karamoja collection efficiency – 76% – is also significantly lower than in other regions.

As a result the "operating cost coverage ratio" is still low in these two UAs: A ratio of about 100% in both cases means that the collected revenue is just sufficient to cover the local operating costs, but no surplus is being generated to finance investments or to cover the operation costs of the UA itself.

The last row of the table shows compliance with water quality standards; see next section (5.4.3) for a discussion of these values.

The last performance table below summarises the physical performance of the UAs for the year 2017/18 and for all schemes, including those that are supported but not managed by the UA.

***Table 20:*** **Performance of Individual Umbrella Authorities – physical performance**

**Annual values 2017/18 – All schemes, gazetted or non-gazetted**

| | | CUWS | EUWS | KUWS | MWUWS | NUWS | SWUWS | Total |
|---|---|---|---|---|---|---|---|---|
| *No. of schemes gazetted (June 2018)* | | 65 | 43 | 23 | 43 | 45 | 40 | **259** |
| *No. of schemes effectively managed (June 2018)* | | 40 | 22 | 10 | 31 | 25 | 16 | **144** |
| *No. of schemes supported but not managed by the UA* | | 62 | 83 | 37 | 37 | 126 | 89 | **434** |
| Total amount invested from Revolving Fund[1] | 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. | 2,230 | 880 | 683 | 760 | 477 | 1,095 | **6,125** |
| Total no. of new connections made | No. | 872 | 200 | 537 | 332 | 82 | 455 | **2,478** |
| Total km of pipeline extensions | km | 62.6 | 12.2 | 39.6 | 21.5 | 17.2 | 4.5 | **157.6** |
| No. of WQ samples taken | No. | 490 | 253 | 121 | 230 | 155 | 330 | **1,579** |
| Water quality compliance | % | 90% | 98% | 87% | 63% | 99% | 97% | **89%** |

*Source: Quarterly Progress Reports and communications from UA Managers*

[1] The amount invested from the Revolving Fund is as per 30th of June 2018.

### *5.4.3 Water Quality Monitoring*

Each Umbrella Authority has a water quality analyst and uses test kits to monitor the drinking water quality of both the gazetted and the supported schemes. In general sampling is done once per quarter in each scheme.

Of the samples taken, 89% complied with water quality standards (absence of microbiological contamination).

The low compliance in the Mid-Western region (63%) is due to the fact that in the Rwenzori region there is a large number of piped water systems where surface water is distributed to customers without any treatment. It is urgent to set up a programme to retrofit these systems with water treatment units.

### *5.4.4 Financial Viability and Tariffs*

Initially the UAs have maintained the tariffs that were in force when they started operations. They are typically in the range of 1500 UGX (gravity flow schemes) to 3500 UGX (pumping schemes). In line with the current Tariff Policy tariffs will be set based on actual O&M costs, with lower rates for gravity flow schemes where no pumping costs have to be paid for. Tariffs will be reviewed in FY 2018/19 in cooperation with the Water Utility Regulation Department.

The financial analyses made for FY 2017/18 indicate that in general tariffs seem adequate to ensure the financial sustainability of the new O&M setup. Local cost recovery can be achieved in most towns, with the exception of small schemes using a diesel generator; these will be replaced by solar systems as soon as possible. Willingness to pay is reasonable in most towns, while revenues are expected to increase by a growing customer base and further reductions of non-revenue water.

In Q4 2017/18 revenue collections exceed the direct local operating costs by 50%, on average. This surplus will be used

- to address the backlog of investments in the gazetted towns, including back payments to the Revolving Fund
- To cover the UAs' operating costs at the regional level and thus make them independent from donor support.

It is expected that four of the six UAs can become independent of external subsidies within the first two years of operations, with the exception of investment subsidies needed to clear the backlog of investments.

### *5.4.5 Revolving Fund*

In April 2018 the Umbrellas have received seed funding for the "Revolving Fund", an arrangement to finance small to medium investments such as

- Major repairs and replacement of equipment, including emergency interventions
- Scheme extensions and capacity increase
- Subsidised connections
- Metering of unmetered schemes
- Water source protection

Each Umbrella Authority has a ring-fenced account for the Revolving Fund. Loans from the RF can only be used for the specified purpose and have to be paid back from the collected revenue. This allows to make upfront investments and use the increased revenue (resulting from the investment) for back payments. The RF can thus be considered as the Umbrellas' "credit card" for minor investments. Complete overhauls or rehabilitations of old schemes will still need to be financed from other sources.

The initial allocation (seed funding) to the RF was fully spent at the time of writing. Back payments are expected to begin in October 2018.

### *5.4.6 Challenges*

While the new Umbrella Authorities model is promising in many respects it has to cope with considerable challenges during the start-up phase.

It is urgent to strengthen the staffing and logistical resources (transport) as soon as possible, in order to ensure adequate management of all the gazetted schemes without neglecting support to other schemes. As revenue collections are still limited external support of UA operations should temporarily continue to be provided during the start-up phase. The current phase is critical as the resources of the UAs are still limited while the expectations of the beneficiaries and other stakeholders are high. UAs are furthermore expected to provide free support services to schemes they are not managing and which are not contributing to the UAs' operational budget.

The other key challenge is to meet the costs of the initial investments of the schemes taken over where often the most basic infrastructure (such as a furnished water office and a motorcycle) are not available. Metering of unmetered schemes is another substantial investment need. Most importantly, many schemes suffer from a serious investment backlog – resulting from ageing infrastructure and deferred maintenance – that cannot be met from the Umbrellas' own resources.

Capacity development should include several types of training, including

- training modules for UA staff, in specific domains such as commercial utility management and reduction of non-revenue water;

- a substantial training programme for local scheme operators, following a ToT approach, with standardised trainings that should become mandatory for UA scheme operators;
- Continuous professionalization, e.g. through a mentoring approach or a water operator partnership.

## 5.5 Water Supply in Large Towns managed by NWSC

### *5.5.1 Service Coverage*

The NWSC geographical coverage has increased from **218** towns as at 30th June 2017 to **236** towns as at 30th June 2018, an addition of **18** towns. This translates into a target population of 14.2 million people. The increase in geographical coverage is attributed to high demand for NWSC services and hence the takeover of new town. Table 21 shows the water coverage trend for the period 2012 to 2018.

***Table 21: Water Service Coverage Trend for the period 2010 to 2018***

| Financial Year | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|---|---|
| **Target Population** | 3,377,240 | 3,838,004 | 4,439,084 | 6,068,473 | 7,502,874 | 8,002,874 | 14,247,466 |
| **Population Served** | 2,614,090 | 2,986,773 | 3,382,050 | 4,636,750 | 5,871,224 | 6,310,824 | 10,590,910 |
| **% Population Served** | 77.4% | 77.8% | 76.2% | 76.4% | 78.3% | 78.9% | 74.3% |
| **Number of Service Areas** | 20 | 28 | 66 | 110 | 167 | 218 | 236 |

The service coverage dropped by **4.6%** largely because the Corporation took over many towns whose water network was not fully developed implying that a high percentage of the target population was not accessing water. To remedy this, the corporation has laid **2066.01Km** Of water mains extension in line with our goal to provide water for all.

NWSC mandate is to provide water and sewerage services within the Municipality boundaries however, due to increasing demand, the Corporation has had to serve customers beyond the boundary as illustrated in Table 22.

**Table 22: Water Service Coverage within and Outside the Municipal Boundaries as at June 2018**

| Connection category | Areas with in Municipal boundaries | | Areas outside Municipalities | | People served |
|---|---|---|---|---|---|
| | No. of connections | No. of people per connection | No. of connections | No. of people per connection | |
| **Domestic** | 284,861 | 6 | 101,948 | 6.3 | 2,351,438 |
| **Public stand pipes** | 5,761 | 188 | 2,812 | 200 | 1,645,468 |
| **Commercial/industrial** | 49,413 | 9.4 | 13,323 | 6.7 | 553,746 |
| **Institutional** | 9,589 | 510 | 3,869 | 297.2 | 6,040,257 |
| **Total Population Served** | 8,147,106 | | 2,443,803 | | 10,590,910 |
| **Total Target Population** | 4,703,158 X $2.07^2$ = 9,735,537 | | 4,511,929 | | 14,247,466 |
| **Service Coverage For Water** | **83.7%** | | **54.2%** | | **74.3%** |

### *5.2.2 Performance of projects*

***SCAP100 Project***

In an effort to increase service coverage, the Corporation launched Service Coverage Acceleration Project (SCAP 100): This is a three-year project aimed at achieving 100% water service coverage by 2020. This will be achieved through extension of 8,000Km of water mains, installation of 140,000 new water connections and 20,000 Public Stand Pipes (PSP) in 12,000 villages, with at least two PSPs per village or one PSP for every 200 people.

As at 30th June 2018, **2021.41Km** of new water mains had been extended in the various operational Areas against an annual target of **2,500Km** (**81%** achieved). The Corporation delivered **2,502km** to the service areas but due to contractor delays in laying the pipes, the SCAP target was not achieved. In addition, **3119** new PSPs constructed with **2,065** of these connected to water supply and the rest will be connected by the end of the first quarter of 2018/19. As at 30th, June 2018, in over **1500** villages had been covered. The total customer base increased by **50,341** new water connections, against an annual target of **50,500,** representing **99.6%** target achievement.

### *5.2.3 Pro-poor measures*

***Pro-poor Connections***

During the financial year 2017/18, the Corporation constructed **3,119** new PSPs constructed with **2,065** of these PSPs connected to water supply and the rest will be connected by the end of the first quarter of 2018/19. This increased the number of PSPs to **12,305** representing a growth of 100% in the number of new PSP connections compared to 1,087 of the financial year 2016/17. This has been due to the increased

implementation of the SCAP 100 project that is committed to installing **2** PSPs per village or **one** (**1**) PSP per 200 people. Table 23 shows the annual trends.

**Table 23: Annual Trend of PSPs/kiosks for the period 2012- 2018**

| Financial Year | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|---|---|
| **New PSPs/Kiosks** | 191 | 95 | 921 | 924 | 1093 | 1087 | 2065 |
| **Total Active PSPs/Kiosks** | 6,814 | 6,825 | 8,038 | 6,594 | 8,161 | 8,859 | 10185 |
| **Total Inactive PSPs/Kiosks** | 1,688 | 1,749 | 1,951 | 2,488 | 2,680 | 2,378 | 2,120 |
| **Total PSPs/Kiosks** | 8,502 | 8,574 | 9,989 | 9,082 | 10,841 | 11,237 | 12,305 |

### *5.2.5 Non-Revenue Water (NRW)*

As at 30th June 2018, the NRW was **30.7%,** a reduction from the 31.7% which was registered in the previous financial year. This achievement was due to the various NRW – reduction initiatives implemented in several NWSC operational areas and the Corporation is committed to being vigilant in the fight against NRW. Figure 21 shows the annual trends.

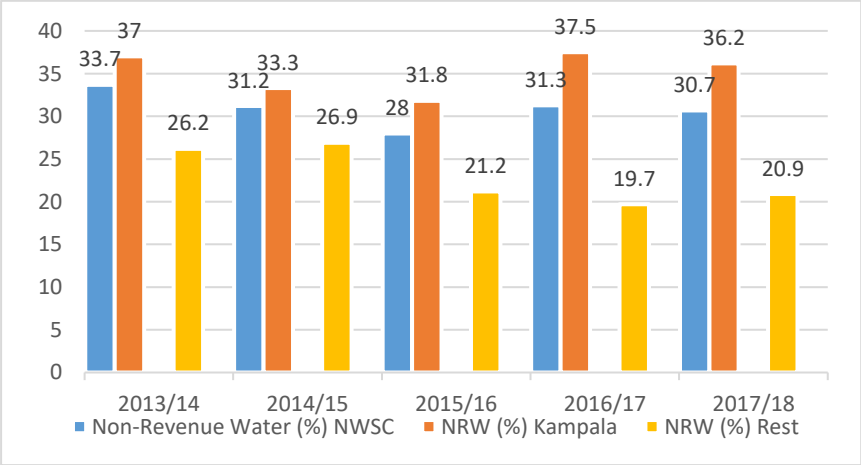



***Figure 20: Annual Trend of NRW for the Period 2013 - 2018***

***Piped water service availability in small towns (Functionality)***

Currently NWSC measures functionality by the average number of hours that water is available to our customers in a day. As at 30th June 2018, NWSC supplied water for an average of **18** hours per day. Various Water Supply stabilization plans are underway to ensure that water is available to our customers for all the **24** hours in a day.

### *5.2.6 Customer Satisfaction*

The customer Satisfactory index (CSI) is the weighted average of the outcome of customer assessment of NWSC service quality against the key attributes. During the review period, NWSC conducted a Customer Satisfaction survey from which a Customer Satisfaction Index of **85%** was obtained. This not only surpassed the GOU target of 80% but also greatly exceeded the international standard of **70%**, which highlights the Corporation's continuous commitment to serve all its customers efficiently. Figure 22 shows customer satisfaction trends.

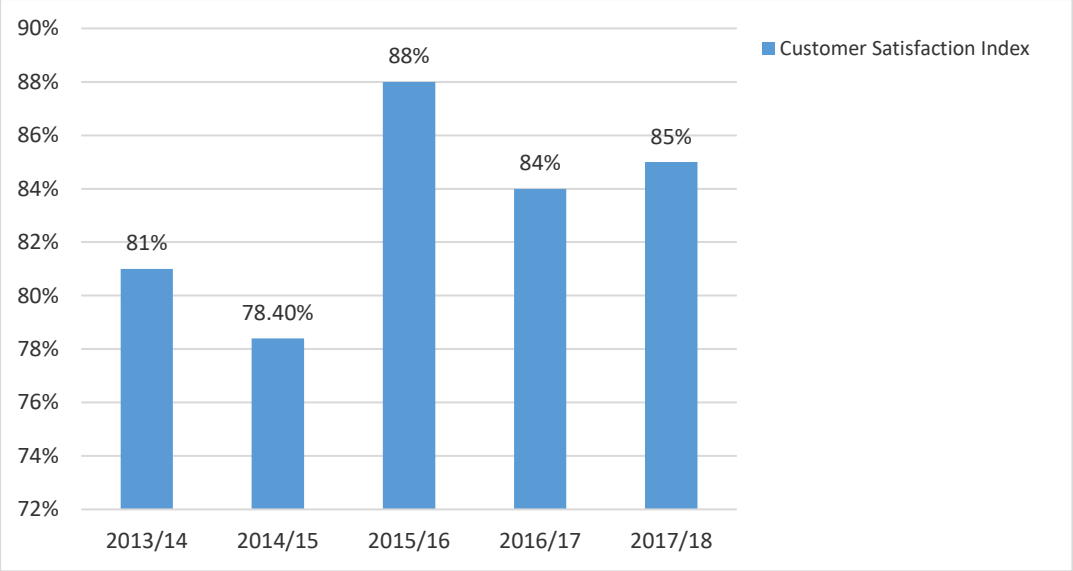



**Figure 21: Customer Satisfaction Index Trends for the Period 2013 - 2018**

Details of the financial performance of projects are shown in ***Annex 6.1.***

### *5.2.4 NWSC Tariff Structure*

NWSC implements a uniform tariff structure across all its towns to ensure equity in pricing. Table 24 shows the NWSC tariff implemented for the various consumer categories during the financial year 2017/18.

**Table 24: NWSC Tariff Structure FY 2017/18 (VAT Exclusive)**

| Customer Category | Water tariff 2017/18 | Tariff per 20Liter Jerrican | Sewerage Tariff 2017/18 |
|---|---|---|---|
| **Public Standpipe** | 1,060 | 21 | n/a |
| **Domestic** | 3,305 | 66 | 2,703 |
| **Institutions / Government** | 3,344 | 67 | 3,344 |
| **Comm <500m3/m** | 4,102 | 82 | 4,102 |
| **Comm 500-1500m3/m** | 4,102 | 82 | 4,102 |
| **Comm >1500m3/m** | 3,278 | 66 | 3,278 |
| **Average Commercial** | 3,827 | 77 | 3,827 |
| **Average Water tariff** | **2,855** | **57** | **2,855** |
| ***Sewer tariff is 75% of the water tariff for Domestic and 100% of the water tariff for other categories of customers. Sewerage is not billed in isolation; it is based on volume of water consumed.*** | | | |

### *5.2.8 Drinking Water Quality*

In regard to **Water Quality Management**, 99.3 % of the water samples from all Areas complied with the National standards for the Bacteriological quality of potable water exceeding the WHO standard of 97 %.

On average, the overall compliance of both physio-chemical (colour, turbidity, chlorine residual, pH, Alkalinity, Hardness, Electrical conductivity) and bacteriological parameters to the National standards was 97 % falling slightly below the National target (98 %) as per the Performance Contract V with Government (***see summarized Table 25)***.

In regard to **Wastewater**, improvements have been attained through better maintenance of the systems achieving an overall compliance of 40.9 %. The Corporation is undertaking various initiatives such as developing a policy for chemical and hazardous discharge to ensure that compliance is achieved in FY 2018/19.

***Table 25: Water and wastewater Quality Compliance, Jul 2017 - June 2018***

| Water Quality | Ingredients | Indicator | Actual Perf. (%) |
|---|---|---|---|
| **Compliance with National Standards for Drinking (potable) Water 2008** | (No. of Samples passing National Standards/ Total samples tested ) X 100 | Bacteriological Quality | 99.3 |
| | | Colour | 83.7 |
| | | Turbidity | 95.5 |
| | | Chlorine residual | 94.4 |
| | | pH | 100 |
| | | Electrical Conductivity | 100 |
| | | Alkalinity Total | 100 |
| | | Hardness Total | 100 |
| | | **Average** | **97** |
| **Sewage Effluent Quality** | | | |
| **Compliance with BOD and TSS Effluent discharge Parameters** | (No. of Samples passing National Discharge Standards/ Total Samples tested ) X 100 | BOD | 37.4 |
| | | Total Suspended Solids | 44.4 |
| | | **Average** | **40.9** |

### *5.2.9 Gender Composition*

The Corporation gives due credence to gender issues when recruiting staff. By the end of the financial year, the Corporation had ten Board members, five of these are women, Nine Directorates, and Women head four of these Directorates. Overall, **31%** of staff in the Corporation are female, which is a **1%** improvement from last financial year's **30%**. In summary, as at the end of June 2018, NWSC had total staff of **3,452** across all its areas of jurisdiction. Table 26 shows the staffing composition.

**Table 26: NWSC Staff Composition**

| Gender | Male | Female | Total | % Female |
|---|---|---|---|---|
| **Board of Directors** | 5 | 4 | 9 | 44% |
| **Executive Management Team** | 5 | 4 | 9 | 44% |
| **NWSC Staff** | 2,377 | 1,066 | 3,443 | 31% |

### *5.2.10 Audit Recommendation*

In an effort to track good governance and transparency, the Corporation reviewed Area responses to audit queries for the period July 2017 to June 2018. During the review period; a number of recommendations were made to management and the average performance with regard to the actions taken by management in attending to these audit recommendations was 86% against a target of 100% (***See Table 27 for details***). The Performance fell below the target because some audit queries required investments that have been planned for in the FY 201819.

**Table 27: Compliance to Audit Recommendations as at 30th June 2018.**

| Area | Recommendations made (No) | Recommendations Acted upon (No) | (%) Perf. | Target (%) |
|---|---|---|---|---|
| **Kampala** | 213 | 187 | 88% | 100% |
| **Central Region** | 156 | 139 | 89% | 100% |
| **Eastern & Northern Region** | 174 | 142 | 82% | 100% |
| **Western & South-western** | 173 | 149 | 86% | 100% |
| **NWSC Global** | **716** | **617** | **86%** | **100%** |

### *5.2.11 Average Weighted Procurement Performance*

During the FY 2016/17, the Public Procurement and Disposal of Public Assets Authority (PPDA) carried out a procurement and disposal audit of NWSC. The findings of the exercise revealed a compliance score of **89.2%,** a performance score of **74%** and an overall weighted average performance ratio of **80.1%** as shown in the table below.

It should be noted that PPDA is currently undertaking an audit for the Financial Year 2017/18 and hence the report will be released after the audit is completed.

**Table 28: Overall Weighted Procurement Score for FY 2016/17**

| INDICATOR | SCORE (%) | WEIGHT | WEIGHTED SCORE |
|---|---|---|---|
| **Average Compliance Indicator Score** | 89.2 | 0.4 | 35.7% |
| **Average Performance Indicator Score** | 74 | 0.6 | 44.4% |
| **Procurement Performance Score** | | | **80.1%** |

### *5.2.12 financial performance of projects*

NWSC is currently implementing several projects and it relies on both the Government of Uganda and external funding to supplement the internally generated funds to ensure that Capital projects are completed and implemented effectively. Annex 8.1 shows the Budget performance for the current major Capital Projects for FY 2017/18.

## 5.6 Regulation of Water Supply and Sanitation Services

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

The regular technical monitoring of performance contracts is carried out by the Water Utility Regulation Department (WURD) of DWD/MWE. WURD's mandate includes the continuous renewal of performance contracts that run for 3 years including target setting and stakeholder engagement. It is also in charge of the approval of tariff proposals by the respective Water Authorities and customer protection activities.

In FY 2017/18, WURD has undertaken periodic performance reviews of water authorities (4.), management audits (6 No.), on-spot inspections (130.), and periodical review of tariffs (3; it has published quarterly performance review reports (4) and organized annual and semi-annual performance review workshops, among other things.

### *5.6.1 Sanitation Regulation*

Public, institutional and household on-site and off-site Sanitation facilities continue to be constructed in the water and sanitation sector in order to increase access to improved hygiene and sanitation services. The majority of these facilities are on-site which require regular emptying and safe disposal.

Current regulations and standards on sanitation are scanty and dispersed in many sectors (MWE, MoES and MoH). As a result there is uncoordinated implementation of sanitation related activities hence reducing efficiency and effectiveness in service delivery of water and sanitation services.

The sanitation regulation framework has been developed to harmonize the roles of different actors and guide the regulation of sanitation activities, implementation and provision of sanitation interventions in the sector.

### *5.6.2 Pro-poor Strategy*

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

During the FY 2017/2018, NWSC constructed 623 pro-poor facilities, the WSDFs and Umbrellas have constructed 301 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 38% for towns registered under Umbrellas.

NWSC is implementing the reviewed tariff structure. This is focusing mainly on reduction on pro-poor charges at Public Stand Pipes (PSPs) (from UGX 38 to 25 per 20 litre jerry can) and an upward adjustment of the domestic tariff (from 3,205 UGX/$m^3$ to 3,900 UGX/$m^3$ including VAT). The resulting revenue from the tariff rebalancing will enable cross-subsidization of pro-poor tariff and investments for Service Coverage Acceleration Program (SCAP 100) which aims at implementation of 20,000 PSPs over the next 3 years.

However, there is still a challenge with regulating the resale price. In this case most consumers have been exploited paying for 20 litre jerry can prices ranging from UGX 500 to about 1000. Although NWSC charges vendors only UGX 25 per 20 litre jerry can of water and Umbrellas charge flat rates, the poor population has continued to pay high costs in most small, large towns and Rural Growth Centres.

During the reporting period, the Performance Review Team (PRT) instituted by the Director DWD engaged with management of NWSC and a commitment was made to address the tariff irregularities. The

regional performance review meetings also highlighted this challenge and it was recommended that NWSC labels all kiosks with the approved tariff.

### 5.6.3 Regional Performance Reviews

In Q3, FY 2017/18, WURD conducted Regional Performance Review Meetings in the 6 Umbrellas of Water and Sanitation to assess their preparedness to undertake direct O&M for the several towns gazetted to them. NWSC Regional Managers were also met to follow up on the cost per 20 litre jerry can of water at public stand points that are meant to serve the poor under the pro-poor strategy. The target was the Regional Umbrella mangers and their technical teams, NWSC managers, Representatives from Water for Production, WSDF Managers, PSP attendants, scheme operators, plumbers, commercial officers and water users. A total of seven water supply systems were visited: Namayumba in Central, Masafu-Busia in Eastern, Nakapiripirit in Karamoja, Minakulu in Northern, Kaihura in Mid-West and Katuna in South-West and Muhanga (NWSC). Key among the issues discussed were non-revenue water, operation and maintenance of umbrella organization member schemes, assets management, reporting compliance, metering efficiency, billing and collection efficiency, tariff setting, customer protection, competition and pro-poor interventions.

The text box below presents a summary of issues identified and recommendations made during the reviews.

- High Non-Revenue water in some areas. Utilities were urged to ensure meters are installed at all consumer points (private meters and bulky meters) and utilities are encouraged to utilize the standardized guidelines for private and bulky meters.
- The integrity of information submitted through UPMiS is still lacking, and the Umbrella Authorities are urgently required to validate this information to avoid erroneous figures.
- Utilities NWSC and Umbrella Organizations do not have ownership of the land on which the facilities are installed. The Ministry needs to develop an implementation framework where land ownership is streamlined.
- Dissatisfaction with the tariff regime among consumers requiring a comprehensive tariff review in the sub sector as well as coming up with rural tariff for some rural areas and other innovations such as increasing block tariffs.
- Conflict among utilities resulting from different utilities operating in the same water supply areas. There is urgent need to map out the geographical locations within which the gazetted scheme covers.
- Utilities were generally found to be charging a tariff at PSPs that was above the approved tariff. They need to step up efforts in ensuring all PSP vendors charge a uniform tariff of 50 shillings per 20 litre jerry can of water by have price tags on the PSPs.
-

### 5.6.4 Management Responsibilities in Urban Water Supply and Sewerage Services

The management of piped water supply schemes in Uganda is the responsibility of gazetted Water Authorities as provided for in the Water Act Cap. 152. The management models applied by the Water

Authorities are; Utility management model (NWSC), Private Operator (PO) model and Scheme Operator (SO) model and Umbrella Model.

***Table 29: Number of gazetted schemes per area as of June 2018***

| Type of Authority SW | gazetted Schemes | Central | North | Karamoja | East | Mid-West |
|---|---|---|---|---|---|---|
| National Water and Sewerage Corporation * | | | 66 | | 236 | 66<br>104 |
| Local Government | 24 | 8 | 9 | 2 | 1 | 2<br>2 |
| Umbrellas of Water Supply & Sanitation ** | 255 | 70 | 45 | 23 | 45 | 36<br>36 |
| MANAGEMENT MODEL | | | | | | |
| Under Private Operators** | 9 | 1 | | | 4 | 4 |
| Under Scheme Operators** | | 100 | | 22 | 10<br>19 | 14<br>35 |

* Regions according to NWSC areas (Kampala is included into central)
** Regions according to Umbrella areas gotten from UPMIS

There are also cases of direct management by the local government authorities but this is against the sector guidelines. 146 (255 -109) towns are managed directly by staff employed by the Umbrella Organization.

### *5.6.5 Data collection and reporting*

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

The performance reports from the Local Governments (LGs) and Umbrella schemes have been provided in digital format through the web-based utility performance monitoring system (UPMIS). Data input is done using the dashboard on the internet or via SMS reporting for smaller schemes without reliable access to the internet. NWSC's quarterly and annual performance reports have been received in pdf

format via email. It is envisaged to also incorporate NWSC reporting into UPMIS for more effective performance analysis.

NWSC has fully complied with reporting requirements. With regard to Local Government and Umbrella managed schemes, of the 3,348 (279 *12months) expected monthly reports from 279 (24 +255) gazetted towns, 1,987 were received (59% report submission performance) from 234 towns which are available in UPMIS. However due to the incomplete and erroneous reporting which reduces the ability to analyse the performance, only 1,326 reports have been used for analysis of the performance of water supply services in the small towns and rural growth centres.

### 5.6.6 Performance Indicator 42: % of districts and Water Authorities that submit according to reporting requirements

With regard to reporting on the performance of Water Authorities the calculation is the '*Number of gazetted water schemes with published performance divided by total number of gazetted schemes*'. With 234 gazetted Water Authorities (towns/schemes) with published performance reports against the target of 279 gazetted schemes, the performance was **83.9%**.

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

The FY 2017/18 was the end of Performance Contract 5 (PC 5) which was signed between the NWSC and the Ministry of Water and Environment. The performance of the corporation throughout the entire contract exceeded the targets. This was attributed to changes within the corporation.

#### *Non-Revenue Water*

Despite numerous efforts by the NWSC, there have been challenges with meeting the targets NRW set in the Performance Contract. In year 1 there was a **99%** achievement of the set target, and this later dropped to **85%** in the second year and **86%** in the third year. This was attributed to the old infrastructure, faulty equipment, water theft and construction works that cut pipelines.

#### *Consumer Protection*

NWSC registered a performance of **84%** on its customer satisfaction index. WURD carried out an independent customer satisfaction survey and found that while there is a favourable opinion about the service that is being provided by the corporation among most consumers, there is dissatisfaction about the tariff level that is being charged for domestic connections with the consumers finding the levels charged to be high. [5]

### 5.6.8 Performance of Water Authorities in Small towns and RGCs

The Performance Contract 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.

Table 30 shows the performance trends with regard to the key performance. The analysis was based on the monthly performance data of piped water schemes.

***Table 30: Trends in Performance of Small Towns' Water Supply Systems***

| Performance Indicators | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 |
|---|---|---|---|---|---|---|---|---|
| 1. No. of gazetted Water Authorities with schemes | 95 | 107 | 110 | 116 | 116 | 77 | 147 | 279 |

[5] Dokolo,Kabale,Kabarole,Luwero,Mbale,Moroto,Nakaseke,Nauyo,Sironko

| Performance Indicators | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 |
|---|---|---|---|---|---|---|---|---|
| under WURD | | | | | | | | |
| 2. No. of Water Authorities reporting to WURD | 88 | 83 | 79 | 73 | 67 | 34[47] | 64 | 234 |
| 3.Weighted average Unit Cost of producing water [UGX/m3 sold]* | 1,245 | 1,329 | 1,186 | 1,233 | 1,453 | 1,683 | 1,422 | 2,048 |
| 4.Arithmetic average Unit Cost of producing water [UGX/m3 sold] ** | 1,784 | 2,316 | 1,977 | 1,769 | 2,012 | 2,576 | 1,561 | 2,186 |
| 5.Non-revenue water (N RW) [%] | 26 | 24 | 22 | 26 | 28 | 35 | 22 | 37 |
| 6.Water supplied [million m] | 3.942 | 3.459 | 3.512 | 2.953 | 2.520 | 1.322 | 0.964 | 1.388 |
| 7.Water sold [million m] | 2.937 | 2.637 | 2.746 | 2.195 | 1.815 | 0.854 | 0.797 | 0.979 |
| 8.Percentage funded by revenue | 130 | 110 | 127 | 135 | 132 | 123 | 119 | 140 |
| 9.Pipe extensions [k m] | 118 | 43 | 41 | 46 | 26 | 11 | 0.92 | 10 |
| 10.Total service connections [N o] | 41,130 | 45,858 | 54,404 | 46,082 | 33,502 | 17,876 | 12,421 | 33,107 |
| 11.Collection efficiency [%] | 92 | 91 | 90 | 89 | 92 | 93 | 83 | 80 |
| 12.Functionality [%]*** | 87 | 84 | 87 | 89 | 92 | 94 | 92 | 92 |

* Calculated as total operation cost in all towns / total volume of water sold in all towns
** calculated as sum of all unit cost in all towns / number of towns

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

[47]The figures of the performance indicators are based on the 1,326 received reports, no extrapolations for missing reports considered

### 5.6.9 Urban Water O&M Conditional Grant for FY2017/18

During the FY 2017/18, a total of 11 Water Authorities and Umbrellas of Water and Sanitation received support from the Government of Uganda in form of conditional Grants for O&M. The main objective of the grant is to assist in subsidizing on the costs for energy, addressing unique system challenges and increasing coverage and access.

The amount of Urban Water O&M Grant for FY 2017/18 released to Water Authorities and Umbrellas totalled to UGX 2.5 billion. Of this, 2% was to support small towns in offsetting operational costs while 98% was transferred to the umbrella organizations to support member schemes totalling to 462 country-wide.

The increase in funding for Umbrellas from 91.2% in FY 2016/17 to 98% in FY 2017/18 was partly because of the additional mandate after being gazetted as water authorities.

During the reporting period, the regulator assessed the utilization of conditional grant funds. From the assessment, the regulator strongly recommends that the conditional grant allocation should be streamlined. The implementation of this recommendation will ease tracking of the funds utilization.

### 5.6.10 Customer Care engagements

During the FY 17/18, a Customer Satisfaction survey was carried out in the 6 regions of Central, Eastern, Northern, Mid-western, South-western and Karamoja for areas served by the Umbrella Water Authorities and NWSC. The study was supported by WaterAid Uganda and sought to i) Determine the level of

accessibility and affordability among water users, ii) Determine the level of satisfaction in relation to water quality, iii) Establish the level of reliability of water supply services and iv) Establish the quality of water service provision among the different water supply service providers. The key highlights from the study are:

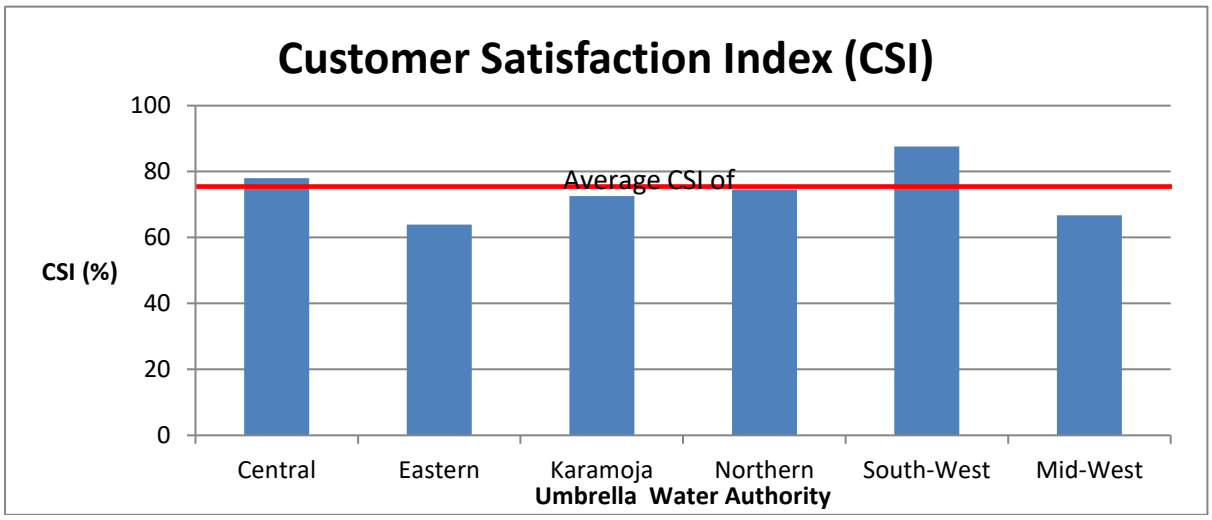
- The quality of water supplied generally meets the customers' expectations.
- There is an opportunity for utilities to increase access to water supply services since there is a general awareness about new connection fees and ability to pay appears to be good.
- The Ministry can consider a review of the tariff structure to consider innovations such as increasing block tariff as well as continuous sensitization for the consumers.
- A high number of respondents said their preference was to pay their bills to officers in the field or at offices due to the convenience this provides the customer.

***Study Recommendations***

1. Whereas it is difficult for customers to appreciate the tariff charged, findings show a high number of customers are not comfortable with the current tariff regime. This inevitably requires a comprehensive review of the tariff structure and consideration of innovations such as increasing block tariff as well as continuous sensitization and engagement with consumers.

2. Routine and timely satisfaction surveys are recommended to check water service levels for sustainability of water supply service provision.

Overall, the customer satisfaction index for Umbrella Water Authorities is at 74%. Based on the different regions, South-West has the highest 87.6% followed by Central with 78% while Eastern has the least with about 64%.




### *5.6.11* way forward

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

- With regard to Pro-poor; NWSC needs to step up efforts in ensuring all PSP vendors charge a uniform tariff of UGX 50 per 20 litre jerry can of water by having price tags on the PSPs. There is also need to

have a formalized 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.

- In regards to water quality, there is need to enforce the issue of permits (abstraction and discharge permits).
- There is need for GIS/GPS mapping to be adopted to enhance the gazetting process by establishing boundaries using coordinates.
- Water Safety Plans (WSPs) have been included in the Ugandan regulation since 2008. Following the recommendations from the High Level Meeting on WSPs organized by IHE Delft in collaboration with NWSC, MUK and EAWAG Switzerland, it was agreed that WURD spearhead the auditing of WSPs. WSPs ensure the safety of drinking water through the use of comprehensive risk management approach that encompasses all steps in water supply from catchment to consumer.

WATER FOR PRODUCTION

## 6.1 Introduction

Water for Production (WfP) refers to development and utilization 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, degradation of natural resources, force account to service delivery reducing the construction costs of dams and valley tanks through Pre-feasibility studies. 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.

***Implementation of WfP objectives***

MWE is 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 GoU funding and medium scale Irrigation schemes under the Farm Income and Enhancement and Forestry Conservation (FIEFOC) Project 2 and it's in funds. MWE also operates and manages earth moving equipment for construction of valley tanks, hired out to individual farmers at subsidized 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).

***Facilities constructed by MWE***

Water for Production 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.

***National Irrigation Policy***

The National Irrigation Policy was approved by Cabinet on 12/02/2018. The Policy sets out a Goal of ensuring sustainable availability of water for Irrigation and its efficient use for enhanced crop production, productivity and profitability to contribute to food security and wealth creation. The Policy targets an additional One Million Five Hundred Thousand Hectares (1,500,000 Ha) to be irrigated by 2040.

Globally, irrigated land produces 40% of Global food (IFAD, 2005). However in Uganda today only 0.2% (15,000 hectares) out of an estimated 8.85 million hectares of farm land is irrigated. This is less than 0.5% of the irrigation potential (3,030,000 Hectares). The rest is dependent on rainfall.

## 6.2 WfP Performance in FY 2017/18

Table 31 provides a summary of the achievements against planned outputs.

***Table 31: Performance of Planned Projects and Programmes in FY 2017/18***

| Planned output | Achieved Output | Remarks |
|---|---|---|
| Sustainable management systems established at existing/old WfP facilities (Farmer Field Schools (FFS)). | Forty (40) FFS were established at WfP facilities in the Districts of Sembabule, Kiboga, Mubende, Luweero, Nakaseke and Nakasongola. | Farmers are trained in agronomy practices, agribusiness development, and value addition, and financial resource mobilization, integration of agriculture activities into Operation and maintenance of the WfP facilities. Farmers were trained for a period of eighteen (18) months and those who successfully demonstrated the skills acquired in their gardens graduated. |
| Construction of Rwengaaju Irrigation Scheme in Kabarole District (20% Progress) | Works estimated at 12% cumulative progress. | Progress affected by compensation of the Project affected persons along the pipeline. |
| Construction of Nine (9) Valley tanks in Apac, Otuke and Katakwi Districts under the Water Supply and Sanitation Programme (WSSP) | Construction of Nine Valley tanks in the Districts of Otuke (65%), Apac (51%) and Katakwi (85%). | Progress affected by weather conditions. Some sites filled up with water making construction difficult. |
| Construction of Fourteen (14) Windmill powered watering Supply Systems in Karamoja Sub-region | Construction of Fourteen (14) Windmill powered watering Supply Systems in Karamoja Sub-region is at 60% cumulative progress | Progress affected by late delivery of wind turbines from South Africa |
| Construction of Mabira Dam in Mbarara District | Construction of Mabira Dam in Mbarara District is at 73% cumulative progress | Progress affected by land acquisition/compensation for the reservoir tank area |
| Construction of WfP facilities countrywide using MWE's WfP equipment | Constructed 106 Valley tanks on Individual farms | Isingiro (20), Mbarara (25), Kiruhura (16), Lyantonde (13), Tororo (1), Soroti (1), Kaberamaido (1), Bukedea (1), Gomba (7), Kabarole (4), Kamuli (1), Kiboga (1), Katakwi (1), Kitgum (1), Kyankwanzi (4), Lwengo (3), Ntungamo (1) and Sembabule (5) creating a storage capacity of 357,420m3 using Ministry WfP Equipment. |
| Construction of Small Scale Irrigation systems countrywide | Completed the construction of Sixteen (16) Small scale Irrigation schemes in the Districts of Bugiri, Soroti, Abim, Amuria, Kaabong, Napak, Oyam, Alebtong, | Construction of twenty one (21) Small scale Irrigation schemes is ongoing at various stages of progress in the Districts of Katakwi, Kaabong, Ngora, Kamuli, Bukedea, Iganga, Tororo, Kaberamaido, Bushenyi, Mubende, Kyankwanzi, Bushenyi, Isingiro, Kiboga, Mbarara, Mubende, |

| Planned output | Achieved Output | Remarks |
|---|---|---|
| | Lira, Nwoya, Lwengo, Mbarara, Isingiro, Mukono, Rukiga and Masaka. | Lyantonde, Mityana, Gulu, Zombo and Adjumani. |
| Construction of four (04) Communal valley tanks in the Districts of Kiruhura, Gomba, Kyegegwa and Kiboga | Completed construction of the four valley tanks | Yet to be commissioned |
| Olweny Irrigation Scheme (95% completion) of civil works constructed, under FIEFOC Project | Olweny irrigation scheme construction works is at 92% cumulative progress. | |
| Feasibility studies for 14No. Multi-purpose dams in Karamoja Sub-region | 20% progress (Inception report submitted) | |
| Design of Bulk Water Systems for Sanga-Kikatsi-Kanyaryeru in Kiruhura District and Kagera Multi-purpose system in Isingiro district | Design of Bulk Water Systems for Sanga-Kikatsi-Kanyaryeru in Kiruhura District and Kagera Multi-purpose system in Isingiro District is at Procurement stage (Evaluation of Bids). | |
| 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 | Inception phase. | |

### 6.3 Operation & Maintenance of WfP facilities

To ensure sustainability, boost the management and effective use of WfP facilities, the department 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.

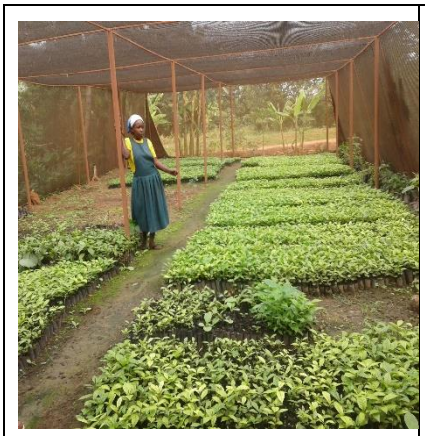
**Case study of Farmer Field Schools (FFS) established in Mubende District**

In Mubende District a total number of nine (9) FFS have been established at the valley tanks of Lukaya, Katongole and Lwenyange. Three (3) FFS at each valley tank with 25 members per FFS. The FFS have both men and women, and in Mubende District women have actively joined the groups to a tune of 80%. These FFS groups are trained in the areas of Livestock nutrition and pasture conservation, Livestock disease management, improved management of poultry and small ruminants, integrated pest management of common crops, Soil and water conservation, Climate smart technologies i.e. simple and cost effective irrigation methods, Post-harvest handling and management, Livelihood and entrepreneurial skills in farming as a business, savings mobilization and Group marketing of their bulk products.

This has led to increased production, easy marketing of products and improved livelihoods of the people around the facilities. Through this, the created storage in the valley tanks is put to effective use and out of the collected money from the sale of the agricultural products 5% is saved for operation and maintenance of the facilities.

This approach has addressed the issue of contribution of O&M fees by Users. In this approach, farmers contribute 20% of their savings towards O&M fees.

**Impact of Farmer Field Schools Approach**

| | | |
|---|---|---|
|  |  |  |
| *Nursery bed under FFS in Kiboga District* | *Implementation of best farming practices through FFS near Maggi Valley tank in Kiboga District* | *FFS near Bamusuta Valley tank in Nakasongola District* |

**Graduation Ceremonies of Farmer Field School (FFS)**

**Impact of Small Scale Irrigation systems installed**

*Egg plants being grown on Oyam farm*

*Youth group harvests onions at Ojikai Small Scale Irrigation Scheme in Sororti District*

## 6.4 Status and trends of key indicators

***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.

### *6.4.1 Performance Indicator 18: % of water for production facilities that are functional at the time of spot-check*

Functionality was assessed for all facilities constructed between 2000 – 2018, 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 32 below. This year's functionality rate for WfP facilities is at **86.7%** (including the newly constructed facilities in FY2017/18). The data is based on a total of 1,282 valley tanks, 34 dams, and 4 medium scale Irrigation schemes and installed 16 small scale Irrigation systems.

***Table 32: Functionality of earth dams, valley tanks, small scale Irrigation systems and medium scale Irrigation schemes as at June 30th, 2018***

| Functionality Level | Description | Total |
|---|---|---|
| Fully Functional | 100% functional, i.e. without any damage | 86.7% |
| Partially Functional | Operational but with reduced functionality due to siltation, pump breakdown or other problems | 12.6% |
| Non-Functional | Not operational at all | 0.7% |

***Source: Data for valley tanks, dams, small and medium scale Irrigation schemes constructed from 2000 – 2018 covered in WfP Database – MWE***

**Table 33: Functionality status per facility type as at June 30th, 2018**

| Functionality Status | Valley tanks | | Dams | | Small Scale Irrigation Systems | | Medium Scale Irrigation schemes | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **No.** | **%age** | **No.** | **%age** | **No.** | **%age** | **No.** | **%age** | **No.** | **%age** |
| Fully Functional | 1,115 | 87 | 23 | 67.6 | 16 | 100 | 4 | 100 | **1,158** | **86.7** |
| Partially Functional | 159 | 12.4 | 9 | 26.5 | 0 | 0 | 0 | 0 | **168** | **12.6** |
| Non-Functional | 8 | 0.6 | 2 | 5.9 | 0 | 0 | 0 | 0 | **10** | **0.7** |
| **Total** | **1,282** | **100** | **34** | **100** | **16** | **100** | **4** | **100** | **1,336** | **100** |

***Source: Data for 1,336 valley tanks, dams, small and medium scale Irrigation schemes constructed from 2000 - 2018 covered in WfP -Database – MWE***

During FY2017/18, MWE worked towards improving functionality status for the partially functional facilities. These facilities serve 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.

### *6.4.2 Performance Indicator 15: Cumulative WfP Storage Capacity*

The 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 457,800$m^3$. By the end of FY 2017/2018, the cumulative WfP storage had increased from 38.865 million cubic meters in FY 2016/2017, to **39.32 million cubic meters.**

***Table 34: Volumes of WfP storage created through construction of various WfP facilities in FY 2017/18.***

Cumulative Volume Created

| S/n | Water for Production Facility | | % Completion as at 30th June 2017 | % Completion as at 30th June 2018 | Progress btn 30th June 2017 and 30th June 2018 | Design Capacity (m3) | Volume Created | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Dams | Valley Tanks |
| 1 | Construction of Nine (09) Valley tanks in Apac, Otuke and Katakwi Districts | | 0% | 67% | 67% | 90,000 | | 60,300 |
| 2 | Construction of Four (04) Communal Valley tanks in the Districts of Lwengo, Kazo, Isingiro and Kiboga | | 0% | 100% | 100% | 40,000 | | 40,000 |
| 3 | Ministry Equipment | Eastern Region | 0% | 100% | 06 no. | 5000@ | | 30,000 |
| | | Western Region | 0% | 100% | 79 no. | 3000@ | | 276,500 |
| | | Central Region | 0% | 100% | 20 no. | 2500@ | | 50,000 |
| | | Northern Region | 0% | 100% | 1 no. | 1000@ | | 1,000 |
| | | **Sub Total 1** | | | | | - | **457,800** |
| | | **Sub Total 2** | | | | | | 457,800 |
| | | | | | | | | |
| | **TOTAL VOLUME CREATED (m3)** | | | | | | | **457,800** |

6.4.3 Performance Indicator 7: Proportion of irrigation potential developed

In Financial Year 2017/18, the Ministry under Water for Production Department embanked 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 and

completed construction of Seventeen (16) Small Scale Solar Powered Irrigation Systems in the Districts of Bugiri, Soroti, Abim, Amuria, Kaabong, Napak, Oyam, Alebtong, Lira, Nwoya, Lwengo, Mbarara, Isingiro, Mukono, Rukiga and Masaka. Works are ongoing for construction of more twenty (21) Small Scale Solar Powered Irrigation Systems in the Districts of Katakwi, Kaabong, Ngora, Kamuli, Bukedea, Iganga, Tororo, Kaberamaido, Bushenyi, Mubende, Kyankwanzi, Bushenyi, Isingiro, Kiboga, Mbarara, Mubende, Lyantonde, Mityana, Gulu, Zombo and Adjumani.

Through this intervention, the Department has been able to create more Irrigable land of about 146.9ha (362.8acres). This has increased Uganda's farm land under Irrigation from 15,000ha to **15,0146.9ha.**

### *6.4.4 Performance Indicator 9: Management of Water Points*

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 2017/18 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 35: Community Management of WfP facilities constructed between 2000 – 2018 as at June 30th 2018***

| Facility Type | Total No. of Facilities | Under community management | | With established WUC | | With functioning WUC | |
|---|---|---|---|---|---|---|---|
| | | No. | %age | No. | %age | No. | %age |
| Valley Tanks | 1176 | 309 | 26% | 309 | 100% | 261 | 84% |
| Dams | 34 | 34 | 100% | 34 | 100% | 24 | 71% |
| Small scale Irrigation systems | 16 | 16 | 100% | 16 | 100% | 16 | 100% |
| Medium scale Irrigation schemes | 4 | 4 | 100% | 4 | 100% | 4 | 100% |
| **Total** | **1,230** | **363** | **30%** | **363** | **100%** | **305** | **84%** |

***Source: MWE WfP Database***

In Table 35, the total number of facilities (dams and valley tanks) constructed from 2000 to 2017 is 1,230 for 121 districts so far covered in the WfP database; the department is in the final procurement process for collecting data from all the 121 districts in the Country. Out of 1,230, 363 facilities are under community management system with established Water User Committees, and 305 Water User Committees were still fully functional at the time of spot check. The rest of the facilities (925) are non-communal and managed by individual farmers (constructed using MWE equipment under Public Private Partnership (PPP) arrangement).

A total of 1176 valley tanks were constructed from 2000-2018; among these 309 valley tanks (26%) are under community based management system. All the 363 valley tanks under CBMS have established Water User Committees (WUCs) and 305 (84%) were fully functional at the time of spot check. A total of 34 dams were constructed from 2000-2017, all are under CBMS, and 24 Water User Committees (71 %) were fully functional at the time of spot check.

**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, 973 valley tanks have been

constructed under this arrangement since 2008. This FY 2017/18 a total of 106 valley tanks have been constructed. The numbers are attributed to intensive sensitization that has brought more farmers on board. Firstly, there is no question of ownership as each facility is privately owned by an individual farmer. All the facilities constructed in Isingiro, Mbarara, Kiruhura, Lyantonde, Tororo, Soroti, Kaberamaido, Bukedea, Gomba, Kabarole, Kamuli, Kiboga, Katakwi, Kitgum, Kyankwanzi, Lwengo, Ntungamo and Sembabule 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.

# 6. WATER RESOURCES MANAGEMENT

## 7.1 Introduction

The priority interventions for Water Resources Management during the FY 2017/18 were as follows:

- Continued 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 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
- Continued active participation in transboundary water resources management programmes under the Nile Basin Initiative, East African Community (EAC)/Lake Victoria Basin Commission and Intergovernmental Authority on Development (IGAD) to ensure that Uganda's interests are safeguarded.
- Continued implementation of the National Water Quality Management Strategy through upgrading of the Entebbe water quality laboratory to a national reference laboratory, establishment and operation of regional laboratories in WMZs and development of water quality guidelines and standards for various emerging issues such as oil drilling and emergency response etc.
- Support to the Water Policy Committee (WPC) to enable it to provide policy advice to the Minister of Water and Environment and other government agencies on integrated and sustainable management and development of water resources of Uganda.
- Continued 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.

## 7.2 Water resources monitoring and assessment

### *7.2.1 Water resources monitoring and assessment*

Water Resources data and information is a critical requirement for socio-economic development. MWE manages a water quantity information system through operation of a network of surface water and groundwater stations that daily collect data on the amount of water in different lakes, rivers and groundwater aquifers. The information is used to design infrastructure such as water supply schemes, bridges, hydro power schemes, real time data is used to provide forecasts for floods and droughts in order to warn and protect communities that may be affected. Information is also used to assess long term variation of water resources in response to climatic variability and climate change to understand and guide water allocation for different uses.

In line with this mandate, table 36 shows the outputs that were planned for the financial year 2017/2018.

***Table 36: Summary of Achievements for the FY 2017/18***

| Planned Output | Achieved Output | Remarks |
|---|---|---|
| Operate and maintain water information system<br>- 110 Surface water stations<br>- 40 groundwater stations<br>- Update of databases<br>- Information dissemination | 48 surface water stations using the manual transmission system operated<br>30 groundwater stations operated and maintained | 18 surface water stations not rehabilitated due to lack of funds<br>8 surface water stations and 4 groundwater stations vandalised<br>32 telemetric surface water stations and 17 telemetric groundwater stations not operated due to lack of funds<br>4 surface water stations demolished during road constructions |
| Upgrade of stations to telemetry | 32 surface water and 17 groundwater were upgraded | Construction completed but still testing and configuring data transmission, storage and analysis systems |
| Routine maintenance and rehabilitation of other groundwater and surface water stations in the monitoring network | Has been constrained by inadequate funds. However UNDP have provided the equipment and spare parts and these are in the stores | Equipment to maintain and rehabilitate the stations will be installed once funds become available. |
| Annual WR Status Report 2017 produced and widely disseminated | Not done | Funds for the activity not adequate |
| Annual year book prepared and disseminated | A consolidated year book for the period 1978 to 2017 was prepared. | It will be widely published and disseminated |
| Develop a comprehensive QC/QA System | A Quality control system and tools are in now in place. | The comprehensive framework that is accredited by the World Meteorological Organization (WMO) is now required. |
| Awareness strategy on WR data and information developed and implemented | Regular sensitization meetings with district local governments have been held to prevent vandalization of equipment. Pilots for dissemination of early warning systems for flood risk management have | |

| Planned Output | Achieved Output | Remarks |
|---|---|---|
| | been initiated in collaboration with the Ministry of Disaster management and the Red cross society | |
| Review and update the water resources monitoring strategy that focuses on threatened catchments | An inventory of the threatened catchments and criteria of categorization determined based on the content of the few existing catchment management plans that have been prepared under the different Water Management Zones (WMZs). | The updated monitoring strategy will now take into account the proposed inventions and the requirements for evaluation of their effectiveness in the long term within threatened catchments. This activity will be completed under the one year no cost extension with GoU funding. |
| Finalize the flood management strategy | Action Plan for managing the priority area of Nyamwamba River in the Rwenzori area completed | Technical Assistance with preparation of the strategy is ongoing |
| Set up of the forecasting Unit | The road map and requirements for setting up and equipping the unit have now been elaborated with support from GIZ | Funding will be solicited to implement the roadmap and procure equipment required |

In the sections that follow, detailed descriptions of the achieved outputs is provided.

### *7.2.2 Surface, Ground Water Monitoring and Information Management*

The three core functions under water information system are the groundwater monitoring, surface water monitoring and information management. During the reporting period, a total of 30 groundwater and 48 surface water stations were operated and maintained. The stations numbers are tabulated below.

***Table 37: Surface and ground water station***

| Zone | Surface water | Groundwater |
|---|---|---|
| **Albert WMZ** | 12 | 8 |
| **Kyoga WMZ** | 16 | 8 |
| **Upper Nile WMZ** | 6 | 5 |
| **Victoria WMZ** | 14 | 9 |

Maintenance of the monitoring stations is challenging and this tends to affect the quality of data generated. The challenges that constrain the operations are related to a lack of recurrent budget to operate and maintain the station network. Most stations are located in natural river sites that require regular maintenance to keep them free of weeds, bush, silt and the effects of regular alteration of their

embankment by recurring floods. Such stations require regular maintenance and rating curve updates to avoid inaccuracies in flow estimation. One remedy being considered is to equip such stations with proper hydraulic structures that ensure that river control or gauging station sites are stabilised to enhance the quality of data.

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 below illustrates how water levels have tended to vary in Lake Victoria during this reporting period.

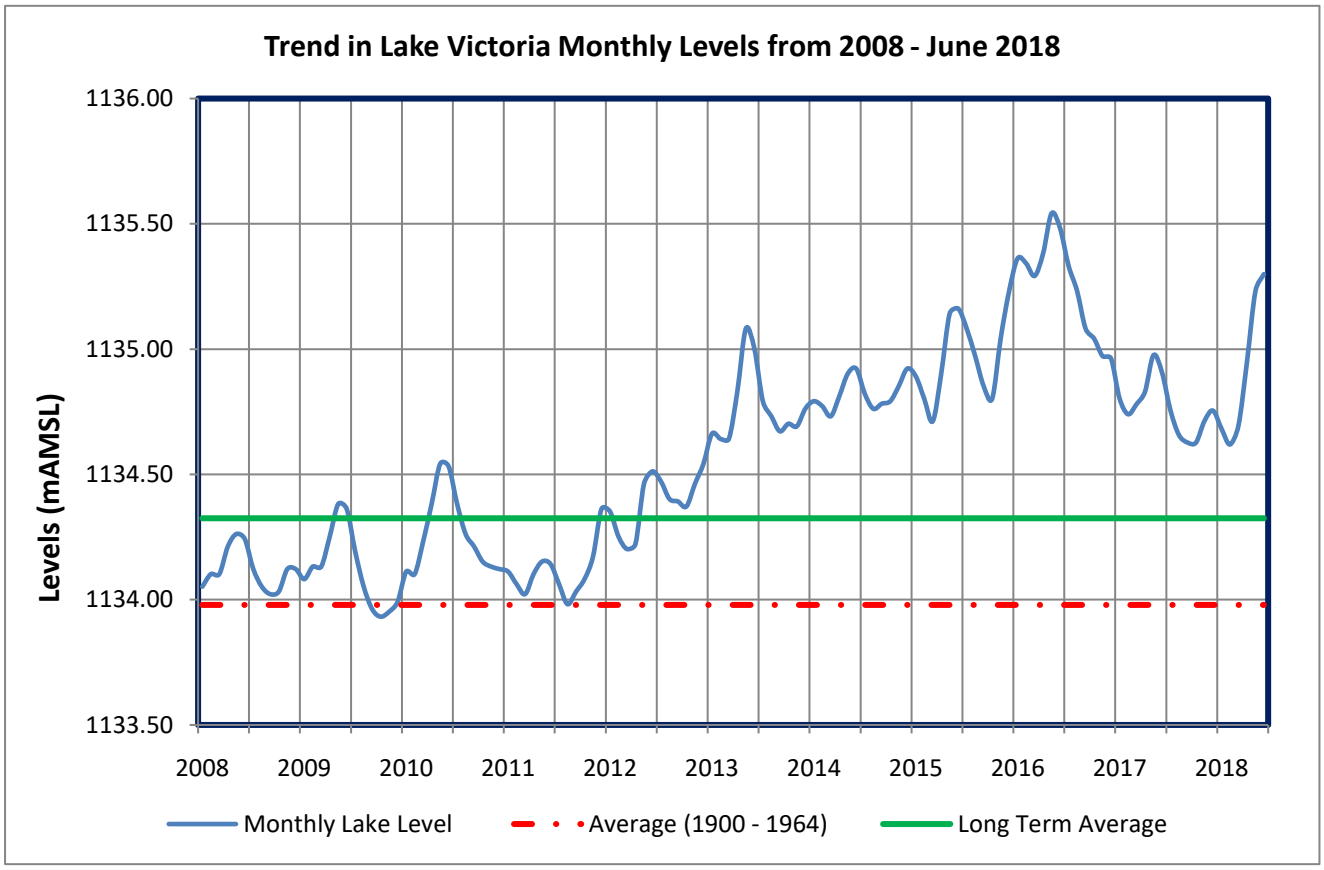



***Figure 22: Variation in Lake Victoria Water Levels from 2008 to June 2018***

Water levels have fluctuated around the 1134.8 m mark, rising to 1135.3 between April and June this year. 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 24 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, there was no NBS to the lake and as such the net effect was a reduction in water levels during 2017. This lack of NBS during 2016 can be attributed to a number of factors, draught being among them. Fortunately, there was an increase in the NBS during 2017 and the net effect was an increase in lake levels during 2018 as indicated in figure 23 above.

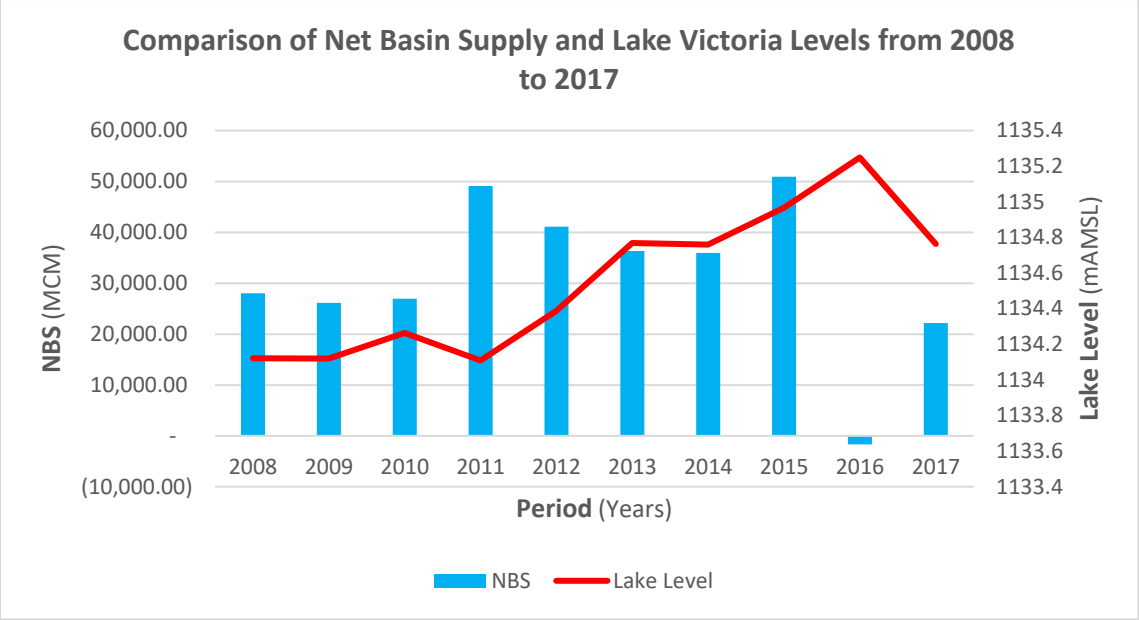



***Figure 23: Comparison of NBS and Lake Victoria Levels from 2008 to 2017***

In a similar manner the figure below illustrated the water level variation with a selected aquifer in western Uganda at Kimengo in Masindi district.

Variation of groundwater levels in this aquifer does not reflect a bimodal replenishment of direct precipitation. Groundwater variations in this record, reflects an isolated aquifer system that is directly not dependent on precipitation as its source of recharge. Groundwater levels in Masindi have steadily increased as observed in the red trend line.

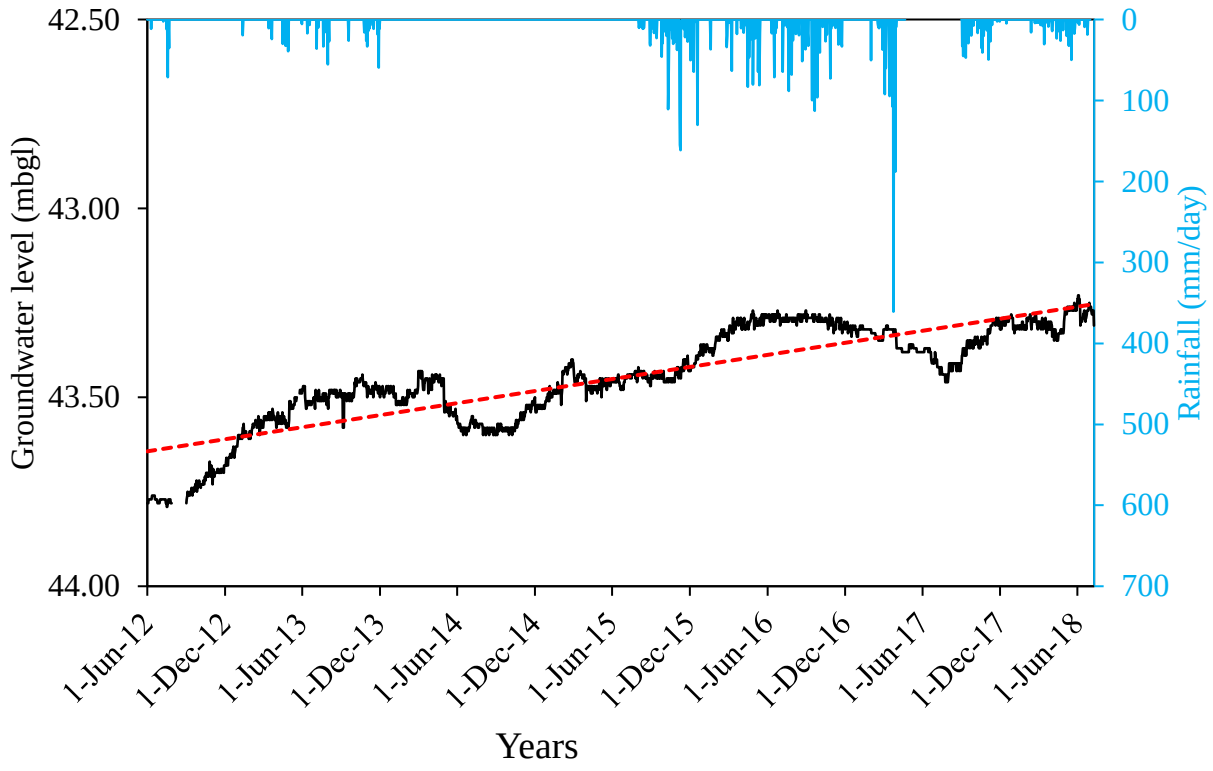



***Figure 24: Groundwater levels in Kimengo indicating an increase.***

### 7.2.3 Dissemination of water resources data and information to users

Requests for water resources data were received from the public, Government agencies, Private Sector and Academia. All requests for data received were attended to and data disseminated. For example, hydrologic data for the years 1949 to 2017 was disseminated to UNRA for the design of ferry navigation routes for Kiyindi - Buvuma and Bukungu, Kabermaido. Similarly the design for Sipi and Sironko irrigation scheme designs has been facilitated based on data generated for the period 2012 to 2017. Data collected and archived by the department has been utilized to design adaptation plans and catchment management strategies for the Katonga. Hydrological data has also been used in development of the hydrology module for the Drought and Flood Management System (DFMS) being developed by the RHEA Group in partnership with the Ministry of Water and Environment. Two assessments for design of mini-hydropower plants on River Agago and River Nyahuka were undertaken based on the hydrological data generated during this reporting period.

### 7.2.4 Upgrade of stations to Telementry

Additional twenty-four surface water stations and ten groundwater stations have been upgraded from manual to real time data transmission and staff have been trained in the installation and maintenance of the stations with support from UNDP and World Bank. Acquisition of real time data from telemetric stations is a major component in the development of an Early Warning System (EWS) since it enables quick dissemination of the resulting information products to the responsible people in other agencies and on the ground, the affected public and researchers. EWS is particularly more important now than ever before due to increased magnitude, frequency and unpredictability of extreme weather events. The map in the figure below shows the distribution of the stations that have been equipped with telemetric equipment and those that are still being manually operated i.e. referred to as 'offline'.

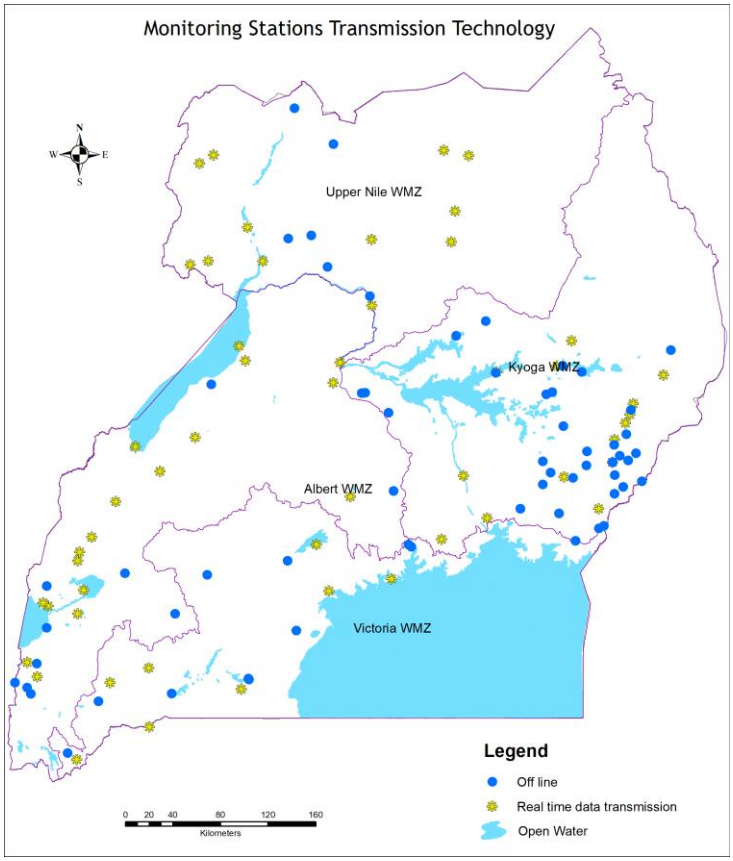



***Figure 25: Location of Monitoring Station***

#### *7.2.4 Development of a quality assurance management manual for water resources data*

A quality assurance/management manual for water resources data was prepared. The manual is useful for ensuring that the data collected meets international standards. This was necessitated by new advances in technology, upgrade of water resources monitoring stations and new requirements for the system. The new system will enable a move from the old tedious quality control manual systems to a more robust and automated system. This will ensure that all incoming data are quality assured and archived within the shortest time possible. It is also a consolidated system encompassing manuals on surface water, groundwater, spatial and meteorological data which implies that all data received by DWRM is covered by the new system. The manual will support the generation of quality controlled datasets that will be used in planning and design water projects, decision making and offering advice on available water resources for their development and sustainable management.

#### *7.2.4 Development of a policy on data access and dissemination*

The process of developing a policy on data access and dissemination is ongoing. Such a policy will spell out what data is available to users, how it can be accessed and procedures for its acquisition. The policy will also spells out the period one is expected to receive the data after submitting his/her application. It is expected that more data will be disseminated to users through this policy as the number of users is expected to rise and this will in turn lead to a significant increment in Non-Tax Revenue generated by DWRM through the sale of water resources data.

#### *7.2.5 Support towards the setup of the water resources modelling and forecasting unit*

In order to improve water resources management and address impacts of emerging issues such as climate change, MWE intends to set up a dedicated modelling and forecasting unit. During the reporting period, the report on the assessment for requirements to set up a water resources modelling and forecasting unit was prepared. Funding to support this initiative has been extended by the GIZ RUWASS Program. A capacity and needs assessment has been completed. An enabling institutional framework, desired products and services have been elaborated. A stakeholder consultation workshop has also been held.

### 7.3 Water resources planning and regulation

#### *7.3.1 Permits applications and assessment*

During the reporting period 232 new permits applications were received and all of them were assessed. Out of the total permit applications received 148 were recommended for permit issuance. In addition 193 Permit applications for renewal were received and of these 146 were recommended for permit issuance. Some of the applications were not approved for renewal due to mainly non-compliance to permit conditions such as: i) submission of self-monitoring data for abstraction and/ or discharge and ii) non-payment of annual water use fees even 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 department has communicated its decision to these all permit holders. Overall, 294 permits (148 new and 146 renewal) were issued compared to 296 issued last FY. The number of permit issued is almost the same as last years. 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 still awaits for complete field assessment. Figure 27 shows the numbers of water permit applications received, assessed, and issued over the last seven years.

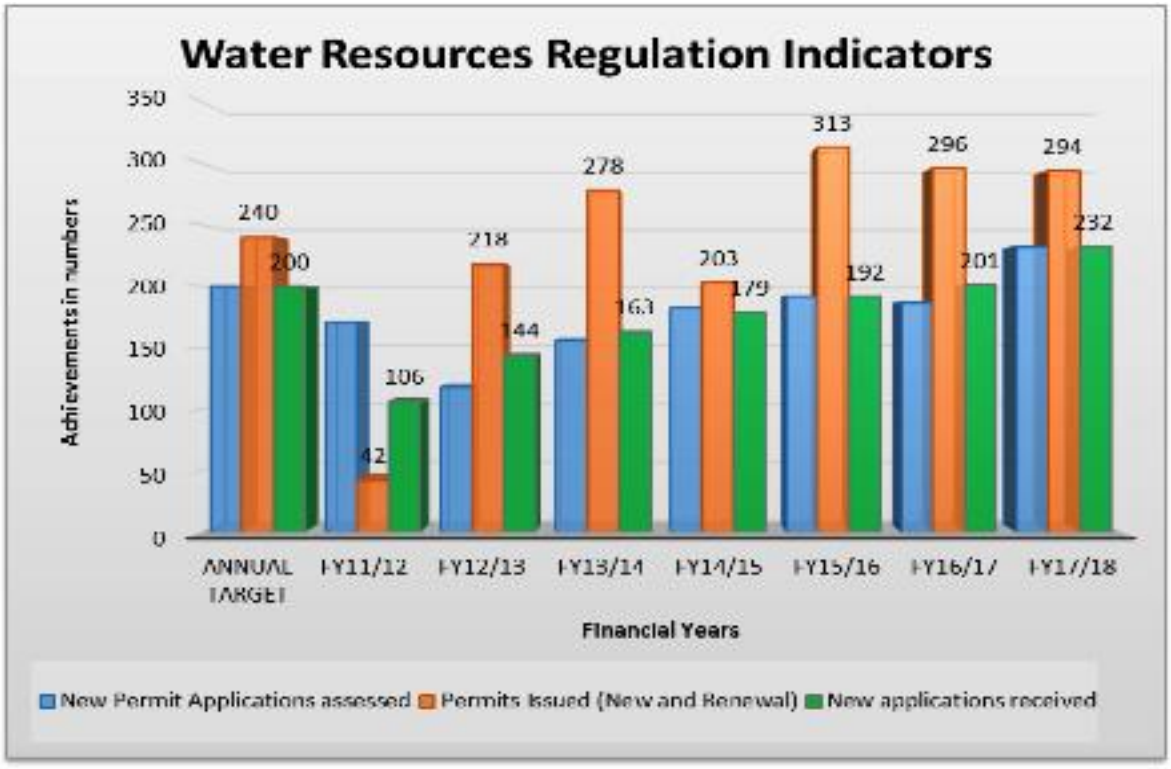



***Figure 26: Trends of water permit applications received and permits issued over the last seven years***

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.

### *7.3.2 Compliance to Water Act Cap 152 and Water Resources Regulations*

In an effort to ensure compliance to the Water Act and Water Resources Regulations by all those abstracting water resources and discharging waste water into the environment, a nationwide water regulation campaign was initiated in FY 2016/17. The aim of the campaign was to identify illegal water users and waste water dischargers and assist them to regularize their water use or water discharge through application for relevant water permits, and monitor and enforce compliance to the Water Act and relevant regulations, and water permit conditions. The second phase of campaign was initiated in FY 2017/18 and will continue into FY 2018/19. As a result of the campaign many illegal water users and waste water dischargers were identified and assisted to apply for water permits. The bulk of illegal water users are Umbrella Organizations and NWSC managed schemes, District Local Government managed schemes and Schools. The table below shows the achievements of the campaign per Water Management Zone. Based on these impressive results it is planned to continue the campaign to ensure that water users and waste water dischargers without permits are identified and assisted to apply for permits. The campaign has also noted that there are very many private water users with motorised boreholes in urban gazetted areas and efforts are being made to harmonize this situation with Water Authorities in these areas.

***Table 38: List of identified water users without permits per Water Management Zone***

| No. | Water Management Zone | No. of illegal water users Identified |
|---|---|---|
| 1 | Victoria Water Management Zone | 195 |
| 2 | Albert Water Management Zone | 273 |
| 3 | Kyoga Water Management Zone | 160 |
| 4 | Upper Nile Water Management Zone | 166 |

### *7.3.3 Compliance to permit conditions*

The performance 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.

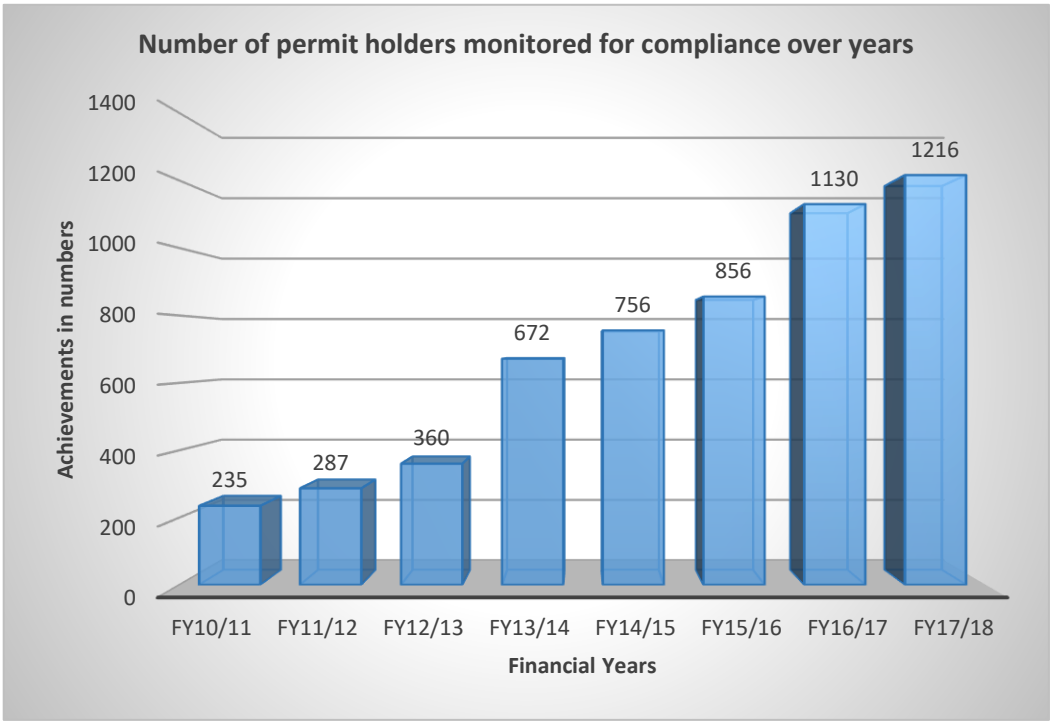



***Figure 27: Trends of Number of Permit Holders Monitored for Compliance over the last 8 years***

A total of 1216 of 1,548 (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 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 39: 1Compliance to permit conditions FY 2017/18***

| Type of permit | Permit Condition | Total No. of Permit Holders monitored | No. of permits complying | Percentage compliance (%) FY2017/18 |
|---|---|---|---|---|
| **Waste water discharge** | Effluent discharge | 182 | 115 | 63 |
| **Surface water** | Abstracting within permitted amount | 249 | 200 | 78 |
| **Groundwater** | Abstracting within permitted amount | 730 | 553 | 76 |
| **Drilling** | Quarterly submission of Borehole Completion Reports | 55 | 53 | 96 |
| **Total** | | 1,216 | 921 | 78 |

Table 39 above 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 72%, up from 71% in the previous financial year. Majority of the permit holders generally complied with the permit conditions with the conditions such as i) quarterly data submission on daily volume of water consumed ii) installation of bulk water meter iii) tested raw water samples and submitted the water quality analysis reports timely 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. In general compliance to water abstraction permit conditions improved from 74% to 77% this FY.

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

Compliance to waste water discharge permit conditions improved from 59% to 63% this FY. 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, **415** 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[6]) 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, and enforcement and public-private sector dialogues. This reporting year Pollution Task Force has expanded its geographical scope to include metropolitan Kampala and it is working to achieve the following objectives:

- Promote **information exchange and collaboration** among key government agencies that have the mandate towards a pollution free environment, to jointly engage the public and private sector regarding legal provisions and regulations on, waste management and catchment management.
- Initiate campaigns to **enhance compliance** to environmental regulations.
- Conduct and analyse **joint industrial assessments** and disseminate pollution monitoring information to the public and private sector.
- Engage potential priority polluters and the public sector in a **Public-Private Dialogue**, on air pollution, waste management and catchment management to increase awareness and trust.
- **Promote transparency** of policy making, regulation, and enforcement in order to empower stakeholders to act as partners of government authorities/agencies
- **Develop the capacity** of especially of private industrial enterprises on pollution free measures and technologies
- **Carry on research** and studies that inform on better and innovative practices for managing waste (solid, wastewater, faecal sludge) in the Greater Kampala.

**Box 1: 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 regulatory agencies such as NEMA, NWSC, KCCA, and DWRM, and UCPC and UMA was instituted, with support from GIZ, and 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 year the PTF has realised a number of achievements as follows:**

1. Joint inspections to over 40 industries 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. **The task force has undertaken environmental studies on the Kinawataka and Nakivubo sub-watersheds of the inner Murchison bay to create a baseline for future assessments. Both the Kinawataka and Nakivubo final reports proposed a water quality monitoring framework to keep record on the trends of water quality changes along the resident streams. Results from the water quality rapid assessment indicate that concentrations of heavy metals were higher in the main Ntinda stream and reduces along the stream**

[6] 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).

3. The Kampala Pollution Task Force has continued to implement the Green Industry Campaign (GIC) aiming at improving industrial compliance to the environmental laws by providing a platform for industries to compete for awards. In this financial year, 20 more industries were given awards as an incentive to compliance to Environmental laws and they have shown interest in this campaign and have since developed programs to enforce cleaner production in their industrial activities.

**PTF formalization process**

1. **Since the inception of the PTF in 2012, there has been growing need of inter-institution collaboration to execute the duties of environment management. Therefore, the PTF with funding from the GIZ-IWaSP, initiated a process to formalize collaborations between the PTF member institutions. This process included the drafting and signing of a Memorandum of Understanding between member institutions, drafting and adopting to rules of procedure, lobbying for more participation of the institutions high level management. Although this process is not yet complete, several steps of the formalization process have been undertaken**
2. **In June 2018 the Kampala Pollution Task Force organized the Public-private wastewater dialogue 2018. This dialogue went under theme "collaborated planning towards amicable actions for a pollution free Kampala city," the dialogue attracted 163 participants including industrial companies and the general private sector, Civil Society Organizations, Banking institutions, public sector and, Development Partners**

### *7.3.4 Non-tax revenue*

Non tax revenue amounting to UGX 473.1million shillings was collected during the FY2017/18 from permit application processing fees, annual water use fees and annual wastewater discharge fees. This is slightly more than the UGX 400.6 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.

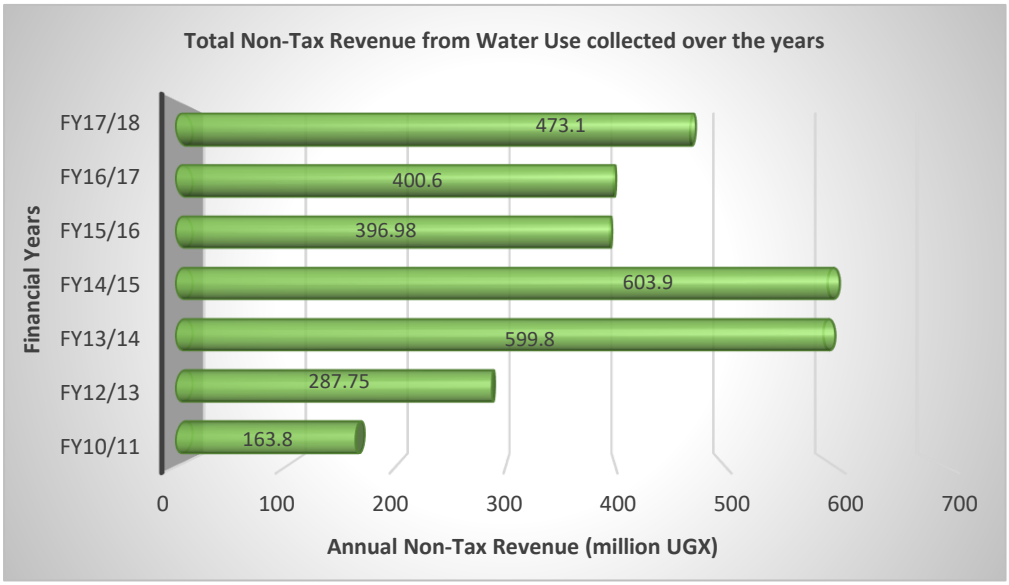



***Figure 28: Total annual non-tax revenue from water use collected over years***

### *7.3.5 Water use planning and allocation*

Work related to water use planning and allocation was up scaled in all the four Water Management Zones in the last FY in the second and follow up phase of the national water resources regulation campaign. These was aimed at following up on the already identified potential permit holders to acquire water

permits, identify more illegal water users and waste water dischargers as well as monitoring compliance with respect to various permit holder and provision of compliance assistance to enable them to comply with the provisions of the Water Act and the permit conditions

A total of 20 hydropower dams were inspected. This was aimed at monitoring compliance to abstraction permit conditions inclusive of the hydraulic works Construction Permits. In addition, 10 new permits for Surface Water Abstraction and Construction Permits mainly for hydropower development were issued. Data from water resources monitoring and assessment database and outputs from mapping of water use and their demand shows that Lake Albert basins, Lake George, Lake Edward and River Kafu have continued to be used to improve compliance to the Water Act and the water resources regulations in a bid to ensure sustainable use of the water resource while mindful of the ecological demands.

Increased coordination with the District Local government and other government agencies within the zone has continued to improve the level of awareness to water resources regulation and compliance to permit condition

### *7.3.6 Reservoir regulation and dam Safety*

Reservoir regulation activities continue to be 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 total of 25 existing reservoirs[7] were monitored for compliance to dam safety requirements and water use permit conditions as contained in the Construction and Surface Water Abstraction Permits. There has been increased emphasis on dam instrumentation as well as water source protection so as to ensure efficiency and effectiveness of infrastructure systems as well as minimizing the threat on the systems from catchment degradation. There is also been increased collaboration with other related institutions through participation in multi-sectoral inspections of a number of hydropower facilities. There is generally increased compliance to water permit conditions by the operators of water reservoirs as a result of increased enforcement actions.

Five large hydropower dams, namely Kira Dam, Nalubale Dam, Bujagali Dam, Karuma Dam and Isimba Dam, were inspected to ensure that water is used efficiently and the structures are operated in a safe environment. Specifically, the trend in water levels of Lake Victoria was continuously monitored using data from Entebbe and Jinja Piers. In addition, strategic dam safety 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.

The web-based Dam Safety Database Management System was finalised and commissioned together with an upgrade of the server systems as well as equipping of the Dam Safety Unit (DSU) with relevant equipment. Having commissioned the database above, collection of various data and update of the online Dam Safety Management Database Management System was initiated and is expected to continue.

### *7.3.7 Environmental Impact Assessments*

DWRM continued to review Environmental and Social Impact Assessment (ESIA) reports submitted through NEMA by various developers of water resources related projects and programs. In relation to the review of ESIA reports, the directorate carries out compliance assistance to developers during projects planning and implementation through stakeholder consultation meetings. The figure 30 below shows the environmental impact reports reviewed during this reporting period.

[7] (Bujagali, Karuma, Nalubaale, Isimba, Mpanga, Nyamughasani I, Lubilia, Mahoma, Siti I, Siti II, Suam, Sisi, Simu, Achwa I, Achwa II, Rwimi, Nyamwamba, Mubuku I, Mubuku II, Mubuku III, Nyagak 2, Nyagak 3, Kibimba, Kabelega, Nkusi, and Ishasha)

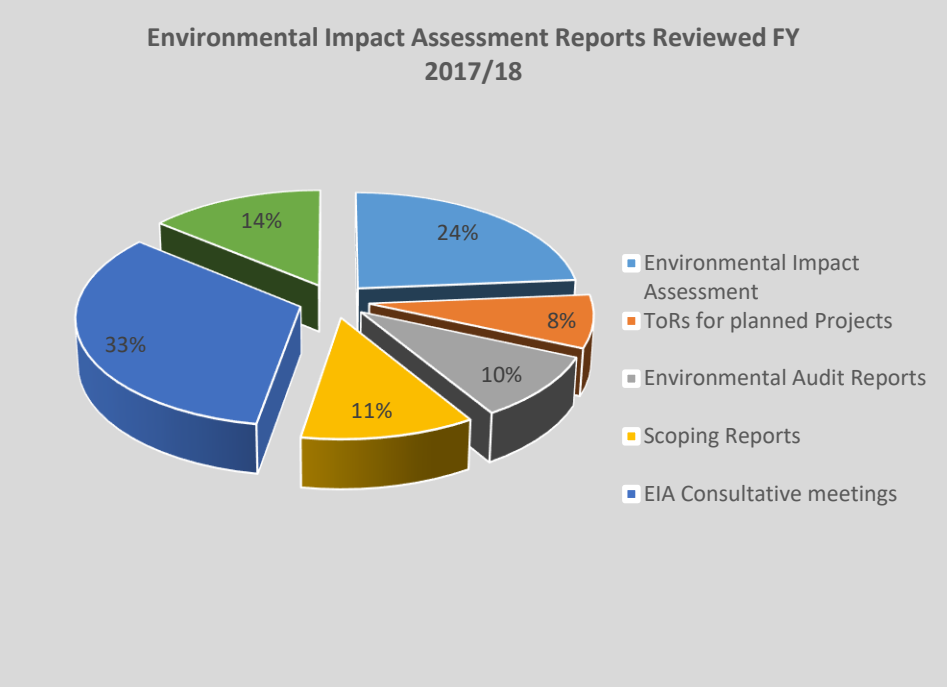



***Figure 29: Environmental reports reviewed in FY 2017/18***

A total of 114 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.

Box2: Most common comments on ESIA per type of project

**Hydropower Projects**

- **Designs of hydraulic structures including diversions, retention, flow metering structures and others to be submitted and approved by the Director, DWRM before the construction phase.**
- **The developer should note that the environment flow section which is designed to be gated should be subjected to unconditional minimum flow requirement of approved flow rate by DWRM at all times. DWRM discourages installation of valves to regulate environmental flow.**
- **The Developer is advised to refer to the Dam Safety Guidelines 2014 available at the Directorate of Water Resources Management for guidance and to ensure compliance to dam safety requirements.**
- **The design of the environmental flow has to be included in the ESIA report to understand the positioning of the environmental flow system on the dam, the developer is advised to put the environmental flow below the penstock to allow constant flow even during the low water level periods.**
- **There is need to carryout comprehensive hydrological studies of the project area while mapping out all the water ways.**
- **River banks stabilisation measures and slop stabilisation techniques to mitigate against siltation and accidents from loose geological formation should be detailed in the report.**
- **Storm water management plan and waste management plans should be developed to mitigate against surface water contamination and sedimentation of downstream reach.**
- **Apply for and obtain construction permit surface water abstraction permit, dredging licence and waste water discharge permit**

**Irrigation schemes**

- **Apply for surface water abstraction permit and ground water abstraction permit in case the developer is to use a motorized borehole.**
- **Chemical, fertilizers, pesticides use should be managed to avoid contamination of surface and ground water**
- **Excessive use of water should be avoided to control water wasted and over flooding of the area.**
- **Need to conduct hydrological study of the area while considering the water balance in relation to other users in the project affected area.**

**Cage fish Projects**

- **The proposed project will involve use of toxic pesticides, drugs, and chemicals, for growth enhancement, care should be taken while handling such chemicals to ensure that water is not contaminated. In addition, monitoring of water quality should be done regularly at different points.**
- **Over feeding of fish could lead to eutrophication leading to induction of invasive spices and oxygen depletion which could affect aquatic life and water quality. The developer should use only necessary quantities of food and use feed pellets designed to float longer in the water column.**
- **There should be no restriction of other water users' form accessing the source.**
- **Storm water management plan and waste management plans should be developed to mitigate against surface water contamination and sedimentation of the water source.**

**EIA Consultation meetings**

- **The project design and drawings should be attached in the ESIA report for review**
- **Carry out thorough hydrological studies and append in the ESIA report**
- **Carry out baseline studies especially water quality and provide results in the report.**
- **Consult DWRM regional offices in the Water Management Zones of which the project area falls**
- **Assess the water balance in relation to water use in the project affected area and present the assessment clearly in the report.**
- **Determine the method that will be used to assess the environmental flow of the river.**
- **Indicate the expected volume of water to flow in the water way/penstock and how much will be expected to remain in the main river.**
- **Present the catchment management measures to ensure sustainable flow of the River.**

### *7.3.8 Water laws, policies and regulations*

The Water Policy Committee (WPC) continued to perform its functions of providing policy advice to the Minister in charge of Water Resources. During the reporting period the committee held one meeting and

discussed among other agenda items the revision of the National Water Policy and amendment of two Bills

(Water Amendment Act and Uganda Water and Sewerage Regulatory Authority). The Committee made further recommendations as highlighted below

| Recommendation | Action by | Percentage of implementation |
|---|---|---|
| Economic contribution of Water and Environment Resources to the economy of Uganda | Policy and Planning Department provided status of implementation | 50% implementation through dissemination workshops and meetings and other fora |
| Wetland framework management and forest Management plans should be integrated in Catchment based Integrated Water Resources Management | DWRM to provide status of implementation | 80 % done |
| Establishment of the Water Resources Institute (WRI) | DWRM to provide status of implementation | 100% done |
| Revision of the Water Policy and two Bills (Water +UWASRA)- Status | DWRM /DWD & NWSC provided status of implementation | 75% of the revised Water Policy , the Water Act and two bills completed |
| Revision of the National Environment Policy and Bill - Status | NEMA/DEA provided status of implementation | The comment has been overtaken by events as the National Environment Bill, 2017 is already before Parliament and vivid consultations have been made. |
| Transboundary Water Affairs and Benefit Sharing | International and Transboundary Water Affairs to provide status of implementation | On-going |
| Rural Water and Sanitation issues, in-house capacity in design and supervision of water development projects; self-supply; integration of water demand – DWRM water planning and allocation | Rural Water and Sanitation Department to provide status of implementation | 50% done |
| Status of Irrigation Policy and Bulk water supply projects in Uganda | Water for Production to provide status of implementation | 60% done Irrigation policy and Bulk water supply |
| Strategic Direction of Urban Water Supply (Five Year Strategic direction for NWSC) | NWSC provided status of implementation | Implementation commenced and is on-going about 60% |
| Status of Fish Cage Farming in Uganda; guidelines for allocation of fish cages; harmonization guidelines with EAC; involvement of all stakeholder etc. | Directorate of Fisheries provided status of implementation -MAAIF | 80% implementation level |
| Status of Wetlands in Uganda; implementation of wetland framework and | Wetlands Management Department (WMD) | Atlas launched, demarcation ongoing, |

| | | |
|---|---|---|
| management plans; National Wetland Atlas, illegal land titles and Wetland Policy | provided status of implementation | priority list being restored – 70% done |
| Status and Contents Climate Change Bill-consultative; Climate Department - CCD strengthening, | Climate Change Department provided status of implementation | Relevant stakeholders consulted; 4 officers and 1 Senior Officer recruited |
| Status of forests in Uganda; demarcating and opening of boundaries of protected forests | NFA provided status of implementation | Demarcation and opening up boundaries of CFR on going -20% |

Status of Revising the Water Policy and Amending the Water Act

A ten (10) man-Committee was established by Permanent Secretary, MWE in 2017 to revise the Water Policy and amend the Water Act. The main outputs of the Committee and their status are described in the table below.

***Table 40: Progress of implementation of Policy Committee recommendations***

| DESCRIPTION | PROGRESS 2018 |
|---|---|
| Regulatory impact assessment (RIA) report | • Draft RIA report approved by the Committee for revising the Water Policy and amending the Water Act. |
| Implementation strategy plan | • Draft Implementation strategy plan approved by the Committee for revising the Water Policy and amending the Water Act |
| Revised Water Policy and Amended Water Act | • The revised Water Policy and Amended Water Act Bill were approved by the Water and Environment Sector Working Group and presented to the Top Policy Meeting of the Ministry of Water and Environment for guidance before submission to Cabinet and First Parliamentary Counsel (FPC) respectively |
| Cabinet Memorandum process: Certificate of Financial Implications | • The Ministry of Water and Environment submitted Draft Cabinet Memorandum, Implementation Strategy, RIA report and a Draft Policy requesting the Permanent Secretary and Secretary to Treasury (PSST), MoFPED for a Certificate of Financial implications which will be presented to Cabinet for approval of revised Policy and FPC later on.<br>• Feedback to comments of the Permanent Secretary and Secretary to Treasury (PSST), MoFPED addressed. |
| Certificate of legal compliance | • Pending finalization of the Water Act amendment Bill |

Legislative process regarding finalization of the Water Act (amendment) Bill will begin in the FY2018-2019 with under-listed steps among other:

- The Ministry of Water and Environment initiating a Water Act (amendment) Bill will prepare 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).
- Drafting Instructions will comprise a clear and comprehensive statement of the nature of the problem by providing background information, the purposes of the proposed legislation, the means by which those purposes are to be achieved and the impact of the proposals on existing

circumstances and law. The instructions will include the Cabinet Minute and the Cabinet Memorandum relating to the Cabinet Policy on the drafting of the Bill.

### *7.3.9 Cross cutting water resources management initiatives*

***Operationalization 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. During the reporting period support continued to be provided to various organisations and agencies (National Water and Sewerage Corporation, Directorate of Water Development, Electricity Regulatory Authority etc.) in implementing of water source protection guidelines and operationalizing of 3% contribution by water infrastructure project for water source protection. Piloting of the water source protection guidelines is ongoing in 8 towns (4 under NWSC and 4 under DWD), and the Water Source Protection Plans of these towns have been completed and are ready for implementation. The finalisation of the piloting exercise will provide information needed to update the Water Source Protection Guidelines and issue them as legally binding documents, as well as finalising 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.

***Operationalization of the Water Resources Institute***

The Sustainable Development Goals (SDGs), Vision 2040 and the second National Development Plan (NDPII) set ambitious targets for the country in general and specifically to the various sectors that make up the economy. The actions required to meet the targets will put increased pressure on the existing water and environment resources. To meet Uganda's 2040 economic growth targets, the current level of water delivery must be tripled, which will require substantive investment in environmental and water management. This calls for a forum in which water and environment issues can be objectively discussed, and innovations for optimal use of the water resources can be explored, agreed upon and pursued in a holistic manner. The WRI will provide that kind of forum. The Water Resources Institute (WRI), therefore, has been established in Uganda as part of implementation of the Water Sector Reforms and 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 Vision of the WRI is Uganda's water resources are optimally utilised for all uses. 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. It targets to develop professional skills across all levels on water resources management and development to influence practice and policy for sustainable social economic development in the country. The Institute will, therefore, bridge the gap between theory and practice; and profile the central position of water resources in national development with a vision of ensuring that Uganda's water resources are utilised optimally.

As part of the work of the WRI, the first ever Water and Environment Week was held from 19 to 22 March 2018. This was attended by over 300 participants from a cross section of stakeholders and it involved technical presentations in 8 parallel sessions, 8 short training courses, launch of the WRI, celebrations of the World water Day 2018 and 4 field visits to various areas to assess progress made in addressing water and environment issues on the ground. The Water and Environment Week attracted high profile government officials such as the Vice President of Uganda who formally opened the week on 19 March 2018 and the Prime Minister of Uganda who formally launched the WRI on 21 March 2018. Other dignitaries came from the Parliament of Uganda, private sector, academic institutions, Development

Partners, Civil Society and relevant government agencies. The Water and Environment Week has been planned to be annual event.

Since its launch on 21 March 2018 by the Prime Minister of the Republic of Uganda the following has been done by the WRI:

- During the Water and Environment Week and the launch of the Water Resources Institute in March 2018, 8 short trainings (1.5 hours each) were conducted, 3 dialogues were organised and 4 field visits conducted
- Four training courses have been conducted in different areas namely (i) pumping test targeting drillers and, (ii) Monitoring and Evaluation for MWE staff, (iii) catchment management approach and procedures for WMZ staff, (iv) water governance and international water law for participants from a number of African countries. These trainings have been conducted on cost sharing arrangements with different organizations.
- Received support from the World Bank through the Korea Trust Fund for 2 years amounting to $600,000 to support WRI. Under the support MWE will collaborate with Ministry of Infrastructure and Lands of South Korea and its affiliated institutions such as K-Water to operationalize the WRI. The team from K-Water will be visiting Uganda from 15 to 21 July 2018 for a diagnostic analysis of the needs of the WRI and provide guidance on the set up and operationalization of the institute. During this visit issues of strategic and technical coordination of the activities of the institute as well as design of face to face and online training courses will be discussed. Training courses will later be organised and conducted both in South Korea and Uganda. Facilities in institute will be improved based on the diagnostic analysis
- The Water Resources Institute has been provided for in the Water Policy and Act that in the final stages of review and update
- Progress on the Water Resources Institute was reported to the top policy committee of the MWE, Chaired by the Minister of Water and Environment, at the end of June 2018. The committee commended the progress being made and made a number of decisions as follows: (i) regular reports on the progress of the WRI should be submitted, (ii) people who have retired from the sector should be fully utilized in various areas and as a result a policy on how to formalize and institutionalize their engagement should be developed, (iii) there is need to ensure that the WRI is well catered for in the Water Policy and law to give it legal basis, and (iv) as much as possible training programs planned for and conducted by the Ministry should be held within the institute to save on costs and do more with the available resources

More support is however needed from partners in ensuring that the institute becomes fully operational. Possible areas of support include (i) developing a business plan for the institute, (ii) identifying and establishing strategic partnerships and improving visibility of the WRI, (iii) operationalizing the management and coordination structures of the WRI (iv) designing and conducting priority training courses in the sector, (v) operationalizing the research agenda of the institute, (vi) conducting regular dialogues and outreach programs, (viii) organizing the second Water and Environment week in 2019

Implementation of catchment-based water resources management

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. Currently each WMZ has 8 to 12 staff with different backgrounds and the number continues to increase due to the increased demand for water resources management services at the lower levels.

***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 seven CMOs were instituted namely Maziba, which makes a total number of 16 CMOs in the country as of end of June 2018.

In addition, catchment management structures at the sub-catchment and micro catchment have also been created. 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.

***Status of preparation of Catchment Management Plans (CMP)***

The catchment management planning guidelines came into effect in 2013. Some of the plans that were developed before the guidelines came into effect are being reviewed to bring them in line with the guidelines. Currently, Catchment Management Planning is ongoing in 15 catchments in the country with already a number of catchment management plans developed. The status of the CMP development in the different catchments is outlines below:

**Table 41: Status of catchment Plans**

| WMZ | Catchment | Status of the Plan | Financial Year |
|---|---|---|---|
| Albert | Mpanga | Finalized | 2015 |
| | Semliki | Finalized | 2016 |
| | Ruhenzamyenda | Finalized | 2015 |
| | Albert | Finalized | 2017 |
| | Kiiha | Finalized | 2017 |
| | | | |
| Kyoga | Awoja | Finalized | 2013 |
| | Mpologoma | Finalized | 2016 |
| | Victoria Nile | Finalized | 2016 |
| | Lokere | Finalized | 2017 |
| | Lokok | Finalized | 2017 |
| | | | |
| Upper Nile | Aswa | Finalized | 2016 |
| | Albert Nile | Finalized | 2016 |
| | | | |
| Victoria | Rwizi | Finalized | 2016 |
| | Maziba | Finalized | 2015 |
| | Katonga | Finalized | 2018 |

During the FY 2017/18 4 CMPs (Lokok, Lokere, Victoria Nile and Mpologoma) were completed. So far 12 catchment management plans are in place.

***Implementation of the Catchment Management Plans***

The developed catchment management plans contain priority investment and management measures needed to be implemented to protect and restore the catchment while improving people's livelihoods in the various catchments. Implementation of some of the priority measures in the CMPs is ongoing through either collaboration between various stakeholders and the Water Management Zones or by stakeholders alone. The zones have continued to implement some interventions in 10 catchments namely Rwizi, Mpanga, Semliki, Aswa, Awoja, Ruhenzamyenda, Katonga, Lokok, Lokere and Mpologoma. Details of implementation of catchment management interventions in the various catchments are elaborated in **Annex 10**

## 7.4 Water quality management

### 7.4.1 National Water Quality Monitoring Network

The Ministry of Water and Environment operates a National Water Quality Monitoring Network with 119 stations. For the year under review, 82 out of 119 (69% performance) stations were visited and monitored and 224 samples were collected. This performance was slightly lower than the 73% last year, the drop could be attributed to delay in funds release and prioritization of drinking water for this financial year. These stations monitor impact of 1) human activities in the catchment, 2) effluent discharges from industries and municipal sewerage on the quality of water resources and 3) quality of drinking water from point sources in rural and water supplies in urban areas.

The Ministry since July 2011, decongested the water quality monitoring network to the four Water Management Zones (WMZs) with each zone assuming stations in its hydrological boundary. Summary of how the zones monitored the network is given in the table below:

***Table 42: Water Quality Monitoring Network Performance***

| Zone | Stations planned for monitoring | Stations monitored | Performance (%) | Number of samples collected |
|---|---|---|---|---|
| UNWMZ | 16 | 16 | 100 | 73 |
| AWMZ | 37 | 34 | 92 | 45 |
| KWMZ | 33 | 13 | 39 | 36 |
| VWMZ | 33 | 19 | 58 | 70 |
| **Total** | **119** | **82** | **69** | **224** |

### *7.4.2 National Reference and Regional Water Quality Laboratories*

A three-tier laboratory system is operated by the Ministry for water quality analysis. Water quality information derived from water sample analysis is used for decision making and management of water resources in the country. At the apex is the National Water Quality Reference Laboratory (NWQRL) located at Entebbe. Tier 2, are four Regional Water Quality Laboratories (RWQLs) in the four WMZs located in Mbale, Lira, Fort Portal and Mbarara. Last category are basic laboratories operated by other government or non-government agencies. These laboratories analyze water samples to provide quality assurance to product (water) supplied to consumers, waste treated before discharge into the environment or monitoring compliance to effluent standards. Tier 3 or basic laboratories include those operated by NWSC, Umbrella organizations, NEMA, industries etc. Tier 2 and Tier 3 laboratories are supervised by the

National Water Quality Reference Laboratory. The NWQRL is finalizing arrangements for registration of all water testing laboratories in the country and will establish a national inter-laboratory comparison scheme in order to check reliability of results produced by the Tier 1and 2 laboratories. A summary of the performance of the laboratories in the year under review is given in table 43 below

| SN | Sample source | Planned No. of Samples | Achieved | Performance (%) |
|---|---|---|---|---|
| 1 | Kyoga WMZ | 400 | 401 | 100 |
| 2 | Victoria WMZ | 400 | 283 | 71 |
| 3 | Albert WMZ | 400 | 710 | 178 |
| 4 | Upper Nile WMZ | 400 | 516 | 129 |
| 5 | NWQRL | 2,400 | 3,092 | 129 |
| Totals | | 4,000 | 5,002 | 125 |

***Table 43: Performance of Water Laboratories***

Some zones and the NWQRL performed beyond the set targets due to assessments they carried in response to water quality related emergencies including outbreaks of water borne diseases. A number of water and wastewater samples received from clients also grew in the year under review. The NWQRL received and analyzed 1,178 client samples, followed by AWMZ with 280 client samples, UNWMZ was the third with 200 client samples, KWMZ had 17 and VWMZ had only 2 samples.

Samples received and analyzed are shown in figure 31 below. The increase in the number of samples analyzed is attributed mainly to increased scope of parameters analyzed as a result of New State- of- the-Art equipment that have been installed in the NWQRL and water quality sensitization campaigns in the AWMZ and UNWMZ

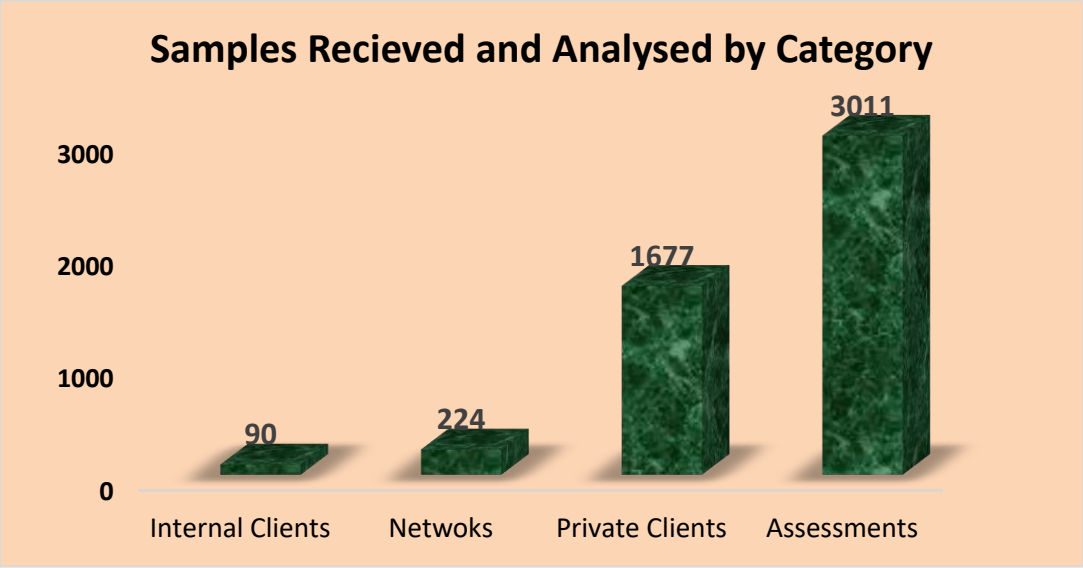



**Figure 30: Samples received by category**

The laboratories apply the requirements of an International Standards, ISO/IEC 17025.

The NWQRL participates in annual international laboratory proficiency scheme during 2017 under the SADMET/ administered by NAMWATER (Namibia Water) and is in the process of updating its laboratory quality system in preparation for accreditation. Out of 22 parameters participated in during the year under review, 19 were passed representing a pass of 86%.

### 7.4.3 Non-Tax Revenue Generation

As a government policy on raising Non-Tax Revenue (NTR), the Ministry raised non-tax revenue through provision of water quality analytical services in all the laboratories. This non-tax revenue collection has been increasing over years, but in this year, over **UGX: 135,000,000/=** (one hundred thirty-five million) was collected compared to **UGX: 104,000,000/=** last year. This increase could be attributed to operation of the new state of the art equipment which has increased efficiency and number of parameters analyzed. There was also sensitization of the clients on the parameters being done. During the reporting year, all regional laboratories generated some NTR. Details of NTR generated by each laboratory is given in figure 32 below.

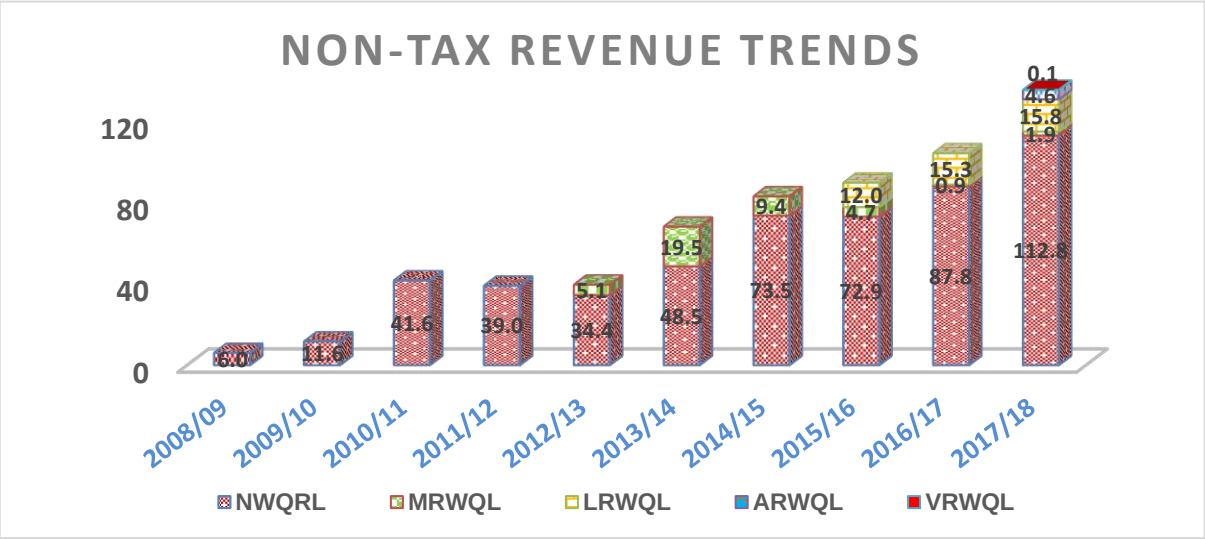



Figure 31:None tax revenue collections

### *7.4.4 Support to other Ministry Departments and Agencies*

***Lake Victoria Environment Management Project Phase II (LVEMP II)***

The Department of Water Quality Management (WQMD) played a crucial role in water quality monitoring for the Lake Victoria basin on the Ugandan side. 19 water quality stations located on the Ugandan side in the open lake, sheltered bays, satellite lakes and river, stream and channel inflows were monitored. The open lake stations are divided into the Uganda Pelagic (UP) in open water and the Uganda Literal (UL) near shores.

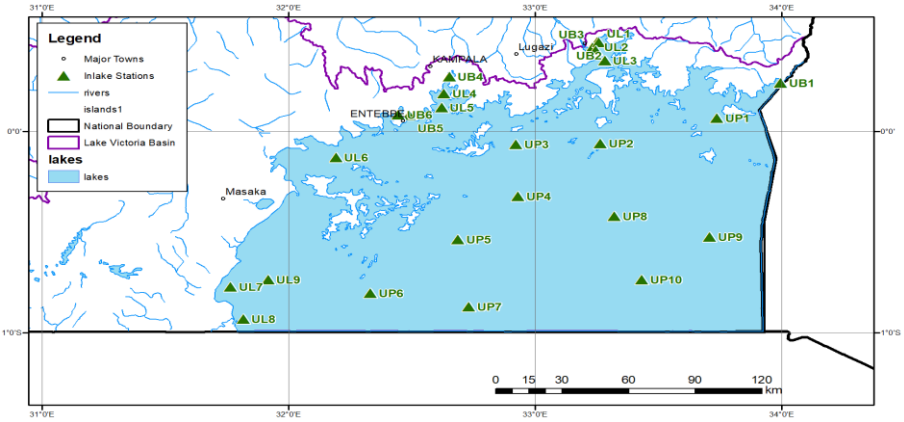



**Figure 32*: locations of In-Lake sampling points***

Data and field environmental information was collected and synthesized into a report at the end of the project. The major focus parameters were those related to pollution of the lake from human activities taking place on the lake and its catchment. Impact of growing industrial, agricultural and population increase were monitored.

**Results**

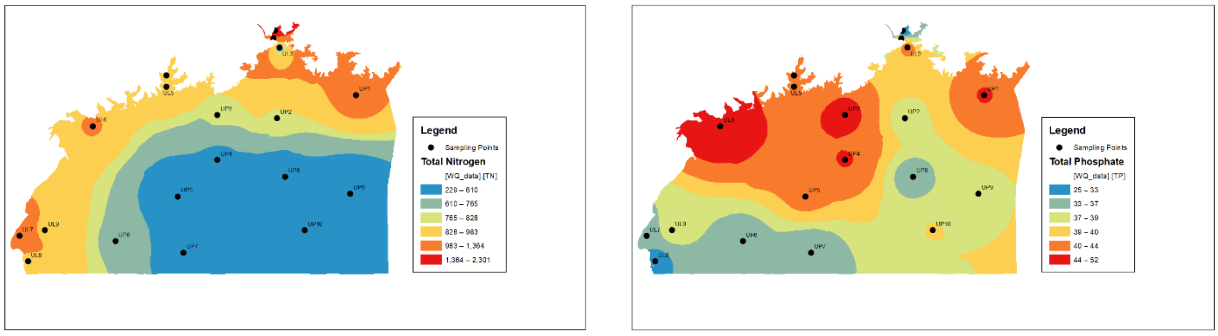



***Figure 33: Total Nitrogen and Total phosphorus values***

The results indicate that the water quality of Lake Victoria in the pelagic /open deeper areas is relatively less polluted compared to water quality in the literal/shallow areas. Physical parameters like Sechi depth and algal indicator parameter chlorophyll *an* increased in the literal zones as compared to LVEMP I. The quality of rivers, streams, satellite lakes and channels deteriorated further during phase II in terms of nutrient and sediment inputs into the lake. The high loads of nutrients and sediment being transported into the lake are a manifestation of degradation in the catchments of Lake Victoria basin on the Ugandan side.

It is recommended that Cleaner Production Technologies are implemented by industries within the catchment of the lake; wastewater treatment facilities are improved by adding tertiary treatment options; and sanitation on islands, in fishing villages and at landing sites is improved.

### *Joint Drinking Water Quality Monitoring in Greater Kampala*

The Directorate of Water Resources Management (DWRM) in collaboration with National Water and Sewerage Cooperation (NWSC), Uganda National Bureau of Standards (UNBS) and Kampala Capital City Authority (KCCA) jointly carried out drinking water quality monitoring for piped drinking water in Kampala, Mukono and Wakiso Districts. The main objective was to assess compliance to Uganda Standards for Drinking (potable) water and ensure safe water supply for the greater Kampala water area.

Major activities undertaken included sanitary inspection; on-site water quality testing and taking samples for further laboratory investigations. **S**amples were analysed at the laboratories of DWRM, NWSC and UNBS.

*Key field observations the joint technical team made included;*

1. Sanitation inspection of the water supplies showed low risk levels.
2. The security around the water reservoirs was generally satisfactory.
3. The network clearly showed sound management scheme and reasonably connected.
4. Meeting water demand for the greater Kampala area was still a challenge.
5. Minor issues were observed with operation and maintenance of the supply system.

*Key findings from the laboratory results*

1. The results showed that bacteriological, physical, chemical parameters that can cause harm to human health were within acceptable levels of the National drinking (potable) water standard.

### *Kampala Pollution Task Force*

The Kampala Pollution Task Force (KPTF) is composed of members from 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

Pollution from Kampala city has resulted in deterioration of water quality in the Inner Murchison Bay, Lake Victoria and has grossly impacted on the water supply service for Kampala City in terms of increased costs for water treatment. In addition, frequent flooding during rainy seasons has resulted in huge damages to businesses, assets and infrastructure, water related diseases outbreak and death.

The KPTF was formed for the following objectives:

i. Promote **information exchange and collaboration** among key government agencies that have the mandate towards a pollution free environment, to jointly engage the public and private sector regarding legal provisions and regulations on, waste management and catchment management.
ii. Initiate campaigns to **enhance compliance** to environmental regulations.
iii. Conduct and analyze **joint industrial assessments** and disseminate pollution monitoring information to the public and private sector.
iv. Engage potential priority polluters and the public sector in a **Public-Private Dialogue**, on air pollution, waste management and catchment management to increase awareness and trust.
v. **Promote transparency** of policy making, regulation, and enforcement in order to empower stakeholders to act as partners of government authorities/agencies
vi. **Develop the capacity** of especially private industrial enterprises for pollution free measures and technologies
vii. **Carry out research** and studies that inform better and innovative practices for managing waste (solid, wastewater, fecal sludge) in the Greater Kampala.

In addition to the routine activities related to the objectives of KPTF, KPTF has undertaken environmental studies on the Kinawataka and Nakivubo sub-watersheds of the inner Murchison bay to create a baseline for future assessments. The study reports proposed a water quality monitoring framework to keep record

of the trends of water quality changes along the streams. The KPTF is currently implementing the monitoring framework proposed by the Kinawataka study report, by taking water samples for laboratory analysis from the designated sampling points along the sub-watershed. Laboratory analysis of samples is carried out in the NWSC central laboratory and at National Water Quality Reference Laboratory of DWRM.

The study identified 36 likely sources of pollution to the channel which include mainly manufacturing industries and some other diffuse sources. These sources include KNO1-Main Ntinda stream before any industry, KNO2-From Crest foam through a wetland, KNO4-Discharge from KPI into Ntinda stream, KNO5 discharge from Gentex into the stream, KNO7-Hotspot on main into Ntinda stream, KN08-Hotspot before joining main Ntinda stream, KNO9-Hotspot on main Ntinda stream, KYO1-From wetland into Kyambogo stream, KYO2-Hotspot on Kyambogo stream. Quarterly monitoring for some of these sources is recommended.

Key findings:

i. Some industries had high concentrations Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) which is a measure of organic matter in the wastewater as showed in *Figure 35 Below.*

ii. Nutrient concentration with respect to Total Phosphorus (TP) and Total Nitrogen (TN) was observed to fluctuate along the channel as showed in *Figure 35* though all were below the National Discharge Standard.

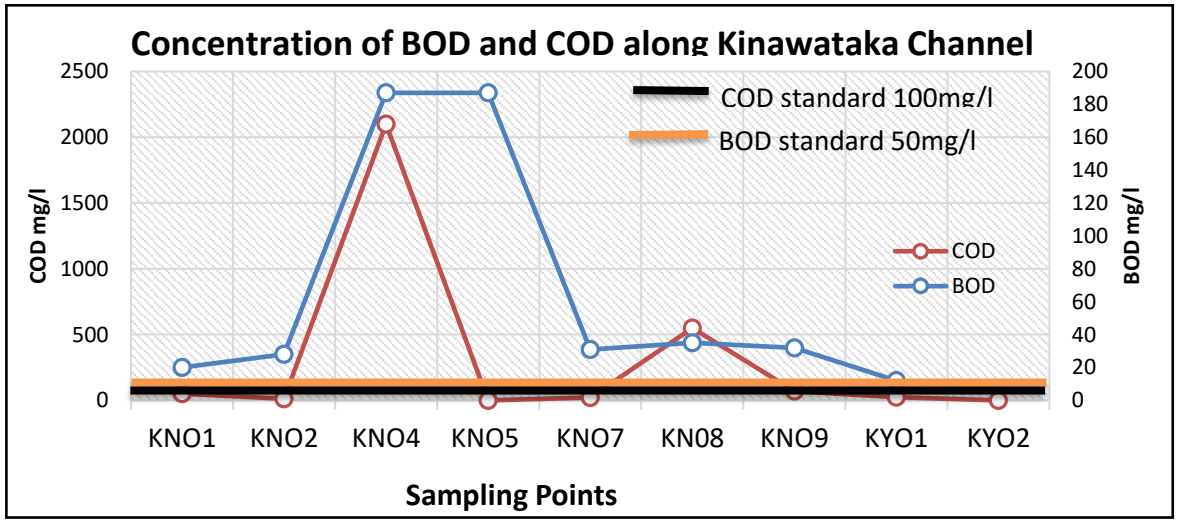



***Figure 34: showing the concentrations of BOD and COD along the Kinawataka channel***

The concentrations of BOD and COD were above the standards for wastewater effluents in many sampling points despite this being a surface water site not a wastewater channel.

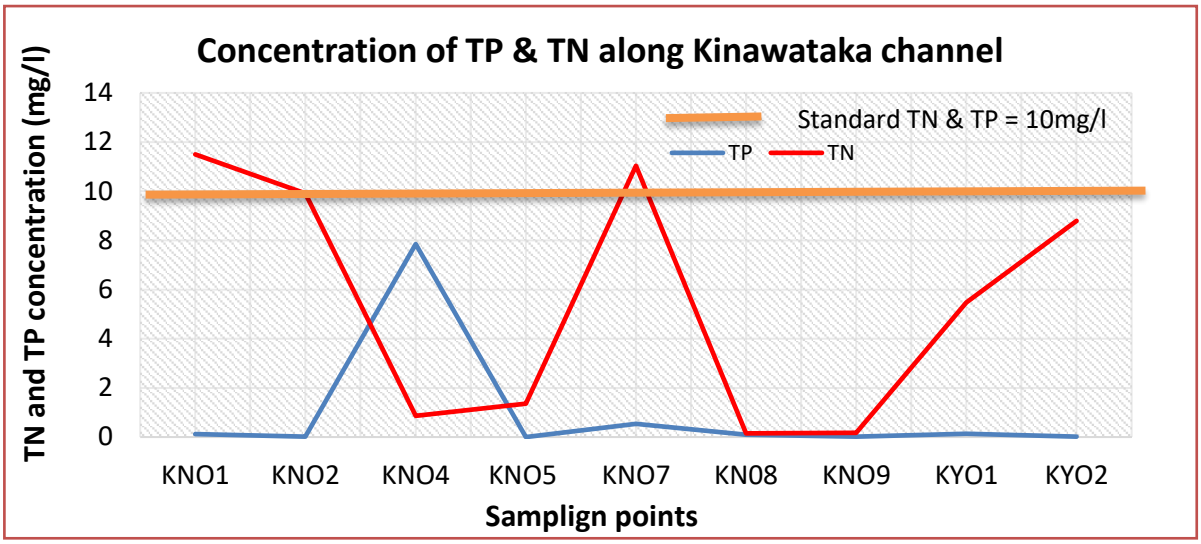



Figure 35: *showing the concentration of T P and TN along the channel*

Most sampling points were with the limits for wastewater effluents standards with respect to total nitrogen and total phosphorus. But the results show that the channel is chocked with untreated waste.

### *Switch Africa Green*

The Ministry in partnership with Uganda Cleaner Production Centre (UCPC) is implementing a project titled; Switch Africa Green (SAG) with support from the European Union. The project aims at management of water use in Micro, Small and Medium sized enterprises (MSMEs) in Uganda through promotion of water use efficiency techniques and practices. The overall objective of the project is to enhance water use efficiency and increase productivity in MSMEs in the manufacturing sector. Specific objectives are: (i) to create awareness about water conservation measures among MSMEs, and (ii) to facilitate adoption and optimization of water use efficient techniques and practices in order to create model MSMEs for sustainable water use in the sector.

***Key activities undertaken in 2017/2018***

1. Baseline data collection; Baseline study undertaken in 6 MSME's to understand water consumption before implementation of project activities.
2. Determination of baseline data in MSMEs which involved identification of potential MSMEs, collection and analysis of the water consumption data for the past 2 to 3 years in order to establish baseline information on water indicators;
3. Conducted in-training in 19 MSMEs on the different significant aspects of water management and conservation (including data collection analysis and interpretation).
4. Conducted sampling for wastewater effluent discharges for 24 MSMEs collecting a total of 57 wastewater samples that were analysed at the NWQRL, Entebbe.
5. Conducted a detailed water audit in 22 MSME's to identify areas of improvement.

***Support to Road Construction***

The Uganda National Roads Authority (UNRA) carried out development of a number of roads, bridges and ferry services across the country to improve connectivity and transport on the National road network. Among those are the critical road projects that are being fast tracked to aid oil production. The department of WQMD has been engaged by UNRA to undertake baseline water quality assessment for the project developments and identify potential water resources impacts of the proposed projects.

The objective of this supportive engagement is to provide a description of the baseline environmental setting of the project sites in terms of water resources, water quality and identification and assessment of sensitive receptors. These evaluations follow the statutory framework for the protection and control of water quality.

Over 20 road and bridge projects have been supported through this collaboration. Baseline water quality assessments were undertaken with focus on determination of impacts of road construction and operations on the water resources. Documentation of impacts and sensitive receptors as well as suggesting mitigation measures were carried out for road projects including Packwach-Para-Bulisa road, Mbale-Tirinyi-Nakalama road, Busunju-Hoima, Mityana-Mubende among others. This is the second year this support has been given to UNRA.

***Support to Hydropower Projects***

The Ministry supported Butema hydropower plant as summarized below.

***Table 44: Summary of support given to Butama Hydropower Plant***

| Company | Area of Operation | Support offered |
|---|---|---|
| **Butama Hydro power plant.**<br>Two-year Hydro power project which stated in January 2017 and will be completed in December 2019 | Bundibugyo District in Butama S/County along R. Sindila and R. Ndugutu. The project aims to generate 11MW on completion in December 2019. | -Water quality sampling and testing for sedimentation and microbial contamination.<br>-Technical advice on water quality monitoring and water source protection for the communities in the project area. |

**Excavation at the project site**

**Rain gauge installed by MWE at the site**

### *7.4.5 Technical Support to District Local Governments and other Stakeholders*

***Support to Local Governments***

The WQMD supported a number of DLGs and stakeholders in response to cholera outbreaks and confidence building to needy communities. Technical support was offered to the districts of Kasese and Tororo during cholera outbreaks of April to May 2018

Tororo local government support was rendered in December 2017, mainly in the sub-counties of Mella (most water stressed) and Malaba Town Council. Outbreak of cholera was linked to use water from river Malaba for domestic needs. Open defecation and poor wastewater disposal in the area polluted the river water with the cholera pathogens.

While for Kasese, the outbreak followed a heavy down pour during which Rivers Kyanzi, Bukangara, Mpondwe, and Lubiriha burst their banks and washed poorly constructed makeshift latrines uphill of major settlements into the rivers thus contaminating the river water with the cholera pathogens.

Assistance to Tororo local government included assessment of sources of contamination through area wide source and house hold sampling.

In all cases recommendations given included household treatment of drinking water, improvement of sanitation and hygiene at household and water source levels and increase in latrine and toilet coverage.

***Drinking Water Quality Management Support to Refugee Settlements***

The Ministry with support from Lutheran World Federation (LWF) conducted a microbiological water quality assessment on drinking-water at household levels in Palabek Refugee Settlement in Lamwo district of Northern Uganda. The assessment identified bad practices at household level that contribute to deterioration of water quality along the safe water chain. A total of two hundred sixty-eight (268) households were selected randomly and water samples taken from them and analysed for suitability for drinking purposes.

Out of the 268 samples taken, 88 samples were compliant to drinking water standards with respect to *E. coli*, representing thirty three percent (33%) only of safe water.

Basing on the result of this assessment, a basic water quality monitoring plan has been proposed for Palabek Refugee settlement for early warning to avoid outbreak of water borne diseases and infections. Recommendations on how to improve water quality were also given to the settlement authorities.

***Capacity Building in Water Quality Monitoring and Testing***

DWQM with support from WASH partners conducted technical capacity building trainings to WASH teams in various districts as indicated below.

***Table 45: Summary of Capacity Building Support***

| Date of activity | Organisers | Participants | Objectives achieved |
|---|---|---|---|
| September 2017 | Environmental Management project for Oil and Gas sector (USAID) | Environmental officers for Hoima, Bulisa, Nwoya and UWA staff. | -Installation and Calibration of procured equipment.<br>-Techniques of operation and maintenance of these equipment.<br>-Basic water quality sampling, testing and Microbial assessment.<br>-Water quality data reporting. |
| November 2017 | Lutheran World Foundation | Moyo District Water and Sanitation staff.<br>Field staff of WASH. | - Installation and calibration of procured equipment.<br>-Techniques of operation and maintenance of these equipment.<br>-Basic water quality sampling, testing and Microbial assessment.<br>-Water quality data reporting. |

| | | | |
|---|---|---|---|
| September 2017 | Lutheran World Foundation | Adjumani District Water and Sanitation staff and WASH field staff. | -Knowledge in basic water quality testing, surveillance and reporting.<br>-Improvement of water quality and sanitation services in the refugee settlement communities.<br>-Basic water quality sampling, testing and Microbial assessment.<br>-Water quality data reporting. |


***Training in microbiological sampling, testing, data interpretation (Moyo and Adjumani)***

### *7.4.6 Preparation of Catchment Management Plans and Catchment Restoration*

Catchment Based Water Resources Management (CbWRM) is being implemented and it involves Catchment Management Planning with its respective implementation. Water quality data has been used to guide preparation of the Catchment Management Plans (CMPs) and implementing restoration activities and monitoring impacts.

### *7.4.7 Testing of New Drinking Water Treatment Technologies*

DWQM is mandated to carry out testing of new household drinking water technologies before they are rolled out to the market. Two household and small community-based technologies were tested to ascertain their suitability to treat water to drinking standards. These technologies included C-MEM Zero system promoted by Adventist Relief Agency (ADRA) Uganda. The systems are based on filtration.

Raw water from Lake Victoria shores near office, protected spring, borehole and river was filtered to test the effectiveness of the filtration systems in treating water to standards.

Key Findings:

i. The systems were able treat water to recommended standards in terms of bacteriological, physical and chemical.
ii. The systems are potable and easy to deploy

Challenges:

a) The filtration rates were low especially when more turbid raw water was used hence high performance is achieved with less turbid water.
b) Availability of spare parts.

### *7.4.8 Emerging Threats to Water Quality*

The country's water resources are facing a number of emerging threats from human activities. Some of these emerging threats are listed below:

#### *Cage fish farming*

Uganda is currently promoting Cage Fish Farming (CFF) as a way of boosting productivity in the fisheries sector. This initiative will increase fish production in the country in addition to a number of other benefits. However, these benefits may be short lived if no proper regulations are put in place to safeguard the environmental impacts associated with cage fish farming.

International best practice in this industry includes water quality recovery periods given in between stocking periods for a given area. This however, may not be possible in a large still water body like Lake Victoria.

The potential negative impacts of non-movable cage fish farms include deposition of excessive waste on the lake sediment and in the water column. Overstocking of cages creates a high rate of organic matter deposition to the lake floor beneath the cage, primarily from the deposition of fish faeces and uneaten food. Most fish feeds contain high phosphate content which enriches the water thereby leading to algal blooms, a condition known as eutrophication. Lake Victoria is already eutrophic. Direct input of more nutrient into the lake will only aggravate the problem. Algal blooms and proliferation of other aqutic weeds among other impacts lead to depletion of oxygen at the bottom of the lake, fish kills and algal toxins which are toxic to humans.

All relevant government agencies are urged to collaborate in order to minimise potential negative impacts of cage fish farms.

#### *Pollution of Crater Lakes*

Crater lakes in Uganda are under serious threat of eutrophication as a result of cultivation and degradation of lake buffer zones and unregulated commercial farming that use fertilizers. Of the fifteen (15) Crater lakes assessed in the financial year in the districts of Kamwenge, Kabarole, Rubirizi, Kabale and

Kisoro, eleven (11) of the lakes were found to be eutrophic with phosphate indicator in the range of 0.12-1mg/l and this was mainly due to fertilizer input from agricultural inputs. One of the greatly affected lakes is Lake Mulehe in Kisoro District that has registered recurrent algal blooms. Regulations of on activities in buffer zones are invoked such that these lakes recover.

***Impacts of Oil and Gas***

Oil and gas development is a priority for national development and there are a number of activities that have been carried out during the exploration phase and the coming production phase. A number of these activities pose a threat to the environment in general and water resources in particular. The Directorate of Water Resources Management has strategically positioned continuous monitoring telemetric equipment systems on Lake Albert at Kingfisher and on Albert Nile at Pakwach. In addition, the NWQRL has been equipped with laboratory equipment that can detect any toxic substances from the oil production activities or accidental oil spills that may find its way into the water resources. However, there is need for further capacity building to measure up to the challenge.

Water samples from groundwater sources and Lake Albert in the Albertine Graben were analysed for heavy/trace metals that included; Major contaminants in oil waste include toxic metals such as cadmium (Cd), chromium (Cr), lead (Pb), arsenic (As), copper (Cu), manganese (Mn), zinc (Zn), cobalt (Co), aluminium (Al), mercury (Hg) & iron (Fe). The heavy metals are often common in crude oil and drilling fluid that is used in oil exploration and production. Some water samples from the graben indicated high concentrations of some of the heavy metals. Some of these metals are carcinogenic and high concentrations in drinking water will pose a health risk to the local communities in the Albertine Graben.

Oil companies are therefore urged to put in place adequate waste management facilities to prevent pollution of drinking water for humans and animals with the toxic metals.

It is also recommended that relevant government agencies enforce relevant waste management regulations in the Albertine Graben to minimise pollution of the water resources and the environment.

### *7.4.9 Performance Indicator Number 5: Water quality*

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

a) Presence of *Escherichia coli (E. coli)* in drinking water from protected/improved sources in rural areas

b) *E. coli* presence in water from treated drinking water supplies in urban towns

C) Biological Oxygen Demand ($BOD_5$) and Total Suspended Solids (TSS) in both municipal and industrial wastewater.

***Water quality of Rural Water Supplies***

A total of 551 samples were collected by the department from improved water sources in the rural areas out of which 354 (**64%**) complied with the national standards for drinking water with respect to *E. coli*. The water samples were collected from 315 boreholes (BHs), 6 gravity flow schemes (GFS), 103 protected springs (PS) and 127 shallow wells (SWs). Compliance by technology type was 71% for boreholes, 33% for GFS, 26% for protected springs and 41% for shallow wells. The low compliance of GFS to standards has been attributed to water catchment degradation which exposes water to contamination as water is supplied without treatment. This is expected to change when water is treated before it is supplied. Some comprehensive work done on rural water supply in Kamwenge district is presented below to represent rural water performance.

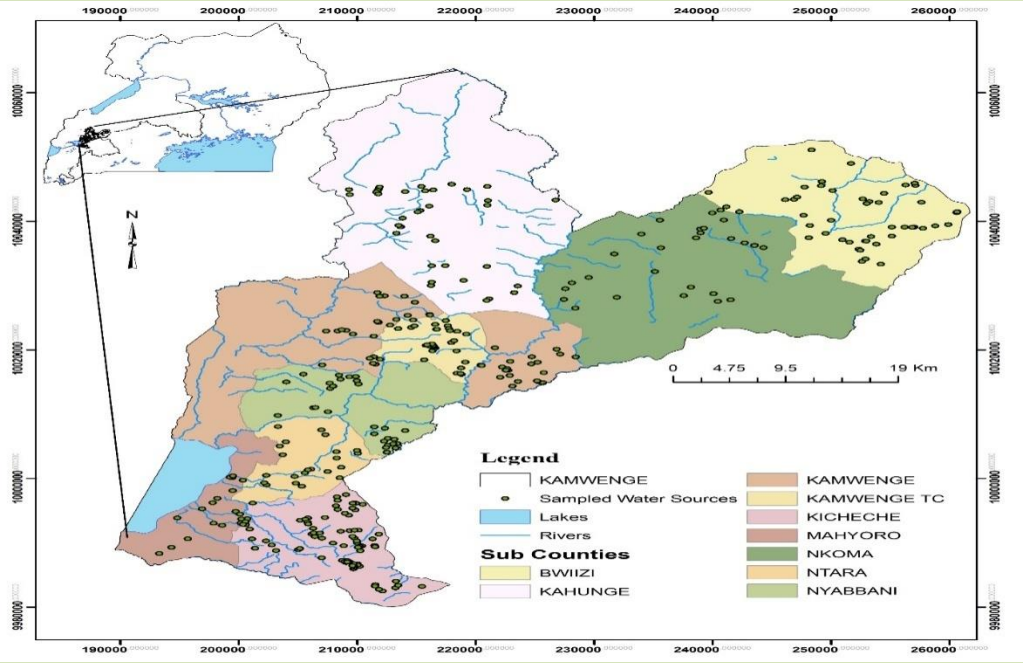
**Box 3: Comprehensive Water Quality Assessment of Water Supplies in Kamwenge District**

Water for People (WfP) facilitated DWQM to conduct comprehensive water quality assessment of drinking water sources in Kamwenge in March 2018. Assessments were conducted on various domestic water sources including piped water systems, hand pump boreholes, shallow wells and springs.

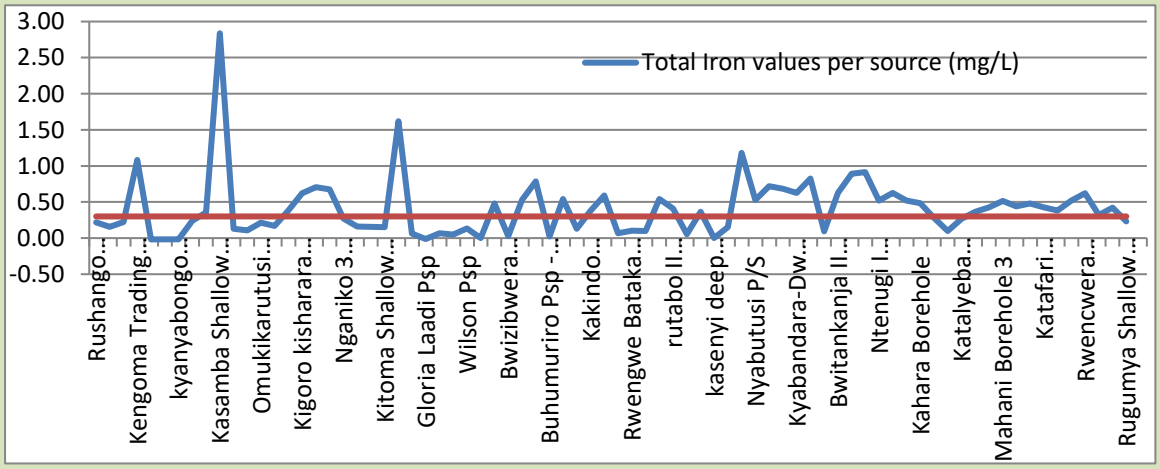
The results of the assessment are summarized below.

**Distribution of water sources sampled**

Map showing the Assessment Areas




The Graph showing Total Iron concentration in sampled water sources

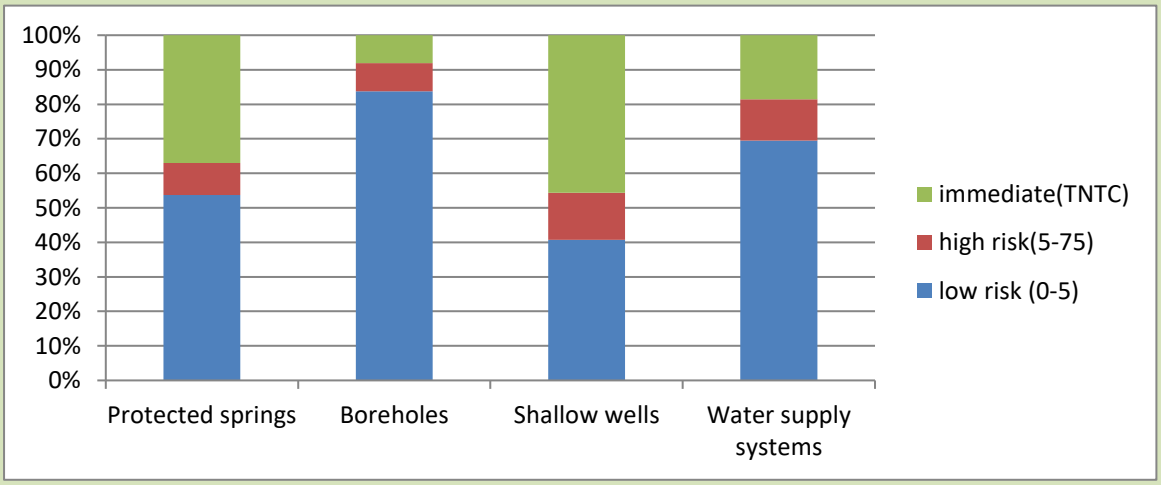



The orange line indicates the National Standard for Total Iron (0.3mg/l). The results showed that:

i. Most water sources had Iron levels higher than the required level. High Iron level affects the taste, colour and palatability of water and may promote growth of iron bacteria that is seen as yellow slimy deposition around the water point
ii. Turbidity was also high in some sources.
iii. There were issues of operation and maintenance where water sources were exposed to high risks of contamination.
iv. Bacteriological quality showed high contamination in shallow wells and protected springs,

while boreholes had the least contamination. This is associated with the shallow and deep nature of aquifers respectively. Shallow water gets contaminated easily.

**Graph showing bacteriological contamination risk per source category**




Considering both the high *E.* coli levels in a number of sources and poor sanitation indicated by sanitary survey form, there is a high risk of outbreak of water borne diseases.

Communities using the shallow wells and protected springs were advised to boil water for drinking or use water treatment tablets such as aqua safe or chlorine.

The district is advised to invest more in technologies that supply safe water.

***Water Quality of Urban Water Supplies***

Urban water supply systems in Uganda is divided into large towns which are served by mainly conventional water treatment systems, and small towns that are served by water that is partially treated. Many of the small towns water supply systems are either treated using single treatment where only chlorination is applied or they are supplied without any form of treatment. Treatment by means of chlorine renders water safe for drinking as it kills pathogenic organisms that cause diseases.

In the year under review, a total of 356 water samples were taken from Urban Water Supply Systems In small towns, 119 samples out of 198 complied with *E. coli* standards. This represented 60%. In the large towns, out of the 158 taps sampled and tested, 138 taps (representing 87%) complied with the *E. coli* standard.

The compliance levels were compared to earlier years as shown in the graph below. The compliance to *E. coli* of large towns water supply systems have been improving as shown. However, the compliance of small towns' water supply systems has been going down. High level of compliance in large towns is explained by the fact that the water undergoes conventional treatment processes before supply. Although compliance level is high for the large towns, the reasons for failure of the 23% of supplies should be investigated. Water samples from schemes that employ conventional treatment processes should comply 100% with *E. coli* standards.

The low compliance levels of small towns water supply systems can be attributed to non-conventional treatment, poor operation and maintenance, lack of skilled manpower for water treatment, seasonal

variation in water quality, abstraction of swamp water which is problematic to treat, lack of basic laboratory facilities to guide operations of the water works, lack of risk management and inadequate monitoring and supervision by regulators.

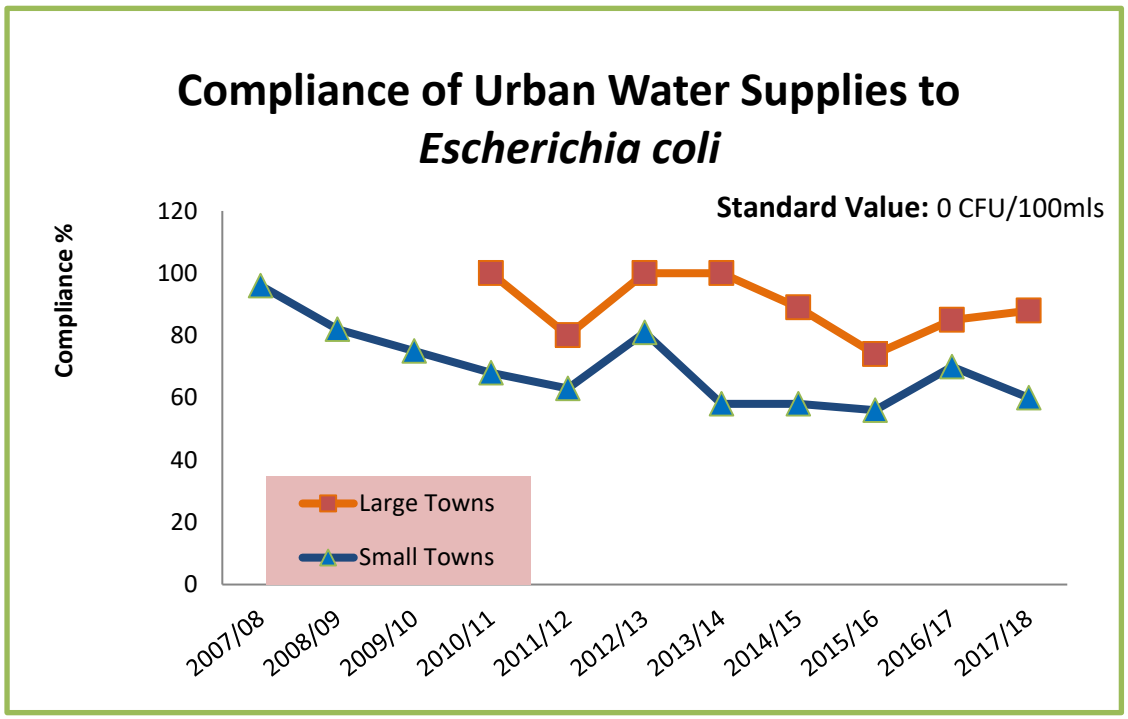



***Figure 36: Trends in Quality of Waste water***

***Industrial waste water***

Sixty-six (66) industrial countrywide were monitored in the year under review. Segregating the industries into categories made it possible to understand which category of the industries contributed more to pollution of the water resources and other environmental systems. The compliance of the effluents to key wastewater parameters is presented in the figure below. From the graphs it can be seen that the compliance level to Biochemical Oxygen demand (BOD) is lowest (25%) for food processing industries, followed by for sugar factories (30%) tannery (33%), and agro-processing (40%) and diary (55%), industries. These are considered the most polluting industries. On the other hand, beverage industries (88%) and Fish processing (63%) discharge wastewater that have been treated fairly adequately and are considered least polluting industries.

General compliance to wastewater looks better this year compared to last years (Figure 38) This is attributed partly to the compliance assistence offered to the selected industries through cleaner productions interventions and better sample size.

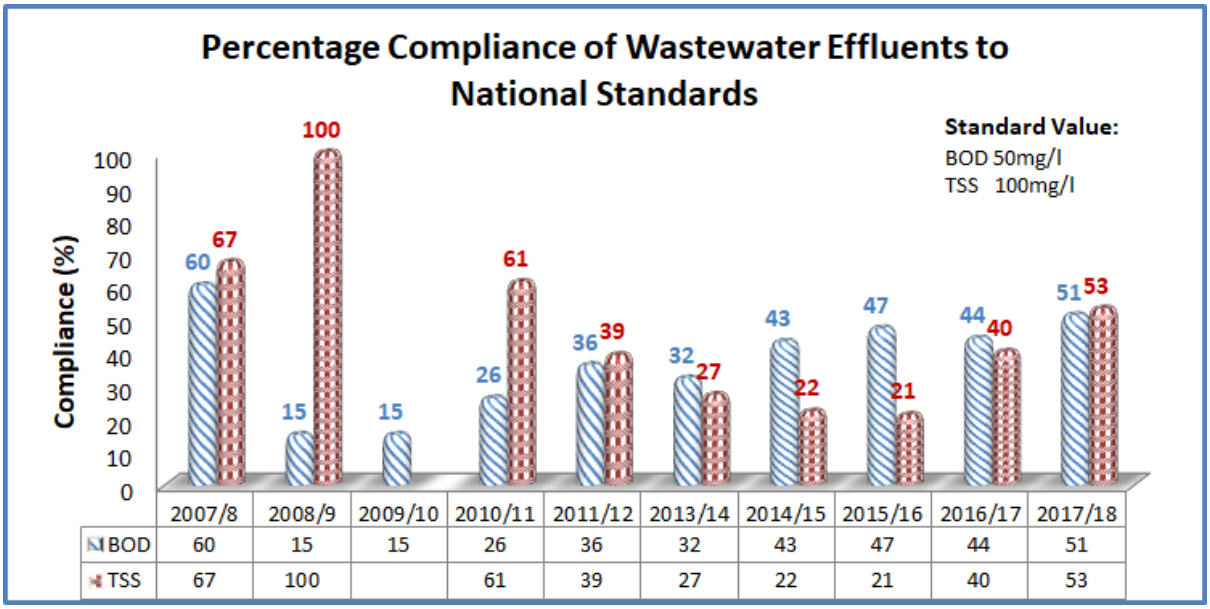



***Figure 37: Compliance of waste effluents***

***Municipal Wastewater***

National Water and Sewerage Corporation and Municipalities are charged with the responsibility to treat domestic wastewater in the country. In the year under review, a total 17 municipal wastewater sites were monitored. The compliance to BOD and Total Suspended Solids (TSS) of these shows that only 6 of the 17 wastewater treatment lagoons, representing 35% discharged effluent above the BOD set limit of 50mg/l of the wastewater standard. 12 lagoons, representing 71% of the lagoons complied with the wastewater discharge standards for TSS of 100mg/l. Out of the lagoons monitored, Mbarara, Masaka and Jinja lagoons discharged wastewater higher than the recommended standard with respect to BOD and TSS. The other lagoons in Iganga, Entebbe, Mbale, and Tororo discharged effluents that complied with the effluent standard with respect to BOD and TSS.

Increase in population in these towns over the years has out stripped the capacity of the lagoons. It is recommended that NWSC invests in upgrading the capacity of these wastewater treatment facilities.

### *7.4.10 Ambient Water Quality*

The Ministry through the DWQM is responsible for reporting on the Sustainable Development Goal (SDG) 6.3.2 indicator for ambient water quality of Ugandan water resources.

SDG 6.3.2 on Ambient Water Quality: Proportion of bodies of water with good ambient water quality. There is scarcity of data on the five parameters for reporting on SDG 6.3.2. Available data from the national water quality database for some surface water resources are shown in table46 below:

***Table 46: Status of Surface Water Quality***

| SN | SiteName | EC (µs/cm) | pH | $NO_3$ (mg/l) | $PO_4$ (mg/l) | T. Phosp (mg/l) | DO (mg/l) | *E. coli* CFU/100mls |
|---|---|---|---|---|---|---|---|---|
| 1 | L . Victoria | 112 | 8.3 | 0.06 | 0.26 | 0.24 | | |
| 2 | L . Kyoga | 125 | 8.2 | 0.07 | 0.13 | 0.32 | | |
| 3 | L . George | 294 | 8.2 | 0.04 | 0.17 | 0.35 | | |
| 4 | L . Edward | 505 | 9.1 | 0.08 | 0.28 | 0.80 | | |
| 5 | L . Albert | 604 | 8.9 | 0.02 | 0.15 | 3.11 | | 2 |
| 6 | R. Nile at Owen Falls Bridge | 90 | 7.9 | 0.11 | 0.11 | 0.22 | | <2420 |
| 7 | R. Nile at Mbulamuti Cable Way | 91 | 7.6 | 0.14 | 0.18 | 0.25 | | <2420 |
| 8 | R. Nile at Masindi Port | 142 | 7.3 | 0.03 | 0.11 | 0.24 | | 28 |
| 9 | R. Mpologoma at Budumba | 164 | 7.5 | 0.30 | 0.41 | | | |
| 10 | R. Mobuku | 850 | 8.0 | 0.55 | 0.18 | | | |
| 11 | R. Awoja | 349 | 7.9 | 0.60 | 0.35 | | | |
| 12 | R. Manafwa | 119 | 7.6 | 1.30 | 0.66 | | | |

There are three (3) main challenges in reporting on this indicator:

1. Setting of target values require huge sets of data collected over time from cross sectional sampling from all the major surface water resources. Different water bodies in Uganda have different values for the same parameters due to geological formations. This will necessitate setting of different target values for different water bodies.
2. Inadequate and irregular flow of funds for sampling
3. Lack of a water vessel or boat for the department increases cost of lake monitoring especially for the Lake Victoria and Lake Albert.

### *7.4.11 Water Quality Issues/Challenges*

There are a number of water quality issues/challenges that have continued to reduce the quality of our water resources and include among others:

1) Pollution from industries that do not treat their waste to the recommended level. Other types of pollution are from agricultural practices (use of fertilizers, pesticides herbicides) and cultivation up to the shores increasing siltation.
2) The NWQRL has not been accredited, hence challenge in use of results for legal purposes
3) Impacts of oil and gas activities on the water quality of ground and surface water in terms of heavy metal contamination.
4) Rampant cage fish farming that is not regulated has serious threats to the water quality of our already nutrient rich surface water.
5) Natural causes of pollution which include high Iron and saltiness in some districts due to geological formations in these areas.
6) Operation and maintenance of water sources is still a big challenge that affects the quality of drinking water.
7) Poor sanitation and hygiene at the water source and at the household levels are responsible for most outbreaks of water borne diseases.
8) Old national water quality monitoring network that may not be capturing all the emerging water quality issues.
9) Shortage of funds for maintenance of laboratory and field equipment, chemicals and reagents.

10) Shortage of laboratory space to accommodate the robust equipment and staff for better performance.

### *7.4.13 Way Forward*

There are ways in which most of these challenges could be overcome. These ways include:

i. Strengthening enforcement of compliance to the laws and regulation that help to preserve good water quality for drinking and ecosystem health.
ii. Carry out comprehensive assessments of water resources in the oil and gas regions to establish the exact possible causes of heavy metal contamination and address them.
iii. The Ministry should be involved in the development of regulations to manage cage fish farming.
iv. Review the water quality network to accommodate the emerging water quality challenges, this activity has been initiated.
v. Lobby for funds through proposal and project writing to maintain operational activities and fight invasion of our lakes by invasive water weeds.
vi. Continue policy shift in which rural water supply should be done through deep boreholes. Small towns should improve water treatment to meet the standards.
vii. Procurement of consultancy for NWQRL accreditation has been done, the only obstacle is funds, GoU has promised to fund the activity.
viii. Plans are in place for construction of a new NWQRL and office space, funds are being thought.

## 7.5 International and transboundary water resources management

### *7.5.1 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), and 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 2017/2018, 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

### *7.5.2 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. In the period under review, the department coordinated national inter-ministerial meetings which led to Uganda Appeal to the policy to the 35$^{th}$ East African Community (EAC) Council of Ministers. The 35$^{th}$ EAC Council directed that EAC Secretariat address Uganda's concern through a Task Force composed of technical officers from Partner States and report to the 37$^{th}$ EAC Council.

***Cooperative Framework Agreement (CFA) for the Nile Basin countries***

NBI Partner states negotiated Cooperative Framework Agreement (CFA), for the sustainable management and utilization of the shared Nile basin water resources has been signed by six (6) countries (Ethiopia, Rwanda, Tanzania, Kenya, Burundi and Uganda) and ratified by four (4) countries (Ethiopia, Rwanda, Tanzania and Kenya). During the period under review, NBI Secretariat working with the Technical Advisory Committee (Nile-TAC) has drafted a Concept Note on CFA that will be considered by the 2$^{nd}$ meeting of Nile Basin Heads of State (Summit).

### *7.5.3 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 2017/18, government has;

- Contributed over UGX 0.630 bn towards NBI operations and maintaining of the institution's personnel and equipment and also governance meetings.
- Supported, by funding participation of ministers and technical staff, various Governance meetings as follows; 1 Nile Council of Ministers meeting and Three (3) Nile Technical Committee; during

which the policy and technical guidance is provided to the Nile Basin Secretariat and its two investment programmes (Nile Equatorial Lakes Subsidiary Action Program (NELSAP) & Eastern Nile Subsidiary Action Program (ENSAP)).

- Supported participation of 15 officials in cooperative meetings and joint stakeholders' fora like the Regional Nile Day celebrations and the Nile Basin Development Forum 2017.
- Funded and supported training of two (2) officers that participated in the NBI stakeholders mapping and NBI stakeholders' database development.

***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 Policy Steering Committee Meeting and also availed technical staff to participate in various activities of LVBC. This culminated into the development of 3 new regional projects coordinated by LVBC, i) Multinational Lake Victoria Maritime Communication and Transport (MLVMCT), ii) Lake Victoria Basin Integrated Water Resources Management (LVB-IWRM) and iii) Lake Victoria Basin Climate Change Adaptation (LVB-CCA).
The department 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 mutual cooperation between the parties.

The department coordinates activities related to the water and environment sector in a number of JPCs. In the period under review, the following activities were undertaken:

a. Participation in cross border cooperation meetings between Uganda and Tanzanian where sites for construction of a intake works for bulk water system for Isingiro and Mbarara, and access points for provision of water for cattle were identified and agreed upon.

b. Participation 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 under review, the Uganda Country Water Partnership (UWP), an entity responsible for coordinating the actions of GWP in Uganda, coordinated and facilitated the development of guide for Integrating Climate Change and Drought Resilience into the Water And Sanitation Sub-sector Planning, as well as preparation of project proposals for climate change financing.

***Intergovernmental Authority on Development (IGAD)***

Uganda is one of the IGAD member states and has been implementing the IGAD-HYCOS project set up to build technical and institutional capacity to collect, store and disseminate timely and accurate hydrological information to enable the efficient and economic management of their national water resources. The project is funded by European Union (EU) and is implemented jointly by World Meteorological Organization (WMO) and Intergovernmental Authority on Development (IGAD).

During the FY 2017/18, the project supported information gathering from rehabilitated monitoring stations, participation in governance meetings and training of two (2) officers in regional flood monitoring.

***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 data validation forum to review the AMCOW Monitoring and Evaluation data submitted by the member countries. In addition, two (2) officers were supported to participate in the Technical and Advisory Committee (TAC) meeting in Dar es Salaam, Tanzania in which policy and technical guidance was provided to the Secretariat. Three (3) officers were supported to participate in the AMCOW at 15 years and Strategic Dialogue with development partners in Abuja, Nigeria.

The department effectively participated in the review and finalization of the AMCOW Strategic Plan 2018-2022.

### *7.5.4 Trans-Boundary Projects and Investments*

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

Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project is a regional project implemented by Nile Basin Initiative (NBI)/Nile Equatorial Lakes Subsidiary Action Program (NELSAP), DRC and Uganda in the basins of Lakes Edward and Albert shared by Uganda and DRC.

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 2017 / 2018, the following were achieved under the respective project components.

**COMPONENT 1: Fisheries Resources Development and Management**

Through this component, the Project plans to;

1) develop a Fisheries Management Information System for which data and information will be attained through Key Fisheries Assessments (CAS and frame surveys). During this period;

    a) Standard Operating Procedures between were harmonized and the assessments commenced through Uganda's NaFIRRI (*National Fisheries Resources Research Institute*), DRC's SENADEP (*Service National pour le development des Peches*);

    b) Construction of a surveillance station and a research station in Kaiso Tonya, Hoima District for was initiated with detailed designs completed and approved by Hoima District and procurement for the works are to commence following acquisition of the land tittle.

    c) Procurement of one (1) research vessel for Lake Albert was initiated with structural designs and technical specifications were completed. However, procurement was later deferred pending confirmation of availability of the budget shortfall.

d) Procurement of two (2) patrol boats to aid in the surveillance operations in both lakes Edward and Albert was initiated and they will be supplied by November 2018.

e) Conducted community engagement & sensitization on the proposed infrastructure development,

f) Completed the procurement for the works (Rwenshama in Rukungiri on L. Edward, Mahyoro in Kamwenge on L. George, Kitebere in Kagadi, Mbegu in Hoima and Dei in Nebbi on L. Albert), Finalized the Environmental Scoping for the landing sites and Obtained from NEMA the permits to carry out regulated activities in wetlands/river banks/lake shores.

2. Improve management of water hyacinth that is forming thick mats that make fishing impossible and disrupt water transport.

***Salvinia molesta at Kanara landing site in Ntoroko District***

The dense Water hyacinth cover also prevents sunlight from reaching submerged microscopic plants that sustain fish food chains in healthy aquatic ecosystems, which die and decompose depleting oxygen levels. A loss of oxygen from the water increases its acidity and, as a result, aquatic biodiversity starts to decline. During this period, the project conducted an assessment of status of water weeds and developed the scope of works and working methods for the control/removal of aquatic weeds.

*3.* Capacity Building/Training and re-enforcement of fishermen and women organizations. During this period, the project conducted training of: *(i)* twenty four (24) groups in fish harvesting gears, handling, hygiene, sanitation, processing, and marketing, which training included a total of 344 participants (218 men and 126 women), (ii) thirteen (13) groups in access to market and credit, which training included a total of 349 participants (206 men and 143 women), (iii) sixteen (16) groups in improving Mukene handling, processing, packaging and marketing for local markets, which training included a total of 241 participants (187 men and 53 women).

***Licensing sensitization workshop***

In an initiative to control the fishing capacity, the Project has supported MAAIF in the licensing and is in the process of procurement of fishing vessels' identification plates, training of licensing personnel who will participate in licensing exercise scheduled to begin in August, 2018. Other activities undertaken under Component one (1) of the Project include:

i) Harmonizing the standard operating procedures for the identification and demarcation of fish breeding and spawning areas.

ii) Promotion of alternative livelihoods and accompanying poverty reduction measures including income generating activities, particularly amongst women and youths in order to reduce the pressure on the fish stocks.

Women constitute approximately 52% of the population living near Lake Edward and Albert and over 50% of those are involved in fisheries and forty six (46) groups from Districts of Kamwenge, Ntoroko, Hoima, Kasese and Buliisa were selected and trained in alternative livelihood

Through a participatory approach: *(i) a total of 120 from Kamwenge District and 110 from Ntoroko District were trained in*

**COMPONENT 2: Integrated Water Resources Management**

Box 4: State of environment in the Lakes Edward and Albert basin

Uganda's freshwater, is a strategic natural resource vital for life sustenance, socio-economic development and maintenance of the environment. Some of critical environmental issues in the LEAB include: siltation, sedimentation, watershed degradation, unstable river banks, high turbidity in (most river in the project area), unrestored bridges within rivers causing impeded water flows, pollution, severe soil erosion, poor land use and agricultural practices, poor municipal waste management, car/motor washing bays along the river, conversion of wetlands into others land uses such as agriculture, sand mining, brick making etc., unregulated water abstraction and impacts of climate change on river and lake regimes.

***Degraded /collapsing Semiliki riverbanks***

***Siltation at River Ntungwe***

During the reporting period, the project has:

i) Procured and supervised a consultant undertaking updating of the Integrated Lake Management Plans. The following were achieved; completion of the Inception phase, Diagnostic Analysis phase, Situational Analysis Phase which included fieldwork, stakeholder consultations, analysis, etc. and developed the thematic sub plans.



***Poor waste management at lake Albert shores***

***Hygiene and sanitation situation in Kitebere, Kagadi District***

ii) Resource mobilization: Ffacilitated participation in the 5th Nile Basin Development Forum (NBDF) in Kigali, Rwanda. The NBDF is a biennial Science-Policy dialogue that brings together various stakeholders including Development Partners from across the Nile Basin and the World to deliberate and build broad consensus on the Nile Cooperation agenda.

iii) Capacity Building/Training and awareness raising in IWRM: a) Conducted stakeholder mapping and identification in Bushenyi, Kagadi, Masindi, Nebbi and Packwach Districts, b) Engaged districts in IWRM to enrich the ongoing integrated basin management plan study in Rubirizi, Mitooma, Kasese, Kagadi, Hoima, and Ntoroko districts, c) Conducted 3 awareness raising workshops in Lakes Albert, Edward, George Basin, d) Conducted an awareness raising and sensitization on IWRM in Nyamwamba catchment for which a detailed CMP is to be developed.

iv) Restoration of hotspot areas in the selected catchments: New hotspot areas in Semliki Catchment were identified and assessed to upscale restoration, procurement process initiated for the development of catchment Management Plans for Nyamwamba and Mitano river basins and the development of regional catchment Management Plans for Semliki, Nkusi and Muzizi river basins all aimed at reversal of catchment degradation, increased ecosystem resilience and productivity, and improved community livelihoods/ socio-economic development.

v) Strengthening Basin water resource monitoring and assessment: Enhanced water quality monitoring is 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. During this period, the project

a) Initiated development of a Regional Water Quality Laboratory Block for Albert Water Management Zone in Fort Portal and completed procurement and commenced on construction of office block and laboratory. Through the Regional Component, the Project has also completed the procurement for the supply of one mobile water quality laboratory.

b) Conducted a water resources assessment (quality and quantity) to aid in completion of the designs for the water resources monitoring system and commenced the construction of two (2) hydro-meteorological stations (River Waiga and River Nsonge).

***Regional Laboratory and Offices 54% Progress*** ***Construction of the river gauging station***

vi. Construction of community water and sanitation facilities: a) Carried out hydrogeological assessment of the proposed borehole sites, completed the procurement of the driller and commenced the works (Works progress: 72% with 15 sites drilled). Drilled & recommended sites for motorised pumps include: Kanungu (27 m3/hr), Mitooma(15 m3/hr) , Masindi (1 site - 5 m3/hr), Kagadi (1 site – 4.5 m3/hr), Packwach (1 site – 6 m3/hr), Bulisa (1 site – 5.4 m3/hr), while

the drilled & recommended for hand pumps include: Kabarole, Kagadi (1 site), Runkungiri, Bunyagabo, Kamwenge, Kibale, Hoima, Masindi (1 site) and Bushenyi.

b) Community toilets: within the LEAB was also completed during the reporting period. The Project also continuously updated the water and sanitation committees/management structures for the community toilets/boreholes and signed MoUs with the communities offering land for the works.

**COMPONENT 3: Project Administration**

During the reporting period, the project has: recruited 5 technical and support staff, procured 2 project vehicles, supported participation in 2 National and 1 Regional Governance meetings, hosted Parliamentary group on Natural Resources .

***Nyimur Multi-Purpose Water Resources Development and Management Project***

The project implemented in Uganda and South Sudan in 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 2017-18, the Social Impact Assessment Studies (ESIA) and Resettlement Action Plan (RAP) were completed and final reports presented to stakeholders of both countries for ownership. Geo-technical investigations, which is the final activity of the Feasibility studies are ongoing and will be completed in the first quarter of the FY 2018-19.

***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 2017/18, the project Coordinated resource mobilization for Angololo Irrigation Development and Watershed Management Project shared between Tororo district in Uganda and Teso district in Kenya. AfDB has approved funding for the detailed feasibility studies, detailed designs, independent Environmental, Social Impact Assessment and Resettlement Action plan studies.

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

The Kagera Transboundary Intergrated Water Resources Management and Development Project is supporting Uganda in implementing the Kabuyanda Water Resources Project in Isingiro District. This multipurpose project will develop 4,200 ha of irrigation, generate 350 kW of Hydropower, provide potable and livestock water supply, as well as fish farming.
During the period 2017-18, the project finalized the Feasibility Studies and Detailed designs; and The Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) for the project. The project was officially handed over by the NELSAP to the Government of Uganda for implementation.

***Lake Victoria Environmental Management Project II (LVEMP II)***

The Lake Victoria Environmental Management Project (LVEMP-II) is an East African Community (EAC) regional initiative coordinated by the Lake Victoria Basin Commission Secretariat and implemented by five EAC Partner States. In Uganda, the project is coordinated by the Ministry of Water and Environment and implemented by 13 agencies from water, fisheries, and local government, academia and environment sectors. The project aims at controlling pollution to Lake Victoria while improving the livelihoods of the people that depend on shared Lake Basin resources. The project was funded by International Development Association (IDA) and it closed on 31st December 2017. The key achievements in the financial year July 2017 – June 2018; and a synopsis of project performance over the entire project period is provided below:

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

(i) The project supported the rehabilitation and expansion of Kirinya Waste Water Treatment Plant in Jinja and during the period under review, rehabilitation of works were completed. The capacity of the rehabilitated plant were expanded by 25 percent and 12,700 persons are directly benefiting from the intervention. To further increase sanitation coverage at landing sites and other public pollution hotspot, the project completed construction of 32 public sanitation facilities and handed them over to the beneficiary communities in nine districts namely; Mityana, Mubende, Gomba, Mpigi, Kalungu, Masaka, Rakai, Kalangala and Namayingo. The facilities are to benefit 59,000 persons and 24 of these are located at landing sites in and around Lake Victoria.

(ii) Completed the procurement of mobile sewerage ponds maintenance equipment worth USD 1,600,000 for the National Water and Sewage Corporation (NWSC). The equipment that include 1 Jetting/Cesspool Truck, pit hog 78D dredging equipment-specialized dredging unit to deal with sludge/sediment removal, a 16-ton dump truck, a backhoe loader and a self-loader has strengthened NWSC's capacity to carry out this critical activity of desludging of the sewage stabilization ponds around the country.

(iii) Completed construction of the model waste recycling plant for Kampala Capital City Authority Centre. The shillings 3.3 billion plant will facilitate community-based waste recycling will hand approximately 40,000 tonnes of plastic and 1,000 tons of market waste streams per month. These will be transformed into usable, marketable products; such as energy saving briquettes, organic fertilizers, fish feed, building bricks & blocks, art & crafts, plastic bales, among others. According to a market survey, projections indicated that the facility will generate a net income of UGX 708 million annually.

***Ecosystem Monitoring and Applied Research:*** The project financed the strengthening of scientific and socio-economic: (a) data gathering protocols; (b) ecosystem monitoring tools; and (c) data-sharing mechanisms. During the period under review, the installation of IT infrastructure at the proposed Uganda Water and Environment Information and Knowledge Centre (UWEIKC) was completed. This followed the completion of the extension to the hydrological data centre at the Directorate of Water Resources Management (DWRM) located in Entebbe. Installation of ICT infrastructure at two satellite nodes namely; the Victoria Water Management Zone (VWMZ) in Mbarara and the KCCA Drainage and Environment Centre was completed. It is expected that the upgraded Data Centre will support the functionality of a one-stop data, information and knowledge centre.

***Watershed Management:*** Under this component, the project sought to reduce environmental stresses from the lake basin by implementing non-point sources pollution mitigation and prevention measures through 46 Community Driven Development (CDDs) and 23 Strategic Interventions (SI) subprojects in nine districts, namely: Mityana, Mubende, Gomba, Mpigi, Masaka, Rakai, Namayingo, Kalungu and Kalangala. During the period under review, the following were achieved;

i) A total of 544 hectares of public land were planted with trees. This brought the cumulative sum of area put under Sustainable Land Management (SLM) to 2,705 hectares against a target of 2,520 hectares.

ii) A total of 122 energy saving stoves for institutions were constructed and handover. These are spread in the 9 districts around Lake Victoria. It is estimated that the energy saving stoves are directly serving about 5,200 persons and have led to a reduction of bio fuel consumption of the beneficiary instructions by 60%.

iii) As a way of preparing for the next phase; a Catchment Management Plan (CMP) for Katonga Catchment was developed through a comprehensive consultative process. It is upon this plan that watershed management interventions for Phase 3 of the project will be hinged. During the

preparation of the CMP, a committee comprising of 35 members from the 14 districts that make up the Katonga catchment was formed to oversee the enforcement of the plan.

***Synopsis of LVEMP II over the last 7 years of implementation***

The Lake Victoria Environment Management Project was designed to improve the quality of regional public goods (e.g. water entering the lake, wetlands, and fishery production) through the two Project Development Objectives (PDO) namely; to contribute to: (i) the improvement of the collaborative management of the trans-boundary natural resources of the LVB among the Partner States; and (ii) the improvement of environmental management of targeted pollution hotspots and selected degraded sub-catchments for the benefit of communities who depend on the natural resources of Lake Victoria Basin.

On attainment of the first PDO, there was harmonization and eventual adoption of a number of legislations, policies, regulatory standards and basin-wide management frameworks to improve the cooperative management of the Lake Victoria Basin. These comprised of the: (i) Water Resources Management policy and Bill; (ii) EAC Regional Standards for Industrial and Municipal Effluent Discharges into Sewerage and River Systems; (iii) First phase of the Integrated Water Resources Management Plan for the Lake Victoria Basin; (iv) Lake Victoria Fisheries Management Plan; (v) Lake Victoria Basin-wide Sustainable Land Management Strategy; (vi) Options for Establishing the Lake Victoria Environmental Trust Fund; (vii) Water Hyacinth Surveillance and Control Strategy for the Lake Victoria Basin; and (viii) Protocol for Data, Information and Knowledge Sharing.

On the attainment of the second PDO the following were achieved; (i) Rehabilitation of the Kirinya wastewater treatment facility, later expanded by 25% and serves an estimated 12,700 people. (ii) Equipment that aids the removal of silt was supplied to KCCA and since March 2015 to end of June 2017; cumulatively a total of 742,000 $m^3$ of silt were removed from the various drains in Kampala and dumped at Kiteezi landfill. That equipment removed a total of 6,000 tons of garbage every month. (iii) Regularly maintained 8.7 Km of Nakivubo channel and since March 2015 – March 2016, a total of 260,874 metric tons of silt were removed. (iv) constructed a waste recycling plant (processing 300 tons of plastics and 1,000 tons of market waste per month (on-going), (v) Awareness and training of Resource Efficient and Cleaner Production principles and practices were raised among key stake holders that included SMEs, private sector associations, policy makers, academia and the public. Following up in-depth Cleaner Production assessments were carried out in 52 enterprises and the identified Cleaner Production measures implemented resulted in significant improvement in energy efficiency, water conservation, material efficiency and cost savings. There were also remarkable environmental and social benefits such as reduction of pollution and creation of green jobs because of the Cleaner Production interventions. At least 2,340 hectares of land were put under Sustainable Land Management, 1,178 hectares of wetlands restored and 1,526 people adopted SLM practices.

***Economic efficiency;*** The economic analysis undertaken at appraisal showed that the project had positive Net Present Values (NPVs) and Internal Rate of Returns (IRRs) for almost all the interventions whose benefits could be easily quantified. The overall project IRR was estimated at 15 percent and assuming a 25-year period and a discount rate of 10 percent. The post-ante economic analysis based on updated assumptions and actual project data estimates the globally project IRR of 20% discounted over a period of 10 year. This exceeds the 15% ex ante IRR estimated at project appraisal.

***Budget's mobilization efficiency:*** The financing for the project as per the Financing Agreement was US $ 27.5m (25million from IDA and 2.5 from Government of Uganda). At the time of project completion, the cumulative expenditure stood at US$ 27.2 million representing 98.8% budget performance

***Implementation Efficiency*;** using the Index Number technique to measure efficiency, the overall global project activity efficiency was found to be 97%. This achievement can be attributed to the restructuring of the project at midterm, which dropped most of the untenable indicators and created flexibility to reallocate funds to activities that had a direct bearing to the PDO.

***Challenges***

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

***A case for follow up phase of LVEMP***

Pollution and eutrophication of the lake is continuing albeit at a reduced rate owing to interventions supported by World Bank under LVEMP I and II as well as those supported by other Development Partners in the basin. These efforts have demonstrated that with continued support and interventions, it is possible to reverse environmental degradation, improve the livelihoods of the communities and progressively attain and/or contribute to the Sustainable Development Goals (SDGs).

However, during project implementation, new and emerging challenges that threaten the gains made in promoting sustainable development of LVB were observed. These include effects of climate change; population explosion, high rate of urbanization and invasive weeds and species. Faecal sledge management is still outstanding in several towns in the Lake Victoria Basin, namely Entebbe, Masaka and Iganga. There is need to improve existing sewage treatment facilities to conform to environmental regulations and standards.

*Box 5: Kampala City Builds Recycling Plant*

***Box 5. Mobile Desludging Units Boosts NWSC's National Capacity to Maintain Sewage Ponds***

As a national parastatal responsible for provision of water and sewerage services in urban centres of Uganda. National Water and Sewerage Corporation (NWSC) provides sewerage services in over 15 towns in the country all of which use waste stabilization systems for sewage treatment. By this mandate, the corporation is responsible for over 81 sewage stabilization ponds spread across the 15 towns. However, these Stabilization ponds insufficiently maintained due to inadequate capacity in terms of equipment and appropriate technologies for maintenance of ponds.

"Previously, desludging works have been carried out at Area level, with the Area empowered to procure a local or regional contractor to carry out the works", says Christopher Kanyesigye the Manager for Research and Development at NWSC.

Unfortunately, previous experience showed that, due to lack of capacity and appropriate equipment by local contractors to carry out desludging works, the quality of such works has remained very poor. "For an effectively designed and maintained systems, the desludging should be carried out once or twice every year, for ponds in some of the areas we cover, it would take as long as three years without

*Hon. Sam Cheptoris, Minister of Water and Environment operating the remote control of the dredger during the handover of the mobile sewerage pond maintenance equipment to NWSC at Lubigi, Kampala. Looking on is Ms Florence Grace Adongo, the*


*One of the two pit hog 78D specialized dredging equipment at Lubigi sludge treatment facility*

It is against this background, that LVEMP II supported NWSC to acquire its own mobile sewerage ponds maintenance equipment worth USD 1,600,000, to enable it effectively maintain the sewage ponds to ensure the integrity of the environment. The equipment procured equipment included; 1 Jetting/Cesspool Truck- complete with accessories, pit hog 78D dredging equipment-specialized dredging unit to deal with sludge/sediment removal, a 16 ton dump truck, a backhoe loader and a self-loader.

"The acquisition of the sewerage maintenance has built NWSC's capacity to undertake this critical activity of desludging of the sewage stabilization ponds around the country", says Kanyesigye. The mobile unit periodically traverses the country maintaining the ponds that are 21 in Kampala, 16 in Entebbe, 7 in Jinja, 3 in Kabale, 9 in Mbarara, 6 in Iganga, 3 in Tororo, 3 in Soroti, 4 in Fort portal, 8 in Mbale, 3 in Masindi, 2 in Hoima, 3 in Gulu, 3 in Masaka and 6 in Lira.

***The Tanzania - Uganda Joint Cross Border Cooperation Commission***

The Presidents for both countries met in Masaka and agreed with Ministers recommendations on addressing challenges faced by the population along the common border between Uganda and Tanzania, among them water and livestock. The Presidential agreed and directed among others as to obtain bulk water from River Kagera for Isingiro in the long run and to have corridors for livestock to access water from Tanzania in the short run. A follow up Inter ministerial meeting agreed as follows;

i) Uganda to abstract 8cm$^3$ of water from Kagera at an intake sighted downstream of Kikagati and Nshungezi power sites but upstream of BP27. Development to be carried out urgently and to jointly undertake Environmental Impact Assessment for the project;
ii) Construct Valley Tanks in Bugango, Nyamarungi/Kamwema and Sango Bay ;
iii) Both countries to participate in joint assessment of interim use of Kafunjo water source; and
iv) Establish a Joint Expert Group by the end of December 2017 to develop a holistic, integrated catchment management plan for Kagera Basin between the two countries.

***Support to Hydropower Project on River Nile in Uganda***

The project aims at optimum use of Lake Victoria for hydropower production and 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.

A consultant, WREM International was contracted to develop a Nile Water Allocation Tool, review and assess impacts of Water Release and Abstraction Policy (WRAP) developed by EAC and provide framework for river Nile regulation in Uganda taking under consideration upstream and downstream States interests.

During this period, Review was made of the WRAP and advice given to government that was used in the discussions during the 35th EAC Council; supervised the bathymetric survey of the Nile in Uganda that was 50% completed; and supervised the development of the Water Allocation Tool that is 30% completed.

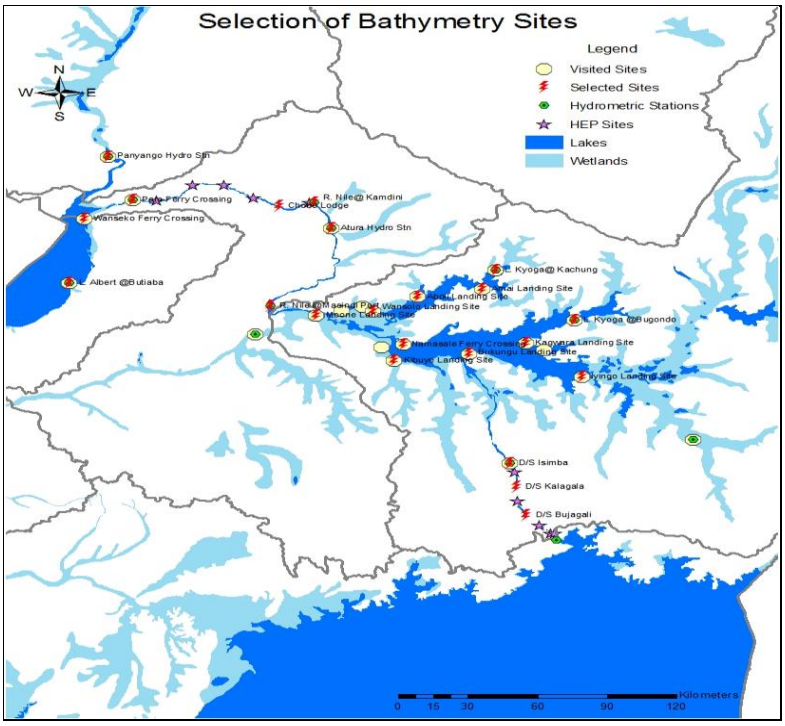



***Figure 38: Image of Selected Sites showing the bathymetric route***

***New Projects supported***

Through Lake Victoria Basin Commission, the following projects have been funded for implementation starting in FY 2018/2019

***Adaptation to Climate Change for Lake Victoria Basin:*** The project that focuses on areas with trans boundary significance aims at; (i) Improving Climate change adaptation technical capacity, policy, leadership and actions of regional institutions; and

(ii) Strengthen resilience of EAC partner states. It is supported by Adaptation Fund through UNEP to LVBC at USD 5 Million for all Partner States;

***Lake Victoria Basin Integrated Water Resources Management Programme: Nakivubo Constructed Wetland:*** The project aims at controlling pollution to Lake Victoria while improving the livelihoods of the people that depend on shared Lake Basin resources. Nakivubo Channel constructed Wetland is aimed at controlling pollution into Lake Victoria specifically, from Kampala Business Centre through Nakivubo Channel - it is supported by KFW at a cost of USD 11.23Million.

# 8. SANITATION AND HYGIENE

## 8.1 Introduction

Sanitation and hygiene in Uganda is implemented by three Ministries; Water and Environment, Education and Sports; and Health. The Ministry of Water and Environment is responsible for sanitation and hygiene infrastructure in urban centres. However, the Ministry also supports construction of public sanitation facilities and promotion of household sanitation and hygiene through the District Water and Sanitation Development Conditional Grant and District Sanitation and Hygiene Conditional Grant respectively. At Sector level, Development Partners (donors and CSOs/NGOs) support covers household and institutional sanitation and hygiene. This section presents the annual performance assessment of the Sector performance with regard to rural and urban sanitation and hygiene during the FY 2017/18.

## 8.2 Rural Sanitation and Hygiene

### *8.2.1 Financing of rural sanitation and hygiene*

Rural sanitation and hygiene was financed through the following grants:

***(i)District Water and Sanitation Development Conditional Grant (DWSDCG)***

This Grant was provided to the districts and it was used sanitation infrastructure and hygiene promotion in communities that received new water sources. Districts are allowed to use up to 3% of the entire DWSDCG grant for construction of public sanitation facilities. A total of UGX 1.4 billion was used in the construction of 70 public sanitation facilities during the reporting period.

***(ii)District Sanitation and Hygiene Conditional Grant (DSHCG)***

A total of UGX 2 bn was allocated to districts to support Sanitation and hygiene promotion in rural areas. 101 districts received this grant with each district getting UGX 20 million to UGX 21 million. District disbursements during the FY 2017/18 reduced to 21 million compared to the UGX 23 million disbursed in the past four financial years. This is attributed to the creation of new districts yet the entire budget allocation for this grant was maintained at UGX 2 billion.

***(iii) Uganda Sanitation Fund (USF)***

The Ministry of Health (MoH) receives funding from the Water Supply and Sanitation Collaborative Council to implement sanitation and hygiene promotion in 40 districts. This project has been in existence for the last seven years with a budget of USD 12,801,851. During the FY 2017/18, a total of USD 1,284,995.04 was disbursed to the MoH and the districts. In addition, Government of Uganda provided counterpart funding worth UGX 250 million to the 8 new expansion districts of Mayuge, Namayingo, Sironko, Nakapiripirit, Napak, Nakasongola, Hoima and Buliisa. These districts joined the Uganda Sanitation Fund in the FY 2016/17 and government continues to fund them.

### *8.2.2 Key achievements during the FY 2017/18*

***Uganda Sanitation Fund (USF)*:** the average latrine coverage for the districts supported by USF was reported to be 96% compared to the national average of 79%. During the FY 2017/18, a total number of 3,785 were triggered, with only 1,680 (44.3%) villages achieving ODF status. An additional 1,008,000 people are now living in ODF environment. Since the inception of USF project, a cumulative total of 7,901 villages have been declared ODF against the target of 11,354 for the nine year project period ending July 2020. This represents an overall performance level of 70% for the entire project.

***District Sanitation and Hygiene Conditional Grant:*** Hygiene and sanitation promotion was implemented using Community Led Total Sanitation approach and the Home Improvement Campaign approach. A total of 1670 villages were triggered using this grant during the reporting period and only 34% (571 villages) of these were declared ODF.

***Centrally managed projects***

***Water Supply and Sanitation Projects:*** Under the centrally implemented Water Supply and Sanitation projects, a hygiene and sanitation component is included and it covers construction of public/institutional sanitation facilities and sanitation and hygiene promotion. Hygiene and Sanitation campaigns were carried out in 477 villages with approximately 143,100 people receiving hygiene messages. Three institutional facilities have been completed for Bukwo Gravity Flow Scheme and Bududa Gravity Flow Scheme. Such a facility in shown in the picture below:

***Gender Segregated Water Borne Toilet with 10 stances of which two stances are for disabled and bathroom for girls constructed at Tulel Secondary School in Bukwo District***

***Climate Resilient Institutional and Public Sanitation Project (CRIPS):*** This project was funded by the Global Environment Facility through the African Development Bank with the aim of increasing resilience of communities to the effects of flooding due to climate change. A total 132 sanitation facilities each of 6 stances were constructed in 60 primary schools and 12 in public places in Budaka, Pallisa, Butaleja, Soroti, Kumi, and Bukedea districts. The technologies used in the construction of sanitation facilities were Enviroloos, Cesspits and Lined Ventilated Improved Pit latrines.

Relatedly, 60 School Health clubs and 12 Community WASH structures were formed and trained to support the operation and maintenance of these facilities. To enhance local capacity of districts to replicate the technologies constructed under this project, 30 local masons (5 from each district) were trained.

The table below highlights the number of facilities constructed in each of the benefitting districts.

***Table 47: Facilities constructed by CRIPS Project***

| District | Enviroloos | VIP Latrines | Cesspits | Total |
|---|---|---|---|---|
| Bukedea | 3 | 11 | 8 | 22 |
| Kumi | 3 | 15 | 4 | 22 |
| Soroti | 3 | 19 | 0 | 22 |
| Budaka | 3 | 19 | 0 | 22 |
| Butalejja | 2 | 10 | 10 | 22 |
| Pallisa | 2 | 20 | 0 | 22 |
| Total | **16** | **94** | **22** | **136** |

***Highway Sanitation***Access to public sanitation for travellers along highways in Uganda is still a challenge. This not only inconveniences the travellers but continues to propagate the habit of open defecation with its associated health hazards. The Ministry through the Rural Water Supply and Sanitation Department commissioned a study to assess the feasibility and detailed design for highway sanitation interventions including identifying suitable locations for the facilities across the country, stakeholder concerns and propose management arrangements. The Ministry of Water and Environment plans to pilot construction of public highway sanitation facility at the junction of Nyakahita – Ibanda- Kamwenge Road in Kiruhura District during FY2018/19. The proposed highway sanitation facility shall be a complex offering a range of facilities/ services including sanitary facilities, shopping area, restaurants, recreational area with ample parking space. The facility is envisioned to address the sanitation needs of travellers as well provide a decent stop over where other services can be enjoyed.

### 8.2.3 Status and Trends of Sector Performance Indicators

***Performance Indicator 11: Percentage of population using an improved sanitation facility not shared with other households***

Improved Sanitation refers to flush toilet, pour flush toilet, VIP latrine, latrine with concrete slab or sanplat, Ecosan toilet, compost toilet etc. The key feature of an improved sanitation facility is that it must have a washable floor. This indicator was derived at using the formula below;

Percentage population using an improved facility not shared at Households = (*Number of HHs with improved sanitation facility not shared / Total number of HHs X 100%).*

However, access to any form of sanitation facility is 79%[8]. This represents decline of 1% from last year's coverage of 80%. A total of 289,893 toilets were built serving an additional population of 1,233,070 people. The sector leveraged UGX 43 bn from households constructing their own facilities. The reasons advanced by some of districts to explain the decline in sanitation coverage were as summarised in Table 48.

[8] Basic sanitation is refers to access to form of any sanitation facility regardless of its state.

***Table 48: Summary of the reasons for decline in sanitation coverage in selected districts***

| Districts with Considerable Slippages | | | | | |
|---|---|---|---|---|---|
| **S/No** | **District** | **Coverage 2016/17** | **Coverage 2017/18** | **Slippage** | **Remarks** |
| **1** | Adjumani | 84.2 | 80 | 4.2 | Flooding that led to collapse of several latrines and houses especially in Arinyapi sub county (Elegu), Adjumani and Pakelle Town Councils and areas along River Nile |
| **2** | Kween | 84 | 69 | 15 | Disease out breaks in the district affected most programs e.g. (Marburg and anthrax) and as a result little priority was given to sanitation |
| **3** | Bukwo | 82 | 78 | 4 | Poor soils coupled with heavy rain caused collapse of many sanitation facilities |
| **4** | Busia | 89 | 84 | 5 | Understaffing of Environmental Health Department Understaffing of Environmental Health department |
| **6** | Buliisa | 68 | 62 | 6 | |
| **9** | Kasese | 85.4 | 78 | 7.4 | Migrant communities especially in low lying S/Counties |
| **10** | Kotido | 21 | 13 | 8 | Cultural practices that promote open defecation, scarcity of local materials for latrine construction and poor soils. |
| **11** | Moroto | 15.4 | 10 | 5.4 | Cultural practices that promote open defecation, scarcity of local materials for latrine construction and poor soils. |
| **12** | Butaleja | 81 | 63 | 18 | Collapsing soils and flooding caused collapse of many latrines in half of the District. |

Access to improved sanitation in schools reduced as evidenced by the increase in pupil stance ratio from 71:1 to 73:1.The districts of Amudat, Kalangala, Luwero, Mbarara, Nakasongola, and Pader reported an of average pupil stance ratio of 40:1 showing compliance to national standards.

***Performance Indicator 12: Percentage of population using safely managed sanitation services***

Safely managed sanitation refers to the management of excreta from the population using improved sanitation facilities which are not shared with other households, whereby the excreta is safely disposed on site or it is emptied, transported and treated off-site. The indicator was calculated as follows;

*No. of HHs with Improved sanitation facilities not shared and being safely managed / (No. of HHs with Improved sanitation facilities not shared with other HHs X 100%.*

No data was collected by the district local governments on this indicator largely because they did not

understand the data collection tools and the data collection process seemed rather expanded and cumbersome. For the coming FY 2018/19 efforts will be made to train data collectors on the new indicators.

***Performance indicator 13: Percentage of population practicing open defecation***

Open defecation refers to disposal of human faeces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste. This indicator was derived at using the formula below;

*Percentage population practicing open defecation = No. of HHs practicing open defecation / Total No. of HHs X 100%*

District reports show that 8% of the rural population is still practising open defecation, down from 9% reported in the FY 2016/17.

***Performance Indicator 14 Percentage of population with hand washing facilities with soap and water at home***

Hand washing, is the act of cleaning hands for the purpose of removing soil, dirt, and microorganisms. This practice is made effective with proper use of clean water and soap after toilet use, before and after feeding among other human activities which can lead to poor hand hygiene. The indicator was calculated as follows;

*No. of HHs with functional Hand Washing Facilities with soap and clean water / Total number of households x100%*

During the reporting period, hand washing coverage in rural areas is reported at 36.5% indicate a slight decline by 0.5% compared to last year's coverage of 37%.This was partly due to decline in sanitation coverage coupled with limited funding.

***Performance Indicator 14 Percentage of pupils enrolled in schools with basic hand washing facilities***

This indicator was derived at using the following calculation;

*Percentage of pupils enrolled in schools with basic hand washing facilities = No. of schools with functional HWFs with soap and clean water / Total number of schools) X 100%.*

Unlike the decline reported in school sanitation, access to hand washing facilities in schools has increased by 5% from 35% last FY 2016/17 to 40% during the reporting period.

The graph below shows a trend analysis of rural household sanitation coverage, household hand washing in rural areas, pupil stance ratio and hand washing in schools.

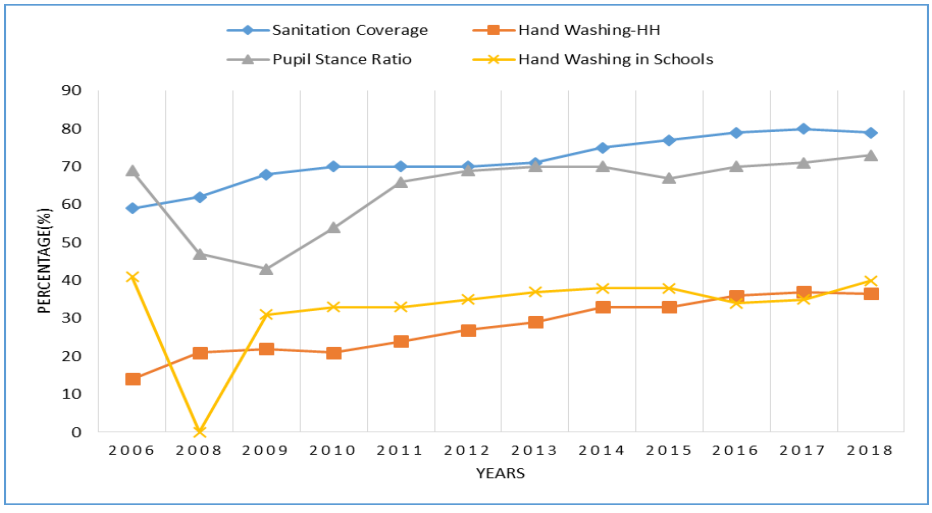



***Figure 39: Trends of sanitation coverage and hand washing facilities***

### 8.2.4 Benchmarking of District Performance

Benchmarking was done through ranking the grand scores of the districts generated using process indicators (average annual increase in sanitation coverage over the last) five years, financial efficiency) intermediate outcome indicators (household sanitation coverage, Pupil stance ratio and household hand washing coverage) and outcome indicators (% of triggered villages that became ODF). During the reporting period, only two districts of Bukedea and Kaberamaido were in the superior band with a grand score of more than 75%.

Figure 41 shows the distribution of districts in the different bands as per the benchmarking. Details of district performance benchmarking results are shown in **Annex 11**

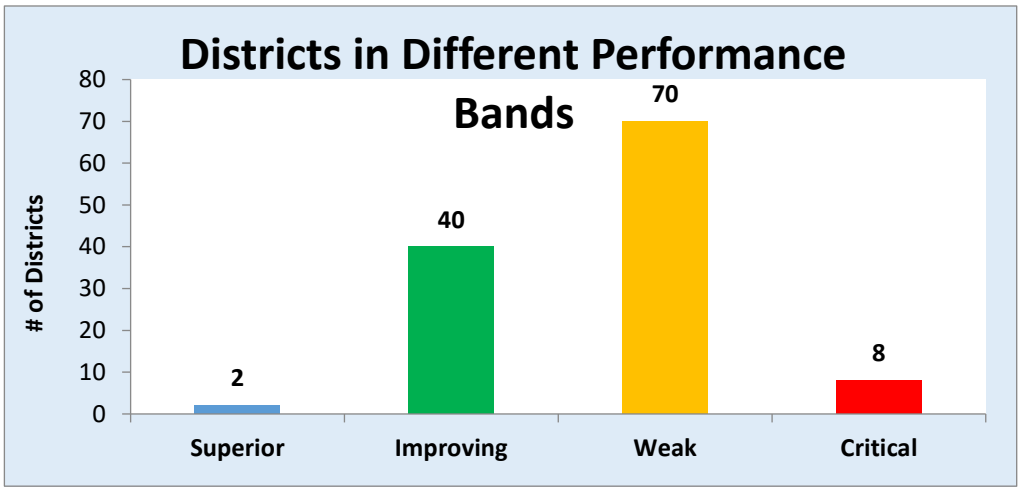



***Figure 40: Districts in different performance bands***

### 8.2.5 Challenges

(i) **Understaffing:** The staffing levels of Environmental Health Departments is reported to be at 66%. This is a decline in staffing levels from 67% reported in FY 2016/17. This affected the implementation of sanitation and hygiene activities in the districts.

(ii) **Transport:** District reports show that only 4% of the Environmental health staff have some form of transport (motorcycle, bicycle) to facilitate their work. Most of them do not have transport and are often constrained to carry out field work activities.

(iii) Influx of Refugees especially in West Nile region which reintroduced open defecation in some communities.

(iv) Floods that destroy sanitation and hygiene facilities have immensely contributed to decline in sanitation coverage and also increased open defecation.

**Recommendations**

(i) District Local Governments should prioritise filling the staffing gaps in Environmental Health Departments.

(ii) MWE/MoH and Development Partners should pool resources to buy motorcycles for Health Assistants and Health Inspectors.

(iii) Development Partners should consider supporting the implementation of highway sanitation project being piloted by MWE.

## 8.3 Urban Sanitation and Hygiene

Table 49 shows the achievements against the targets.

***Table 49: summary of urban sanitation achievements against targets***

| Implementing Agency | Planned | | Achieved | | Remarks |
|---|---|---|---|---|---|
| | FSTPs | Sanitation Facilities | FSTPs | Sanitation Facilities | |
| **WSDF-North** | 1 FSTP in Kitgum | • 12 Demonstration Ecosan toilets at Households<br>•8 Institutional VIPs<br>•3 Public Toilets | 1 FSTP in Kitgum completed | • 12 Ecosan toilets completed (2 Muchwini, 2 Lagoro, 2 Namokora & 6 Loro)<br>• 8 Institutional Toilets completed (2 Muchwini, 2 Lagoro, 2 Namokora & 2 Loro)<br>• Construction of 5 Public toilets ongoing (Paloga 60%, Palabek Ogili 60%, Pabbo 95%, Pacego 90% &Loro 98%) | FSTP for Kitgum completed |
| **WSDF-South West** | • 2 FSTP Ishongororo and Kasaali | • 25 Demonstration Ecosan toilets at Households<br>5 Institutional Toilets | Ishongororo FSTP at 62% & Kasaali 98% | • 22 Ecosan toilets(7 Kashaka-Buhaare, 7 Kiko, 8 Nsiika<br>• 1 Public Toilet in Kiko<br>• 8 Institutional Toilets (2 Buyamba, 2 Kashaka-Bubare, 2 Kainja & 2 Nsiika | Complete FSTP |
| **WSDF-East** | 1 FSTP in Kamuli | • 6 Public Toilets | Construction on-going at 60% | • Kapelebyong, Nakapiripirit, Kyere and Ocapa completed.<br>• Irundu 5% & Kaliro 2% completed | Planned to complete FSTP and Public Toilets in FY 2018/19. |
| **WSDF-Central** | • 2 FSTPs in Nakasongola and Kiboga | • 22 Public Toilets | Procurement of contractor completed | 12 public toilets progressed in Gombe - Kyabadaza 90%, Kabembe-Kalagi 70%, Zigoti-Sekanyonyi 70%, Kyakatwanga 70%, Namulonge-Kiwenda 65%, Kikyusa 30% and Kabwoya 70% | FSTP Contractors have commenced works. |
| **Headquarter** | • 1 FSTP in Pallisa | • 8 Public Toilets | Pallisa FSTP | •Public Toilets completed; 2 | Complete |

| Implementing Agency | Planned | Achieved | | | Remarks |
|---|---|---|---|---|---|
| **Project (Water Management and Development Project)** | | • 1 Public Ecosan Toliet | is at 90% complete | Rukungiri, 2 Katwe-Kabatooro, 1 Pallisa, 2 Koboko and 1 Kumi 60%,<br>•1 Public Ecosan Toilet completed in Katwe-Kabatooro | FSTP in Pallisa in FY 2018/19 |

***Case Study on Urban Sanitation Initiatives under WSDF-North (Implementation of Town Sanitation Planning)***

One of the sanitation initiatives that MWE is implementing in a bid to ensure sustainable sanitation improvement in small towns is Town sanitation planning. The initiative was piloted in six selected towns in Northern Uganda i.e. Aduku, Apac, Ibuje Loro, Oyam and Kamdini. The benefits were as follows:

- Strategic Town Sanitation Plans have been developed, various stakeholders were sensitized and plans are being implemented.
- Sanitation Bye-Laws were formulated, approved and waiting for certificate of clearance from the Attorney General.
- For Loro Town Board - pipe water system and sanitation facilities were constructed and technical commissioning done.
- Sanitation Task Force was formed, trained and monthly meetings were being held.
- The commitment and political will among the politicians led to increase in budget allocation for sanitation activities from UGX. 5,000,000 in FY 2016/2017 to UGX.13, 000,000 in FY 2017/2018 and UGX. 15,000,000 in FY 2018/2019.
- There is Positive attitude change among some town residents as a result of intensive Behavioural Change Communication carried out by the STF, World Vision, GIZ, WSDF-N, Private sector and town board residents, etc.

### *8.3.1 Initiatives and pilot projects to improve urban Sanitation*

MWE through WSDF – North in close collaboration with sanitation task forces of the selected towns and the private sector is piloting the construction of low cost, precast and drainable toilets. The toilets were being constructed in five schools and two Health Centres in Northern Uganda. The toilet blocks are gender desegregated, with a washroom for menstrual hygiene and incinerator on the female wing and a urinal on the male wing. They have a stance for the disabled persons on each block. If all molds are available, a five stance block can be completed within three weeks. The design is low cost and has a life span of over 20 years.

***Construction of the substructure at Anyeke Health Centre III in Oyam District***

***Construction of the super structure in Alukot Primary School in Oyam District***

***Completed sanitation facility at Kamdini primary school in Oyam District***

### *8.3.2 Achievements under Kampala Capital City Authority during FY 2017/18*

The achievements during FY 2017/18 include the operationalization of the Memorandum of Understanding with the private cesspool emptiers to establish a framework for the provision of emptying services in Kampala city in the integration of the Citywide sanitation census geodatabase with the call centre to offer and monitor location based services, including tracking of private emptiers. KCCA also undertook business development and formalization of the private sector; development of a Behavioral Change Communication (BCC) framework and a Citywide campaign through households in informal settlements, local leaders and village health teams engagement. The Authority held an annual

Kampala WASH exhibition and forum in which several partners from the private sector, CSOs and agencies participated.

As a result, there has been a 15% increase (from 43% to 58%) in the volume of faecal sludge safely managed in the city. Further, private cesspool emptiers have commenced formalization of their entities and there has also been an increased upgrade of Household sanitation facilities and some more facilities constructed to meet the standards. However, besides improving personal hygiene and the cleanliness of toilets, safe handling of faecal sludge from the onsite facilities is still a challenge despite an increase from 43% to 58% of the faecal waste generated daily that is safely emptied and disposed. It worth noting that, most common emptying practice in Kampala is emptying with cesspool trucks (96%). The others include manual emptying and semi- mechanized emptying using gulpers. These service providers also serve the surrounding metropolitan areas of Kampala which constitutes about 25% of generated faecal sludge disposed of at the Two Faecal Sludge Treatment Plants in the City.

### *8.3.3 Status and trends of sector performance indicators*

***Sector Indicator 11: Percentage of population using an improved sanitation facility***

The percentage population using an improved sanitation facility not shared with other households was estimated at 36.3%. In Kampala city it is estimated at 14%.

However, access to sanitation facilities (improved and unimproved) in urban areas was 87.4%. The trend in access to sanitation facilities is shown in figure 42. In Kampala city 99% of the population has access to some form of sanitation service.

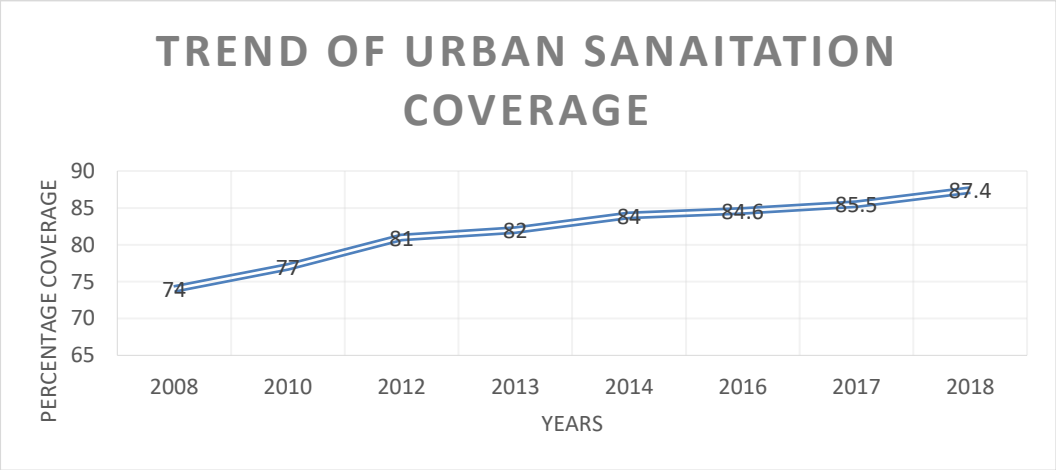



***Figure 41: Trend of Urban Sanitation Coverage***

***Performance Indicator 12: Percentage of population using safely managed sanitation services***

Safely managed sanitation refers to the management of excreta from the population using improved sanitation facilities which are not shared with other households, whereby the excreta is safely disposed on site or it is emptied, transported and treated off-site. During data collection, four main conditions/assumptions were applied to confirm evidence of safely managed sanitation service in Institutions, household and business premises. These were;

- Institutions, household and business premises must have a functional improved sanitation facility without Open Defecation around the toilet area.
- Must practice safe emptying and transportation done by approved service providers.
- Have sewage/FS safely disposed and treated from FSM/ conventional sewage, Lagoons or any other Treatment plants adequately.
- Or burying of excreta appropriately.

*Non-compliance to anyone of the above conditions was rendered not safely managed.*

In small towns 26% of the population was using safely managed sanitation services. Whereas in Kampala it is estimated at 58%.

***Performance indicator 13: Percentage of population practicing open defecation***

The percentage of population practicing open defecation was estimated at 12.6%.

***Performance Indicator 14: Percentage of population with hand washing facilities with soap and water at home***

The percentage of population with hand washing facilities with soap and water in small towns was estimated at 39.6% and in Kampala at 40%.

***Performance Indicator 14: Percentage of pupils enrolled in schools with basic hand washing facilities***

Percentage of pupils enrolled in schools with basic hand washing facilities was estimated at 41.9%.

### *8.3.4 Challenges and recommendations*

Data collection using forms is very tedious and challenging to verify and triangulate. There is need for the shift towards paperless data collection, which requires sector support and financing. In order to address this, it is suggested that the sector should incorporate a software or database for sanitation data collection into the Utility Performance Monitoring and Information System – UPMIS.

The revised Water Policy and amendments to the Water Act (1997) were submitted to Cabinet for approval.

# 9. ENVIRONMENT AND NATURAL RESOURCES

## 9.1 Wetland Management

A number of achievements were made in wetlands management that is reported according to key objectives in the following sections.

***Promotion of Knowledge of Environment and Natural Resources***

In an attempt to promote awareness and knowledge base on wetland and therefore promote public participation and ownership of wetland restoration efforts by all stakeholders, the department conducted the following:

(i) Developed and disseminated fact sheets to educate the population on the importance of and the impact degrading Pece wetlands in Gulu, Mpologoma wetlands in Namutumba and Pallisa Districts, in February, 2018.

(ii) Developed and disseminated over 285 wetland maps to guide developers on the environment aspects of their plots before undertaking development activities, FY in 2017/18. This has assisted a number of developers to seek for more technical guidance on the on the status of their plots in relation wetland status.

(iii) Commemorated annual World Wetlands Day Celebration on the 2nd February, 2018, in Arua Municipality under the theme "wetlands for sustainable urban future". Presided over by Honourable Engineer Gabriel Gadison Ajedra Aridru– the state Minister for Finance and General Duties, who represented the Dr. Ruhakana Rugunda – The Right Honourable Prime Minister of the Republic of Uganda.

| | |
|---|---|
|  |  |
| The Guest of Honour, inspects Arua water works, which draws water from Enyau wetland | Water from Enyau wetland which National Water and Sewerage Corporation use to supply Arua town. It is dirty and diminishing. |

***Coding of Wetlands and Gazettement***

In order to protect wetland integrity, the department embarked on the coding of wetland in preparation for gazettement. Coding is giving a unique identifiers e.g. number followed by names to support the gazettement process. Each drainage basin has a code from 01 to 10. So far 6 drainage basins out of the 8 coded as shown in map 2 below. All the 8 basins are planned to be coded in FY 2018/19 and gazette where gazettement is the process of declaring a wetland as a protected resource, including passing of a statutory instrument and announcing or publishing such in the Uganda Gazette by the Minister responsible

Environment. The gazetgtement of key critical wetland will raise their conservation and protection status and therefore support enforcement and compliance.

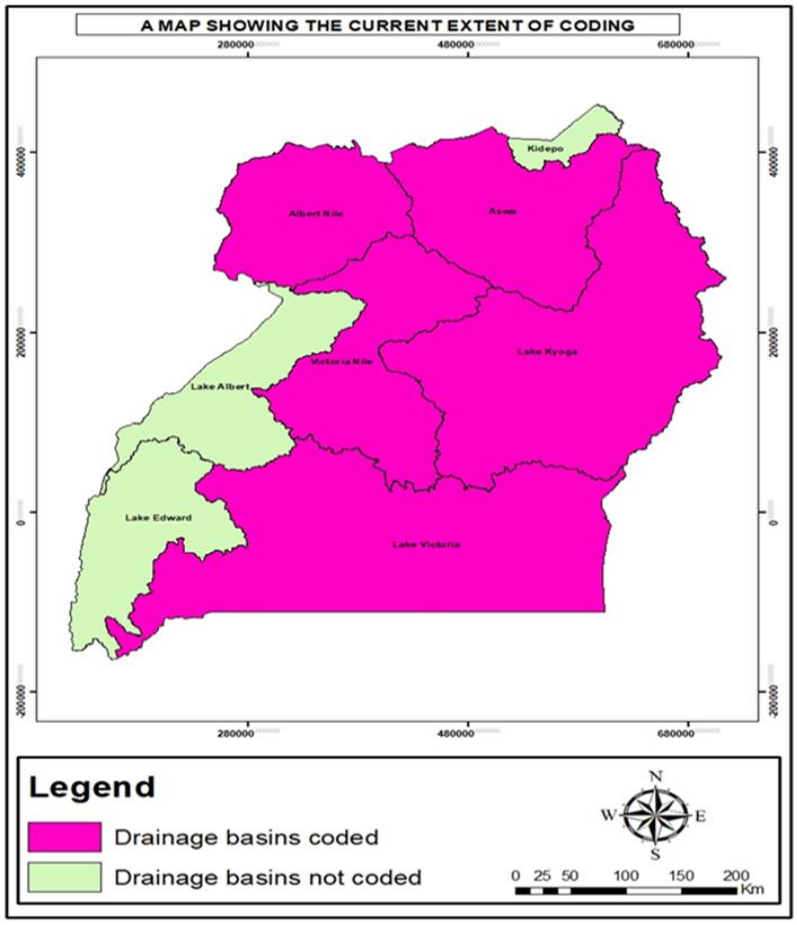



***Figure 42: Current extent of Coding***

### *Wetlands Coverage*

According to the 2015 wetland cover data set, currently the wetlands converge is at 8.9% intact and 4.1% degraded and 2.6% completely lost as shown in the table below from the total land area of 236,040 km$^2$

***Table 50: Wetland coverage in Uganda***

| No. | Wetland status | Area(Km2) | National Percentage |
|---|---|---|---|
| 1 | Intact wetland | 21526.5 | 8.90% |
| 2 | Degraded wetlands (majorly through rice, sugarcane, and tea growing; and eucalyptus plantation) | 9884.9 | 4.10% |
| 3 | Lost and unrecoverable (majorly through infrastructure development such as roads and buildings)) | 980 | 2.6% |
| **Total** | | **37,693.7** | **15.6** |

***Demarcation of the boundary of Critical Wetlands***

In order to show to all stakeholders the boundary of wetland where planned activities can be allowed and prohibited, the department developed and implementing a demarcation strategy which guides the demarcation process of wetlands which includes among others: prior assessment of the wetlands and prioritization; procurement of pillars and beacons for planting; procurement of the Survey instrument to survey and mark the wetland boundary; awareness creation of the community adjacent to the wetland; processing of the wetland cover maps of the wetlands; surveying wetlands boundaries using Global Positioning System Coordinates and planting of the pillars and beacons to show the wetland boundary and the following wetland boundary were demarcated in then district below:

***Table 51: Wetland coverage by districts***

| *SN* | *Wetland System* | *Boundary Km* | *District* |
|---|---|---|---|
| 01 | Orisindura | 62 Kms | Sheema and Ntungamo |
| 02 | Limoto | 80.6 Kms | Pallisa and Kibuku |
| 03 | Aminkwac | 34 Kms | Dokolo |
| 04 | Ayi | 16.6Km | Maracha |
| 05 | Ssezibwa wet | 44.5 Kms | Kalongo-Nakasongola; |
| 06 | Lumansi– Lugogo | 46.7Kms | Luwero. |
| 07 | Nabitende | 39.3Km | Buyende-Kamuli |
| | ***Total*** | ***283.7Km*** | |

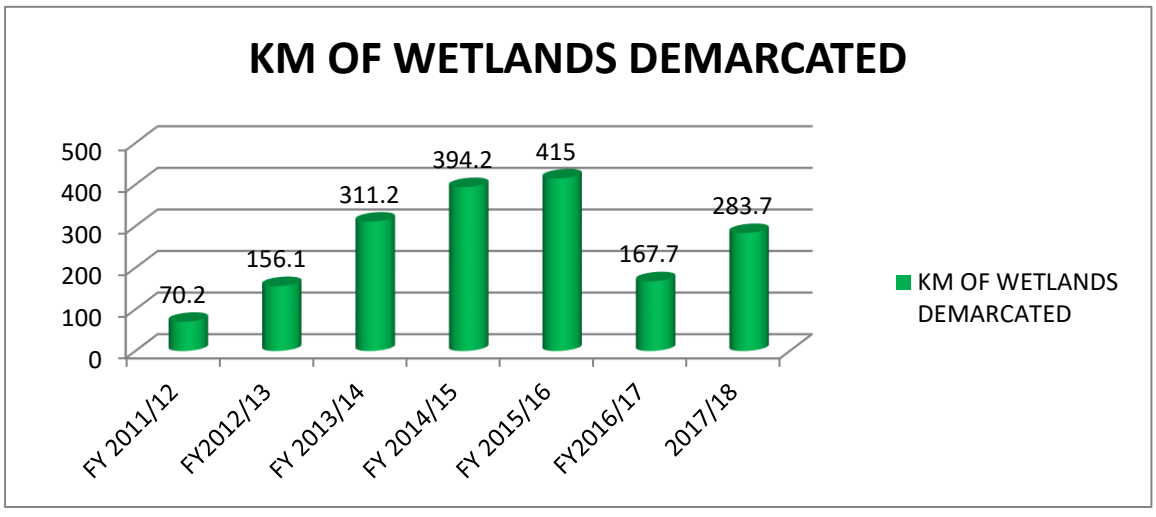



***Figure 43: Trends in the demarcation of wetlands***

In all over 283.7km were demarcated with pillars and beacons out of the planned 320km an achievement of 88.6%.

***Restoration and Protection of Degraded Ecosystems***

In an effort to restore the natural integrity of critical wetlands, department developed a Restoration Strategy to guide in the ecological restoration of wetlands where the rate of degradation is 70 times the restoration rate. The following steps are normally taken before the physical restoration is taken which include among others: an assessment of the wetlands and prioritization; delineation of the area of the wetland to be restored; awareness creation of the affected people and local leaders; and sensitizing people degrading wetlands to voluntarily evacuate the wetland section; issuance of improvement notice to inform the degraders on the illegal activities; issuing of restoration order to non-complying degraders and finally physical restoration, where the degraders refuses to restore or leave the activities degrading the wetlands. The following wetland section in the districts was restored.

***Table 52: Restored wetlands***

| SN | Wetland system | Section restored in Ha | District |
|---|---|---|---|
| **01** | Katonga | 10 Hectares | Sembabule |
| **02** | Mikomago | 45 Hectares | Kyanamukaka-Masaka |
| **05** | Lubigi | 275 Hectares | Wakiso-Kampala |
| **06** | Limoto | 157.4 Hectares | Pallisa and Kibuku |
| | | 487.4 Hectares | |

487.4 ha were restored against the planned 300Ha were restored an achievement of 162.5% in excess of 62.5% attributed to more focus on reclaiming the wetland status by both the district and WMD at approximate cost of over 300,303,550UGX.

The trend in the demarcation and restoration of wetlands over the last five years is as indicated in the figures 45.

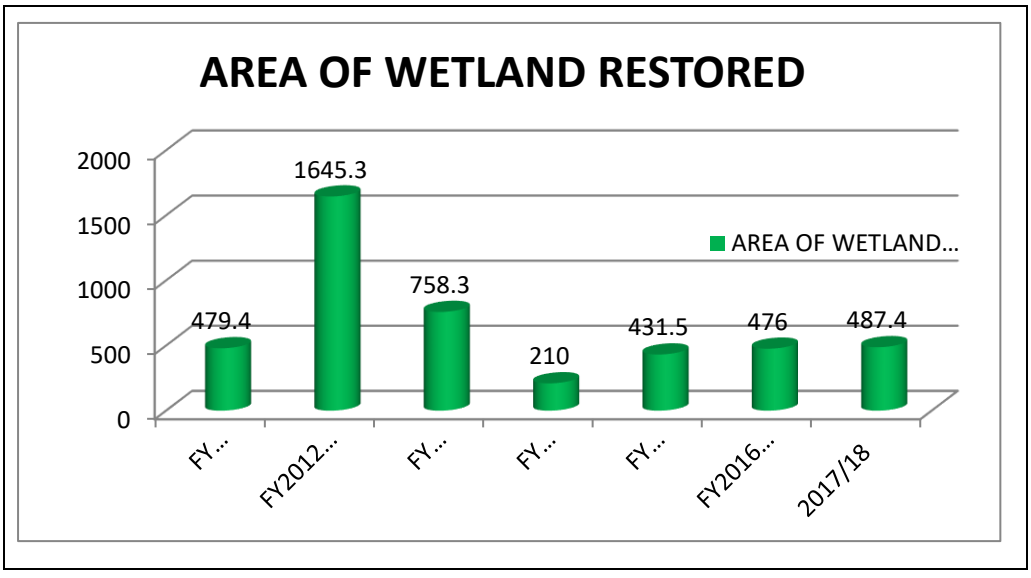



***Figure 44: trends in the restoration of degraded wetlands***

**Picture showing Planting of Pillars**

| | |
|---|---|
|  |   |
| Casual labourers planting a pillar at the boundary of Ssezibwa wetlands in Nakasongola District | The Guest of Honour and the UNDP Country Resident Representative planting a Pillar to demarcate the boundary of Enyau wetland in Arua District |

***Coding Wetlands***

Coding of wetlands for Albert Nile, Aswa and Victoria Nile were completed. The department remains with coding of wetlands in Lake Edward basin before the gazettement process starts.

***Policy, Planning, Legal and Institutional Framework***

In order to strengthen the legal and institutional gaps, the department has done the following:

(i) Established 4 functional Regional coordination centres in Mbale, Lira, Mbarara and Wakiso to back stopped LGs in wetland management.

(ii) Established a functional Wetlands Management Advisory Group comprising of major stakeholders which meets periodically to discuss wetland management issues including harmonization of policy, strategies and activities.

(iii) Reviewing 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

(iv) 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 its effort to regulate access and use of the wetland resources by the resource users while ensuring wise use and sustainability and yet provide for livelihood option to the resource users, the department developed 96 Management plans in various districts.

***Coordination, monitoring, inspection, mobilization and supervision***

A total of 117 out of the 117 Local Governments planned for in the FY 2017/18 were technically backstopped making a100 percent performance. Technical backstopping and supervision has enhanced Local Governments on timely planning, reporting, demarcation and restoration of degraded wetlands among others. The trend in yearly technical support supervision provided to Local Governments since 2011/2012 Financial year is as shown in Figure 46 below.

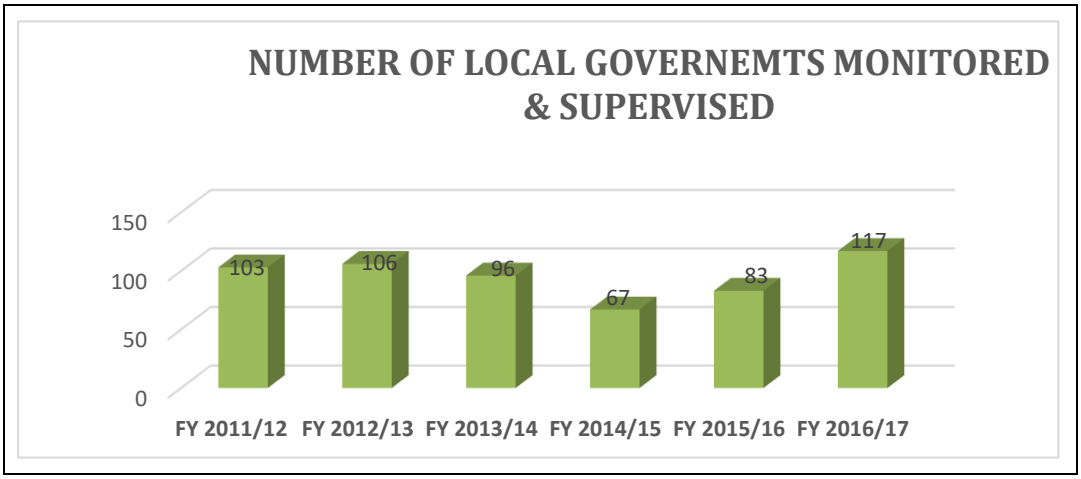



***Figure 45: Trend in Technical Support Supervision to Local Governments***

***Number of wetland management plans developed***

In the F/Y 2017/2018 there was no management plans made hence that of management plans remained at 96 with some of them as framework management plans encompassing a number of other secondary and tertiary wetland systems.

## 9.2 Forestry Management

The Forestry sub-sector is managed by three main institutions: (i) the Forestry Sector Support Department (FSSD) of MWE, (ii) the National Forestry Authority (NFA), the semi-autonomous agency that manages the Central Forest Reserves, and (iii) District Forestry Services (DFS) of district local governments. In addition, the private sector plays an important supporting role through amongst others the Uganda Timber Growers Association, as well as the Civil Society Organisations (CSOs). The CSOs' performance in forestry management is discussed in Section xxx of this report. Furthermore, achievements under forestry research and forestry technical education have also been provided in this section.

Forestry management is supported by implementation of Programme 15 of the FSSD, the core activities of the National Forestry Authority in Central Forest Reserves, and those of the District Forestry Services.

### *9.3.1 Forestry Sector Support Department Programme 15*

Key achievements under programme 15 included the following:

i. Technical support and mentoring of different partners was undertaken. Up to 132 technical guidance visits to the department were attended to and technical guidance was provided to a range of players including private sector investors, technical staff from the local governments, and non-state actors. Forest governance in Uganda was strengthened through developing charcoal guidelines with support from the Green Charcoal project in collaboration with the Ministry of Water and Environment.
ii. A pilot scheme for export of timber, preparation of timber export guidelines and timber grading standards was initiated while working in collaboration with the Uganda Timber Growers Association.
iii. Harvesting of forest products was regulated through issuing of 39 timber-harvesting licenses to pit sawyers in different local governments[9].13 districts[10] were inspected and monitored for the compliance of forest guidelines for forest management. Analyses of the returns of the forest produce movement permits and the inspections undertaken revealed that merely about 50% of the volume

[9] Hoima, Kagadi, Kakumiro, Kibaale, Kyegegwa, Kyenjojo, Rukungiri, Zombo.

[10] Yumbe, Rukungiri, Kakumiro.Hoima, Kagadi, Kibaale, Kyegegwa, Zombo, Kyenjojo.

allocated on the harvesting licenses had been harvested and cleared for movement, and it was difficult to account for the balance. A further interrogation indicated that some of the remaining balance could have been illegally transported. This was largely found in Hoima and Kyegegwa districts.

iv. Technical support to the preparation of a Comprehensive Refugee Response Framework-CRRF. As part of this process, field activities to Adjumani district were conducted to assess the forestry related issues pertaining to refugee activities. It was observed that while attempts to protect some trees within the refugee settlements were made through marking of the trees, in 10% of the settlements, these were being attacked and illegally felled for charcoal burning. The host communities had however suffered the decimation of the tree vegetation for fuel wood extraction. We recommended dedicated fuel wood woodlots targeting refugee settlements and host communities. There were nevertheless some initiatives to promote improved cook technologies largely with support from non-state actors, known as implementing partners with UNHCR.

v. Other activities included building capacities of district forest services in regards to management of the forest issues at local level as well as building capacities of individual tree farmers in forest management, providing guidance and advocacy on forestry management to individuals and in various cross-sectoral meetings.

### *9.3.2 District Forestry services*

Although no specific conditional grant for forestry exists for local governments, as best practice, district governments have a mechanism to collect data pertaining to the performance of the sector at that level. So far, 32 local governments[11] out of 123 local governments have reported on different forestry management aspects including tree planting, distribution of tree seedlings, and training of farmers, revenue collection, and support to promotion of improved and efficient energy technologies. These contributions have been supported by local revenue different programmes and projects undertaken or funded by government programmes, development agencies, NGOs, civil society and the private sector[12]. Below are summaries of the achievements reported by the local governments.

(i) 3,613,466 tree seedlings[13] were planted with an average survival rate of 60% on a total area of 3,511 hectares (ha).

(ii) 73 ha of local forest reserves were planted and maintained in terms of weeding, pruning and thinning.

(iii) 14,993 farmers were trained in different aspects of forestry management.

(iv) 13,281 farmers were monitored for compliance to forestry management guidelines.

(v) 1113 people were trained in aspects of efficient energy technologies.

(vi) 1659 inspections were conducted and it was observed that there was poor post planting management due to lack of skills and financial resources.

[11] Amuria, Arua, Busia, Kaberamaido, Buyende, Kakumiro, Kapchorwa, Kasese, Kyenjojo, Maracha, Mityana, Mubende, Namayingo, Namutumba, Rakai,Manafwa,Kween,Rukungiri,Sembabule,Kumi,Zombo,Masaka,Budaka,Rubirizi,Mukono,Kamuli,Masindi,Palisa,Pader,,Bukomansimbi,Bundibugyo,Nwoya,Nebbi,Maracha,Kotido,Kyegegwa,Kabarole,Gomba,Butambala,Moyo

[12] United Nations High Commissioner for Refugees (UNHCR), United Nations Food and Agriculture Organization (FAO), and World Bank, Alliance One, World Wide Fund for Nature (WWF), International Centre for Research in Agroforestry (ICRAF), International Union for Conservation of Nature (IUCN), Danish Refugee Council, Red Cross, and World Vision ,Lake Victoria Environment Management Project (LVEMP) II , ), Farm Income Enhancement and Forestry Conservation Project (FIEFOC),Reducing Emissions on Deforestation and Forest Degradation(REDD+), Northern Uganda Social Action Fund (NUSAF 3), Care Uganda, Joint Energy and Environment Project (JEEP), Cudwell, , Generation Challenge Programme (GCP), Université Catholique du Graben (UCG Environmental Protection, Food Security and Economic Development (EPFOSE) / Salvation army project, NFA,VI Agroforestry,Prometral Uganda,National Forestry Authority.

[13] *Pinus spp, Eucalyptus spp, Maesopsis eminii, Tectona grandis, Bathedevia spp, mangoes, oranges, Avocado spp, Grivellea robusta, Khaya Senegalensis, Terminalia spp, Bamboo spp, Croton spp, whistling pine spp, Albizia spp,Cordia spp*

(vii) A revenue of UGX 673,659,800 million was collected accruing from forest products trade, with Nwoya contributing to half of this revenue.

(viii) 100 km of roadside were planted with trees of assorted species

(ix) During 173 radio talk shows, district forestry staff raised awareness on sustainable forestry management.

(x) 53 casual licences were issued out to timber traders and 444 were sensitised.

### *9.3.3 Management Central Forest Reserves*

The following achievements were made in the management of Central Forest Reserves (CFR):

i. 2160 ha out of 2,236 ha of the central forest reserves were restored (97% performance indicator). The following are the reserves in which the restoration was carried out: Bugoma, Mabira, Luwafu, Masindi, Lwamunda, Namavundu, Moroto, Kabalye and Budongo. 5,890 ha out of 13,400 ha in different central forest reserves were freed of encroachment (44% performance). This under performance is attributed to lack of the financial resources to undertake a comprehensive exercise to free the reserves from encroachers.
ii. The area of the Forest plantations planted and surviving was 1,167ha out of 2,229 ha. 946ha out of 7,256 ha was the area of the plantation weeded (13% performance). The area of the forest plantations thinned and pruned was 534 ha out of 2,906 ha (18% performance). This under performance was as a result of lack of financial resources to conclude the exercise during the reporting period.
iii. 162 km out of 602 km were the firebreaks established and maintained.
iv. 20,923,958 out of 29,998,550 seedlings were raised and sold.
v. A total of 46 harvesting licenses were issued to different Private tree farmers for thinning their crops in different CFRs and NFA trees.
vi. 32 out of 40 Research Licenses were issued to scholars in different areas of operations.
vii. 29,666 tourists were received in different ecotourism sites that is Kalinzu,Mpanga,Budongo,Mabira
viii. 5 out of 10 Collaborative Forest Management (CFM) groups were initiated in the reserves of Budongo, Biiso, Muzizi and West Nile.

### *9.3.4 Forestry Education and Research*

Forestry Education and Research is undertaken by three key institutions including Makerere University, School of Forestry Environmental and Geographical Sciences, Nyabyeya Forestry College and National Forestry Resources Research Institute.

Nyabyeya Forestry College is the only technical college that offers practical forestry and related training at Diploma and Certificate levels. The college offers 4 diploma programs namely: Forestry, Agroforestry, Bee Keeping and Biomass Energy Technology Forestry and Beekeeping; and 2 Certificate courses – Forestry and Beekeeping. Nyabyeya Forestry College has been the main training center for practical skills for the forestry students of Makerere University, and during the FY 2017/18, the following were the key achievements:

i. 246 students graduated with 96 certificates and 150 diploma.
ii. 20 ha of both Pine and Eucalyptus were planted
iii. College infrastructure been upgraded including construction of staff quarters, herbarium, dormitories and the installing a 150kw Gasifier plant.

### *9.3.5 Progress on Key projects and activities*

There are a number of projects and initiatives including the following:

i. The national REDD+ project and the Forest Investment Plan (FIP)
ii. Saw log Production Grant Scheme (SPGS) III
iii. Farm Income Enhancement and Forestry Conservation (FIEFOC II)
iv. Building resilience to climate change in flood prone areas of Mt. Elgon under the additional funds to the Water Supply and Sanitation Programme (WSSP 1)
v. Kalagala project support under the Water Management and Development Project
vi. The EU FAO-FLEGT project III
vii. Uganda Timber Growers Association

***The National REDD+ Project and FIP***

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); 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 31st December, 2019. Uganda is utilizing the additional funds to address gaps in REDD+ readiness that were identified through its independent mid-term evaluation report (MTR).

Premised on the above, during the reporting period, the following key achievements were made:

i. National REDD+ management arrangements (R-PP Component 1- Readiness organization and Consultation: the national REDD+ management and supervision structures and processes were fully operational with full time REDD+ Secretariat, National REDD+ Steering Committee, National Technical Committee and Task Forces (Methodological/MRV, Policy and SESA/Safeguards) were completed and this continues into the FY 2018/19.
ii. Consultation, Participation and Outreach initiatives were completed and additional work in FY 2018/19. Over 10,000 people have participated in REDD+ related initiatives across the country.
iii. Assessment of Land use, Land use change drivers, Forest law, Policy and Governance was completed. These are currently informing the forest policy review process and provide a baseline for monitoring of trends.
iv. REDD+ Strategy Options: REDD+ Strategy and Action nationally endorsed in October 2017 with 8 strategic options. This is to be updated by June 2019.
v. Implementation frame works including Benefit Sharing Arrangement, and Feedback and Grievance Redress Mechanism completed and to be updated by June 2019.
vi. Social and Environmental Impacts aspects of Strategic Environment and Social Assessment-SESA and the Environment and Social Management Framework-ESMF were nationally endorsed in October 2017 and to be updated by June 2019.
vii. Reference Emissions level/Reference levels report submitted to UNFCCC TAP and the review was completed in May 2018 and the reference emissions levels to be updated by December 2019.
viii. The preparation and operationalization of the National Forest monitoring System is on-going and expected to be completed by December 2019.
ix. The development of an Information System for Multiple benefits, other impacts, Governance and Safeguards is on-going and to be completed in December 2019.

***Saw log Production Grant Scheme (SPGS III)***

The overall objective of SPGS is to support rural incomes through commercial tree planting by the private sector in Uganda while mitigating effects of climate change. SPGS Phase III was initiated to continue supporting tree establishment in addition to processing of phase II mature tree plantations, and the project became effective on the 01st January 2016 and will end on the 31st December 2020 (60 Months).

Achievements included the following:

i. Institutional meetings held to sensitize on good woodlot establishment with 51 representatives attending. 178 ha out of 530 ha planted under woodlot establishment due to tenure related challenges of land availability and ownership across the landscapes. 137 community groups received training in woodlot establishment with a total of 3808 participants.
ii. 7 plantation establishment trainings carried out in all regions of the country with 148 participants attending.
iii. 1250 ha planted under community support, 7539 ha of plantations established against a target of 25000 ha due to limited funds available during the period. 470 planters meetings organized to sensitize on quality plantation establishment.
iv. 1 nursery management training carried out in Moroto for arid regions.
v. 1 fire management training conducted in Kyenjojo with 12 participants attending.
vi. 94 commercial nurseries were certified out of the 182 that were visited and guided on aspects of good nursery management.
vii. Pruning and thinning carried out to acceptable standards amounting to a total of 5500 ha.
viii. 25 forest contractors visited, trained and certified against a target of 67 people. The target was not met as some contractors could not meet the requirements to proceed to the next level for certification in addition to others not attending the trainings, and hence not listed for certification.
ix. 2 Sawlog Production Grant Scheme (SPGS) newsletters (7000 copies) developed and circulated to different stakeholders.
x. Database for clients developed (spatial and non-spatial).
xi. LoAs for FSSD, Nyabyeya Forestry College and UTGA are being developed –issues of policy, downstream processing forms an integral part of these LoAs.
xii. 3 COMFORT meetings held to pave way for research formulated and identify priorities for research.

***Farm Income Enhancement and Forestry Conservation Project 2***

The forestry sector participates in the implementation of this project through implementation of the Integrated Natural Resource Management Component 3. During the reporting period, the following were the key achievements:

i. Familiarisation of the catchments was conducted including understanding of extent and road network, accessibility and opportunities and possible synergies to take advantage of. Engagement of the 39 district local governments conducted and the INRM team reached out to 550 district local government staff were engaged in project sensitization and INRM component activity planning and budgeting.
ii. Considerable progress towards preparation of Catchment Management Plans was achieved including;
    - ✓ Discussion and approval of Inception Report presented by SMEC International Pty.
    - ✓ Completion of the Land Use, Topographic, Slope, Soil and Population Density maps.
    - ✓ Natural Resources Assessment and Stakeholder Engagement Reports near completion. The 2 reports will be ready by end of July 2018.
    - ✓ This consultancy includes preparation of restoration plans for landscapes and local strategies for reducing sediment load into rivers, assessment of inputs for conservation agriculture and agroforestry.
iii. Reviewed and submitted Evaluation Report for EoI to conduct capacity building in forestry planning and management. Awaits a No Objection from NDF Bank. In addition, Consultancy services to

conduct capacity building in Agroforestry and Conservation farming, Natural Resources Based Income Generating Activities and Market identification at submission of EoI stage.

iv. Meanwhile, the component reviewed draft ToRs and EoIs for consultancy services for GIS database management and training and preparation of forestry management plans. Ready for submission to AfDB for a No Objection.

v. Cumulatively, a total of 4,226,774 seedlings were distributed to farmers in selected districts in the 4 catchment areas of Ngenge, Manafwa, Tochi and Mubuku-II covering approximately 4,227 hectares.

***Farmers in Butalejja district/Doho catchment showing the monitoring team the performance of their woodlots. On the left is Eucalyptus and Grevellea on the right planted during the Aug- Nov rains 2017***

***Kalagala project support under the Water Management and Development Project***

The Kalagala project was developed as a plan for addressing the obligations between Government of Uganda and the International Development Association (IDA)/World Bank as stipulated in the Indemnity Agreement No. B-0130-UG (Indemnity Agreement (Partial Risks Guarantee for the Private Power Generation Project (Bujagali) between International Development Association (the Association) and the Republic of Uganda (Uganda) in July 2007. This project measures and ensures sound environmental management of the Mabira ecosystem housing Bujagali Falls/Dam for purposes of "counter balancing or making up for" some of the negative effects caused by Bujagali Hydropower Project (BHPP) on the environment as stipulated in the 2007 Indemnity Agreement, covering the districts of Jinja, Kayunga, Mukono and Buikwe.

During FY 2017/18, procurement and distribution of 322,437 assorted tree seedlings[14] to the farmers within the Mabira Ecosystem within the districts of Kayunga, Jinja, Buikwe and Mukono was done. This number of seedlings is estimated to cover an area of 290.19ha.

Other achievements include:

i. Monitoring and technical backstopping was conducted for 65 farmers in different districts within the Mabira Ecosystem

[14] *Eucalyptus grandis, Maesopsis eminii, Pinus caribaea, Mvule, Prunus Africana, Grevelia Robusta, Grafted mangoes, Grafted oranges, Avocado, Jack fruit, Cupressus Lucitanica.*

ii. Challenges that were experienced included the drought, which affected the survival of the distributed seedlings, as well as occurrence of pest (termites) and diseases leading to failure of seedlings to grow.

***The EU FAO-FLEGT project III-GCP/GLO/600/MUL***

The Food and Agriculture Organization of the United Nations, with support from a consortium of EU countries including Sweden and the United Kingdom has supported the forest sector during the reporting period to undertake the following 2 tasks:

i. Preparation of a menu of Forestry Law Enforcement Governance and Trade investments through employing a Theory of Change approach. This is ongoing, but up to 100 different players have been trained and consulted to provide their input. It is against these investment options that Uganda shall be supported with funds to tackle critical FLEGT issues.

ii. Initiation of the process to review the forestry policy, 2001 and the national forestry and tree planting act, 2003. A report on stock taking of the issues for policy and legal review was prepared and available.

***Building Resilience to Climate Change in flood prone areas of Mt. Elgon Project***

The government of Uganda through the Ministry of Water and Environment received financial support from the World Bank to help enhance the resilience of climate change in flood prone areas of the Mt. Elgon regions[15].

This is a component under Additional Funds to Water Supply and Sanitation Program (WSSP 1) which aims at contributing to poverty eradication and better health to the communities of Bududa.

The following are the outputs and key achievements under building resilience to Climate Change in flood prone areas of Mt.Elgon (WSSP 1) during the Financial Year 2017/2018.

i. 175ha of indigenous tree species planted outside the National Park (NP).
ii. 138.79 ha out of 375ha identified in the within NP rehabilitated by Uganda Wildlife Authority (UWA), planting is still on-going to cover the remaining area in the NP.
iii. 230ha/345ha of river and stream banks restored outside the NP with a 70% survival rate.
iv. 83.83 ha out of 150ha identified within the NP rehabilitation by UWA, planting to cover the remaining area is still on-going.

***Uganda Timber Growers Association-UTGA***

UTGA is a membership organization that brings together largely commercial tree growers, and aims at providing advocacy support and capacity building of its members. It provides a platform for engagement of the private sector with government and other relevant bodies to promote commercial tree growing.

During the FY 2017/18, the following were the key achievements made:

i. Establishment of a model tree nursery in Mityana District 40km from Kampala at Kiwawu town. The nursery is seated on 8acres and production currently is of 400,000 South Africa Eucalyptus

[15] Bududa, Manafwa, Bukwo, Namisindwa.

grandis, 100,000 Eucalyptus Clones, 200,000 Pinus Caribaea 200,000 and 20,000 Indigenous Seedlings.

ii. UTGA also produces Monthly newsletter and held a UTGA Annual General Meeting – 11th AGM as well as the 5th Annual Forest Fair. In addition, UTGA supported preparation of the World Forest Day supplements in newspapers

iii. Supported Kyankowe Primary School in Mityana to establish a fruit orchard and eucalyptus clonal tree stand to support the school in the future.

iv. Supported training of the Central Cluster category of tree growers in the districts of Luwero, Nakasongola, Nakaseke, Wobulenzi in aspects of silvicultural practices like thinning, pruning, forest inventory, processing and value addition.

v. A visiting Ethiopian team was trained in eucalyptus clonal nursery practices and plantation maintenance and management.

### *9.3.6 Status and trends of sector performance indicators*

**Performance Indicator 25: Percentage of Uganda's surface area covered with forests**

With support from the World Bank and technical assistance from FAO, a NFMS and an MRV mechanism have been developed using both 2016 and 2017 spatial data. Preliminary results show that forest coverage in the country is now at a whopping 9 percent.

Performance Indicator 26: Forest area under management plans

Forest reserves with management plans increased slightly from last year to 34% during the period under review.

Performance Indicator 27: Proportion of population with primary reliance on clean fuels and technology

Data was not available.

### *9.3.7 Challenges and Recommendations*

There are a number of challenges facing the forest sector in Uganda, and this is explained and evidenced by the continuous loss of forest cover from 24% in 1990 to currently a conservative 9 %( MWE, 2016). The major key challenges and recommendations are as below:

i. Lack of a coordination mechanism for forestry management in Uganda leading to ever increasing poor forest management practices, and poorly investments not effectively regulated by the technical departments in forestry. We recommend that the Forestry Sector Support Department enhances its monitoring and supervision of all forestry initiatives with a dedicated monitoring framework developed and also concludes preparation of guidelines for both nursery management, certification and general forestry management.

ii. 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. It is recommended that urgently boundaries of these forests are re-opened and re demarcated.

iii. Illegal extraction of both Timber and non-timber forest products on private lands but also in the reserves. A recent challenge has been the over extraction and illegal extraction and trade in a precious wood known as *Afzelia africana* found in northern and west Nile region and landscapes. Even with a temporary suspension instituted by the Honourable Minister for Water and Environment on the 16th December 2017, illegal trade has continued. It is recommend that tracking of timber be enhanced through increased transparency and coordination of the forestry sector. In addition, a total ban for trade in Afzelia spp be instituted, and an assessment be undertaken, so that if we open up for trade, it could be proposed for listing under the Convention on International Trade in Endangered Species of fauna and flora-CITES.

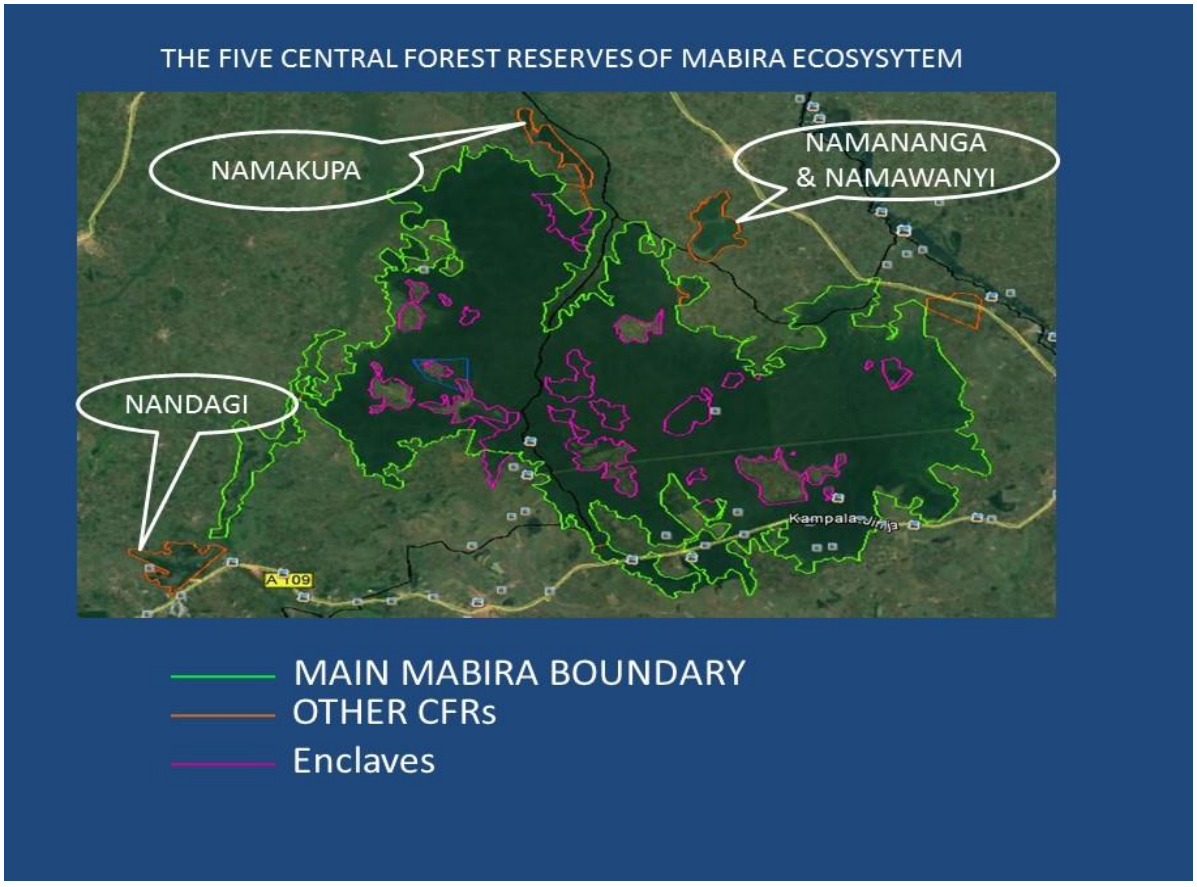
## 9.4 Environmental Management

### *9.4.1 Restoration of degraded and protection of ecosystems*

MWE continued with the implementation of activities of the Kalagala Offset Sustainable Management Plan (KSMP) in the districts of Jinja, Kayunga and Buikwe. Inventory of land owners and their developments along Namavundu Central Forest Reserve in Jinja district was conducted. The inventory covered a total of 236 landowners. From the findings; majority of the land owners are farming communities engaged in growing maize, sweet potatoes, cassava, sugar cane, coffee, fruits, rice and vegetables. Other activities include grazing, brick laying and a few settlements. Most of the land is under customary ownership with a few freehold titles. Resources obtained from the forest include; fire wood, pasture, herbs and vegetables.

DESSS undertook surveys and demarcation of 150km of the external boundaries of the five Central Forest Reserves of Mabira, Nandagi, Namwanyi, Namananga and Namakupa. The entire Mabira Central Forest Reserve (394 km) is now demarcated using concrete pillars. This was aimed at protecting the forest from encroachment, minimizing conflicts with communities as well as easing monitoring. Live boundary planting was undertaken along the demarcated area with a spacing of 20 meters except for areas planted with sugar cane. A total of 480 hectares were planted with spathodia, terminalia, kaya and eucalyptus.

Fiv Central Rsearve of Mabira Ecosystem




Restoration planting of 2,000 hectares was undertaken to restore the ecological integrity of the forest reserve and to protect the catchments of R. Nile. 4755 Ha were mapped as degraded by a consultant. 9 High value tree species were planted in the degraded areas of Mabira including; *Albizia, Markamia, Cordia, Maesopsis, Prunus, Khaya anthotheca, Albizzia coriaria, Milicia excelsa Markhamia lutea, and Terminsalia superba*

Communities along the R. Nile banks in the 4 districts falling in the Kalagala Offset area were supported to grow over 470 hectares of fast growing trees for fuel wood and fruits. The objective was to: help communities meet their fuel wood needs, building poles and earn income from tree growing; reduce pressure on fragile ecosystems of Mabira and the River Nile Banks; and increase vegetation cover in the catchments of River Nile to reduce siltation of the River. Fruit trees planted included; jack fruit, oranges, avocado, mangoes and others included *eucalyptus, grevallia, markhamia, Milicia excels and pinus Caribea.*

### *9.4.2Policy, planning, and legal framework*

#### *Multilateral Environment Agreements (MEAs)*

A Policy Brief on MEAs implementation was prepared through joint collaboration of the MEAs coordination desk, the Environmental Management for Livelihood Improvement (EMLI) Bwaise, National Environment Management Authority (NEMA) and Ministry of Finance, Planning and Economic Development (MOFPED) among other stakeholders. This was achieved through the project entitled EMLI CSO- Government Dialogue Project supported by the Small Grants Programme under GEF 6 Programming Direction.

The MEAs Desk is providing substantial support towards the ratification of the Minamata Convention on Mercury which is hosted by NEMA. The first set of comments on the Draft Cabinet Memorandum on the Ratification of the Convention were received from the Cabinet Secretariat and responded to. Ratification and subsequential domestication of the convention is expected to contribute towards attainment of a Clean and Healthy environment through protecting human health and the environment from human activities which involve emissions and releases of mercury and mercury compounds that pollute the environment.

DESSS provided support for coordination of meetings for other conventions including the Rio conventions through an ongoing convention entitled, “Strengthening institutional capacity to implement the Rio Conventions namely, the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Framework Convention to Combat Desertification (UNFCCD) and the United Nations Convention on Biological Diversity (CBD).

The department participated in a number of field activities organized by NEMA with regards to implementation of the Minamata Convention. Specifically on monitoring and supervision of the Artisanal Small Scale Gold Mining (ASGM) in the districts of Bugiri, Nakapiripiriti, Amudat and Buhweju in addition to similar activities organized by the DESSS in the Districts of Namayingo, Busia and Bugiri among others.

#### *Coordination, Monitoring, Inspection, Mobilisation and Supervision*

Monitoring and Inspection of Gold mining activities: Artisanal and Small-Scale Gold Mining (ASGM) is one of the emerging economic activities in Uganda and thousands of local communities are involved in the gold rush. The majority of artisanal miners have abandoned other economic enterprises, such as agriculture, with the hope of improving their living standards. The Department carried out a detailed assessment of the impacts of such activities on ecosystems such as lakes, rivers, wetlands among others in the districts of Namayingo, Bugiri and Busia.

Key among the issues observed is the unlicensed miners, use of chemicals like mercury in the mining process, deforestation as a result of massive tree cutting for gold mining camps, land degradation, poor sanitation, unregulated water abstraction and loss of lives through accidents**.** Some of the worst practices include the use of mercury in the extraction of gold, increased degradation of adjacent ecosystems like wetlands, water bodies like River Greek in Amudat. Abandoned and scattered barrow pits even present in

people's courtyards/ compounds especially in Busia, open burning of the mercury- gold compound and participation of children, pregnant as well as breast feeding mothers in different activities

| | |
|---|---|
|  |  |
| ***Waste water released from a Gold washing machine at one of the Tiira Sites in Busia District.*** | ***Gold washing in a wetland and stream that are a source of water for domestic use in Busia District.*** |

**Refugee issues and Environmental protection**

Monitoring of environmental issues in refugee settlements was undertaken by a task team from the Directorate of Environment Affairs. The team assessed and monitored 4 Refugee Settlements for environment management compliance including Rhino camp, Lobule camp Refugee Settlement, Nakivale and Rwamwanja refugee settlements in the Districts of Arua, Koboko, Isingiro and Kamwenge.

Some of the outstanding environmental issues in the refugee settlements and host communities include; Increased deforestation, encroachment of fragile ecosystems, Poor waste management, less involvement of District Local Governments in the refugee activities, low prioritization of environment issues in refugee activities, inadequate funding for environment interventions, lack of environment situational analysis (baseline studies), inadequate awareness on environment and natural resources issues among refugees and host communities, inadequate compliance to environmental legislation and uncoordinated efforts in the ENR sub sector among others

| | |
|---|---|
|  |  |
| ***Sand mining in Oruchinga refugee settlement Isingiro district*** | ***Collapsing soil in the sand mining area in Oruchinga refugee settlement*** |

The team from DESSS, FSSD and WMD together with their counterparts from the Directorate of Water Resources Management and the Directorate of Water Development initiated the preparation a Comprehensive Refugee Response Plan for the Water and Environment Sector

DESSS participated in a number of meetings for the Energy and Environment Working Group (EEWG) and also participated in a number of field trips to the refugee settlements and host communities. In conjunction with the Office of the Prime Minister (OPM), DESSS participated in regional review workshops for implementation of the Settlement Transformation Agenda (STA) organized by the OPM. The department also participated in the refugee inter-ministerial field monitoring and evaluation exercise organized by OPM for all the refugee settlements in the country.

### Monitoring and Inspection of industries for compliance

The department was able to undertake inspections, monitoring, and provide compliance assistance to a total of 21 industries. A total of 6 leather tanning industries, 3 steel recycling plants, 2 battery and lead recycling plants, 5 plastic recycling plants, and 5 petrochemical plants and one gas refilling plant were inspected, monitored and supported to comply with existing environmental laws and regulations.

Most of the industries inspected are relying on wood as a key source of energy especially for heating the boiler systems. This was especially observed in some of the tanneries and the steel plants are using furnace oil that is poorly stored. The steel plants have no clear mechanism for disposal of slag as it is being disposed of into the nearby wetlands and streams with detrimental effects to existing habitat and biodiversity with potential to impact and bioaccumulation on the food chain.

Many of the plants had no EIA certificates on site and some other requirements such as water abstraction, waste water discharge and wetland user permits.

Many plants were not observing environmental health and safety procedures so as to protect their workers and properties from potential safety hazards.

The department was able to undertake capacity building of regional environment police officers in the local governments in line with project monitoring, inspections and supervision for compliance of industries to environmental Laws and regulations. The districts of Jinja, Buikwe, Mpigi, Masaka, Soroti, Mbarara, Mukono, Wakiso and Kampala.

| | |
|---|---|
|  |  |
| Unsafe working conditions in a steel plant. | Oil spill from a rubber recycling plant |

### Monitoring oil and gas activities

The department was able to undertake oil and gas activities monitoring and inspections for compliance to existing environment policies, laws and regulations. The department carried out monitoring of oil and gas sector, support infrastructure such as the critical oil roads and their associated support facilities. Some of the facilities inspected include, proposed Airport under construction, existing oil and gas base operations camps, existing drilled, plugged and abandoned oil wells, restored oil well pad areas for recovery with the protected areas and community areas.

The department also participated in oil and gas proposed project EIA process. Some of the projects include pipelines (EACOP and Tilenga), Oil critical roads, Power lines, Airport.

The department was also able to participate in oil spill contingency plan development process and undertook training of staff in line with oil and gas operations so as to build capacity.

The department was able to undertake monitoring of associated ecosystems in the area of influence of oil and gas operations. Ecosystems such as wetlands, forests, streams and rivers were monitored.

### *9.4.3 Key Initiatives, Programmes and Projects*

**Inclusive Green Growth for Poverty Reduction**

The Ministry of Water and Environment is the Implementing Partner for the programme titled**, "Inclusive Green Growth for Poverty Reduction".** The five year programme is funded by the United Nations Development Programme (UNDP). The programme is aimed at contributing to Sustainable and Inclusive Economic Development (SIED), particularly focussing on natural resource management, livelihoods improvement and job creation. There are four Responsible Parties (RPs) including; Ministry of Gender, Labour and Social Development, Ministry of Energy and Mineral Development, the National Environment Management Authority and Civil Society. Main achievements include;

a. Trained 60 Local Government officials including Planners, Environment Officers and Chief Finance Officers in the integration of natural resources management, livelihood improvement and job creation.
b. Prepared sand mining guidelines for Uganda
c. Drafted the National Workplace Based Policy and the National Strategy and Plan for Green Jobs
d. Facilitated the Popularisation of the Environment and Natural Resources Gender Strategy in district local governments in Western (15 districts) and Eastern (28 districts) regions
e. Trained and operationalized Local Environment Committees in the districts of Otuke and Mbarara (335 members)
f. Supported restoration of key fragile ecosystems on Mirama hills in Ntungamo district
g. Undertook the set-up and launch of the Uganda Green Incubation Programme (Songhai Centre)
h. Sensitisation and training of district leadership on operationalization of the innovation fund
i. Supported the finalization of the Energy Efficiency and Conservation Bill, initiated the implementation of the multi- tier framework for tracking energy access and energy efficiency data base and undertook energy management training for Small and Medium Enterprises

Environmental Mainstreaming

Regional offices: Staff from the Department have been deployed to the regions and are already operational at the regional offices namely; Northern, Eastern, Central and Southern. These have teamed up with staff from the Forestry Sector Support Department and the Wetlands Management Department. As such the Directorate of Environment Affairs is fully operational at the regional offices though with some challenges such as inadequate resources (funds, vehicles, computers and furniture among others).

Capacity needs assessment

DESSS is one of the 5 departments in the Ministry that are undertaking a Capacity Needs Assessment, facilitated by Contour Consultancy Services. The process is financially supported by DANIDA. The output of the exercise will be a DESSS Capacity Development Plan by October 2018. Implementation of this plan is expected to have positive significant impact on the performance of the Department

### *9.3.4 Contribution by Cross-Sectoral 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
- Pose 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.

#### *Under One Health Approach.*

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 and Bio safety and Biosecurity issues.

The 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

Finalized the One health Strategic plan and communication strategy. These guide activity implementation and information flow respectively.


***National Rapid response team at work in Kalangala district assess the outbreak of highly pathogenic influenza***

**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.

Recommendations

- There is need for regular monitoring and supervision of environment activities especially in the refugee settlements
- Fast track finalization of the Comprehensive Refugee Response Plan for the MWE sector as this will enhance coordination of efforts being extended towards improvement of the environment within refugee settlements and host communities
- Explore mechanisms of promoting sustainable environment management in refugee camps including PES schemes, alternative livelihood options and alternative energy sources among others.
- Continued networking with OPM, refugee hosting districts, UNHCR and other partners to fast track management of environment issues in the camps
- Address immediate and long term water supply challenges resulting from environmental degradation and deforestation of catchments as this will ensure food security and stability of livelihoods
- Promote integration of ENR Gender mainstreaming within the refugee camps through dissemination of the ENR Gender Mainstreaming Strategy.
- Undertake baseline studies for different ecosystems in the refugee camps to aid future planning, monitoring and decision making.

## 9.5 The National Environment Management Authority (NEMA)

NEMA is a semi-autonomous principal agency responsible for the coordination, monitoring and supervision of environment management in Uganda through its statutory functions set in the National Environment Act Cap153 and the Authority's five year strategic plan. The Authority collaborates with other MDAs, Local Governments, civil society, the media and the community (the public) to ensure effective environment in Uganda through environmental compliance and enforcement; integration of ENR values and concerns into national development framework- the national development plan and sector plans, and local government development plans; increasing access to environmental information, education and literacy; institutional capacity enhancement; and national, regional/international network and partnerships for effective environment management to ensure sustainable development in Uganda. These are the key pillars (key results areas) of NEMA's five year strategic plan.

### *9.5.1 The key achievements NEMA realized in FY2017/18*

Based on its statutory functions, the strategic plan and the approved annual workplan, NEMA realized the following achievements in FY2017/18;

***Environmental Compliance and Enforcement Strengthened***

The Authority has made significant progress in the review and drafting of the National Environment (Oil Spill Prevention, Preparedness and Response) Regulations, the National Environment (Access to Environmental Information) Regulations, the national environment (Management of Ozone Depleting Substances) Regulation, the National Oils Spill Contingency Plan, 2018 and the guidelines for the Payment of Ecosystem Services. Final draft regulations will be completed in the FY 2018/19.

The projection of 2500 EIA certificates approved and issued were made based on previous submission by developers/investors, reforms made by the Authority to improve on Environment Impact Assessment (EIA) processes and the increase in the number of staff at NEMA. The targets were not met because, they were based on anticipated recruitment of more staff, which unfortunately was not done in the beginning of the financial year as expected (new staff were recruited in the middle of the financial year).

Notably 1.469 EIA related documents (TORs, Project Briefs and Environment Social Impact Statements) were received by NEMA (below the target of 2500). However, NEMA Management has been able to review and conclude decision making on all the submitted reports and issued 807 certificates for investments/development projects. In addition to the administrative and technical reforms NEMA introduced in FY2016/17, in FY2017/18 the Authority reviewed the old guidelines for the review of environmental and social impact assessment (ESIA) and developed new ones based on sector clusters to enhance efficiency and effectiveness in the review and approval processes.

The graph below shows the trends in the approval of EIAs for the last 5 years.

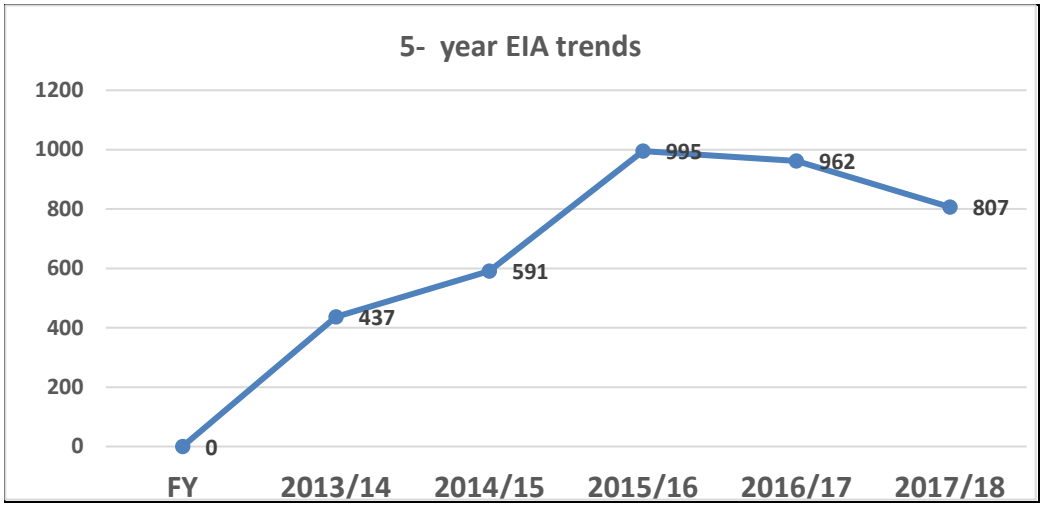



**Figure 46*: Trend in approval of EIA approval***

A total of 1,400 inspections and audits was planned and 1,518 (108%) carried out by NEMA across sectors and the country. Some of the inspected industries, facilities and projects have developed internal environment management (regulatory) systems to ensure environmental compliance; such include breweries, cement industries, food processing, oil and gas, sugar industries, among others. Besides, NEMA organized five (5) high level strategic multi – sectorial monitoring and inspections of critical infrastructure development and refugee settlements. These areas include; Isimba Hydro Power project (HPP), Karuma HPP, Rwizi catchment area and the critical oil roads to ensure that the infrastructures, human activities in the fragile ecosystems and the refugee protection projects adhere to environmental and social safeguards as established in the EIA and permit approval conditions. The key findings were issues of concern at the time were issues pertaining to restoration activities, securing of sedimentation tanks, alien species, biodiversity offset, fish ladder, water stagnation, aquatic weed and soil erosion among others. It should be noted that the inspection activity also identified emerging issues that included trench separating the community and the site of the substation, non-compliances at Camp-5, new areas identified for possible restoration, exotic/alien species, dumping of construction waste within the river bank and the project associated transmission line among others. However, some recommendations by the committee such as advice by the committee for MAAIF and Inter-Ministerial Committee to manage the aquatic weed and documentation of plan for sludge management among others has remained unattended to.

In Rwizi catchment, the key findings from the field visit were;

(i) Levels of landscape disturbance and ecosystem degradation have reduced due to increased compliance checks (monitoring and inspections by NEMA) and the push for the restoration of the degraded sites. However, more interventions are required to ensure that all the degraded sites are fully restored and more environmental compliance assurance through regular monitoring and inspections by NEMA, Local Governments and other government agencies.

(ii) The sand drying bed under construction was not approved by NEMA however, the Authority halted the construction works while the investor is negotiating with Ministry of Water and Environment (Directorate of Water Development-DWD) that would like the structure for water supply tanks.

(iii) The local revenue collected from the sand transporters is controlled and managed by Lukaya Town council without the involvement of Kalungu District Local Government which is responsible for environmental compliance within the sand mining areas and yet the Town Council does not provide support to complement the efforts of the District Local Government. The Board advised that the Town Council should remit part of the revenue from sand mining to the District Local Government to facilitate environmental compliance enforcement activities.

(iv) The wetlands within Mbarara District (Rucece- Kafunjo, and Rwemigina – Kaburangire systems) are still being encroached and degraded by cultivation and illegal structures despite the restoration interventions. However, the restored parts of the wetlands have started to regain their ecological values. It was also noted that some the communities are supportive to restoration and enforcement interventions due to the benefits they reap from wetlands like grass for mulching and livestock feeding.

(v) Poor solid waste management within Mbarara CDM site and the surroundings characterized by bad odour and spread of waste all over the composting plant. The solid waste was not being managed within the guidelines and standards of Clean Development Mechanisms which focus on complete composting of the biodegradable of solid waste for the purpose of emission reduction (greenhouse gases-like methane).

(vi) Non-compliance by Amos Dairy Company as demonstrated by noxious smoke from the milk factory; the team advised the NEMA Mbarara regional office to carry out inspections and guide the company to comply to environmental standards and the conditions of EIA approval.

(vii) Part of Kanyabukanja-katara wetland system in Buhweju district that has been restored is regaining its ecological integrity steadily although certain areas are still being degraded through drainage, cultivation and planting of eucalyptus trees. The Minister and the Board advised NEMA and the District Local Government to step up sensitization, enforcement and the District should plan and budget for more restoration restorations. Notably, the District has an Ordinance that should facilitate enforcement of the law.

(viii) The restored part Nakivale lakeshore is recovering steadily as seen by the increase in water level and lake/water vegetation species. However, there is need for more political commitment, sensitization and dialogue with the communities (both host and the refugee communities) to ensure all the degraded parts of the lakeshores are restored and compliance enforcement effected by NEMA, the District Local Government and other partners. It was recommended that, NEMA should improve on efficiency and effectiveness of the Mbarara regional office, improve on environmental enforcement and compliance in local governments, increase environmental literacy through continuous public education and awareness and enhance environment capacity management of Local Governments.

The graph below shows five years trends in the number of environmental inspections and audits carried. The trends vary due to performance targets and actual performance which are a function of resources available especially funding and human resource. However, as noted, NEMA has always strived to meet the targets through initiatives like establishment of sector clusters, review of inspection and audit protocols (checklists and tools), multi-sectoral and high-level inspections.

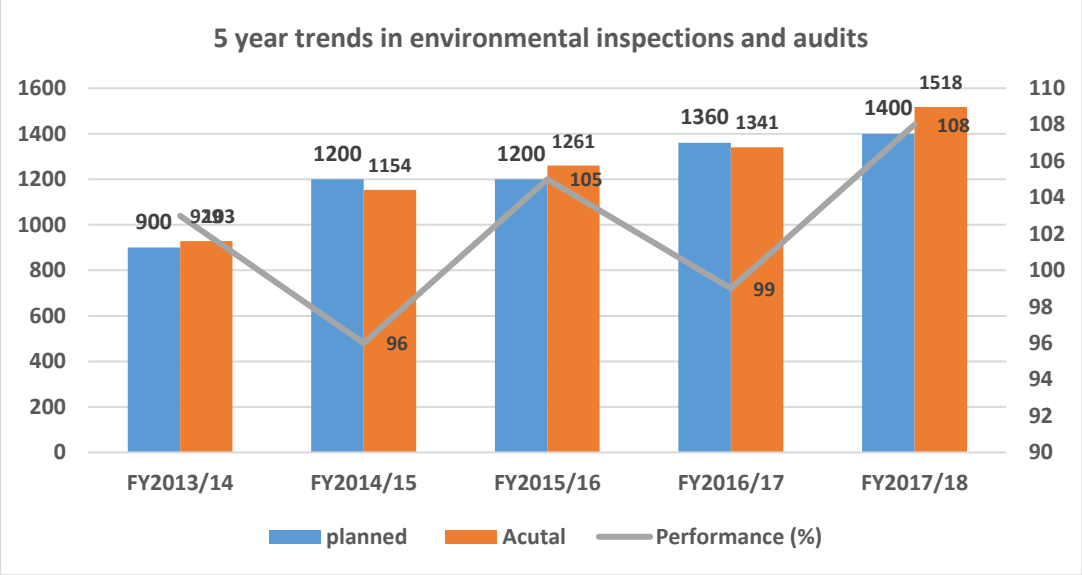



***Figure 47: Trends in inspections and audits***

The Authority acquired GIS equipment and software, and updated the electronic web-based database to support EIA and permit reviews and other activities through GIS/Remote sensing data acquisition, processing and analysis to aid timely decision making during the processes of reviewing/approving EIA and issuing of permits. The spatial database of 614 existing development projects was established and mapping of approved development projects in the Districts of Jinja, Bugiri, Buikwe, Mbale, Soroti, Kumi, Sironko, Bukedea, Pallisa, Busia, Tororo, and Manafwa Masaka was undertaken. The spatial maps enhance the analysis and forecasting of environmental impacts of such projects through inspections, audits and regular reviews to ensure that the development activities are environmentally compliant.

NEMA initiated and drafted a five year Lead agency coordination strategy through stakeholders' consultations that included, National Planning Authority (NPA), Ministry of Water and Environment (MWE), Makerere University, Busitema University, World Conservation Society (WCS), The African Centre for the Constructive Resolution of Disputes (ACCORD), Advocates Coalition for Development and Environment (ACODE), Ministry of Agriculture Animal Industry and Fisheries (MAAIF), National Advisory Research Organisation (NARO), Ministry of Energy and Mineral Development (MEMD) among others. The overall objective of the strategy is to promote sustainable environment management through integration of environment and sustainability concerns into Lead Agency plans and operations. The strategy strives to ensure coordination, collaboration and synergies among all environment management stakeholders in Uganda through complimentary responsibilities, common interests and synergetic approaches to ensure sustainable development in Uganda.

All activities related to oil and gas have under gone EIA and given permits to ensure environmental and social safeguards. NEMA has continued to carry out environmental compliance monitoring and inspections by its staff and the respective government agencies to ensure that the oil and gas companies and their auxiliary entities are compliant to environmental laws and regulations. Besides, the efforts of NEMA and its partner government agencies like DRWM, DESS, NFA, UWA have been positively demonstrated by the absence of incidences of environmental disasters and biodiversity conservation within the Albertine graben; taking into account that this is an ecologically sensitize region and very important for tourism and thus the biodiversity and the landscapes have continued to attract tourists as a source of revenue amidst oil and gas activities.

The Minister of State for Environment, the Board and management of NEMA carried out high level environmental inspections and project monitoring in central and western Uganda with focus on Lwera sand mining area and Rwizi catchment area. These interventions resulted into regulated sand mining followed by restoration of the mining sites, and increase inspections by NEMA Management within the fragile ecosystem areas associated with the restoration of wetlands and enforcement of the law and

ordinances in Buhweju and Mitooma districts. NEMA did carry out other high level environmental compliance inspections and enforcement activities in West Nile, North-Eastern Uganda and Kyoga basin with focus on the impacts of refugees on environment, protection of shea butter tree and wetland conservation. Notably, local governments within these regions have embarked on sensitizing the population on sustainable management and utilization of environmental resources and regulation of environmental degradation like enforcement of ordinances/byelaws on uncontrolled tree cutting and commercial charcoal production.

The key support to restoration of degraded fragile ecosystems include the following;

*a) Limoto wetland system ( Pallisa and Kibuku districts)*

i) The regulated communities were engaged through sensitization and community barazas/meetings which included local government and community leaders for 2 years.
ii) An inventory of the wetland system carried out to determine the status and activities in the wetland.
iii) 100ha of the wetland has been restored through eviction and planting of trees and rhizomes.
iv) The wetland has begun to regain its ecological and social economic functions as demonstrated by the emergence of the flora and fauna and livelihood activities like water and fishing.
v) The wetland system has been selected for the implementation of wetland conservation interventions supported by Green Climate Fund, UNDP and Government of Uganda.

Before restoration (January 2017)

After restoration- Hon. Cheptoris Sam inspecting the wetland (July 2017)

*b) Rwizi catchment*

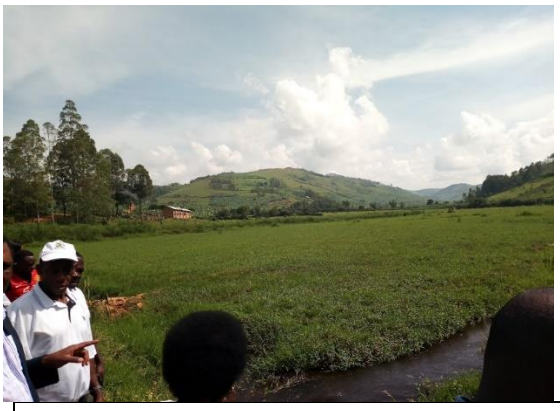
i) The regulated communities were engaged through sensitization and community barazas/meetings which included local government and community leaders for 1 year.
ii) An inventory of the wetland system carried out to determine the status and activities in the wetland.
iii) To date over 900 ha of River Rwizi and its catchment has been restored targeting both the lower catchment (Lake Kakyera) and the upper catchment (Kanyabukanja_Katara_Nyakambu wetlands system in Buhweju District). NEMA launched the restoration of R.Muzizi though an engagement with the leadership in districts that share R.Muzizi to develop consensus and plan for restoration. The districts engaged in the meeting were Kyenjojo, Kyegegwa, Kagadi and Kibaale. Participants included; Resident District

Commissioners (RDCs), Local Council 5 (LCV) Chairpersons, Chief Administrative Officers (CAOs), District Technical Officers, Sub County officials and Council members. 80 participants attended the meeting; 16% female and 84% male.

iv) NEMA supported the enforcement of the ordinances and byelaws in Mitooma and Buhweju districts to ensure that the upper Rwizi catchment is protected from degradation while Isingiro and Ntungamo districts have been trained to develop their ordinances and byelaws.

v) The restored wetlands have begun to regain their ecological and social economic functions as demonstrated by the emergence of the flora and fauna and livelihood activities like water and grazing.

vi) NEMA has continued to carry out environmental enforcement within the Rwizi catchment where some degraders have been taken to courts of law for prosecution for environmental crimes.



**Rwizi catchment Before restoration (July 2017)**

**Rwizi catchment After restoration (April, 2018)**

*c) Lubigi wetland ( Kampala and Wakiso)*

i) The regulated communities were engaged through sensitization and community barazas/meetings which included local government and community leaders over the years.

ii) An inventory of the wetland system was carried out to determine the status and activities in the wetland.

iii) Restoration orders were issued to the regulated communities and ample time was given for eviction.

iv) Evictions were carried out to protect over 100ha of wetlands.

*d) Kyetinda wetland (Kampala and Wakiso)*

i) The regulated communities were engaged through sensitization and community barazas/meetings which included local government and community leaders over the years.

ii) An inventory of the wetland system was carried out to determine the status and activities in the wetlands.

iii) Restoration orders were issued to the regulated communities and ample time was given for eviction but the community appealed against the order.

iv) A public hearing and sensitization was organized to address the grievances and communities were given additional time to relocate.

*e) Muzizi wetland (Kagadi)*

(i) In addition, the Authority undertook several restoration interventions for the protection of R. Muzizi and its critical catchment and over 300ha of degraded land was restored. NEMA also supported the District Local Government of Pallisa to restore over 200ha of wetlands in Oladot system covering sections of Lake Kawi and Lake Ajapet which were degraded by rice cultivation and other human activities.

*f) Sand mining areas;*

(i) NEMA reduced the number of sand mining companies at Lwera from 19 to 6 based on environmental compliance status of the companies. The six (6) compliant companies are; Capital Estates, Seroma Ltd, Parkson Hongkomg, Aqua World, River Katonga Ltd and Jory Ready Mix. The permits of other companies expired and not renewed and others withdrawn/cancelled due to environmental non-compliance while 2 companies (Tesco and Simpson Birungi) were taken to court and are expected to restore the sites they degraded.

(ii) The Authority developed national sand mining guidelines that will be used by NEMA and other Ministries, Departments and Agences (MDAs); and investors involved in sand mining industry/business. The guidelines are expected to facilitate sustainable sand mining.

NEMA supported the Environment Protection Force (EPF) contributed to the enforcement of the law through monitoring and surveillances of noise pollution, wetland/lakeshore degradation; follow-up of administrative orders like restoration orders and improvement notices; community policing; and prosecution of environmental criminals (degraders). EPF handled 22 litigation cases and 91 sanctions made to avert environmental crimes. The interventions by EPF have complemented the efforts of NEMA in minimizing environmental crimes such as noise pollution and degradation of fragile ecosystems like wetlands and forest reserves.

A green economy approach to ENR management developed and promoted

A green growth approach and promotion includes strategies that consider environment and natural resources as natural capital for livelihood and economic growth without compromising its capacity to sustain the current and future society needs while taking the inherent environmental functions and services through life support systems like water, carbon and carbon cycles. Environmental degradation comprises the natural capacity of nature to sustain human livelihood (basic needs like food), economic growth and ecological balance (life support systems). NEMA has been promoting the green growth pathways in Uganda through the support to the integration of ENR in the national development framework (the NDP, sector plans and local government development plans); waste management initiatives (municipal solid waste and electronic wastes); contribution to value addition to natural resources especially biodiversity; and studies/research. In this regard, the Authority made the following contributions to green growth pathways in FY2017/18;

The Authority has continued to build the capacity of sectors and local governments to integrate ENR values and concerns in their development plans. NEMA trained over officers from key MDAs in basic economic accounting and valuation of natural resources as an initiative for establishing green accounting in the national accounting system; sensitized 36 districts in western Uganda and eastern Uganda to appreciate and prioritize environmental values as source of community livelihood and revenue generation for local governments; regional cluster meeting was organized in Hoima for the district leaders and environment managers of Bunyoro region district local governments (Kiryadongo, Masindi, Buliisa, Kibaale, Kakumiro and Kagadi Districts, Hoima and Masindi Municipalities (9 LGs) attended by 78 participants out of which 18 were female (23%)in order to sensitize them on their roles in sustainable environment management; 91 local governments were mentored and 30 new Environment Officers were trained on decentralized environment management as means of achieving green growth. Besides, with support from UNDP and Government of Uganda, NEMA trained 335 members of Local Environment Committees (LECs) in

Mbarara and Otuke districts in order to build their capacity in decentralized environment, especially in ensuring effective community sensitization on environmental values and concerns and enforcement of the law at local level.

NEMA has continued to provide technical services to the 12 municipal councils (Arua, Hoima, Masindi, Lira, Soroti, Mbale, Jinja, Mukono, Fort Portal, Kasese, Mbarara and Kabale) that are implementing the Clean Development Mechanisms (CDM) project which aim at reducing greenhouse gas (GHG) emissions by composting organic solid waste of which the manure is used to promote agricultural production and productivity. The technical support services provided by NEMA include training of the CDM site workers, technical supervision of the operations of the CDM plants and market promotion for the organic manure. However, it should be noted that the CDM project implementation and the expected results are adversely affected by lack low prioritization by the urban authorities and thus low capacity (funding, staffing and equipment) for solid waste management; the project suffers from inefficiency, ineffectiveness, inadequate ownership (sustainability deficiency), and poor maintenance and operations. Therefore, Government of Uganda should consider providing conditional grants to urban authorities to enhance their capacity in solid waste management.

***Table 53: Solid waste management CDM-supported Municipal councils in Uganda***

| Town | Estimated daily waste generation | Estimated daily total waste collected | Estimated daily uncollected waste | % waste safely collected and disposed-off to the CDM site | Daily compost production | CDM design capacity( 70 metric tons per day) | Estimated monthly revenue from compost | Female employed | Male employed | Total employed |
|---|---|---|---|---|---|---|---|---|---|---|
| **Arua** | 110 | 40 | 70 | 36 | 4.5 | 57 | 250,000 | 19 | 2 | 21 |
| **Hoima** | 110 | 40 | 70 | 36 | 1.75 | 57 | 300,000 | 16 | 3 | 19 |
| **Masindi** | 125 | 33 | 92 | 26 | 1.75 | 47 | 300,000 | 20 | 13 | 33 |
| **Lira** | 95 | 35 | 60 | 37 | 1 | 50 | 300,000 | 7 | 15 | 22 |
| **Soroti** | 90 | 45 | 45 | 50 | 1 | 64 | 100,000 | 7 | 15 | 22 |
| **Mbale** | 150 | 63 | 87 | 42 | 4 | 90 | 400,000 | 8 | 8 | 16 |
| **Jinja** | 225 | 54 | 171 | 24 | 2.5 | 77 | 350,000 | 6 | 11 | 17 |
| **Mukono** | 255 | 45 | 210 | 18 | 1.5 | 64 | 400,000 | 11 | 17 | 28 |
| **Fort Portal** | 125 | 43 | 82 | 34 | 1.75 | 61 | 300,000 | 16 | 18 | 34 |
| **Kasese** | 105 | 43 | 62 | 41 | 1.15 | 61 | 300,000 | 10 | 6 | 16 |
| **Mbarara** | 185 | 60 | 125 | 32 | 1.25 | 86 | 250,000 | 6 | 8 | 14 |
| **Kabale** | 110 | 58 | 52 | 52 | 4.5 | 83 | 250,000 | 7 | 16 | 23 |
| Total | **1,685** | **559** | **1,126** | | **27** | **799** | **3,500,000** | **133** | **132** | **265** |
| Average | **140** | **47** | **93** | **36** | **2** | **67** | **290,000** | **11** | **11** | **22** |

Source: NEMA, 2018

The following are the key observations and explanations from the *averages* in the table above;

(i) An average of 140 metric tons of solid are generated daily by the 12 municipalities of which 47 metric tons are collected daily (93 metric tons uncollected). This is against the standard efficiency design where each CDM composting plant should collect a minimum of 70 metric tons per day. This information therefore has the implications that;

   a) Only 36% is safely collected for management at the CDM site; 64% is not is safely collected or not properly managed (either it is at the source or improperly disposed-off);
   b) The CDM sites collect 67% of the 70 metric tons expected on a daily basis and thus the CDM plants are operating below the designed capacity and this explains the current poor solid waste management at the CDM sites ( waste scattered all over the windrows and the landfills; poor sanitation and the bad odor experienced at the sites)

(ii) There is an average distribution of female and male workers (50%- 133 female and 132 male) at the sites although Arua, Masindi, Hoima and Kasese have more female workers. Therefore, this gives a fair gender perspective of the workforce while taking into account the nature and conditions of the work.

(iii) The CDM project generates some local revenue from the compost manure that could be ploughed back to facilitate the operations of the composting plants (for operations and maintenance costs)

Enforcement of the law to protect threatened species like shea butter tree in North, North-East and West Nile region Value addition to shea butter products have been other pathways or strategies to promote green growth to ensure biodiversity conservation for both human livelihood and ecological balance. NEMA and its partners carried out a number of interventions to protect the she abutter tree in West Nile, Northern and North Eastern Uganda through; community awareness programs; environmental compliance and enforcement; raining on value addition of local communities and groups on the shea butter products; promotion and access to markets to enhance conservation; development of byelaws and ordinances in local governments; protection of shea butter tree from charcoal production and resource mobilization through project proposals for shea butter tree conservation. Furthermore, NEMA promoted knowledge and awareness on Access and Benefit Sharing (ABS) through identification of benefits of biodiversity such as community training on value addition and organic processing of shea butter products. Besides the Authority engaged the private sector through Uganda Export Promotion Board (UEPB), to facilitate market promotion and competitiveness in shea butter products while taking into account the value chain. A number of community groups, CBOs and NGOs have emerged in biodiversity based business especially trade in shea butter products and organic agriculture and forestry. Moreover, the Authority coordinated the production and dissemination of manual on post -harvest handling of shea products; developed frameworks for certification and standardization of shea products like lip balm, cosmetics, soap among others. The development of national export strategy for shea products is in the process which will feed into the National Export Development Strategy.

NEMA in partnership with academic institutions carried out a number of studies and established partnerships with other MDAs carried a number of to promote green growth through environment conservation and climate change management initiatives. Such interventions include; technical and scientific studies on solid wastes in Uganda; support to university students during their post graduate research, and NEMA in collaboration with the United Nations University - Land Restoration Training

(UNU-LRT) Programme and Makerere University, trained Environment Officers from selected local governments and academic institutions, on "Sustainable Land Management (SLM), Land Restoration and Linkages with Climate Change", a curriculum training domesticated, and inaugurated in September, 2017. The training is expected to improve on Uganda's preparedness to climate change and enhance skill among the district environment officers who manage the natural resources at the local government level; a total of 25 participants were trained ( 6 were female and 19 were male).

Strategic Environmental Literacy, access to information and popular participation enhanced

NEMA carried out strategic public education and awareness programs which included; 4 community meetings on fragile ecosystems in Apac, Bududa, Kaliro and Kasanda districts involving 142 community leaders (103 and 39 male and female leaders respectively); sensitization and awareness for 300 artisanal gold miners on better methods and practices in Mubende and Kayunga districts with focus on environmental/health and social safeguards; community sensitization and dialogue meetings on the protection of Lake Kyoga shores and the banks of the upper Nile due to rice growing and other human activities; and community barazas (public meetings and dialogues) for the restoration and protection of Rwizi catchment, Limoto, Lubigi and Kyetinda wetlands. Other stakeholders' awareness included sensitization of local government officials on sound management of chemicals in West Nile and Bunyoro districts under Stockholm Convention on Persistent Organic Pollutants (POPs). All these strategic public education and awareness programs are expected to have positive impacts on the attitude of the community and the public to develop sense of responsiveness to participate effectively in environment management activities and ensure environmental compliance.

The Authority coordinated 4 Capacity building workshops on the integration of Environmental Education (EE) and Environment for Sustainable Development (ESD) strategy into academic and non-academic programmes in Schools in Soroti and Jinja districts, Kabale University, and Makerere College School; a total of 271 men and women educators were trained in the integration of EE into educational Institutions' academic and non-academic programmes. Previous ESD and EE interventions in universities like Uganda Martyrs University (UMU) Nkozi, Mbarara University of Science and Technology (MUST), Busitema, among others, have resulted into academic programs in environment management and non-academic and community outreach programs in environment conservation such as water and energy conservation and sustainable agricultural practices like soil conservation and organic pest and weed control methods. Besides, over 1,000 pupils from 32 primary schools and 64 teachers participated in school environment education competition (SEEC) where each school received orange and other fruit tree seedlings to promote environmental restoration programs and as potential source of fruits for the pupils. The SEEC is part of the school environment education programs (SEEPs) focused on best practices in environment management at school that include tree planting and landscaping within the school compounds, wetland protection, environmental health, water, soil and energy conservation practices.

The 2018 World Environment Day (WED) was celebrated in Mbale district on 5th June 2018 with national theme; *beat plastic pollution*. The key stakeholders that participated in the celebration included MDAs, local governments, civil society, the private sector, development partners, embassies, schools, the community and the media. The WED activities included public and community awareness on TV, radio and newspapers and other IEC media; environmental restoration (tree planting), cleaning up of Mbale town, speeches, music, drama and dances, exhibitions by NEMA, MDAs, the private sector and civil society. The WED focused on the dangers of producing and using single-use polyethylene carrier bags (kaveera) and thus this was a great moment for mass education and awareness on the current use of kaveera in Uganda. It should be noted that it is the theme of WED that galvanized the decision to

strengthen the tri- partnership among NEMA, Vivo Energy and NBS television to promote the current public education, awareness and publicity on the dangers of the single use polyethylene carrier bags (*kaveera).*

The Authority developed and disseminated environmental publicity through print and electronic media (TV, Radio and publications (News Papers and Magazines) on the new and emerging environmental problems such as wetlands management, biodiversity conservation, climate change, pollution, electronic waste, among others and environmental governance. These programs were publicized through radio/TV talk shows, newspapers, newsletters and magazines, and other IEC media with participation of other stakeholders from MDAs, Local Governments, private sector, civil society and the media. Other media engagements included partnerships with New Vision News Paper publications on in Education (NiE) platform where the NEMA used the weekly NiE Pull-out to disseminate information and educational messages targeting young readers in the range of 7 - 16 years; and *NTV Go Green* Program which focuses on the new and emerging environmental concerns that need public attention, responsiveness and participation.

NEMA organized media trips to areas of environmental hot spots and interventions by Government of Uganda and the Authority; such included hydro power generation projects like Karuma and Isimba; fragile ecosystems within lake Kyoga basin, Rwizi catchment, Lwera sand mining; industries and manufacturing like SCOUL, Tororo and Hima cement industries; the environmental aspects of refugee settlements in West Nile sub region and Isingiro district among others. The main purpose of the media trips has been to facilitate environmental publicity and reporting by the media houses to improve on access to information and education on environmental values and concerns.

NEMA supported *EMLI Bwaise Facility*, an NGO to facilitate environmental governance and chemical management in Uganda where the NGO organized;

(i) a strategic engagement with ENR CSO Network on scaling up Non-state actors engagement in environment management; the engagement explored ways of engaging the Network membership in the current legislative reforms like the Climate Change Bill; the National Biosafety Bill and the National Environment Bill; it also contributed to the review of the ToRs for the establishment of the National Environment Platform.
(ii) A dialogue on Sound Management of Chemicals in Uganda; the dialogue was attended by 61 participants (19 females and 42 male) from government, civil society, academia, private sector and media. The dialogue highlighted that chemicals and chemical waste management in Uganda is still a big challenge across the entire lifecycle of chemicals-production (manufacturing), procurement (importation), storage, transportation, distribution (repackaging), utilization (use) and disposal. The dialogue recommended as follows; a life cycle approach to management of chemicals and use of alternative such as hydrocarbons to replace Chlorofluorocarbons (CFCs); development of guidelines on chemicals safety; open access to information on internationally banned chemicals; and impose a manufacturer levy to spur safe and effective disposal of chemical containers (similar to the drum Muster program of Australia)

(iii) Radio talk shows on chemicals and waste management which helped inform the public of the challenges in chemicals and waste management, dangers of poor management of the non-

degradable waste such as plastic bottles and polythene bags. The public was also informed of the consequences of open burning of plastics.

The achievements from the interventions are; provision of information on the ongoing legislative reforms in the ENR sub sector for the ENR-CSO network to participate in the processes; enhanced access to information on chemicals and chemical management; knowledge and capacity of 113 people was enhanced on environmental governance and chemicals management; initiated science policy interface in environment and natural resources management as scientists interfaced with policy makers and legislators during the dialogue and other engagements; provided a window for private sector engagement in environment management especially in chemical and waste management as demonstrated by the participation of LUUKA Plastics and Bukoola Chemicals; and holistic approach to national platform on environment was agreed; a unified approach to multi-stakeholder fora/conferences on the environment.

The 2016/17 National State of Environment Report (NSOER) has been produced and already disseminated online. The theme for this NSOER is *restoring the environment for livelihood improvement and sustainable economic development.* Using the Driving Forces-Pressures-State-Impacts-Response (DPSIR) approach, changes in the environment were assessed, the forces driving those changes, how they have impacted livelihoods and also been harnessed to improve human wellbeing. The content of the NSOER includes; the general overview of the environment sector, the state and trends of the natural resources, progression of environmental policies in Uganda and key scenarios. The production process of the NSOER included both primary (including real time data through remote sensing) and secondary from the sectors and Environment Information Network (EIN) MDAs and other partners. The NSOERs are produced after every two years are commonly used by public policy practitioners, schools and universities, development planners, EIA practitioners and research institutions.

NEMA supported 60 District Local Governments information centers/libraries with reports of the Environmental Social Impact Assessment studies (ESIAs) undertaken by the Environmental Practitioners, reviewed by the Lead Agencies, NEMA and approved by the Authority. These reports provide essential environmental and the related socio-economic information for schools, universities, policy makers and implementers, environmental practitioners and researchers.

NEMA library has been digitized to improve access to environmental information and education, in the wake of new and emerging environmental issues and challenges related to oil and gas, climate change, biodiversity loss, electronic waste among others. Such interventions include the E-board and a special section for oil and gas. The readership of NEMA library includes among others MDAs, local governments, EIA practitioners, schools, Universities and research institutions.

### Institutional capacity strengthened

In FY2017/18, the Authority strengthened its capacity to realize the institutional mandate through;

Recruitment of new 35 staff (20 male and 15 female) to address staffing gaps and meet the increasing service delivery demands. The new staff have contributed to the establishment of regional offices and improved environment management service delivery to clients/stakeholders. Besides, the new staff enhanced the implementation of the administrative and technical reforms in the review of EIA documents and reports and thus contributing to the speedy handling of EIAs and thus facilitating timely decision making.

Establishment of 3 new regional offices in Lira, Mbale and Mbarara in addition to the existing one in Masindi. DWRM has supported NEMA by providing office space for the new regional offices. The four regional offices have been staffed and equipped to transfer environment management services nearer to the clients especially local governments, MDAs, EIA practitioners, the developers/investors, regulated communities and the public.

### *9.5.2 Key programmes and projects*

NEMA has been participated in a number of regional and international fora on environment and sustainable development the multilateral environmental agreements (MEAs) and other bilateral/multilateral engagements. The participation in these MEAs and other partnerships have attracted a number of projects that have provided resources (skills, finance and equipment) for environment management in Uganda. These projects that are coordinated by NEMA include;

***Kidepo critical landscape project (KCL) - GEF/UNDP/GoU***

The biodiversity and ecosystem values of the Kidepo Critical Landscape, Uganda, are conserved and provide sustainable benefit flows at local, national and global levels through enhanced operational capacity and functional landscape planning approaches The objective of the project is to protect the Biodiversity of the Kidepo Critical Landscape in North Eastern Uganda from existing and emerging threats and it's the expected outcomes are strengthening management effectiveness of the Kidepo critical landscape protected area cluster; and Integration of protected area management in the wider landscape.

This project focuses on wildlife conservation in Kidepo national park and protection of shea butter tree outside the protected areas in Kotido, Kidepo, Kitgum, Agago, Otuke and Abim districts. The main achieved outputs from the project include; 70 representatives of 14 women groups trained on diversification and standardization of shea butter tree products; a draft National Export Strategy for shea butter and three draft standards for shea products produced; development and piloting of a landscape wide management plan for biodiversity; 80 representatives of women groups in Agago and Otuke districts trained in value addition in shea butter products; a draft national shea butter strategy developed; a draft framework for certification of shea products developed; ordinances being developed to address the legislative and enforcement issues; an inter-district coordination forum on biodiversity conservation in Kidepo Critical Landscape developed; market information centers constructed in Otuke, Agago and Kaabong to promote value addition. This project has improved on the wildlife conservation and shea butter tree protection efforts by UWA and NEMA as local governments and the communities have been empowered to participate in the conservation activities through micro projects like bee keeping, chili growing, value addition and business in shea butter products. The project has also promoted partnerships among NEMA, UWA, the private sector, civil society, local governments, and the communities which possibly will ensure ownership and sustainability of the project results.

***Biodiversity financing Initiative (BIOFIN)-EU, Germany, Norway, Switzerland, UNPD &GoU***

The project aims to enable governments to build a sound business case for increased investment in the conservation, sustainable use and equitable sharing of benefits of ecosystems and biodiversity, with a particular focus on identifying and filling financial needs at the national level. It will further provide concrete guidance to countries using the BIOFIN workbook and related products on how to assess existing biodiversity-related expenditures, gauge costs for implementing their National Biodiversity Strategy Action Plans (NBSAPs), and understand how to mobilize the financial resources required to fully

implement their revised NBSAPs. By doing so, countries can improve biodiversity and sectoral policies, and better align their national expenditures with their biodiversity and development goals. BIOFIN is a global partnership that aims at enabling Governments to develop a sound business case for increased investment in biodiversity. The BIOFIN project feeds into the reviewed and updated National Biodiversity Strategy and Action Plan (NBSAPII), under coordination by NEMA. The key outcome of the project will be a National Biodiversity Finance Plan developed for implementing the NBSAPII.

The key outputs of this project in FY2017/18 include; the development and implementation of instruments for sustainable local revenue generation from biodiversity and ecosystem services through of training of technical staff in Mbarara, Bushenyi, Sheema, Mitooma, Rakai, Kiruhuru, Isingiro, Kasese, Ibanda, Buhweju and Kamwenge districts; enhancing financial sustainability in the management of Central Forest Reserves (CFRs); and review of the finance needs assessment report and national biodiversity finance plan and engagements of different stakeholders especially the MDAs through the Technical Steering Committees (TSC). This project has facilitated local governments and MDAs in identifying financing opportunities from biodiversity which revenue is expected to further the support to biodiversity conservation. Besides, the project has resulted into negotiation with African Development Bank (ADB) to provide financing opportunities for biodiversity through the private sector.

***Strengthening Institutional Capacity for Effective Implementation of Rio Conventions in Uganda" focuses mainly on CBD, UNFCCC and UNCCD (RIO project)-GEF/ UNDP/GoU***

The Project Objective is to strengthen institutional capacity for effective implementation of the Rio Conventions in Uganda with the following expected outcome results; Strengthened and elaborated national institutional framework for managing natural resources and the environment; ttechnical and management staff sufficiently trained in monitoring and data analysis, and linkage to decision-making processes; and an improved national system to manage (i.e. collect, store, and access) data and information that supports monitoring and implementations of Rio Conventions.

This is a new project which outputs in FY2017/18 include; establishment of the Project Implementation Unit (PIU) and the Expert Working Groups (EWGs). An awareness program was undertaken regarding the Rio Conventions and the EWG and the beneficiary districts were Wakiso, Jinja, Kayunga, Mukono and Buikwe. Advocate Coalition for Environment and Development (ACODE) and Nature Uganda are the civil society organizations that have partnered with NEMA to implement this project.

***Mainstreaming Biodiversity into the heart of Government Decision Making (CONNECT) project-*** **UNEP/GoU**

The project objective is to ensure biodiversity is taken into account in decision making across government sectors by improving development decision makers' access to and use of biodiversity information and embedding biodiversity information within national development decision making processes. The Connect project will help governments to achieve sustainable development by bringing biodiversity and ecosystem services to the heart of government decision making using actionable biodiversity and ecosystem services information

This too a new project which key outputs in FY2017/18 included draft reports on the Political Economy Analysis (PEA) of biodiversity conservation in Uganda; and the National Biodiversity Information Landscape (NBIL); and the development of National Project Communication Strategy has been developed to guide project implementation and is under review by the key stakeholders and the global

project team. This project has already contributed to institutional networking on biodiversity conservation through the established EWGs and the production of PEA and NBIL draft reports.

***Clean Development Mechanism (CDM)***

The general concept of the project is to support composting operation that converts municipal solid waste into marketable manure. The activity also intended to strengthen the collection and transportation of municipal solid wastes in the project towns. Specifically the project aims at;

(i) Reduction in the emission of greenhouse gases to the atmosphere which would contribute to global warming and contribute to climate change;
(ii) Improve solid waste management in towns; to have clean and healthy towns; and
(iii) Control and protection of water catchments from water source pollution as has been before the project.

As stated earlier, this project is implemented in 12 municipal towns and the main outputs in FY2017/18 include real time collection on waste collection, training of the project teams, quarterly site supervision and production of manure through composting of organic waste. This project has built the capacity of the beneficiary urban authorities in terms of provision of waste management equipment, composting facilities and training. Besides, the organic manure from the composting of solid waste contributes to agricultural productivity. However, the expected results and sustainability of the project is highly affected by the inadequate budgetary support from the urban authorities.

***Strengthening the management of Oil and Gas (SMOGP) project- Norway/GoU***

The key outputs of the project include; capacity needs assessment of MDAs and local governments involved in oil and gas activities; development of Strategic Environment Assessment; development and implementation of the Albertine Graben oil and gas monitoring plan, training of NEMA, MDA and Local Government Staff in the basics of oil and gas management in collaboration with UNEP; revision of the National Environment Act Cap153 and the related regulations on EIAs, Audit, waste, effluents, air quality, noise and vibrations; draft National Oil Spill Contingency Plan; and Electronic web-based Data Base for EIA and Permit reviews, environmental inspections and audits. This project has made great deal contributions to NEMA, MDAs and local governments in terms of institutional capacity to manage the environmental aspects of oil and gas. The key results include legislative review, skilling and provision of access to information frameworks for planning and reporting which results have contributed to the enhancement of environmental compliance enforcement capacity.

***Mercury Initial Assessments Project (Uganda)-Minamata Convention***

The main objective of this project is the development of National Action Plans to reduce the use of mercury and mercury compounds, and the emissions and releases to the environment from artisanal and small-scale gold mining and processing facilitated by the use of scientific and technical knowledge and tools by national stakeholders in participating countries. The Project is under Minamata Convention on Mercury whose objective is to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

The key results from the project in FY2017/18 are; 49 participants from sector teams trained to undertake baseline estimates of mercury use and practices at artisanal scale gold mining (ASGM) sites;

and multi-sectoral reconnaissance visits carried out at 80 ASGM sites in the districts of Kaabong, Moroto, Nakapiripirit, Bukwo, Amudat, Busia, Namayingo, Bugiri, Buhweju, Kisoro, Bushenyi Kyegegwa, and Mubende

***Vienna Convention/ Montreal Protocol – Ozone project***

The key results of this project are; Ozone-depleting substances (refrigerants) in the refrigeration and air-conditioning sector, especially Chlorofluorocarbons (CFCs) and Methyl bromide replaced with ozone-friendly substances (refrigerants), mainly Hydrochlorofluorocarbons (HCFCs), Halogen-free refrigerants (e.g., Ammonia and Iso-Butane), and Hydrofluorocarbons (HFCs); these three categories of ozone-friendly substances are now increasingly becoming the common choice in Uganda; and local capacity built through training and local investors have emerged like Gayaza Electronics that has set up a plant for ozone friendly fridges and freezers.

The key results of the project in FY2017/18 include; ratification of the Kigali Amendment to the Montreal Protocol by Government of Uganda and enforcement thereafter; training of 30 customs and police officers to enable them improve skills in identifying Ozone Depleting Substances and Products (ODSs) and ODS dependent equipment; reduction in HCFCs imported into and consumed in Uganda in accordance with the provisions/guidance in the HPMP document; efficient operation of the national HCFC quota system; well enforced policy framework for compliance with the Montreal Protocol; effective monitoring of HPMP activities, focusing on different aspects including identifying ODSs and ODS dependent equipment; and, public awareness; review of the Ozone Depleting Substances and Products (ODS) to include; HFCs, new schedules, quota system for HCFCs and HFCs, new borders for customs officers, strict penalties, among others; and development draft Regulation on ODSs. It is important to note that the ratification of the Kigali Amendment will increase Uganda's participation in the Convention and enable the country access additional global funding under the Convention.

***Inclusive Green Growth and Poverty Reduction (IGGPR) Project- UNDP/GoU***

The objective of IGGPR intervention is to accelerate and sustain progress towards poverty and inequality. This will be achieved through building and expanding capacities in natural resource management, particularly among women and the younger generations, in a way that promotes entrepreneurship, livelihood and job creation.

The key outputs from project in FY2017/18 include;

(i) 84trained on sustainable ENR management for livelihood and job creation in western Uganda with focus on ecosystem services. The results of this training are; key fragile ecosystems within local governments identified as potential sources of local revenue for sustainable ENR management activities; increased awareness for District Planners on sustainable ENR management for improved local revenue for ENR management in Local Governments; and justification for increased funding and local revenue allocation for ENR management activities agreed upon for implementation by District Local Governments

(ii) National guidelines for sand mining developed and the key results of this undertaking are; enhanced technical capacity of the participating lead agencies in the management of sand mining (management of the challenges related to sand mining); provision of guidance in the review of the permitting and other approval processes/procedures like EIA and site restoration.

(iii) 335 Local Environment Committee members (LECs) were trained and operationalized in the two districts of Otuke and Mbarara. The training focused on decentralized environment management and the roles/responsibilities of Local Environment Committees.

### *9.5.3 Participation of the private sector and civil society*

***The private sector:***

The involvement of the private sector in the activities of NEMA in the following categories of interventions;

(i) *Compliance assistance*; where NEMA supports the companies (industrial facilities and projects) through regular inspections and audits to develop self-regulatory policies, systems, procedures and technologies for effective environmental compliance and enforcement. Some of these entities include the oil and gas companies and their related auxiliary partners, SCOUL, Tororo and Hima cement industries, Uganda and Nile breweries, Britania food processing, and Uganda Batteries Ltd. These companies have developed self-regulatory systems which include effluent treatment plants, establishment of new and modern plants, housekeeping policies and procedures, among others.

(ii) *Environmental and social impact (ESI) studies and audits* carried out by the EIA practitioners who are private individuals or companies registered as consultants to carry such studies and audits on behalf of developers/investors and submit to NEMA for review and decision making. Currently there 285 registered EIA practitioners (273 individuals and 12 partnerships) working with NEMA as EIA and environmental audit consultants.

(iii) *Corporate and social responsibilities (CSRs);* where some companies invest in environmental and socio-economic development like tree planting, education, health, water and sanitation projects as *take back to community* strategies. These companies usually support NEMA, Local Governments and community during the World Environment Day (WED) celebrations and other initiatives. They include Nile Breweries, the oil and gas companies (Total E&P and CNOOC), Eskom, Ecobank, Eaton Towers, Britania Foods Ltd, Rwenzori Beverages, Hima Cement, among others.

(iv) *Environmental resources (biodiversity)-based enterprises;* these are the business entities which rely on natural resources like biodiversity for their businesses and work in partnership with NEMA either through projects or memoranda of understanding. Examples of such companies include *Gurunana and Blessed Organic* which are involved in value addition and marketing of shea butter products under Kidepo Critical Landscape (KCL) conservation project.

***The Civil Society***

The non-governmental organizations (NGOs) work with NEMA at both national and local government levels. The national level NGOs are both national and international in their mandates and usually focus on policy advocacy and lobbying, public education and awareness programs, research in science and policies, project management and resource mobilization. These NGOs support NEMA during WED and other initiatives and they include; WWF, WCS, *Advocate Coalition for Environment and Development (ACODE), Environmental Alert, CARITAS Uganda and EMLI Bwaise Facility,* among others. The district local government level NGOs are mainly national in mandate terms and mainly focus on public education and awareness, resource mobilization and project implementation. Such NGOs include *SORUDA, Gwokokene, FABAD*, among others that are involved in the implementation of KCL project in partnership with NEMA, District Local Governments and the communities.

### *9.5.4 Status and Trends of Key Indicators*

(i) ….% developers complying with certificate of approval conditions (analysis is still on course-data yet available)

(ii) 24-52% % solid waste disposed of safely in the 12 municipalities

### *9.5.5 Challenges*

The major policy- related challenges that need strategic actions are;

(i) Low capacity of local governments and the Lead Agencies in environment management. The institutional capacity gaps relate to low staffing, inadequate funding and tools for environment management; and

(ii) Inadequate instructional synergies at national level and low political support and commitment to environmental compliance and enforcement especially at local government levels. This has resulted into low prioritization and hence inadequate budgeting for ENR management at both national and local government levels.

***Recommendations***

The proposed strategic actions include;

(i) Robust resource mobilization for ENR management Lead Agencies and Local Governments through provision of conditional grant and program/project proposal development. Incresed resources would facililate improvement in staffing level, increased funding and tooling/equipping MDAs and local governments for effective ENR management;

(ii) Establishment mechanisms for mechanisms for institutional coordination and synergies such as policy and legal instruments, MoU and partnerhip plaforms, among others; and

(iii) Contious policy dialogue and awareness engagements with local government political leaders and managers to demonstrtae commitmment and prioritization of ENR during development planning and budgeting.

## 9.6 METEOROLOGY

### *9.6.1 Achievements in the FY 2017/18*

Contract for supply and installation of weather radar signed and Letter of Credit opened with Bank of Uganda for the available funds; Satellite Aviation data Distribution Information System (SADIS) Equipment procured.

Aviation sector supported through 20,723 Terminal Aerodrome Forecasts and flight folders issued out of the planned 41420. 4 seasonal climate outlooks issued to the general public.

Published the Impacts of Climate change on Lake Victoria basin and status of climate of Uganda 2016/17 to increase knowledge base. The report shows that the year 2017 was the second warmest year on record since 1950. The rate of increase of temperature over the period 1950-2017 was 2.3 degrees Centigrade and for the period 1991-2017 is 2.5 degrees centigrade. Western Uganda was warming faster than the rest of the regions with a warming rate of 6.0 degrees centigrade and 6.4 degrees centigrade over the periods 1950-2017 and 1991-2017 respectively. This trend is expected to continue due to the impacts of climate change on the various regions and ecosystem degradation which have caused suppressed moisture in the atmosphere.

Collaborative research was undertaken with Makerere University to develop a dissemination platform for weather and climate information using short messages (sms) and the web. It has been piloted in communities of Mbale, Kawempe and Rakai which needs to be rolled out to entire country for different users.

Mbarara plot (2-22), Gulu plot (16), Masindi plot (22) and Soroti land were surveyed. Ntusi land title and the deed plan for Kabale land title are being processed. Rehabilitated the National Meteorological Centre in Entebbe and Kihonda station in Masindi.

Popularised meteorology in 10 primary and 10 secondary schools in Maracha, Arua and Nebbi districts. Students were sensitised about the effects of weather and climate.

Raised awareness on weather and climate issues through stakeholders' networks and media updates including 10 days and monthly updates. Six hourly weather forecast was disseminated through media houses. Conducted 8 radio programmes in northern region, 2 in western and 3 in eastern regions. The discussions focused on weather and climate issues.

### *9.6.2 Status and Trends of Sector Performance Indicators*

***Performance indicator: Percentage of weather observation stations operational and submitting data throughout the year***

The indicator refers to functionality of weather observation stations whereby functionality is measured by the percentage of weather observation stations operational and submitting data throughout the year. It is computed by:

Functionality (%) =Number of stations observing and submitting data to the centre divided by the total number of established stations multiplied by 100.

The Uganda National Meteorological Authority (UNMA) has 52 major weather stations of different categories (Synoptic, Agro met and Hydro met) and 29 stations observed and submitted data to the centre. This represents 56% functionality of weather observation stations. The functionality of the stations by category is shown in Table54

***Table 54: Functionality status of the manual Weather Stations by category***

| | Category | Number | Functional |
|---|---|---|---|
| **1** | Synoptic | 12 | 12 |
| **2** | Hydromet | 17 | 08 |
| **3** | Agromet | 23 | 09 |

The location of manual weather stations is shown figure 49

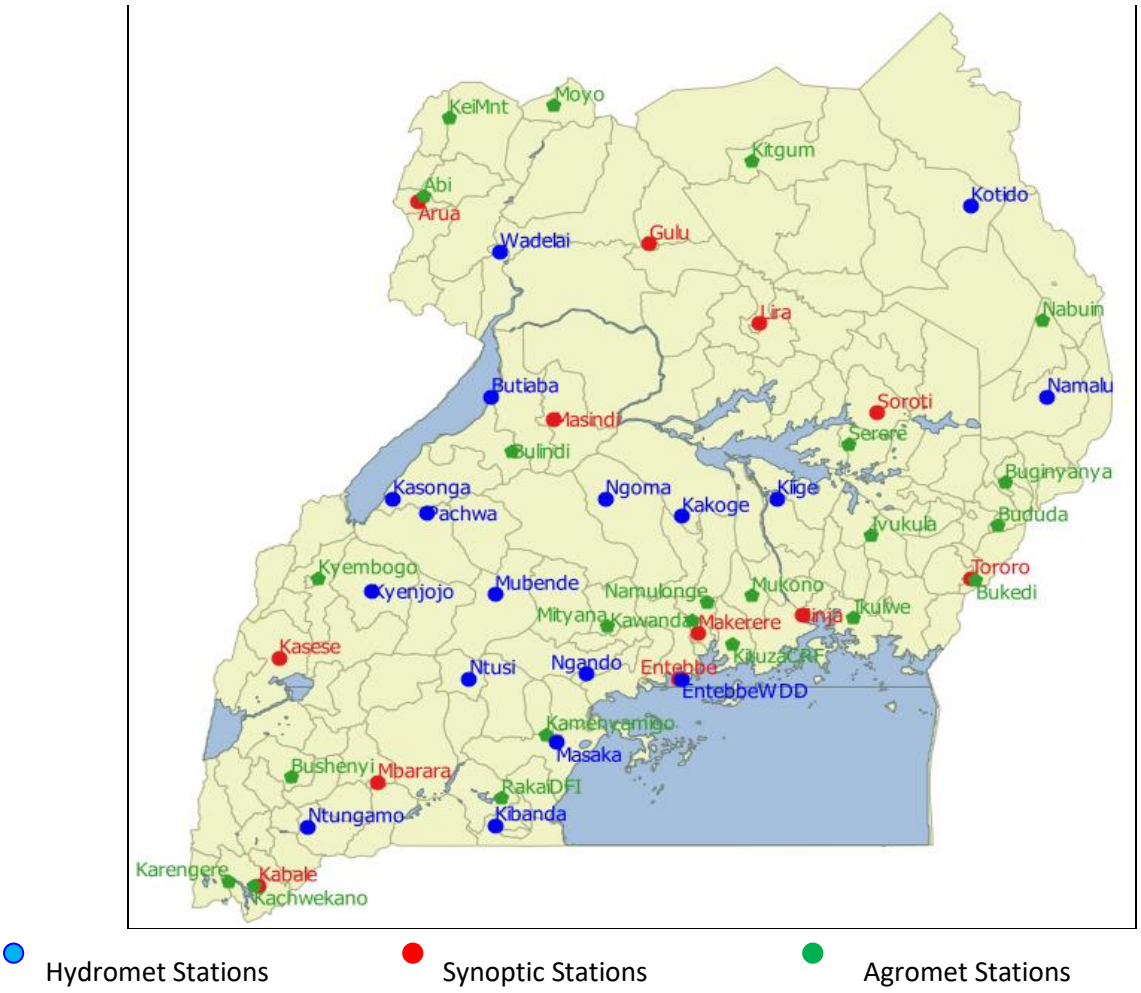



***Figure 48: Location of manual weather stations***

In 2015, 3 synoptic stations were fully functional, 12 in 2016 and 29 in 2017. The increase was due to rehabilitation and staffing of additional 9 agromet and 8 hydromet stations. 23 non-functional weather stations lack instruments and personnel.

***Performance Indicator: Percentage of districts with functional early warning systems***

This indicator is defined as a weather station installed in a district for capturing data useful in early warning. It is computed as the number of districts with a weather station installed divided by the total number of districts in the country multiplied by 100.

***Coverage of automatic weather station:*** By June 2018, UNMA had established automated weather observation stations in 36 out of 122 districts. This represents 29% achievement against the NDP II target of 40% by FY 2020. At the beginning of the NDP II, the district coverage was 10%. The current location of Automatic Weather Stations is shown in the map below.

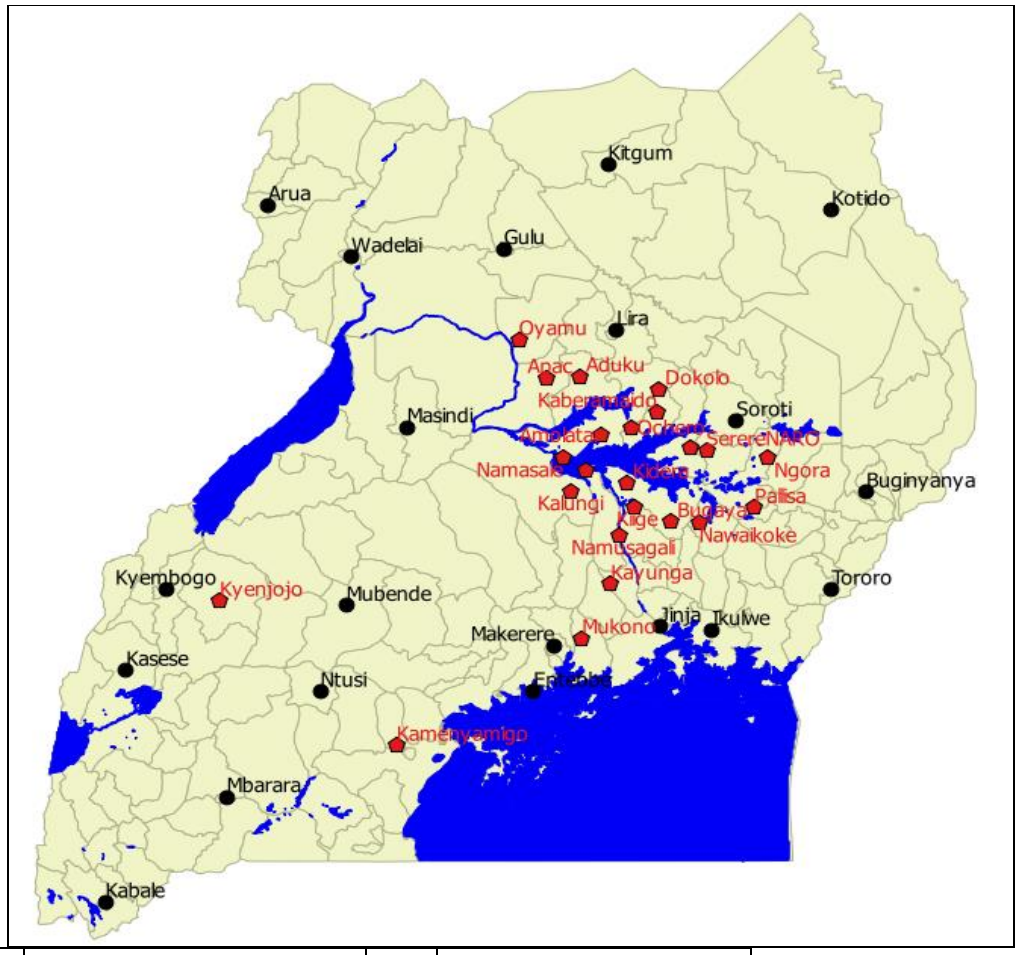



***Figure 49: Location of automatic weather stations across Uganda***

### *9.6.3 Challenges and Recommendations*

By law, the governing body of UNMA is the Board of Directors whose preserve is to approve the budgets and recruitment of staff. However in the FY 2017/18, UNMA didn't have a Board which affected the recruitments in UNMA and National Meteorological Training School for the positions that fell vacant in the course of the financial year. In addition, with the operationalization of the additional stations, there was pressure on the already inadequate staff yet the proposed revised structure which could accommodate the increasing demand couldn't be moved forward due to absence of the Board. Historically, meteorological services had setup its facilities on land that belongs to various government stakeholders like NARO, district headquarters, sub -county headquarters and education institutions. However with the establishment of UNMA as a semi- autonomous institution, there are challenges with development of these facilities without formal land ownership.

# 10 CLIMATE CHANGE

## 10.1 Planned outputs for Financial Year 2017/2018

- Climate Change Law for Uganda formulated
- Climate change awareness among 800 political and technical leaders through regional stakeholder engagement workshops.
- Climate Change Focal Point Officers (FPO) in 6 MDAs trained in their roles and responsibilities
- Capacity of Climate Change Department technical staff in critical skills build through three (2) tailor made short courses (Geographical Information Systems, Climate Change Negotiation, Drought and Flood Hazard Mapping)
- Greenhouse Gas Inventory Management System operationalized
- Climate change adaptation and mitigation measures mainstreamed into five (5) MDAs
- Performance of four (4) Clean Development Mechanism projects in Uganda Monitored
- Nationally Determined Contributions Partnership Plan for effective partner coordination prepare and disseminated
- Seven (7) analytical studies to generate information for the elaboration of the Strategic Programme for Climate Resilience SPCR investment priorities conducted.
- International climate change financing mobilized. ($3Million from the Green Climate Fund - GCF for the preparation of the country's National Adaptation Plan –NAP)

## 10.2 Achievements in FY 2017/18

### *10.2.1 Climate Change Law for Uganda formulated*

The National Climate Change Bill, 2017 was prepared in 2016/2017 financial year. However, stakeholder consultations continued into 2017/2018. The bill is currently under review by the Cabinet Secretariat. The record of stakeholder consultative meetings is here below;

i. One national consultative meeting was held in Kampala targeting representatives of Ministries Departments and Agencies.
ii. Four regional consultation meetings targeting representatives of local governments, civil society, the private sector and the media were conducted in Mbarara, Mbale, Mukono and Gulu districts (Eastern region consultative workshop (Mbale) 4- 9 August. 2017, Northern region consultative workshop (Gulu) 8th – 11 August 2017, Western region consultative workshop (Mbarara). 11- 15th August. 2017 and Central region consultative workshop (Mukono) 15th -17th August. 2017)
iii. Private Sector (UNMA, PSFU, Renewable Energy Association, Project Developers, etc.) consultative meeting – 21st August. 2017
iv. Members of Parliament (MPs), including Natural Resources Committee of Parliament and the Parliamentary Forum on Climate Change (PFCC) – 23rd Aug. 2017
v. Civil Society Organizations (CSOs) consultative meeting in Kampala - 22 August 2017
vi. National Climate Change Advisory Committee (NCCAC) in Entebbe 25th August 2017
vii. Water & Environment Sector Working Group in Kampala 28th August. 2017
viii. Permanent Secretaries Forum 5th September. 2017
ix. Policy Committee on Environment (PCE) 7th September. 2017

x. International partnerships for climate action enhanced

### *10.2.2 Climate change awareness raised among 580 political and technical leaders through stakeholder engagement workshops*

i. The process of developing Uganda's Strategic Programme for Climate Resilience was highly consultative involving awareness raising among national and subnational stakeholders. Regional workshops were conducted for central, local government and Civil Society Organizations staff on climate change and disaster risk reduction for Toro, Sebei and Bugisu sub regions. The workshops were focused on technical staff capacities in relation to climate financing; flood control, urban resilience; monitoring and evaluation of climate change programs, use of climate information, and climate resilient infrastructure among others. The objectivities for these activities were to support district technocrats to plan and budget for climate change. In additionally, the following documents were developed and will be launched during the Water and Environment Joint Sector Review of 2018;

ii. Standard National Climate Change Indicators and indictor reference sheets were developed
iii. National Climate Change Communication Strategy for Uganda developed
iv. Summary Version of the National Climate Change Policy was prepared

### *10.2.3 Climate Change Focal Point Officers (FPO) in 6 MDAs trained in their roles and responsibilities*

The training focused on building the competence of the Climate Change Focal Point Officers (FPO) in 6 MDAs in the use of the National Climate Change Indicators and the Performance measurement Framework. This training took place in Jinja district.

### *10.2.4 Capacity of CCD staff in critical skills build through three (3) tailor made short courses.*

Nine (9) technical staff received skills enhancement training in Geographical Information Systems (GIS) while the same number also received training in Climate Change Negotiations

### *10.2.5 Greenhouse Gas Inventory Management System operationalized*

Measurement of the greenhouse gas emissions is an obligation imposed upon Uganda by the Paris Agreement, 2015. A capacity building and skills enhancement training was carried out for technical staff from four (4) sectors (Energy, AFOLU, IPPU, and Waste) that are data sources for the National Greenhouse Gas Inventory Management System. This training was held in Jinja between 13$^{th}$ and 16$^{th}$ February 2018. 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.

iii. Formulate greenhouse gas data sharing protocols between Climate Change Department – the overall coordinator of the inventory system and the respective sectors that contribute the vital data for the inventory management system.

Sectors Climate change adaptation and mitigation measures mainstreamed into five (5) MDAs

Climate Change mainstreaming measures were implemented for the following ministries; Ministry of Agriculture, Animal Industry and Fisheries, Ministry of Works and Transport, Ministry of Local Government, Ministry of Water and Environment and the Coffee Development Authority. Subsequently the following measures were implemented;

i. Climate change focal point Officers representing the five MDAs took part in a refresher workshop to plan and budget for climate change in strategic plans, annual work plans and budgets

ii. Checklists for mainstreaming climate change into local governments were developed

### *10.2.6 Performance of four (4) Clean Development Mechanism (CDM) projects in Uganda Monitored*

The following Clean Development (CDM) projects were monitored;

i. Uganda Municipal Waste Composting Programme – This project is being implemented in 9 municipalities in Uganda. However, 3 were sampled for monitoring including Mbarara, 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.
ii. Bujagali Hydro Power Plant – The project is meeting the Green House Gas emission of about 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 has not affected the project.
iii. Kachung Forest Company – Key findings are that the company is complying with the Sustainable Development Criteria (SDC)) that the Designated National Authority approved. The aspects of the SDC include; Social, Economic, Technology; and Environmental. 114,570 seedlings have been distributed, along with training for local woodlot establishment where 10% of the seedlings are distributed each year to different institutions like schools, hospitals
iv. Kakira Sugar Works – The Company is in the process of developing 1000$cm^3$ bio-digester which will reduce on biomass consumption by Kakira schools and company.

### *10.2.7 Nationally Determined Contributions Partnership Plan for effective partner coordination prepare and disseminated*

Uganda developed her Nationally Determined Contributions (NDC) in 2015. These are commitments mainly in climate change mitigation and adaptation that the country undertakes to implement in order to contribute to the global effort of combating climate change and its impacts. However, there has not been a mechanism of coordinating stakeholders contributing to the implementation of the NDC. The

Nationally Determined contributions partnership plan was prepared and launched in a high level even on 25th July 2018 to provide the necessary mechanism of coordinating stakeholders.

i. More than fifteenth n (15) development partners have already committed to providing technical and financial assistance towards the implementation of Uganda's NDC in both ongoing and new support to Uganda.

### *10.2.8 Seven (7) analytical studies to generate information for the elaboration of the Strategic Programme for Climate Resilience SPCR investment priorities conducted.*

Uganda formulated a Strategic Programme for Climate Resilience (SPCR) and approved it in 2017. The SPCR is a document that identifies and summarizes Uganda's adaptation priorities. The ultimate aim is to turn these adaptation priority thematic areas into bankable projects and submit them to International Climate Change Finance Institutions. In order to produce a viable bankable proposal, detailed feasibility/Analytical studies are a prerequisite to provide the evidence base for the funding proposals. In this regard, seven (7) analytical studies to generate information for the elaboration of the SPCR investment priorities are currently underway including the following;

i. 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.
ii. Building the resilience of the rural Communities through improved conservation and protection of catchment areas and improving water supply, storage and utilization.
iii. Climate resilient landscapes: Assessment of sites and opportunities for catchment-level investments for adaptation to and mitigation of climate change.
iv. Strengthening Hydro-meteorological Services and Early Warning Systems in Uganda: 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.
v. Physical Infrastructure and Urban Resilience: Strengthening Climate Change Resilience of Communities and Infrastructure in Major Urban Centres in Uganda
vi. Assessment of Information Gaps and Opportunities for Strengthening of the National Climate Change Resource Centre, Knowledge Management System (KMS) and Hydro-met Information.
vii. 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

### *10.2.9 International climate change financing mobilized. ($3Million from the Green Climate Fund - GCF for the preparation of the country's National Adaptation Plan –NAP)*

A concept Note/funding proposal was prepared by the Ministry of Water and Environment as the Implementing Entity (IE) and submitted to the Green Climate Fund (GCF) through the United Nations Environment Programme as the Accredited Entity (AE). This Concept note is soliciting for ($3 Million from the Green Climate Fund readiness preparing grants to support Uganda prepare a National Adaptation Plan (NAP).

### 10.2.10 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 2018) and Conference of Parties 23 (CoP23)

## 10.3 Trends of Performance Indicators

### *10.3.1 Percentage change in Uganda's greenhouse gas emissions*

**a) Computation:**
The intergovernmental Panel on Climate Change (IPPC) Tool for estimating Greenhouse gas emissions, Tier 1 will be used to estimate emissions where Emissions = (AD*EF)

**b) Status:**
This indicator was not measured during 2017/2018 primarily due to incomplete source data from the key sectors that comprise the greenhouse gas data sources. However, a draft greenhouse gas inventory report was prepared

**c) Progress towards measurement of the indicator**

A capacity building and skills enhancement training was carried out for technical staff from four (4) sectors that are data sources for the National Greenhouse Gas Inventory Management System. This training was held in Jinja between 13th and 16th February 2018. 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.

iii. Formulate greenhouse gas data sharing protocols between Climate Change Department – the overall coordinator of the inventory system and the respective sectors that contribute the vital data for the inventory management system.

**d) Challenges in measuring the indicator**
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)

### *10.3.2 Percentage Change in Uganda's vulnerability index*

**a) Computation:** Percentage of previous year index – Percentage of current year index

**b) Status:** This indicator was not measured during 2017/2018. The financial resources requirements of carrying out a comprehensive country wide vulnerability assessment outstrips the financial resources currently available at the ministry.

**c) Progress towards measurement of the indicator**
The progress made towards measuring this indicator is captured in section 1.4.1 (a)

# 11 CROSS CUTTING ISSUES

This chapter presents issues that enhance service delivery if considered in the development process. They include gender equality and women empowerment, human rights, HIV/AIDS, and issues of the vulnerable and marginalized. During this financial year, the sector implemented a number of activities of cross-cutting nature as indicated below.

## 11.1 Gender Equality and Women Empowerment

The Uganda Gender Policy 1997 (Revised 2007), and the Second National Development Plan (NDP 11) 2015/16 – 2019/20 mandates all development institutions to promote gender equality and women empowerment while executing programmes and activities. In order to operationalize the above, the Ministry of Water and Environment (MWE) developed a Water and Sanitation Gender Strategy in 2003 (revised in 2010 and 2018) and an Environment and Natural Resources Gender Strategy in 2015 to guide gender equality and women empowerment efforts in the sector. During the review period, a number of activities have been undertaken to promote gender Equality and Women Empowerment as indicated in the following sections.

### *11.1.1 Review of the Water and Sanitation Gender Strategy 2018-2022*

The Water and Sanitation Gender Strategy was reviewed and launched in 2018. The goal of the revised strategy is to empower men, women, boys, girls and vulnerable groups through ensuring equity in access to and control of resources in the water and sanitation sub- sector, contributing to poverty reduction. The new strategy will adopt a multi- sectoral approach where all stakeholders in the sector have a role to play in ensuring that strategic and practical actions are undertaken to enhance gender equality and women empowerment. Departmental strategies and actions to promote gender have been indicated in the new strategy. The revised strategy can be accessed on www.mwe.go.ug.

### *11.1.2 Capacity building in Gender*

***Training in Gender and Equity budgeting***

In a bid to enhance capacity of staff in Gender and Equity Budgeting, 18 (7 male and 11 female) sector staff attended a one day training in gender and equity budgeting. The training was facilitated by gender and equity budget experts from the Equal Opportunities Commission (EOC) and targeted sector Economists and Sociologists. The purpose of the training was to enhance staff capacity in addressing gender and equity issues in the Budget Framework Papers (BFPs). Staff obtained practical skills in mainstreaming gender and equity issues into the budget.

***Training ENR Local Government Staff***

Capacity building has been undertaken for 129 district staff in 43 districts[16]. The trainings targeted District Natural Resource Officers, District Environment Officers, District Wetland Officers and District

[16] Kabarole, Buliisa, Bundibugyo, Bunyangabu, Hoima , Kagadi, Kakumilo, Kamwenge, Kasese, Kibaale, Kyegegwa, Kyenjojo, Mityana, Mubende, Ntoroko Abim, Amudat, Kaabong, Kotido, Moroto, Nakapiripirit, Napak, Bukedea, Amuria, Kaberamaido, Katakwi, Kumi ,Ngora, Serere, Soroti, Buyende, Bugiri, Buikwe, Buvuma, Iganga, Jinja, Kaliro, Kamuli, Luuka ,Kayunga, Mayuge, Namayingo and Namutumba

Community Development Officers. The objective of the training was to empower officers and to disseminate the Environment and Natural Resources (ENR) Gender strategy. The officers were equipped with knowledge and skills that would guide them in undertaking gender mainstreaming across the planning, budgeting, implementation, monitoring and reporting process. The targeted Districts developed action plans to guide gender mainstreaming efforts.

***Sub County Extension staff Training in Participatory Methodologies***

During the review period, the sector undertook capacity building of 122 Sub County Extension Staff from 9 Districts[17]. The purpose of the training was to empower Sub- County extension staff in the use of participatory methodologies that are critical to ensuring community participation, community empowerment, community ownership social inclusion, and use of local resources, knowledge and expertise to trigger attitude change. The officers were provided with participatory tools and the revised handbooks for extension workers.

### *11.1.3 Gender and equity budgeting assessment*

In accordance with Article 32(3) of the 1995 Constitution of the Republic of Uganda (as amended), Section 14 and 15 of the Equal Opportunities Commission Act, 2007 and Section 9 (6) (a) and (b) of the Public Finance Management Act, 2015 (PFMA), the Uganda's Equal Opportunities Commission (EOC), in collaboration with the Ministry of Finance Planning and Economic Development, undertook an annual assessment of Sector Ministerial Policy statements (MPS's). The purpose of the assessment was to ensure that Ministries and Agencies prepare MPS's that are gender and equity compliant.

The assessment exercise was guided by a check list which is in line with the structure of the Ministerial Policy Statements. The sections of focus included; Vote Overview (vote Mission Statement and strategic objectives), Past Performance, Medium Term Plans, Vote Programme performance, Plans for the Ensuing Year and Challenges to addressing Gender and Equity Issues. The above dimensions were assessed with respect to inclusiveness, gender, location, age (youth, children, adults and older persons) and disability among others.

A report[18] from EOC for the MPSs of 2018/19 for the Ministry and Agencies indicates that the Ministry of Water and Environment, the National Environment Management Authority (NEMA), and the National Forestry Authority (NFA), met the minimum score of 50% having scored 74%, 63.7% and 50% respectively. The Uganda National Meteorological Authority did not meet the minimum score, having scored 34.3%.

UNMA therefore needs to revise its planning and budgeting process in order to ensure that the needs for the poor and disadvantaged are addressed during the budgeting process.

[17] Arua, Moyo, Nebbi, Pakwach, Yumbe, Adjumani, Maracha, Zombo and Koboko

18 Assessment Report On Compliance of Ministerial Policy Statements with Gender and Equity Requirements Financial Year 2018/2019 - eoc.co.ug

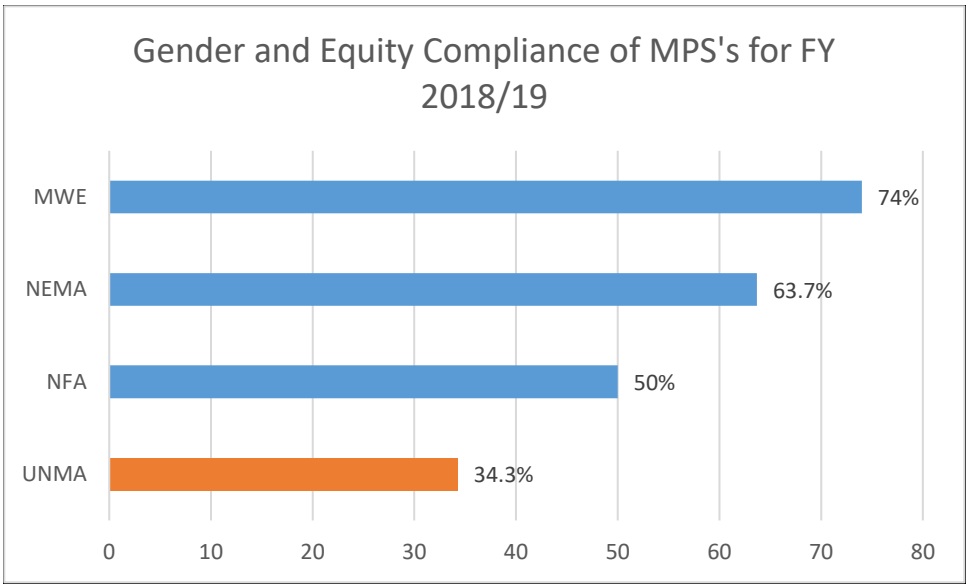



Figure 50: Gender and Equity Compliance of the sector

### *11.1.4 Performance Indicator on Gender*

***Performance indicator for 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 MWE's Water Supply Data Base indicates that the percentage of WSC with women holding key positions remains at 85%, the same percentage reported last year. The stagnation in percentage is attributed to the limited effort by District Local Governments to revitalize dormant WSCs given the limited funding for software activities.

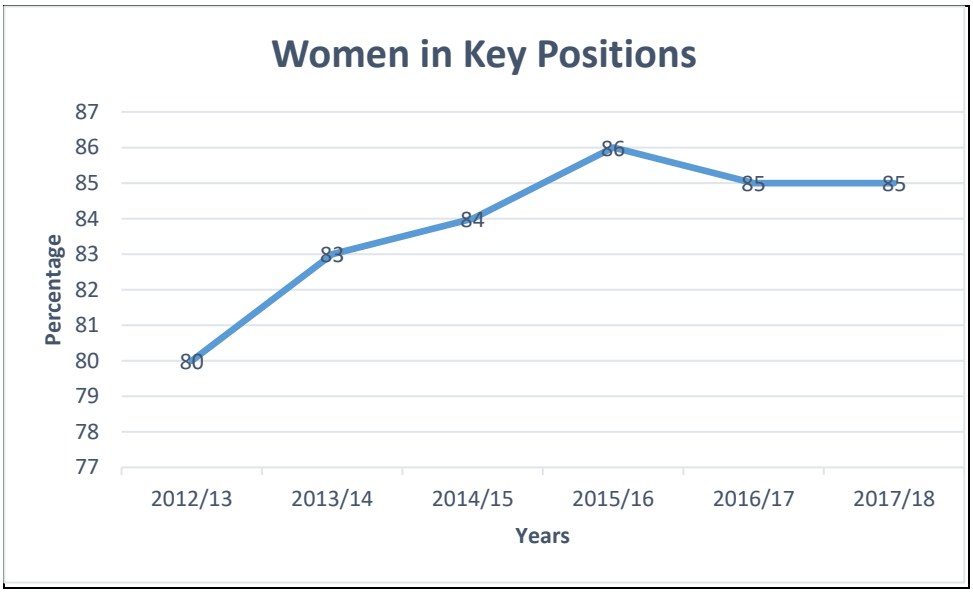



***Figure 51: women in key positions on Water and Sanitation Committees***

***Performance indicator data for Catchment Management Committees***

The Performance indicator for Catchment Management Committees (CMCs) is the Percentage of Catchment Management Committees with women holding key positions. Key positions on CMCs include the position of Chairperson, Vice Chairperson, Secretary and Vice Secretary.

Information from 15[19] CMCs from the Victoria, Upper Nile, Albert and Kyoga water catchments indicates that 53% of CMCs have women holding key positions. The CMCs with women holding key positions include Mpologoma, Awoja, Aswa, Rwizi, Katonga, Kagera, Mpanga and Kiiha.

### *11.1.5 Gender position of staff*

***Ministry staffing***

Employment data indicates that MWE has 338 permanent staff an increment of 6 staff from the 332 staff reported last year. A gender analysis of staff composition indicates that 33% (113) of staff are female and 67% (225) staff are male.

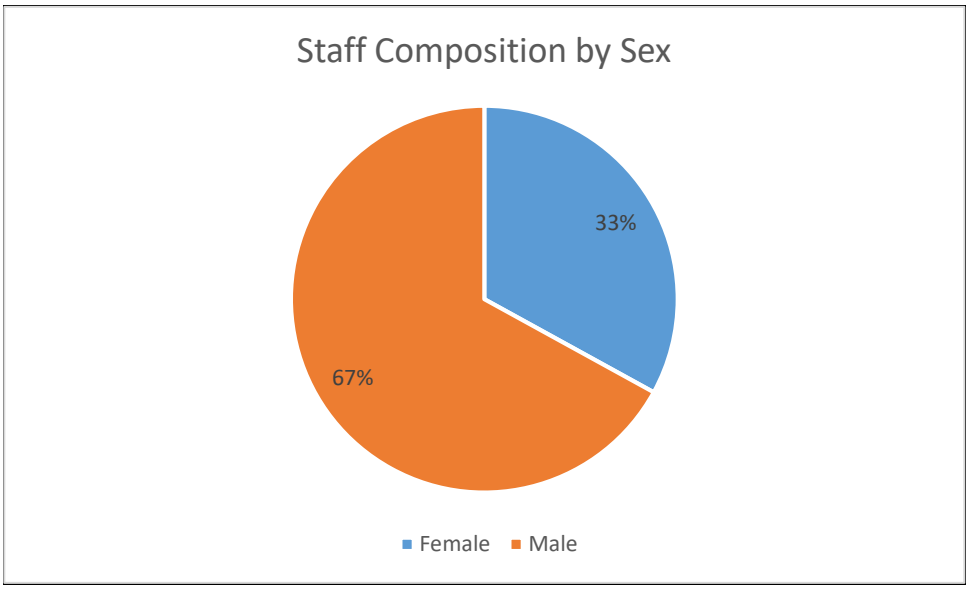



***Figure 52: Gender Composition of Permanent staff***

The gender analysis of permanent staff composition for a period of 5 years (2014 to 2018) indicates that the number of female staff have not significantly improved over the years with a decline in female staff reported in 2018. The details are indicated in the figure 54 below.

[19] Victoria/ Nile, Lumbuye, Mpologoma, Awoja, Lokok, Lokere, Aswa, Albert Nile, Rwizi, Katonga, Kagera-Maziba, Mpanga, Semiliki, Ruhezamyenda, and Kiiha

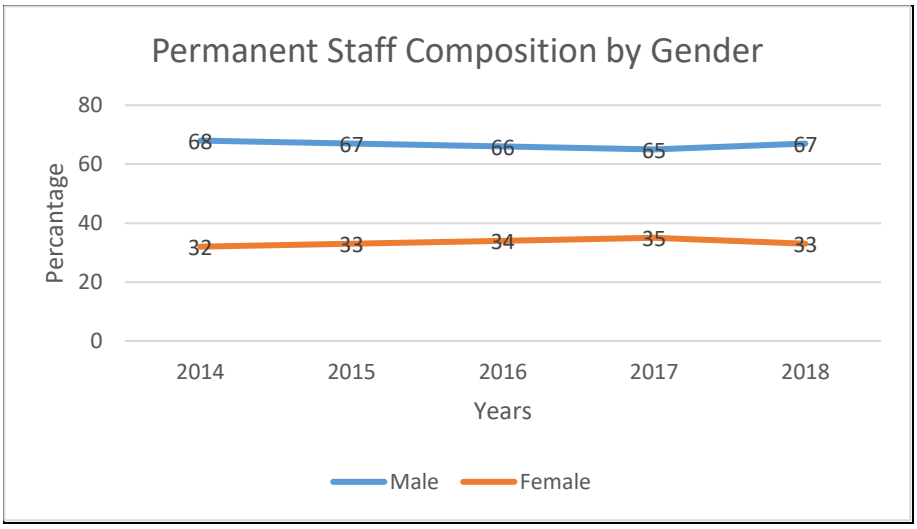



***Figure 53: gender staffing over years***

A gender analysis by management position indicates that there are 38 staff in a top management position of which 16% (6) are female, indicating a slight increase of women representation at top management level[20] from 15% that was reported last year.

At middle management level[21], there are 108 staff of which 21% (23) are female % and 79% (85). The Percentage of female has slightly increased from 20% reported last year to 23% this year. At operational level[22] women are fairly represented with female constituting 47% out of the 96 Staff under this category. The gender analysis of the staffing level is indicated in detail in table 55.

***Table 55: Gender analysis in MWE by position***

| **Staff level** | **Female** | | **Male** | |
|---|---|---|---|---|
| | **No.** | **%** | **No.** | **%** |
| **Top Management** | *6* | 16% | *32* | 84% |
| **Middle Management** | *23* | 21% | *85* | 79% |
| **Operational** | *45* | 47% | *51* | 53% |
| **Support** | *39* | 41% | *57* | 59% |
| **Total** | *113* | | *225* | |

A further analysis of female representation at top management level for the last five years indicates a declining representation from 23% in 2014 to 16% in 2018. The decline in female representation at top management level is attributed to the few number of female staff being appointed on promotion by the Public Service Commission over the years. The details are indicated in figure 55 below.

[20] Positions in U1 salary scale including Assistant Commissioners, Commissioners, Directors, Under Secretary and Permanent Secretary

[21] Principal and Senior officers under scale U2 and U3

[22] Officers under scale U4 and U5

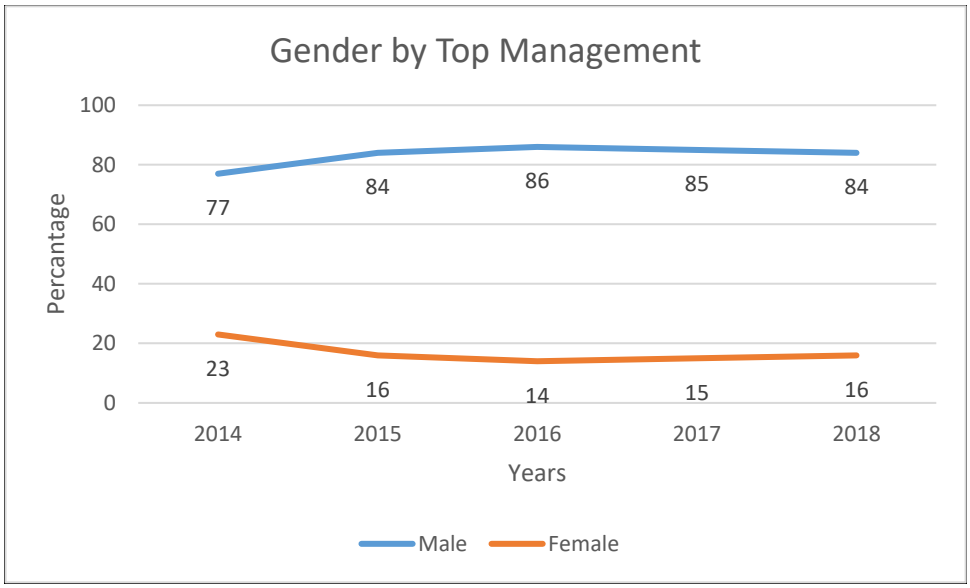



***Figure 54: gender analysis by top management positions***

***Contract staff***

Data from MWE- Human Resource department show that, a total 658 Staff are employed under contract arrangement across all departments. Analysis of sex disaggregated data presented that, 70.6% (465) of staff are male, while female staff compose 29.4% (193). This is majorly attributed to having a few, female qualifying as scientists from Universities. Nevertheless, the Ministry has put in place affirmative action measures by awarding extra points to female vying for positions during the recruitment process

***National Environment Management Authority Staffing***

The Human resource data from NEMA as of June 2018, indicates that NEMA has 99 employees of which 43% (43) are female and 57% (56) are male. Further analysis by management position indicates that there are 24 staff in Top management position, with male staff dominating at 79% (19) and female constituting only 21% (5). The middle level management is female dominated with women constituting 75% under this category.

NEMA should therefore undertake measures towards ensuring that the Authority has more female representation at Top management level if the voices of women and other vulnerable categories are to be reflected in the environment management processes. The presence of more female at the middle level management, provides an opportunity for appointing more women at the Top management position.

***Table 56:Staffing Position at NEMA***

| Level of Management | No. of Males | No. of Female | Total No. of Staff | % Male | % Female |
|---|---|---|---|---|---|
| **Top Management (E1-3)**[23] | 19 | 5 | 24 | 79 | 21 |
| **Middle Management (E-4)**[24] | 8 | 24 | 32 | 25 | 75 |
| **Officers (E-5 )**[25] | 13 | 8 | 21 | 62 | 38 |
| **Support staff (E 6-8 )**[26] | 16 | 6 | 22 | 73 | 27 |
| Total | **56** | **43** | **99** | **57** | **43** |

Women bear the biggest burden in situation of inadequate water, sanitation and environment resources. The poor representation of women in managerial and technical level positions across the sector, means that the needs of the vulnerable and marginalized women and children may not be adequately addressed during the development process.

The Ministry and other recruiting partners, should therefore make deliberate efforts towards ensuring that more women are recruited by putting in place affirmative action measures and promoting a good working environment for women as indicated in the Water and Sanitation Gender Strategy (2018).

### *11.1.6 Gender mainstreaming in forestry*

The Ministry supplied tree seedlings and provided technical backstopping to farmers and farmers groups within the Water Supply and Sanitation Project area. The activity was aimed at enabling the conservation of environment in the project area. This was done with emphasis of ensuring that women are involved in the tree planting process. A total number of 44 women benefited in this initiative. Women's involvement is limited by challenges related to the access and control of land in the rural areas.

***Table 57: tree seedlings distribution by sex***

| SN | DISTICT | FEMALE | MALE |
|---|---|---|---|
| **1** | Namisindwa | 15 | 26 |
| **2** | Manafwa | 2 | 32 |
| **3** | Sironko | 3 | 19 |
| **4** | Butalejja | 5 | 18 |
| **5** | Tororo | 1 | 11 |
| **6.** | Budaka | 4 | 19 |
| **7** | Bulambuli | 14 | 29 |
| | **Total** | **44** | **154** |

[23] **E-1 –** Executive Director and Deputy Executive Director**, E-2-** Directors **E-3 –** Principals and Managers

[24] **E-4 –** Senior Officer

[25] **E-5 –** Officers

[26] **E-6-** Senior Administrators and E-7&8 – Administrators

### *11.1.7 Gender mainstreaming initiatives in climate change*

Climate Change Department carried out gender thematic meetings that developed gender action plans that formed part of Uganda's position paper for negotiations at COP23 in Bonn, Germany. This gender action plan is as a result of the extension of Lima Work Program on gender which is meant to improve the participation of women in convention negotiations and in representation of parties in bodies established under the convention. The action plan was released in November in Bonn and is to be operationalized in the country.

The Department has recruited a gender specialist to support the country in engendering the implementation of the Uganda National Determined Contributions (NDC). The NDC was developed in 2016, in compliance with decision 1/CP.19 (Further advancing the Durban Platform: and in particular Paragraph 1 (b&c) and as elaborated in Decision 1/CP.20 (Lima Call for Climate Action and in particular paragraph 11) premised on the Convention and guided by its principles.

The Department Carried out gender sensitive local government awareness on Nationally Appropriate Mitigation Actions (NAMAs) and also carried out an evaluation on the participation of women and vulnerable groups in the clean development mechanism projects in the country. The findings indicated that women and vulnerable groups are involved although at a lower level due to inadequate skills.

### *11.1.8 Gender Mainstreaming Initiatives by National Environment Management Authority (NEMA)*

It is important to note that environmental degradation whether due to human influences (development projects and other human activities) or naturally induced have negative impacts on the population and the most vulnerable segments of the society are women, children, the physically disabled people, the aged and the sick. Most negative impacts of environmental degradation relate to access to and control of natural resources like land, water, food and energy. During the reporting period, NEMA undertook the following activities;

(i) The Authority reviewed environmental and social impact assessment (ESIA) guidelines for purposes of ensuring that social risks including gender, child aspects, labor and other vulnerability issues are comprehensively covered during the ESIA process.
(ii) Through the Kidepo Critical Land Scape Project (KCL) the Authority, 14 women groups from the districts of Kotido, Kidepo, Kitgum, Agago, Otuke and Abim, were trained on diversification and standardization of Shea butter tree products. A total number of 80 representatives of women groups in Agago and Otuke districts were trained in value addition in Shea butter products. A draft Shea butter strategy was developed together with a draft framework for certification of Shea products. The empowered women are now able to provide livelihood support within their households.
(iii) Women empowerment was undertaken through public education/awareness and training programs. Empowerment activities were focused on women responsiveness and participation in environment management activities for both conservation and livelihood.

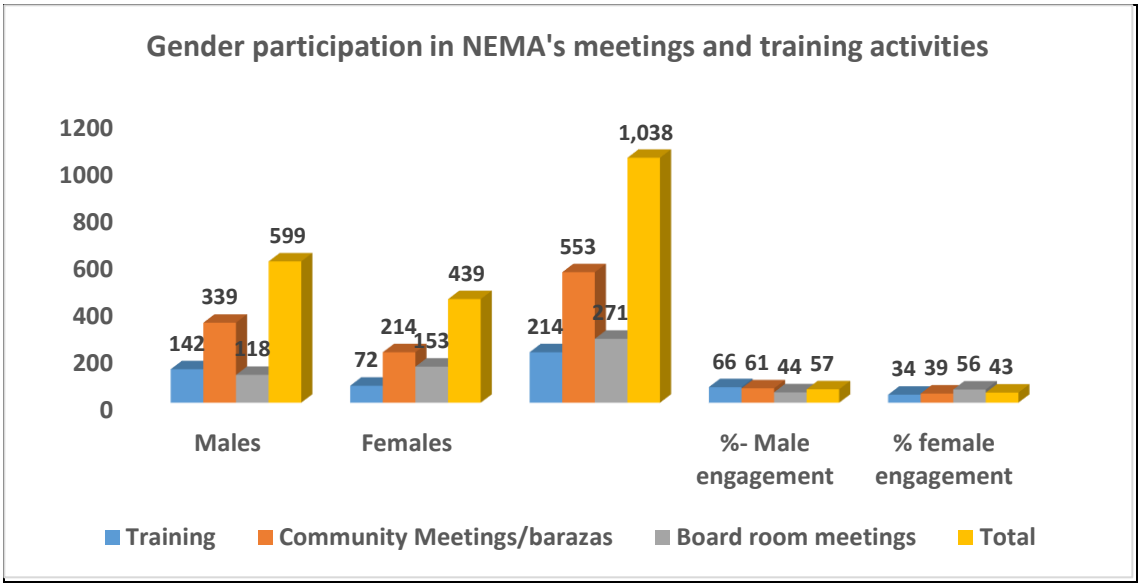



***Figure 55: Gender participation in NEMA meetings and trainings***

The graph above shows that out of the total of people who participated in the key meetings and training programs (workshops) organized by NEMA in FY2017/18, 43% were female participants, while in Board room meetings there were more female participants by 56% implying that more women were involved in decision-making meetings.

## 11.2 Initiatives to support the poor and disadvantaged

In line with the Ministry's Pro Poor Strategy (2006), a number of activities were undertaken to support the poor and the disadvantaged.

### *11.2.1 Sanitation facilities for Schools*

The Ministry constructed 36 sanitation facilities for schools. The sanitation facilities had stances separated for boys and girls as way of promoting privacy and dignity of the girl child. All sanitation facilities have ramps to allow access for the disabled. The 16 benefiting towns include; Looro (2), Pacego (2) Pabbo (8), Macwiini (2), Namukora (2), Lagoro (2), Paloga (2), Palabek (2), Nsika (1), Kayinja (1), Abim(2), Bukedea (2),Nakapiripirit (2) Kibuku(2), Kirenga (2), Irundu (2). The benefiting schools will increase attendance rates and reduced dropout rates for the girl child.

### *11.2.2 Sanitary Pad Incinerators for Schools*

The Ministry has constructed 15 Sanitary Pad Incinerators (SPI) in 14 towns27. The SPI's will help to address Menstruation and Hygiene Management challenges within the benefiting schools. This will help minimize environment pollution as well as help promote hygiene awareness on menstrual hygiene among the girl child. The girls will certainly feel more safe and comfortable at school resulting into more enrollment.

[27] Looro (1), Pacego (1) , Pabbo (2), Macwiini (1), Namukora (1), Lagoro (1), Paloga (1), Palabek (1) Nsika (1),Kainja (1) Abim (1), Bukedea(1), Nakapiripirit (1) and Irundu (1)

### *11.2.3 Sanitation facilities for the poor and vulnerable Households*

The lack of sanitation for poor households perpetuates a vicious cycle of disease and poverty. Communities and households without sanitation facilities have the highest number of deaths of children aged under 5 years as well as the highest levels of malnutrition and poverty, and big disparities of wealth. In the sector bid to enhance access to sanitation for the poor households, sanitation facilities were constructed by WSDFs for poor and vulnerable women and children in 17 towns28. The sanitation facilities are also used to demonstrate ecosan technology within benefiting communities.

### *11.2.4 Public Sanitation facilities for the Urban Poor*

Public sanitation facilities have been constructed for the urban poor in highly populated areas including markets and slummy areas. A total of 17 public sanitation facilities were constructed in 17 towns including 3 towns29 in Northern Uganda and 14 towns30 in Eastern Uganda. The constructed facilities have access ramps for wheel chairs and wide doors to ease entry for the disabled. They in addition have stances separated for women and men to promote privacy and dignity for the women.

### *11.2.5 Kiosks for the urban poor*

The MWE Pro-poor strategy (2006), advocates for the construction of water kiosks or Public Tap Stands for the poor members of the community. The poor cannot afford house connections and may only access water through Public Stand Taps. During the period under review, WSDF's constructed 60 new kiosks/ Public taps in 21 town31

### *11.2.7 Tree nurseries for women and youth groups*

The Ministry has assisted three women and youth groups to establish tree nursery beds and to promote agro forestry, soil water conservation and land management practices. The three groups are located in Zigoti and Ssekanyonyi in Mityana District and Kabwoya in Hoima District. Each group has a membership of 15 members with consideration of women and youth.

The groups have been given hands on training and skills on establishment of nursery beds, caring after them and marketing of the seedlings. The income from the sale of tree seedlings will help to boost/ raise economic status of the women and youth. The planted trees will contribute to the potential of the existing carbon sinks thereby helping in controlling circulation of green-house gases in the environment. Green-house gases are responsible for the human-induced climate change.

### *11.2.8 District initiatives to support the disadvantaged*

MWE has progressively ensured that human right to water and sanitation is realized through ensuring that poor and vulnerable are targeted during the water and sanitation development process. A review of district annual reports 2017/18 indicates that 8 districts undertook special projects to support the poor

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[28] Abim (2), Kapelebyong (3), Nakapiripit(1), Ocapa (2), Kyere (2), Buyende (5), Kagoma (4), Busede-Bugobya (2), Kasambira (2), Irundu(2), Mbulamuti(2), Luuka(2), Buwuni(1), Loro(3), Pacego (3), Pabbo(3), Namukora (1), Palabek-Ogilli(1)

[29] Loro, Pacego, Pabbo,

[30] Kapelebyong, Nakapiripirit, Ocapa, Kyere, Buyende, Kagoma, Namagera, Iziru, Bulegeni, Kaliro, Irundu, Namutumba, Buwuni, and Kapchorwa

[31] Loro, Pacego, Pabbo, Mucwiini, Namukora, Lagoro, Palabek-Ogilli, Paloga, Abim, Kapelebyong, Nakapiripirit, Ocapa, Kyere, Buyende,Kagoma, Busede-Bugoba, Kasambira, Irundu, Mbulamuti, Luuka, and Buwumi.

as is indicated in table below;

***Table 58: District Support to the disadvantaged***

| District | Type of group/Individual supported | Nature of Support | individuals/institutions supported |
|---|---|---|---|
| **Kabale** | People With Disabilities (PWDs) | Extension of Tap stands near households. | 10 people |
| **Kamwenge** | Orphans & Elderly | Construction of 2 Rain Water Harvesting Tanks (RWHTs) | 2 households |
| **Kumi** | PWDs | Construction of sanitation facilities with Ramps | 1 Primary School with 10 beneficiaries |
| **Pallisa** | Orphans &Child headed families in Kerith children home and Omutoi village | Construction of 2 boreholes | 95 Beneficiaries |
| **Kyegegwa** | Kinyinya School of the deaf | Rehabilitation of 1 borehole | 470 Children |
| **Kisoro** | Batwa Community | Provision of Rain Water Harvesting Tank | 2 Households with 18 beneficiaries |
| **Kanungu** | Reformed poachers | Provision of 8 RWHTs | 20 Beneficiaries |
| **Namisindwa** | School Children | Rehabilitation of 3 boreholes | 970 beneficiaries |

### *11.2.9 Training in fish related enterprises*

In the bid to promote sustainable use, management and utilization of water resources, the Ministry trained 53 community groups in fish harvesting, handling, processing and marketing. Table 59 below provides a summary of training initiatives undertaken.

**Table 59: Training of Community groups in fish related enterprises**

| Community Supported | Training areas | No. of Groups Supported | No. of Beneficiaries | No. of Women Supported |
|---|---|---|---|---|
| **Wanseko Landing Site (Buliisa District)** | • Fish harvesting gears<br>• Fish handling<br>• Hygiene and sanitation,<br>• Fish processing,<br>• Fish marketing | 24 | 344 | 126 |
| **Kitebere Landing Site (Kagadi District)** | • Access to Credit and Markets | 13 | 349 | 143 |
| **Nsonga Landing Site** | Silver fish handling, processing, packaging and marketing for local markets. | 16 | 241 | 54 |

## 11.2 HIV/ AIDS Mainstreaming

In line with the Water and Environment Sector Strategy for Mainstreaming HIV/AIDS, the sector implemented the following HIV/AIDS activities.

### *11.3.1 Capacity building/ Sensitization initiatives*

During this reporting period, two sensitization and capacity building workshops for mainstreaming HIV/AIDS and Life style diseases were conducted for sector Local Government [LG] staff in 11districts of TUS 8 comprising of Mbarara, Isingiro, Kigezi, Kanungu, Kisoro, Rukungiri, Kabale, Bushenyi, Sheema, Buhweju, Rubirizi and 8 districts of TSU 1 that comprise of Arua, Maracha, Yumbe, Adjumai, Moyo, Nebbi and Zombo.

As part of the systems strengthening of the HIV and AIDS initiatives in MWE, 3000 copies of sector specific HIV and AIDS Trainer Manual and Participants Handbook were printed. The printed manual and Participants Handbook will enhance sector capacity building efforts towards at all levels.

### *11.3.2 Voluntary Counselling and Testing*

In line with the sector HIV/AIDS strategy the Ministry, with support from partners conducted voluntary HIV counselling and testing for 1708 sector stakeholders (737 Female and 971 male) as indicated in table 60 below. The HIV positive community members were referred to nearest health centers of their choice for enrolment on comprehensive HIV/AIDS treatment and care.

***Table 60: Voluntary Counselling and Testing in towns***

| VENUE/TOWN | MALES | FEMALES | TOTAL |
|---|---|---|---|
| **Loro** | 67 | 71 | 138 |
| **Pacego** | 72 | 30 | 102 |
| **Pabbo** | 48 | 35 | 83 |
| **Palabek Ogili** | 35 | 41 | 76 |
| **Paloga** | 52 | 33 | 85 |
| **Mucwini** | 60 | 25 | 85 |
| **Lagoro** | 32 | 16 | 48 |
| **Namukora** | 40 | 26 | 66 |
| **WSDF-N Office** | 16 | 9 | 25 |
| **Mbulamuti** | 50 | 56 | 106 |
| **Namutumba** | 61 | 46 | 107 |
| **Irundu** | 40 | 33 | 73 |
| **Ocapa** | 34 | 51 | 85 |
| **Kyere** | 55 | 31 | 86 |
| **Buyende** | 60 | 25 | 85 |
| **Kagoma** | 32 | 16 | 48 |
| **Namagera** | 40 | 26 | 66 |
| **Busedde- Buyobya** | 26 | 36 | 62 |
| **Iziru** | 31 | 33 | 64 |
| **Buwuni** | 51 | 48 | 99 |
| **Nakapipirit** | 69 | 50 | 119 |
| **TOTAL** | 971 | 737 | 1708 |

### *11.3.3Local Government HIV/AIDS Initiatives*

A review of district reports indicates that 18 districts implemented HIV and AIDS Mainstreaming activities in Water and Environment Sector. Below are the districts and collaborating institutions.

***Table 61: District HIV/AIDS activities and supporting partners***

| District | Collaborating Partner | Nature of collaboration |
|---|---|---|
| **1.Namayingo** | NUWOG, IDAAC | Voluntary Counseling and Testing (VCT), Sensitization |
| **2.Dokolo** | SUSTAIN, Rights North - Lango | VCT, Sensitization and condom distribution |
| **3.Luweero** | Health Centre | Sensitization and condom distribution |
| **4. Kabale** | Reproductive Health Uganda | Capacity building , sensitization and condom distribution |
| **5. Kalungu** | District Health Office | Condom distribution |
| **6. Kalangala** | District Health Office | Voluntary Counselling |
| **7. Kibuku** | District Health Office | Sensitization |

| District | Collaborating Partner | Nature of collaboration |
|---|---|---|
| **8. Mbale** | District Health Office | Condom distribution |
| **9. Bushenyi** | Health Centre 4 | Condom distribution |
| **10. Mbarara** | ,Hospice Uganda | VCT, sensitization |
| **11. Serere** | Pentecost Assemblies of God | VCT, condom distribution |
| **12. Rubirzi** | District Health Office | VCT, IEC materials, condom distribution |
| **13.Kamwenge** | District Health Office | Condom distribution |
| **14. Kanungu** | LADA, BMCT, AWEC | VCT, sensitization |
| **15. Kaberamaido** | | VCT, condoms, sensitization materials, care and support |
| **16. Amuru** | UNICEF | Funding |
| **17. Nwoya** | District Health Office | VCT, condoms, sensitization materials, care and support |
| **18. Rakai** | World Vision, CIDI | VCT, Funding |

### 11.3 Challenges

- The lack of community workers/ sociologists in the Directorate of Environment Affairs, to advance cross-cutting issues affects the implementation of Gender and HIV/AIDS mainstreaming efforts within the directorate.
- Limited funding to support the implementation of women and youth empowerment activities within the sector.
- Limited capacity to undertaken 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.

The Ministry should recruit/ deploy sociologists across the Environment and Natural Resource Sub sector.

# 12 CIVIL SOCIETY ORGANISATIONS IN WATER AND SANITATION

## 12.1 Introduction

This report documents contributions of Civil Society Organizations (CSOs) to the Water and Sanitation sub-sector in Uganda. It is based on reports from 82 CSOs that made submissions to the Uganda Water and Sanitation Network (UWASNET)**See Annex 13**). The report contains details of CSO financial investment to the sector and performance by key thematic area including trends against historical performance. It also takes account of UWASNET Secretariat activities in support of its members and sector improvements in general. Reporting is also aligned to the newly adopted (FY2017/18) Water and Environment Sector Performance Measurement Framework/Indicators (SPMF).

Most of the data and information used in this report is based on self-reporting by the CSOs, based on the new SPMF to ensure consistency and completeness of information. In addition, to minimize the risk of misinterpretation, training sessions facilitated by UWASNET followed to explain content as part of the data collection exercise and member capacity building to enhance performance reporting. Data triangulation and synthesis by UWASNET further contributed to data quality. To further improve the data capture form and subsequently the data collection, the form will continuously be revised and guidance will be provided to CSOs to improve their reporting in line with the new sector performance indicators. Plans to introduce online bi – annual reporting by CSOs to UWASNET are also underway.

This report is based on submissions from 82 CSOs as compared to 76 CSOs for the FY2016/17 as detailed in annex 1. For this year, 63 of the CSOs are UWASNET members representing 42% of the current estimated active membership of 150. Statistically, this can be taken as a true representative sample of CSO performance for the Government of Uganda Fiscal Year 2017/18.

Reporting trends over the last five years indicate fewer CSOs reporting to UWASNET, for reasons yet to be established. Furthermore, trends over the last three years indicate a decline in the proportion and number of Local NGOs and Faith Based Organizations (FBO), with more international NGOs (INGOs) reporting. To improve CSO sector performance reporting, UWASNET intends to undertake a physical audit to confirm actual active members and to establish causes of low reporting performance. Then, appropriate remedial measures in addition to the planned measures, like increasing reporting frequency to bi-annually and introduction of online reporting, will be implemented.

## 12.2 Investment of CSOs in the Water and Sanitation Sub-sector

### *12.2.1 Total CSO Investments in the Sub-sector*

The Total CSO investment reported for 2017/18 is UGX 91.02 billion. This very steep rise from the fairly consistent 5 year trend, as shown in figure 57 below, is attributed to the reporting of the WASH in Emergency which was not included in earlier years. The reported investment mainly financed WASH interventions in non-emergency settings with 60% of the total funds spent by CSOs.

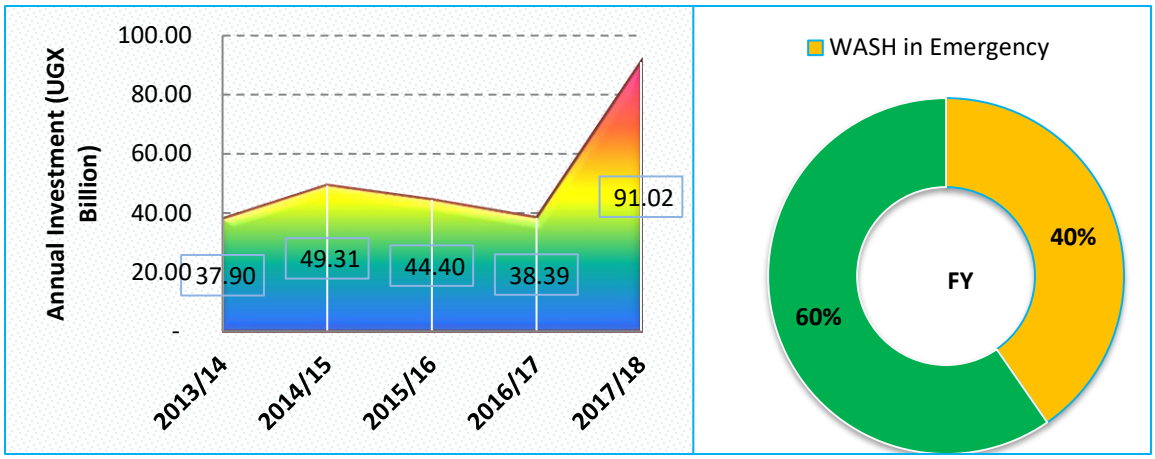
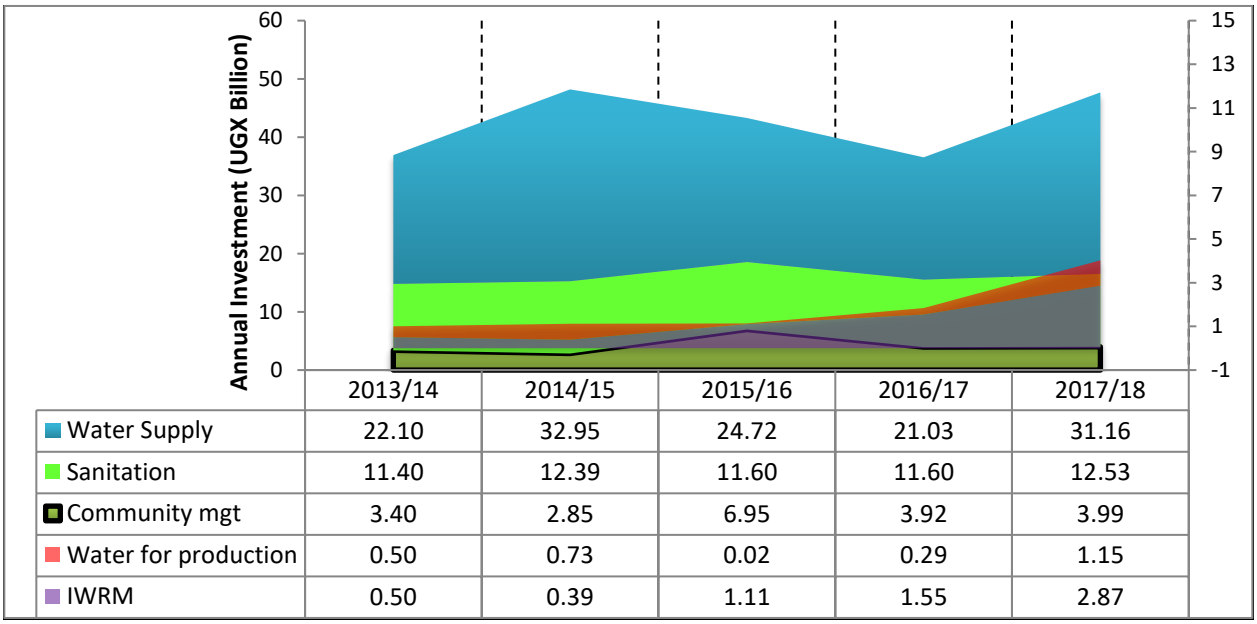



***Figure 56: CSO Expenditure profile and trends***

The above spike notwithstanding, excluding WASH in Emergency, which takes up 40% of 2017/18 investments, allocations for other thematic areas remain in line with prior years – led by water supply and followed by sanitation. The investment profile in figure 58 for investment in non-emergency WASH shows a general increase in investment across all thematic areas especially when compared to FY 2016/17 investments.




| | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|
| Water Supply | 22.10 | 32.95 | 24.72 | 21.03 | 31.16 |
| Sanitation | 11.40 | 12.39 | 11.60 | 11.60 | 12.53 |
| Community mgt | 3.40 | 2.85 | 6.95 | 3.92 | 3.99 |
| Water for production | 0.50 | 0.73 | 0.02 | 0.29 | 1.15 |
| IWRM | 0.50 | 0.39 | 1.11 | 1.55 | 2.87 |

***Figure 57: Annual CSO sector financing trends***

The second phase of The Joint Water and Environment Sector Support Program (JWESSP II), currently under preparation, identifies three tiers of sector funding. CSO funding can be categorized under tier-1/level one - the total water and environment sector funding, both off- and on- budget. The current CSO investment closely matches financing allocated by most of the individual development partners for JWESSP II, thus illustrating the significant role and contribution of CSOs to the sector.

### 12.2.2 Investments in Water Supply Infrastructure

***Financing Water Supply Infrastructure***

CSOs remain committed to contributing to the Uganda SDG 6.1 target and continue to make significant investments in water supply infrastructure with a total of UGX 31.16 billion reported by 52 CSOs during FY2017/18. The investment trend over the last 5 years reflected in figure 60 below indicates a general increase across the period, despite a decline in FY2016/17. This reporting period in particular has seen a 48% increase in investment from the last year.

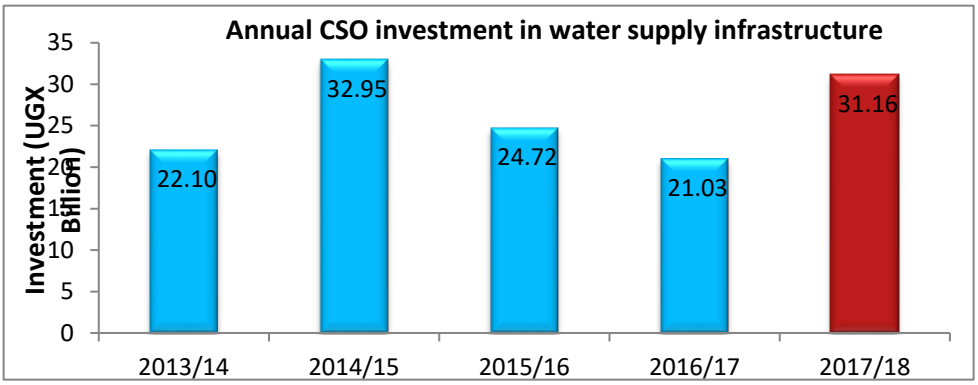



***Figure 58: Annual CSO investment in water supply infrastructure***

The FY2017/18 investment profile in figure 60 below indicates that 82% of the funds were spent on boreholes and piped water systems. With 59% of total water infrastructure investments spent on construction of these systems and 24% on rehabilitation/ repair.

This investment level reflects CSO focus and continued commitment towards improved levels of service for water supply and thus realization of the SDG 6.1 targets. Additional investment in water supply for refugees was made by CSOs, as detailed in section 12.4

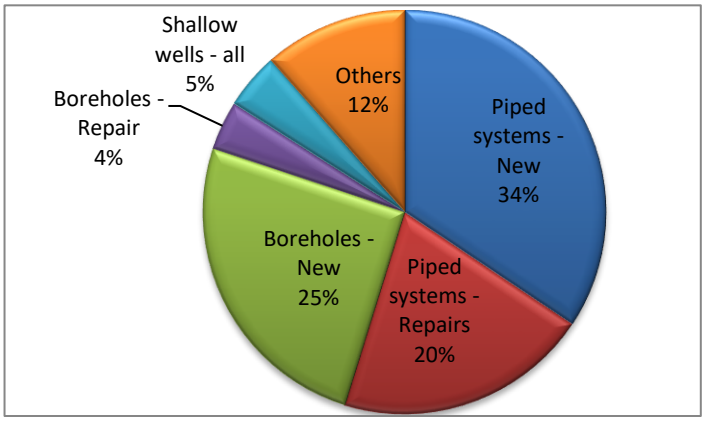



***Figure 59: Investment by water technology***

***Water Supply Infrastructure Development Interventions***

The above reported investment financed construction of 1603 new water supply facilities and rehabilitation of 1584 existing ones. Further, as shown in table 62 below, the infrastructure investments mainly targeted household level, with only 11% of facilities invested intended for institutions.

***Table 62: Water Source Details***

| Category | Water source | New systems/ facilities | | Repaired/ Rehabilitated | | Total |
|---|---|---|---|---|---|---|
| | | Household | Institution | Household | Institution | |
| **Point sources** | Boreholes | 750 | 31 | 1147 | 69 | 1997 |
| | Shallow wells | 179 | 2 | 297 | 25 | 503 |
| | Springs protected | 46 | 1 | 11 | 0 | 58 |
| **Piped systems** | Pumped | 24 | 6 | 18 | 7 | 55 |
| | Gravity flow | 4 | 0 | 10 | 0 | 14 |
| **Other** | RWH Systems | 363 | 197 | 0 | | 560 |
| **Total Facilities** | | **1366** | **237** | **1483** | **101** | **3187** |

From the type of infrastructure provided, it is apparent that CSO investments largely target rural areas. The technology profile shows that 92% of the new facilities provided have a rural focus, including point water sources (boreholes, shallow wells and springs), roof top rain water harvesting (RWH) systems and gravity flow schemes (GFS). There was also significant CSO investment in piped water systems, during the year, a total of 34 new piped systems were financed and rehabilitation undertaken on 35.

***Water Supply Infrastructure Maintenance***

In a bid to increase functionality levels, CSOs invested in rehabilitating over 1,500 point sources of which 78% were boreholes, the latter at an average unit cost of about UGX 1 million. The high numbers however, also draw attention to the reduced functionality and thus sustainability of these facilities often under community management. A similar level of investment in rehabilitation works is noted in the previous years. In particular, a total of UGX 3.54Bn has been spent in rehabilitation of boreholes in the last three years. Reports indicate that majority of the CSO borehole rehabilitation works were undertaken in the Lango and Acholi, West Nile and Busoga regions with intervention areas largely within the districts last reported with low functionality. The approach to sustainability of these point water sources will require contextualized solutions and a paradigm shift if communities are to continue to adopt these technologies, especially in the short term while they remain the most feasible level of service for safe water supply to rural communities.

## 12.3 Investment in Sanitation and Hygiene

CSOs reported interventions in Faecal Sludge Management (FSM) with a key focus on the containment stage of the FSM chain through direct provision of toilet infrastructure and hygiene and sanitation

promotional activities as detailed below. Minimal investments in treatment and disposal stage were also made, for example; AMREF supported the construction and management of a faecal sludge treatment facility in Kitgum town, and Water for People supported the setting of the faecal sludge treatment product line in the sanitation market for Kabarole.

### *12.3.1 FY 2017/18 Financial Investment in Sanitation*

Investment in sanitation for FY2017/18 was UGX 12.53 billion with a fairly even split between basic and safely managed sanitation[32]. The current investment level represents an eight percent increase from the last reporting year (FY2016/17). It is the highest over the last five years, but still within a stable range from UGX 11.4 to 12.5 billion, as shown in figure 61 below.

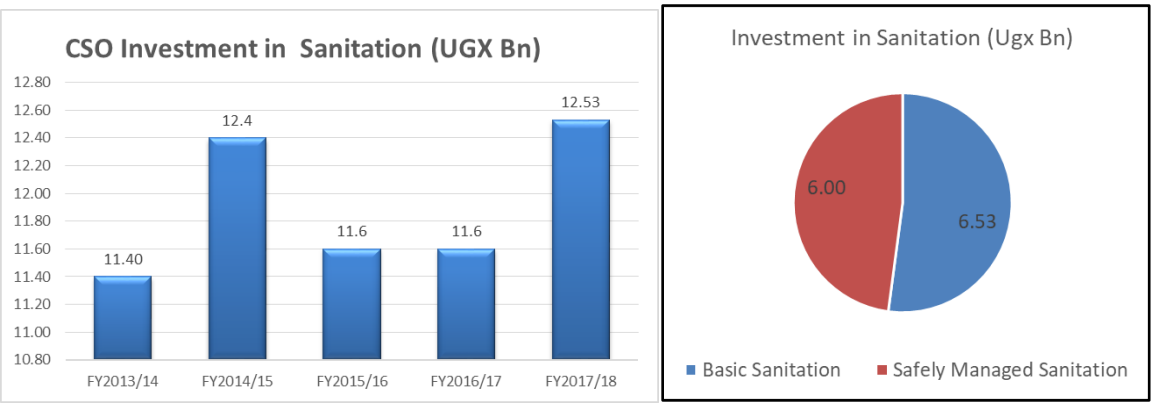



***Figure 60: CSO Investment in Sanitation***

Investment in VIP toilets accounts for almost 50% of the total reported investment in sanitation, with the bulk (35%) spent on drainable VIPs. Within the safely managed sanitation category, drainable VIPs also account for 73% of the investment made. Investment in traditional pit latrines (TPL) with Sanplats, although considered basic sanitation, has the widest reach with minimal investment of UGX 1.87 billion for 684,193 facilities as shown in figure 62 below.


***Figure 61: Investment by sanitation category and technology***

[32] In line with the SDG indicator definitions, basic sanitation refers to the use of improved sanitation facilities (hygienically separate excreta from human contact) which are not shared with other households while safely managed sanitation also includes safe disposal, including treatment of waste from unshared improved sanitation facilities.

Majority of these TPLs were reported in refugee host districts, and are considered part of the efforts to improve the WASH situation therein, this in addition to activities reported under section 2.4 below for interventions largely in refugee settlements.

### *12.3.2 Sanitation Infrastructure*

A total of 688,229 sanitation facilities were constructed by CSOs in FY17/18. Technologies promoted are largely of the drop and store type as shown in table 63 below; these accounting for 99% of the total number of facilities provided in the year. For safely managed sanitation, technologies at the upper end of the sanitation ladder (water closet systems) account for 80% of the total number of facilities provided under this classification. CSO investment in safely managed sanitation and the corresponding number of facilities provided (2,365) is well aligned with the SDG 6.2 indicator requirements.

***Table 63: CSO investment in Sanitation infrastructure FY 2017/18***

| Sanitation Category | Facility | No. of Facilities | | | | Investment (UGX Bn) |
|---|---|---|---|---|---|---|
| | | HH | Inst. | Public | Total | |
| Basic Sanitation | TPL with Sanplats | 684,178 | 14 | 1 | **684,193** | 1.87 |
| | VIP Latrine | 790 | 108 | 11 | **909** | 1.61 |
| | Ecosan Toilets | 20 | 25 | 0 | **45** | 0.62 |
| | Other-Basic | 713 | 4 | 0 | **717** | 2.43 |
| Safely Managed | Water Borne Toilet | 1,735 | 12 | 8 | **1,755** | 0.94 |
| | Pour Flash Toilet | 103 | 11 | 20 | **134** | 0.19 |
| | Drainable VIP | 11 | 160 | 5 | **176** | 4.40 |
| | Other-Safely Managed | 300 | 0 | 0 | **300** | 0.47 |
| **Total** | | 687,850 | 334 | 45 | **688,229** | **12.53** |

### *School Sanitation*

CSOs contributed to improvements in school sanitation through provision of latrines with due regard to gender and inclusiveness as shown in table 64. In the last reporting year, the average national pupil stance ratio was reported at 71:1 against a national recommended standard of 40:1, this year's CSO investments in 1850 Latrine stances of which 64% are for females, will contribute to improving this ratio and thus better sanitation for school populations. Considering the recommended pupil stance ratio, these facilities translate to a beneficiary population of 74,000 pupils.

***Table 64: School sanitation facilities provided***

| Stance | Use category | Basic Sanitation | Safely Managed Sanitation |
|---|---|---|---|
| **School Latrine Stance** | Pupil - Male | 326 | 247 |
| | Pupil - Female | 441 | 647 |
| | Teacher - Male | 3 | 26 |
| | Teacher - Female | 4 | 68 |
| | PWD - Male | 41 | 52 |
| | PWD - Female | 44 | 52 |
| **Changing Room** | Female | 82 | 87 |

### *12.3.3 Hygiene and Sanitation Promotion*

Data from reporting CSOs indicated several approaches used for hygiene and proper sanitation promotion including CLTS and its variants (follow up Mandona and Mandona Plus), PHAST, PVCA, UMOJA, Home visits, Cluster, home improvement campaigns, and sanitation. The CLTS approach and its variants is the pre-dominant approach yielding significant results. CSOs like Rural Initiative for Community Empowerment West Nile (RICE-WN) were able to realize ODF status for 17 of the 40 villages triggered during the year, using the follow up Mandona approach. In addition to promotion campaigns, hand washing facilities (HWF) were installed at different locations in districts of CSO operation, as detailed in table 65 below.

***Table 65: Hand washing facilities provided***

| Use category/location | House Hold | School | Health Facility | Public Place | Total |
|---|---|---|---|---|---|
| **# of complete HWFs provided** | 55,300 | 711 | 63 | 15 | 56,089 |

## 12.4 Water and Sanitation for Refugees and Host Communities

This is the first year of reporting separately on this thematic area. Uganda has seen an influx of refugees over the last year with a total of over one million refugees and asylum seekers reported in 2017 of which about 70% are resettled in the West Nile region[33]. This has resulted in sustained presence of humanitarian and emergency response organizations in host communities. CSOs are major players, making significant contributions in resettling and providing basic services to this population in line with

[33] Figures based on OPM/UNHCR reports

the Uganda refugee policy 2016. Investment amounting to UGX 36.74 billion was reported by 13 CSOs out of expected 37 CSOs[34], for investments in (i) water supply provision through trucking, borehole and shallow well installations, school RWH tanks and powered borehole piped water systems and (ii) sanitation and hygiene promotion and (iii) Menstrual Hygiene Management (MHM), including training school pupils on sanitary pad production in the refugee settlements and host communities in the host districts of Arua, Adjumani, Ntoroko, Yumbe, Kiryandongo, Lamwo, Kyegegwa, and Moyo

It was reported that at least UGX 2.26 billion was spent on water trucking; equivalent to about seven percent of the total water supply infrastructure investment costs reported under section 2.1. With the emergency situation easing, and the shift towards provision of more permanent infrastructure/water supply systems, it is anticipated that progress towards realization of the SDG 6.1 targets in these locations will be accelerated. However, O&M continues to remain a sector challenge and particularly in refugee settlements given their unique characteristics often requiring transition from emergency to normalized contexts. GoU is developing an O&M framework to define and harmonize WASH service delivery models and interventions. Research by Action against Hunger on 4 different models (all call for payment for water by refugees) provides good input to defining feasible models and their implementation.

## 12.5 Integrated Water Resources Management

### *12.5.1 Investment in Integrated Water Resources Management*

CSO investment in Integrated Water Resources Management (IWRM) has been on a positive trajectory in line with the growth trend of CSO investment in the Water and Sanitation sub-sector. This year has seen 85% rise in amounts invested by CSOs in IWRM, reflecting an alignment with the sector direction of a catchment based planning approach to water resources planning and development.

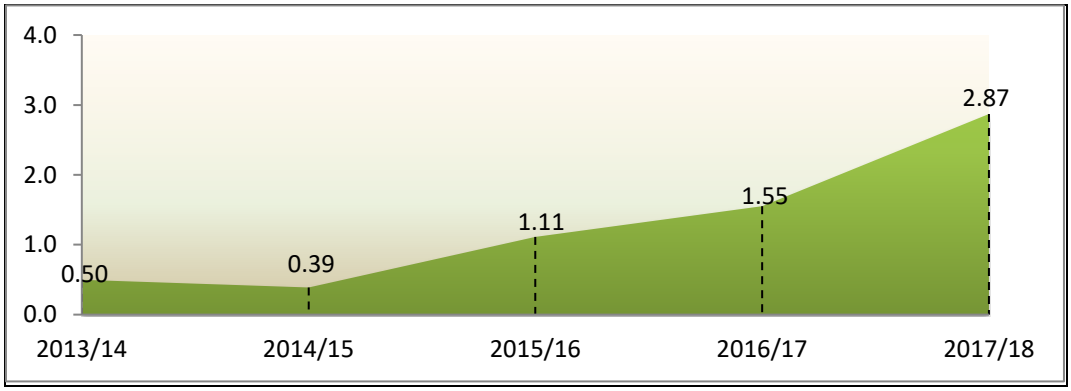



***Figure 62: CSO Investment in IWRM***

### *12.5.2 Water Resources Management Activities*

CSOs reported investments in restoration, livelihood and policy support activities. Activities financed during the year included wetland and river bank restoration activities, agro-forestry briquette making, energy saving stoves and with a total of over 700,000 people reached in the Awoja, Aswa, Rwizi, Victoria Nile, Upper Nile, Mpologoma, Mpanga , Semuliki, Lokok/ Lokere, Ruhenzamyenda and Maziba catchments. The progress by CSOs in processing and reporting on abstraction permits coupled with

[34] As per UNHCR Report

interventions listed above are a good starting points to ensure sustainable ground water development for continued benefit of communities.

### *12.5.3 Water Quality Management*

The CSO reported interventions in water safety planning and several training events on proper sanitation and O&M that should contribute to improving water quality. CSOs also contributed to improvement of water quality at the final consumer points. This year, UGX 0.14 billion was invested for a total of 301 water filters, 130 at household and 171 at institutions. These are intended to improve final drinking water quality thus reduction of the associated disease burden of poor quality water.

### *12.5.4 Water for Production*

Investment in water for production has been inconsistent over the years. This year presented a very sharp increment in investments in water for production of close to three (3) times increment from reported expenditure in FY2016/17. The investment areas and number of projects in water for production are summarized in table 66 below. These investments were reported by 8 CSOs including Agency for Cooperation and Research in Development (ACORD), Adventist Development and Relief Agency (ADRA), Busoga Trust, Christian Engineers in Development (CED), Global Aim, International Institute of Rural Reconstruction (IIRR), Partners for Community Health and Development Organization (PACHEDO) and World Vision.

***Table 66: Details of Water for production investments***

| Output | Irrigation systems installed | Associations formed | Valley tanks constructed | Dams constructed | Tanks/ Dams rehabilitated | Fish farmers supported | Livestock farmers supported |
|---|---|---|---|---|---|---|---|
| **Number** | 18 | 63 | 14 | 1 | 7 | 6 | 7700 |
| **Cost ( UGX Million)** | 342.02 | 6.00 | 708.27 | - | 19.00 | - | 78.50 |

### *12.5.5 Capacity Development and Community Management*

Capacity development is a core element of CSO interventions to enhance sustainability, knowledge transfer and adequate stakeholder engagement. CSOs continued to invest heavily in community management through targeted community engagements, training as well as advocacy and lobbying. The over 1500 point water sources rehabilitated during the year and efforts to equip communities including hand pump mechanics and WASH committees (including in schools) with entrepreneurship skills in WASH are additional efforts towards facilitating community sustainable management.

### *12.5.6 Investment in Training/Community Management*

A total UGX 3.98 billion was spent on several training events covering various topics like hygiene and sanitation promotion including approaches like CLTS and PHASE, entrepreneurship, VSLA, O&M of water and sanitation infrastructure, school sanitation including CHAST and SLTS, Menstrual Hygiene Management (MHM) as shown in table 67 below. Training on O&M had the largest expenditure line

accounting for 35% of the total expenditure. The events benefited 254,133 people including community members, CSOs, local government staff and private sector. Community members were the largest beneficiary category for the 174 training events recorded under this stakeholder category. Private sector training was mainly on entrepreneurship and skills for sustainable O&M; beneficiaries included hand pump mechanics and local artisans. Government staff training was on CLTS.

***Table 67: Investment in training/ community management***

| Training topic | Male | Female | Total | Expenditure (UGX) |
|---|---|---|---|---|
| **Hygiene & Sanitation** | 33,628 | 59,129 | 92,727 | 150,820,665 |
| **IWRM** | 13,665 | 13,849 | 27,549 | 600,326,400 |
| **Water Supply** | 12,562 | 14,294 | 27,140 | 693,193,800 |
| **CLTS** | 11,439 | 13,232 | 24,671 | 72,781,000 |
| **O&M** | 10,914 | 9,285 | 22,937 | 1,399,775,200 |
| **WASH** | 7,938 | 11,520 | 20,213 | 115,226,550 |
| **MHM** | 2,858 | 7,398 | 10,256 | 64,927,500 |
| **Other** | 3,437 | 3,840 | 7,118 | 101,579,000 |
| **Climate** | 3,279 | 3,455 | 6,734 | 133,147,200 |
| **School Sanitation** | 1,949 | 2,094 | 4,039 | 95,410,500 |
| **Sanitation** | 1,779 | 2,192 | 4,031 | 38,690,000 |
| **Advocacy** | 677 | 516 | 1,193 | 25,800,000 |
| **VSLA** | 493 | 669 | 1,162 | 27,746,500 |
| **Entrepreneurship** | 455 | 582 | 1,077 | 49,794,250 |
| **Data Collection** | 439 | 473 | 962 | 34,219,674 |
| **Management** | 333 | 370 | 716 | 93,519,031 |
| **Agriculture** | 407 | 274 | 681 | 253,951,900 |
| **Waste Management** | 191 | 398 | 589 | 2,310,000 |
| **VHT** | 174 | 164 | 338 | 27,700,000 |
| **Grand Total** | **106,617** | **143,734** | **254,133** | **3,980,919,170** |

*total participant figure not harmonized with gender disaggregation due to incomplete records

There has been a fairly inconsistent trend in amounts reported for community management/ training over the last 5 years as shown in figure 64. A slight increase of about UGX 200 million is reported this year from amounts reported in the FY2016/17.

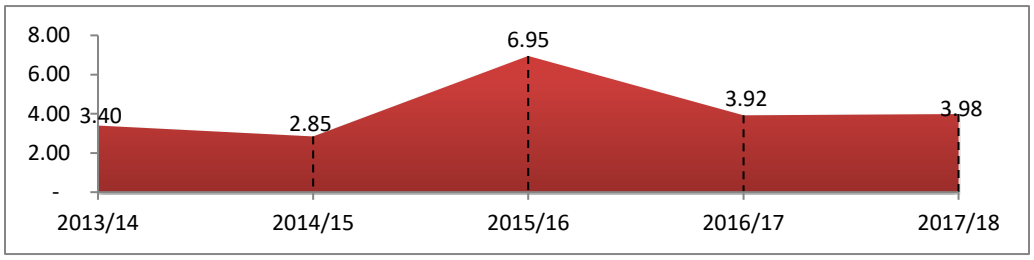



***Figure 63: Annual CSO investment in community management***

### *12.5.7 Research and Development (R&D)*

Research and development of solutions to address sector challenges and contribute to improvements in service delivery is a component of CSO work. The reported R&D was undertaken in the thematic areas summarized in table 68 below with a total of UGX1.14 billion.

***Table 68: CSO Investment in Research and Development***

| Thematic Area | No. of R&D pieces | Expenditure |
|---|---|---|
| **Functionality of Water Supply Systems** | 8 | 377,203,990 |
| **Functionality of Sanitation Facilities** | 9 | 144,395,544 |
| **Water Quality** | 7 | 148,180,000 |
| **Innovative Technologies** | 4 | 474,000,000 |
| **Total** | **28** | **1,143,779,534** |

## 12.6 Cross-cutting Issues

### *12.6.1 HIV/AIDs mainstreaming*

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 and reduction of walking distances reduces women and the girl child vulnerability to HIV/AIDs through rape and/ or compromised situations.

### *12.6.2 Coordination and Collaboration*

CSOs continue to report the collaboration registered in FY2016/17 and prior years. Formalized collaboration arrangements in the form of Memorandum of Understanding (MoUs) and partnership exist for most of the CSOs. MoUs are most widely used instrument and largely with District Local Governments in the districts of operation with a range of 10-100% CSOs budget being reflected in the

district budget. Major partners include District Local Government, CSOs, Central Government and Private Sector as detailed in table 69. Collaboration with these partners is majorly on aspects of planning and implementation of WASH activities and IWRM. Collaboration arrangements with Central Government include with the Water Management Zones (WMZs) for IWRM interventions, while partnerships reported mainly relate to project implementation. Private sector collaboration is for provision of specialized services including contractors, consultants and suppliers.

***Table 69: summary of collaboration arrangements***

| Type of Collaboration Instrument | Number of CSOs | | Key Partners | Frequency |
|---|---|---|---|---|
| MoU | 39 | | District Local Government | 38 |
| Partnership | 12 | | Civil Society Organization | 37 |
| MoU & Partnership | 5 | | Central Government | 16 |
| Other | 1 | | Private Sector | 8 |
| None | 8 | | Institutions | 5 |
| | | | NWSC | 1 |

***Coordination with other Stakeholders***

Nearly all CSOs reported some level of stakeholder engagement, most of which is with communities as shown in table 68 above. On average each reporting CSO engages on the different topics at least once a year. The frequent attendance of sector related and planning meetings demonstrates good coordination with stakeholders and further affirms the above-mentioned collaborative arrangements. Attendance of UWASNET Thematic working groups' meetings was dismal, with 90% of reporting members rarely attending, similar performance was registered on engagements with Ministry of Water and Environment (MWE) regional structures, private sector, Parliament and attendance of regional level meetings organized by WASH actors.

***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 as summarized in table 70 below.

***Table 70: Advocacy and Lobbying events and beneficiaries[35]***

| Thematic area | No of Events | | Beneficiaries | | |
|---|---|---|---|---|---|
| | Awareness | Dialogue | Male | Female | Total |
| **Water Supply** | 136 | 178 | 8879 | 9465 | 18848 |
| **Sanitation and Hygiene** | 543 | 387 | 33865 | 36738 | 76371 |
| **IWRM** | 65 | 48 | 28016 | 23938 | 51984 |
| **Water for Production** | 8 | 0 | 276 | 247 | 523 |
| **Policy** | 40 | 8 | 1445 | 1242 | 2687 |
| **Gender** | 205 | 278 | 1145 | 1312 | 2376 |
| **Equity** | 93 | 81 | 573 | 875 | 1448 |
| **HIV/AIDs** | 108 | 55 | 1893 | 2159 | 4052 |
| **Good governance** | 117 | 39 | 1926 | 1943 | 3879 |
| **Total** | 1315 | 1074 | 78018 | 77919 | 162168 |

### *12.6.3 Gender*

CSO activities reported allude to gender mainstreaming/targeting as evidenced by the gender disaggregated reporting on beneficiaries for example for training events and other stakeholder engagements. Further, statistics on school sanitation indicate separate stances for males, females and disabled user categories as detailed in table 69 above. Gender was also a key thematic area for the advocacy and lobbying events undertaken, these reaching out to 2,376 people of which 55% were female.

### *12.6.4 Equity*

CSOs continued to prioritize equitable service provision in their operations. Interventions are geographically spread across the country and to communities with the least coverage figures for example in northern Uganda. As with gender, equity is a key advocacy agenda and during the year, 174 events were undertaken that reached out to 2376 participants. The focus is further reiterated by the specific interventions to provide water and sanitation services to persons with special needs as reported under the section on WASH for refugees including Drainable VIP toilets for person with special needs, child friendly latrines, modifications of boreholes to suit persons with disability, and fishing communities including for Voluntary Action for Development (VAD) in Zzinga and Kituufu islands. The increased collaboration with districts reflected by MoUs is anticipated to result in improved equity of service provision.

[35] Total participant figure not harmonized with gender disaggregation due to incomplete records.

## 12.7 Recommendations to the Sector

**Management and operations of water systems:** There is need to provide guidance to all stakeholders on the sector position regarding O&M of rural water supplies drawing on persistent challenges of the CBMIS service delivery model and ongoing O&M work by all sector players to contribute to improved functionality of rural water supply systems and thus improved coverage. Models like the "service maintenance contracts" in Apac district by International Lifeline Fund, "pay as you fetch" at boreholes promoted by Water for people in Kamwenge districts, also adopted in Kabarole district, and PPP arrangements with service contracts promoted by WHAVE solutions can be further explored. In addition, consideration of umbrella authority management for the piped water systems constructed and upgrading point water sources should be done and MWE should disseminate lessons from the first year of the umbrella authority model and provide guidance to sector players on the envisaged contributions for sustainability of piped water supply systems in small towns and rural areas.

**Knowledge and Information exchange:** There is need to provide practical guidance to all stakeholders on the calculation methodology for the new Sector Performance Measurement Framework (SPMF) indicators and updating the MWE management information system as appropriate. MWE needs to also share information on the state of water resources to sector stakeholders, including providing advice and capacity development services related to investment in ground water development, as well as increased coordination of refugee response work.

**Regulation of Urban Water:** One of the major challenges still facing the urban water and sanitation sub-sector is the inadequate framework to effectively regulate the sub-sector to improve service delivery while protecting the interests of consumers as well as those of the public and private parties. The need to focus on regulation of the water and sanitation services provision was given with a highlight on the human right to safe water, the role of the state and the need of a regulatory framework for regulation. In the unplanned urban setting, weak regulation of water sales persons (middlemen) at PSPs and yard taps selling a jerry can of water at about 2-3 times higher than the average NWSC domestic tariff of 64 UGX/jerry cans has affected implementation of the 2006 pro-poor strategy. CSOs recommend for the roll-out of pre-paid meters in all informal urban settlements, implementation of the governance pro-poor indicator of the SPMF, monitor and enforce appropriate pro-poor guidelines. Regarding regulation of water and sanitation services in small towns and Rural Growth centres, there is need of conducting assessments and mapping of the underserved, strengthening customer involvement in decision making regards tariff setting and reduction of Non-Revenue Water.

**Sector Financing:** The revised Sector Investment Plan assesses funding required to attain SDG 6 target with an indication of more than nine fold funding required to meet this target. The new JWESSP – Phase II indicates lower funding confirmed to the sector and with fewer restrictions to address key sector priorities. There is therefore need to continuously advocate for additional funding to the sector with special focus on amplifying its impact on the economy, review and address key variables that are promoting bilateral project type financing which inhibits coordination, harmonization and alignment to key sector priorities. The inadequate capacity to oversee sanitation and hygiene promotion within the country more so within the rural areas due to inadequate funding, has been identified as one of the key challenges hindering the country from achieving sanitation and hygiene for all as per the SDG 6 target. The Conditional Grant that is allocated to districts to oversee this is inadequate that it hardly facilitates the Village Health Teams to effectively implement Sanitation and Hygiene programs at District and lower levels.

**Continued focus on strengthening the FSM chain;** The sector should continue promoting holistic sanitation planning at local government level and building capacity of all players including sector professionals in the design and management of faecal sludge treatment facilities, in the requirements of managing all stages of the FSM chain. Build on existing initiatives like Town Sanitation Planning, service level contracts and decentralized FSTF in rural areas to inform improved FSM in both rural and urban areas.

# 13 CIVIL SOCIETY ORGANISATIONS IN ENVIRONMENT AND NATURAL RESOURCES

## 13.1 Introduction

CSOs in the ENR sub-sector have undertaken an assessment of investments, targets, achievements, outputs and major challenges the Financial Year (FY) 2017/2018. This year, only 26 member organizations of the Environment and Natural Resources Civil Society (ENR CSOs) Network contributed to the annual performance appraisal indicating a drop in number CSOs reporting by 4 (see 68). By proportion, 67% of the CSOs have reported this financial year, the 33% were unable to submit reports within the set reporting deadlines.

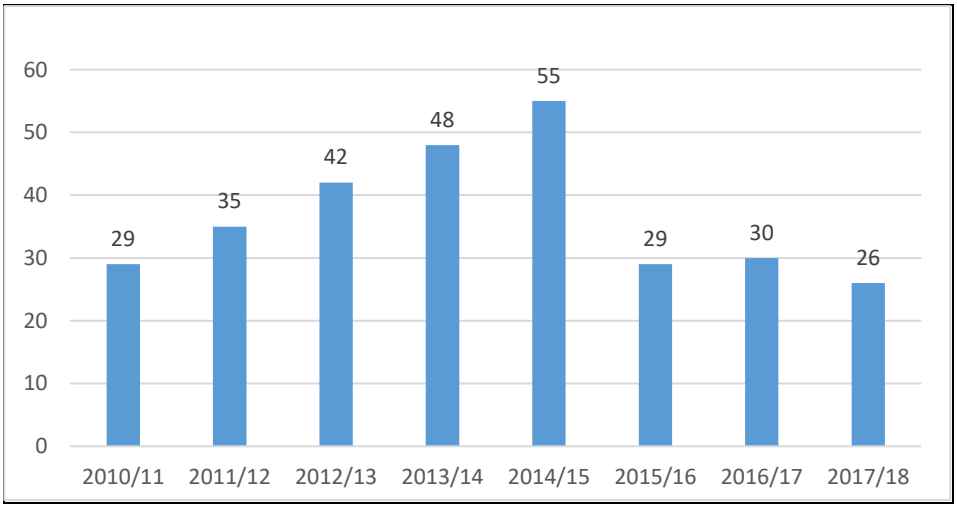



***Figure 64: Number of contributing ENR CSOs.***

## 13.2 ENR CSOs Financial Contributions

This FY, there is a decline in financial resources (by approximately 50%) from CSOs from USD 4,559,079 in FY 2016/2017 to USD 2,755,750 in FY 2017/2018. Donor funding to the ENR CSOs, as well as the entire sector, has been on the low side since FY 2015/2016. Figure 66 here under is an illustration of the above.

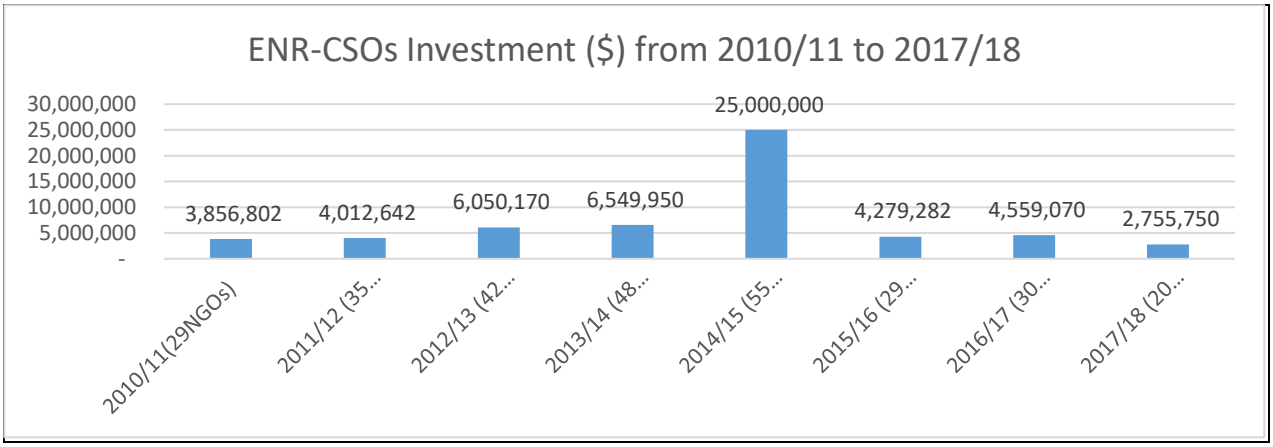



***Figure 65: Investments by the ENRCSOs for the past 6 years.***

Forestry continues to be the dominant thematic area where resources are placed by ENR CSOs. It accounts for 55%, followed by the non-green environment at 25% and climate change at 7%. Only 3% is spent on wetland management (see 70).

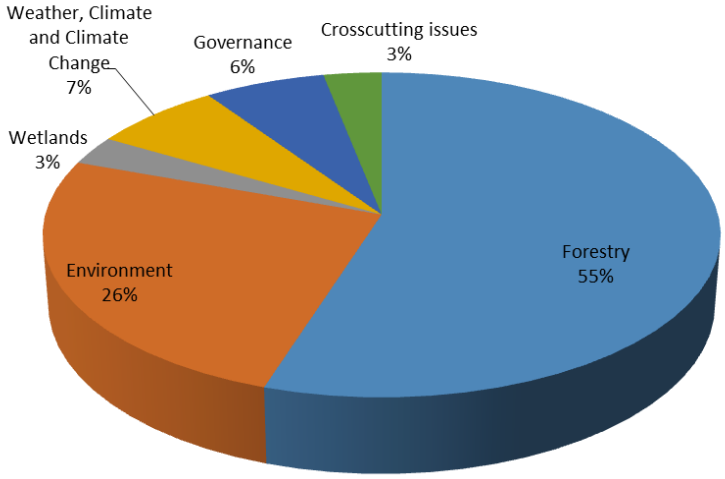



**Figure 66:** Percentage investment in each of the thematic area.

## 13.3 Topical issues this financial year

For **forestry**, the National Forest Stewardship Standards (NFSS) was finalised by the Standards Development Group and launched by the Minister for Water and Environment. It is intended to enhance responsible forest management.

An assessment of **timber trade in Uganda** was finalized with generation of study report and a policy brief with issues and recommendations for taking forward; most importantly, the overall intention to eliminate illegal timber from the market through responsible sourcing and procurement.

**Illegal logging** in northern Uganda targeting *Afzelia africana*, *Vitellaria paradoxa, Khaya spp, and Militia excelsa* among others is one of the challenges civil society groups have grappled with this year, alerting duty bearers through citizen coalitions, the media and social media platforms about the illegality. One of the challenges with this issue is the insulation of the illegality by high ranking security officials as well as connivances with resource managers, cultural leaders and local politicians. CSOs, through regional partners and engagements with central government are pursuing the enlisting of the affected species in order to regulate their trade.

*ENR CSOs Chairperson on an illegal logging tracking mission (together with NFA staff) in Palabek Ogili, Lamwo District.*

For the **environment thematic area**, ENR-CSOs Network provided input into the revised National Environment Bill to the Sessional Committee of Parliament on natural resources. They participated in the environment and water week towards commemoration of the world forestry, water and meteorological days 2018. In the same vein, ENRCSOs participated in the Ministry of Energy and Mineral Development (MEMD) Energy week activities to sensitize general public on the wise use of renewable energy resources.

ENR CSOs have supported central government in addressing issues in **refugee settlement** (Kyangwaali, Kiryandongo, Palabek, Rhino camp, Kyaki, Bidi among others). The concerns are around social crime (sale of food rations, alcoholism, thefts, rape, HIV/AIDS as cross-cutting issues) and the immediate environmental problems such as opening more land for crop production, increased demand for construction materials such as poles (harvesting of juvenile plantations/woodlots of teak, eucalyptus within the communities and other species in the wild), involvement in logging (*Afzelia africana* ) and lumbering (timber), increased demand for firewood and involvement in charcoal production and trade. ENR CSOs have supported the Office of the Prime Minister, the Refugee Settlements and UNHCR in establishing meaningful offset mechanisms including massive planting of trees to replace what is destroyed by the refugees, energy saving cook-stoves and climate-smart agricultural approaches.

*A fresh garden opened in a refugee camp in Palabek. Note the destruction of trees.*

For **energy**, ENR CSOs participated in the review and gap analysis of renewable energy policy to identify gaps and provide recommendations on sustainable and renewable energy resources management, engaged the private sector on best practices for sustainable and renewable energy access and the media on positive reporting and sustainable charcoal journalism and the District Local Governments in Northern Uganda to pass resolutions stopping massive production and transportation of charcoal.

In the **extractive industry**, CSOs conducted trainings for selected stakeholders on oil and gas, supported 2 regional and international networking and learning events in Entebbe on the East African Crude Oil Pipeline, trained stakeholders on inter-community conflict management, mapped and supported youth movements in oil and gas as well as mineral exploration areas and undertook comprehensive studies on status and extent of mercury use by the artisanal and small scale gold miners in selected gold mining areas of Mubende, Busia and Karamoja.

On **natural resources governance**, they convened a regional forestry governance and advocacy forum, facilitated the formation of the Bunyoro Inter-District Multi stakeholder Forum on Forestry and Environmental Governance, organised the River Rwizi Catchment conference under the theme “Restoration and sustainable Management of River Rwizi for Development and Livelihood Security,

prepared a policy briefing paper on enhancing the role of courts in promoting forest justice and finalised the forest governance training manual.

### 13.4 CSO Achievements in Forestry Sub-Sector

Members of the ENR CSO Network supported the establishment of seven (07) tree nurseries and participated in the planting and distribution of **1,804,752** assorted tree seedlings including *Eucalyptus grandis*, various types of eucalyptus, *Pinus caribaea*, fruit trees, Mahogany, *Grevillea robusta*, Musizi, Mvule, *Sesbania spp*, *Calliandra spp*, Moringa, *Termnalia spp*, A*fzelia africana*, Neem, Giant Lira *(Melia volkensii*), Pawpaw, jackfruit, *Gmelina arborea*, Teak and other medicinal trees in mostly Kyankwazi, Masindi, Mityana, Nakasongola, Hoima, Bududa, Manafwa, Kapchorwa and Lamwo districts. At a conservative spacing of 3*3 meters, these are estimated to have covered approximately **1,624 hectares**. The tree planting interventions mainly targeted forest dependent communities, Collaborative Forest Management groups, Private Forest Owners, farmer associations/ organizations, women groups, small holder farmers, refugee settlements and local communities.

CSOs initiated land use dialogues for forest landscape management planning in Mountain Elgon ecosystem and the grassland landscape of Agoro-Agu (covering the districts of Lamwo, Kitgum, Pader and Agago). This has resulted into participatory landscape management planning approaches in the forest sector.

CSOs have continued promoting Farmer Managed Natural Regeneration in the Shea Butter belt of Lira, Otuke, Alebtong, Amuria and Agago. In this region over 34 square kilometres are maintained under the FMNR arrangement. Two of these communities (in Arwotngo and Alololololo parishes in Otuke and Alebtong districts) have been supported to develop the Shea value chain by providing Shea oil processing equipment leading to an improvement of processing of Shea products and linking them to the market.

This year, two Collaborative Forest Management (CFM) arrangements have been negotiated with the National Forestry Authority i.e. Katum CFM community group for Lalak CFR, Katum Sub County and Mar Yen CFM community group for community adjacent to the Agoro Agu landscape in Agoro, Pokita and Lokung sub County.

IUCN supported staff from the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) with a training on Restoration Opportunities Assessment Methodology (ROAM), aimed at equipping staff from the agriculture sector with skills for applying ROAM in identification of priority areas for restoration particularly in the agricultural landscapes.

CSOs participated in training sessions on Integrated Water Resources Management with a focus on building the capacity of actors to understand, share lessons and implement IWRM initiatives in line with the Ministry of Water and Environment IWRM guidelines.

There are efforts for green skills and entrepreneurial development for forestry practitioners at community level (for collaborative forest management groups and communal land associations around Budongo CFR) to impart knowledge and skills, and enhance entrepreneurial ability for green jobs among the youth in forest adjacent communities. This will roll into the coming financial year but mainly includes providing hands-on training for 80 out-of-school adolescents in nursery establishment, establishment of

commercial woodlots and energy saving technology; building capacity in entrepreneurial and life skills; and engaging Communal Land Associations (CLA) in Work Based Learning.

The Uganda Timber Growers Association provided training for its members in silvicultural practices (thinning, pruning, forest inventory, and processing) and value addition. This was done for the Central Cluster for tree growers in the Luwero, Nakasongola, Nakaseke, and Wobulenzi where investors and their plantation managers were trained in the above.

Land Tenure Reform capacity building sessions were organized by Association of Uganda Professional Women in Agriculture and Environment in Masindi, Kakumiro, Kitgum and Lamwo. The objective was to create capacity for managing community forests, private forests, CFM arrangements, forests on land owned by absentee landlords with clarity on gender disparities, grievance/conflict identification and resolution, land and tree tenure as well as leadership skills.

### 13.5 CSO Achievements in the Environment Sub-Sector

CSOs through a joint collaboration between Civil Society Coalition on Oil and gas (CSCO) and the ENR-CSO Network developed and presented a joint Memorandum on the draft National Environmental Bill, 2017 to the Parliamentary Committee for Natural Resources. The memorandum highlighted key issues/gaps in the bills and suggested alternative recommendations for consideration by the committee for addressing the outstanding gaps and issues.

Training on sustainable charcoal journalism for 48 media practitioners and District Information Officers to enhance awareness among practicing journalists and communicators about the news triggers along the charcoal value chain and enhance the promotion and adoption of improved charcoal management technologies across the charcoal industry was undertaken. Throughout the year, these journalists have exposed challenges related to un-sustainable charcoal production and trade.

CSOs organised capacity building workshop and round table meeting on promoting clean energy technologies and energy cooperatives with support from MEMD, GIZ, SNV, KfW, UNREEEA, UCA, FINCA, and other civil society representatives.

Training in environment protection (for farmers, artisans, kiosk operators, market vendors) and clean energy technologies in the both refugee and host communities in refugee settlements located in Arua, Nebbi and Nwoya. This was hand-in-hand with training refugees in climate resilient agronomical practices with emphasis on soil, water conservation and agroforestry to increase crop productivity even when there are issues of climate change and season changes.

Improved Batwa education, awareness and skills development was undertaken this year, supporting Batwa children with scholastic materials, school feeding programs to eliminate absenteeism and dropout, facilitating increased participation in both class and co-curricular activities, brick house construction at community level, technical skills for the youth, improved food security, sustainable water supply, art and craft for improved household incomes; all with a view of harmonious co-existence with the environment within which they live.

Training for 301 families in operation of the Biosand Water Filters (BSF) that make water safe for drinking without the need for boiling. The families using the BSF for water purification have reported a

great saving in fuel previously used for boiling drinking water. The technology should be replicated in other areas of the country.

Community Environment Action Plans were initiated in Lira, Otuke, Alebtong, Amuria and Agago and these have complimented the implementation of natural resource byelaws and communal utilization of wetland products in a sustainable manner at 40 communities.

Among other achievements in this thematic area are:

i) Facilitated the construction of energy saving stoves in various parts of the country including refugee settlements.

ii) Clean-up exercises to promote safe water disposal in town councils, municipalities and cities.

iii) Promoting biogas energy saving technologies through a revolving loans targeting local leaders, individual households, private sector contractors and development partners.

iv) Built capacity of members on potential impacts of oil activities on environment, tourism and livelihoods in the Albertine Rift Region

## 13.6 CSO Achievements in the Wetlands Sub-Sector

CSOs in collaboration with MWE have contributed to the process aimed at reviewing the National Wetland policy as well as the wetland bill in a bid to provide input but also support government in undertaking community level consultations.

The International Union for Conservation of Nature supported communities to demarcate 68km of river banks and 10 hectares of wetlands in Mutu parish (Agago district) and Akileng parish (Amuria district). The efforts were aimed at restoring the functionality of the river banks and wetlands to be able to provide ecosystem goods and services to the communities.

CSOs also build capacity in management of wetlands across the country with specific interest in handling threatened biodiversity (including the Crested Crane) in urban wetlands and in the Lake Victoria Shores

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 in over 15wetlands.

## 13.7 CSO Achievements in the Weather, Climate and Climate Change Sub-Sector

For climate change, the following were areas where civil society organisations contributed:

i) Partnering with the climate change department to provide a platform for climate change discussions across in the country.

ii) Establishing agro-ecology centres (such as in Kyankwanzi) to promote learning and adaptability to climate change and resilience to communities. These ecology centres benefit the community in terms of learning new and appropriate technologies in relation to environmental management, adaptability and resilience to climate change

iii) Built capacity of members on climate change, impacts, mitigations and adaptations

iv) Conducting capacity building workshops for Global Environment Facility (GEF) members on GEF matters.

v) Conducting short training exercises on negotiating for Multi-lateral Environment Agreements (MEAs) specifically United Nations Framework Convention on Climate Change (UNFCCC) among others.
vi) Bwindi Mgahinga Conservation Trust specifically worked on agronomic farming practices like application of organic manure, mulching, tree planting, construction and use of energy saving cook-stoves for the Batwa Indigenous Communities to adapt and mitigate climate change.

## 13.8 CSO Achievements in the Governance Sub-Sector

This FY the ENR CSOs Network finalised and signed a five year's Memorundum of Understanding with the Ministry of Water and Environment. The MoU formalises the working relation with MWE and strengthens the engagements which have previously been through informal arrangements.

The CSCO, which is part of the network, continued to play its role in organizing training sessions for selected stakeholders on oil and gas development in the Albertine Graben. For example CSCO members supported 2 regional and international networking and learning events in Entebbe, Uganda and Arusha, Tanzania on the East African Crude Oil Pipeline and the inter-community conflict management and resolution for Inter-Community Conflict Management Committees in the Albertine Graben.

ACODE hosted 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. During these meeting engagement with government holding it accountable have been undertaken, research findings have been disseminated especially for oil and gas, climate change, forestry, wetlands and other sectors of the economy.

Among other achievements under good governance, policy planning and advocacy, we have the following:

i) Review of policy imperatives and directives pertaining to the implementation of benefit sharing and resource access programs in Mt. Elgon National Park. This was intended to determine the degree and the extent to which the implementation of different provisions of the Collaborative Management Policy have affected the realization of the social, economic and ecological goals of resource access programs.

ii) Review of the Agoro-Agu Sector CFRs Forest Management Plan using a landscape management planning approach intended to support NFA and UWA to prepare management plans for the Agoro- Agu sector and the Mt. Elgon National Park using a land use dialogue approach.

iii) Assessment of Uganda's Forest Landscape Restoration process intended to identify the key milestones that have been realized, the different stakeholders who have contributed to these milestones and the kind of contribution made by each stakeholder. This would enhance learning and scaling up of successful strategies for FLR promotion, communication with stakeholders, as well as informing future fundraising efforts.

iv) Impacts of securing tenure rights of forest adjacent communities to their livelihoods and to forest health and an info-brief has been produced to inform practitioners and policy makers.

v) Assessment of CFM guidelines for gender sensitivity and NFA confirmed the decision to review the CFM Guidelines following continued advocacy from various ENR-CSO members

vi) Formation of the Bunyoro Inter-District Multi stakeholder Forum on Forestry and Environmental Governance which has been used to disseminate of the Forest Regulations during the Bunyoro regional forestry and advocacy platform.

vii) CSOs organised the River Rwizi Catchment Conference under the theme "Restoration and sustainable Management of River Rwizi for Development and Livelihood Security that resulted into a declaration on protection and restoration of River Rwizi catchment that was adopted by the participants at the end of the conference calling on Directorate of Water Resource Management to fast-track the completion and implementation of the River Rwizi Catchment Management Action Plan.

viii) There was a dialogue and learning event, with a focus on oil infrastructure (the East African Crude Oil Pipeline) developments and implications on local livelihoods. Stakeholders Dialogue in the Albertine Graben on the East African Crude Oil Pipeline Platform created for stakeholders to learn and discuss the opportunities and challenges (to the social, economic and environmental wellbeing of county and its citizens)

ix) CSOs engaged parliament (Uganda Parliamentary Tourism & Conservation Caucus, Natural resource committee) and CSOs on the review of the UWA bill 2017 and the human wildlife compensation challenge and adoption of the mitigation hierarchy in sensitive areas. A position paper was developed on the issues.

x) A two-day retreat for 35 experts (that form the core technical working group) from MDAs and CSO's was convened to refine the final draft Climate Change Bill before its presentation to 1st Parliamentary committee of Parliament for approval. The Climate Change Bill and Environment Bill should reinforce each other and should provide for strong penalties to wetland encroachers

## 13.9 Research studies/ Surveys

The following is a list of studies undertaken by ENR CSO members.

***Table 71: Research undertaken by ENR CSOs.***

| Research/ Study/ Survey | | Organization |
|---|---|---|
| **A.** | **Forestry sub-sector** | **Organization** |
| i. | Economic and financial analysis of restoration opportunities in the northern moist and Karamoja landscape of Uganda: | IUCN |
| ii. | Enhancing Access to Justice in Uganda's Forestry Sector: A comparative Study of Uganda and Tanzania | ACODE |
| iii. | Policy Briefing Paper on Enhancing the Role of Courts in Promoting Forest Justice | ACODE |
| iv. | Policy Briefing Paper on Benefit Sharing in the Forestry Sector in Uganda, Kenya and Tanzania | ACODE |
| v. | Forest Governance Manual | ACODE |
| vi. | Research papers on Stakeholder Participation in the Oil and Gas Sector | ACODE |
| vii. | Barriers to equity in REDD+: Deficiencies in national interpretation processes constrain adaptation to context 2017: https://bit.ly/2JW2RsO | UCSD |
| viii. | The impacts of timber value chain to the livelihoods of forest next communities and on the environment | AUPWAE |
| **B.** | **Environment sub-sector** | **Organization** |
| i. | Status and extent of mercury use by the artisanal and small scale gold miners in selected gold-mining sites of Mubende and Busia districts of Uganda | Action Coalition on Climate |

| Research/ Study/ Survey | | Organization |
|---|---|---|
| | | Change |
| ii. | Developing adoptable sustainable crop farming models with complete marketing strategy that can reduce agricultural expansion into forest land | ECO Trust |
| iii. | The impacts of the sugar cane industry on the landscape from an economic, social and environmental perspective. | ECO Trust |
| iv. | Undertaking a review and a gap analysis of renewable energy policies, laws and guidelines to identify gaps and provide recommendations on development of a more sustainable and environment-friendly energy policy | Environmental Alert |
| v. | Undertaking a study on unlocking investment/financing for sustainable and renewable energy access in Uganda | Environmental Alert |
| vi. | Mapping of youth movements and related aspects in the extractives sector to identify existing youth movements in Mubende and Albertine regions (Hoima, Buliisa, Nwoya, Nebbi/Pakwach districts) plus the attendant issues regarding their empowerment and access to opportunities. | Tree Talk Plus/Action Aid Uganda |
| vii. | Survey to assess the challenges of Artisanal Small Scale Gold Miners on the Environment | EMLI |
| viii. | Survey to assess the level of implementation of the Kaveera ban | EMLI |
| ix. | Identification of SDGs that target and have high leverage for fostering sustainable development in mountain areas of Uganda. | ARCOS |
| x. | Mining Developments and Impact On Household Vulnerability And Economic Empowerment In Karamoja: A Gendered Approach | ECO |
| xi. | A Critical Sites Network for Freshwater Biodiversity in the Lake Victoria Catchment: Building a Blueprint for Species conservation, Protected Areas, Climate Resilience and Sustainable Livelihoods (IUCN Global Species Project) | UCSD |
| xii. | Rethinking Environment and Development in an Era of Global Norms: An Exploration of Forests and Water in Nepal, Sudan and Uganda. | UCSD |
| **C.** | **Weather, Climate and Climate Change** | **Organization** |
| i) | Study to assess the implementation status of MEAs in Uganda | EMLI |

### 13.10 ENR Sub-Sector Challenges and Recommendations

The sector has continued to grapple with common challenges summarised in the **Table 72.**

***Table 72: Summary of Challenges and Recommendations.***

| Thematic Area | Challenges | Recommendations |
|---|---|---|
| **Forestry** | i) Failure to curb illegal logging in northern Uganda.<br>ii) The influx of refugees has presented stress on environment and natural resources<br>iii) Failure to cancel land titles in forest reserves despite the plea from CSOs and commission of inquiry on land matters. | i) Implement the presidential ban on logging.<br>ii) CSOs engage MWE and OPM on sustainable utilisation of environment and natural resources in refugee settlements.<br>iii) MWE, FSSD, NFA and |

| Thematic Area | Challenges | Recommendations |
|---|---|---|
| | iv) Inadequate funds to NFA, FSSD, DFS to implement their mandates.<br>v) Delay in the finalisation of registration and recognition of community forests.<br>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,<br>vii) A delay in up scaling collaborative forest management undermines community interest/role/responsibility in policing and enforcement of ENR management at community level.<br>viii) Boundaries for wetlands and forest reserves continue to be a challenge, especially with communities living adjacent to these resources. | affected DLGs fast track the cancellation of titles in forest reserves and wetlands across the country.<br>iv) CSOs support MWE in lobbying for increased funding of the sector, especially at parliamentary level.<br>v) MWE/FSSD fast tacks the registration of community forests.<br>vi) MWE engages MoLG and MoLHUD on issuance of land titles in gazetted areas.<br>vii) NFA and DFS roll out CFM especially those communities that have applied for memorandum of understanding.<br>viii) MWE/NFA needs to fast track work on demarcation of wetlands and forest reserve boundaries |
| **Wetlands** | i). Donors, government, CSOs continue to have low investments in the sector.<br>ii). Developers continuously reclaiming wetlands despite the awareness created.<br>iii). 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.<br>iv). District local governments have a challenge of developing management plans for wetlands and yet they are underfunded. | i). Donors, GoU, CSOs should prioritise wetlands<br>ii). EPPF should fast track wetlands reclamation and bring culprits to book.<br>iii). MWE to identify resources for demarcation of wetlands in rural areas.<br>iv). MWE/CSOs should promote Ecosystem Based Adaptation approaches that aim at sustainable utilisation (for multiple benefits) of wetlands at community level. |
| **Environment** | i). The enactment of the National Environment Act (NEA) and the related regulation such as Environmental Impact Assessment regulations is long overdue.<br>ii). There are irregularities in the Environment Protection Police Force | i). NEMA fast tracks the enactment of the National Environment Bill and the related regulations<br>ii). MWE/CSOs undertake an audit to review the roles/responsibilities/deploy |

| Thematic Area | Challenges | Recommendations |
|---|---|---|
| | that is often times involved in land grabbing cases in forest reserves and wetlands and abating environmental crime.<br>iii). Inter-institutional collaboration on environmental issues still needs to be strengthened; setting clear roles for MWE, NEMA, MoLHUD, and MAAIF and how these interface with wetlands, forestry, lands, petroleum infrastructure and wildlife among others. | ment of the EPPF in wetlands/forestry/environment more so on how they can support DLGs in abating environmental crime. |
| **Weather, Climate and Climate Change** | i). Fast tracking the Climate Change Bill as a modality for implementation of the climate change policy and its implementation strategy is still a challenge.<br>ii). There are escalating levels of community level encroachment on forests and wetlands that reduces natural climate change resilience mechanisms thus affecting livelihoods of the communities.<br>iii). Limited financing options to implement climate change adaptation and mitigation measures at community level.<br>iv). Failure by local governments to mainstream climate change concerns in the district development planning processes. | i). MWE to fast track the process for drafting the climate change bill<br>ii). DLGs to mainstream climate change in the district development planning process as well as the district environment action planning process.<br>iii). ENR CSOs to compliment efforts of the central government to create awareness about climate change resilience mechanisms through community based adaptation mechanisms. |
| **Governance** | i). Inadequate staffing in forestry/wetlands/environment thematic areas at district local government level<br>ii). Bureaucracies and sluggish responsiveness of duty bearers to resolve the reported cases (land titles in wetlands and forest reserves, the use of polyethene bags among others).<br>iii). Laxity to operationalize the National Tree Fund provided for under the National Forestry and Tree Planting Act despite constant reminders by civil society.<br>iv). Failure of investment firms to comply | i. GoU creates space for CSO engagements on oil and gas development projects especially those that have a toll on land in wetlands, forests and wildlife conservation areas.<br>ii. GoU addresses the following challenges that have been identified by the good governance group of the ENR Sub-sector:<br>– Political intervention and influence peddling by local politicians |

| Thematic Area | Challenges | Recommendations |
|---|---|---|
| | with ENR laws especially those whose investments conflict with ENR laws (agriculture in wetlands, industrial parks in forest reserves, land uptake for Standard Gauge Railway, various road construction and oil and gas infrastructure among others)<br>v). The secretiveness surrounding oil and gas development especially on issues of infrastructural development that have a toll on natural resources | – Corruption and abuse of office<br>– Failure of institutional coordination and persistent mandate overlap<br>– Inadequate capacity and financing for central and local governments<br>– Inadequate mechanisms for access to justice and remedy<br>– Breakdown in law enforcement and compliance<br>– Bureaucratic inefficiency and indecisiveness |

## 14. GOOD GOVERNANCE IN WATER AND ENVIRONMENT

### 14.1 Monitoring governance in the water and sanitation sub-sector

In the year 17/18, the Sector implemented its revised reporting framework with the 10 governance indicators therein emphasized. The 10 governance indicators that were premiered in last year's Sector Performance Report, in analysis of performance focus on the Governance principles of **Accountability, Transparrency 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 support 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 73:Reporting of the Governance indicators in the annual Sector Performance Report 2018*

| | | | | Performance | | | Target | Actual | Remark and proposed action/ Submission to Action plan |
|---|---|---|---|---|---|---|---|---|---|
| | Indicator | Principle | Entity | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2017/18 | |
| 1 | % Implementation of the previous year´s audit recommendations of financial statements | Accountable to audit office and its recommendations | MWE | DNYF | DNYF | DNYF | DNYF | TBS | Data not yet submitted. |
| | | | NWSC | 89 | 91.5% | 85.7% | 100 | 86 | Generally good performance |
| 2 | Average weighed procurement performance | Accountable to procurement procedures | MWE | 81% | 84.7% | N/A | 100 | 77.9 | Generally good performance |
| | | | NWSC | N/A | N/A | N/A | 100 | 80.1 | There is generally good performance. |
| 3 | % Districts´ budgets that reflect CSOs´ contributions | Transparency in financial planning | Rural | N/A | N/A | N/A | N/A | N/A | collecting the required data |
| 4 | % of annual budget allocations, budget releases and actual | Accountable and adherence to Sector Investment Plans and Budgets | Rural | 24% | N/A | N/A | 100 | 85 | This analysis is mainly based on the expenditure against the releases in the Financial Year. The overall |
| | | | Urban | 101% | N/A | N/A | 100 | 91 | |
| | | | WfP | 29% | N/A | N/A | 100 | 99 | |
| | | | WRM | 138% | N/A | N/A | 100 | 76 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **expenditures in relation to sector funding needs' priorities** | | | | | | | | performance is fair however it should be noted that the lengthy approval process led to delays which in turn hindered the 100% absorption target being met. |
| **5** | **% of Water User Committees/ Water Boards/ Environmental management, Water Catchment management Committees with women holding key positions** | **Participation of women in key decision making** | **Small towns** | 67% | 67% | Not yet reported | Not yet reported | Not yet reported | |
| | | | **Rural** | 84% | 86% | Not yet reported | 100 | 85 | There is steady improvement. |
| | | | **WfP** | 73/48% | 73/48 % | Not yet reported | 100 | 83 | There is continuous improvement. |
| | | | **CMC** | N/A | N/A | Not yet reported | Not yet reported | Not yet reported | |
| **6** | **% 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** | 73 | 75 | 79 | 100 | 83 | There is steady improvement. |
| | | | **Small towns** | N/A | N/A | Not yet reported | 80 | 38 | This performance is still low and unsatisfactory. |
| **7** | **NWSC´s Customer Satisfaction Index** | **Transparency to customers** | **NWSC** | 78.4% | 88% | 84 | 80 | 85 | Generally good performance |
| **8** | **Percentage of gazetted** | **Transparency of gazetted** | **WURD** | 58% | 45% | DNYF | 70 | 56 | There is a persistent issue of a capacity gap in |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **water authorities and districts whose performance is published annually by the Regulation body** | **water schemes and districts** | | | | | | | reporting. |
| **9** | **% of water for production facilities with actively functioning Water User Committees** | **Participation of users in the management of WfP facilities** | **Valley tank**<br>**Dams** | 73%<br>48% | 82%<br>70% | 84%<br>71% | 100<br>DNYF | 84 | There is a steady increment though at very low magnitude. This year it has taken into account all the WFP facilities in the evaluation. |
| **10** | **% of permit holders complying with permit conditions** | **Accountability of permit holders to permit conditions** | **WRM** | 68% | 72% | DNYF | 100 | 78 | There is a steady increment though at very low magnitude |

## *14.2 Description and analysis of Governance indicators performance*

### *14.2.1 Performance indicator: % Implementation of the previous year´s audit recommendations of financial statements*

During the review period, a number of recommendations were made to the NWSC management and the average performance with regard to the actions taken by management in addressing these audit recommendations was 86% against a target of 100%.

The Ministry Of Water and Environment audit was efficiently carried out and the following key audit issues were raised;

- Inadequate controls in management of Domestic arrears.
- Failure to pay VAT.
- Increasing funding gap.
- Lack of a strategic plan since the current one expire in 2013/14
- The big staffing gap in the institution.

It should be noted that the Ministry is the process of addressing these issues with clear strategies developed to ensure that there is an improvement in the implementation of the sector activities.

However all the planned activities are still ongoing hence the failure to make a comprehensive performance analysis.

### *14.2.2 Performance Indicator: Average weighed procurement performance*

The Ministry of Water and Environment procurement audit performance result in FY 16/17 of 77.9% was a result of a high average compliance score of 94% for procurement systems, procurement processes and a disposal average performance score of 70.5 %. There is a notable decline in performance as compared to the previous Financial Year and this is attributed to the failure to implement all the recommendations raised (38.4%), delayed initiation of procurements and also failure to complete procurements on a timely basis.

***Table 74: Overall Weighted Procurement Score for FY 2016/17 for Ministry of Water and Environment***

| INDICATOR | SCORE (%) | WEIGHT | WEIGHTED SCORE |
|---|---|---|---|
| **Average Compliance Indicator Score** | 89.1 | 0.4 | 35.6% |
| **Average Performance Indicator Score** | 70.5 | 0.6 | 42.3% |
| Procurement Performance Score | | | **77.9%** |

Source PPDA Audit Report (2017)

During the FY 2016/17, the Public Procurement and Disposal of Public Assets Authority (PPDA) carried out a procurement and disposal audit of NWSC. The findings of the exercise revealed a compliance score of 89.2%, a performance score of 74% and an overall weighted average performance ratio of 80.1% as shown in the table below.

***Table 75: Overall Weighted Procurement Score for FY 2016/17 for NWSC***

| INDICATOR | SCORE (%) | WEIGHT | WEIGHTED SCORE |
|---|---|---|---|
| **Average Compliance Indicator Score** | 89.2 | 0.4 | 35.7% |
| **Average Performance Indicator Score** | 74 | 0.6 | 44.4% |
| Procurement Performance Score | | | **80.1%** |

Source PPDA Audit Report (2017)

### *14.2.3 Performance Indicator: % Districts´ budgets that reflect CSOs´ contributions*

The Ministry is still in early stages of developing a standard approach on how to capture this information to be available for the analysis. The major hindrance is the budget development cycle for the CSOs which is not aligned to the Government preparation cycle.

#### *14.2.4 Performance Indicator: % of annual budget allocations, budget releases and actual expenditures in relation to sector funding needs' priorities*

The performance registered is mainly considering the budget against release performance for the respective WASH departments which fair but satisfactory and this is as a result of the lengthy approval which has made it hard to make the payments. This has resulted in the Ministry accumulating the arrears every financial year and this leads to halting of works in the different projects thus affecting the eventual project targets and timelines.

#### *14.2.5 Performance Indicator: % of Water User Committees/ Water Boards/ Environmental management, Water Catchment management Committees with women holding key positions*

There is steady improvement in the inclusion of women on these committees but however it should be noted that because of the reduction in the Software budget at the district level most of these committees are constrained on how to operate due to lack of an enabling environment which in turn also leads to untimely achievement of their set goals.

#### *14.2.6 Performance Indicator: % of pro-poor facilities that provide water at a price less than or equal to the household tariff of the service area.*

The percentage of pro-poor facilities that provide water at a price less than or equal to the household tariff is at 38%. The findings were realised from a review done by the Water Utility Regulation Department for 6 Umbrella Water Authorities regarding Pro-Poor initiatives. The focus in this review was on Pro-Poor tariffs for the PSPs in these areas. It was established that out of the 87 PSPs visited, 33 charged a tariff not more than 50/= per jerry can. This low performance has mainly been attributed to the many middlemen/water vendors who continuously charge highly for the water vended. The limited access to these PSPs in some areas has resulted in high tariffs charge as the demand for the water is too high.

#### *14.2.7 Performance Indicator: NWSC´s Customer Satisfaction Index*

The customer Satisfactory Index (CSI) is the weighted average of the outcome of customer assessment of NWSC service quality against the key attributes. These are water reliability, water pressure, water quality, timely and accurate water bills, responsiveness in resolving complaints, responsiveness in effecting new connections, customer care, convenience of bill payment process and office ambience.

During the review period, NWSC conducted a Customer Satisfaction survey from which a Customer Satisfaction Index of **85%** was obtained. This was above the target of 80% which was as a result of the Corporation's heightened commitment to serve all its customers efficiently as well as increased stakeholder engagement.

#### *14.2.8 Performance Indicator: 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 237 small towns' performance out of the 417small towns hence indicating 56% of the towns to have reported on their regular performance. The main reason for this unsatisfactory performance is the existing capacity gap amongst the Water operators in using the Web Based Data collection tool (UPMIS) to send in their reports on a timely basis.

#### *14.2.9 Performance Indicator: % of water for production facilities with actively functioning Water User Committees*

The total number of facilities constructed since the year 2000, so far entered in the Water for Production database, is 1,210, for 121 districts so far covered in the database, the functionality of WUCs for FY 2017/18 based on the reports of 343 facilities under community management is 83%.

The performance has steadily improved and one of the core contributors to this performance is the Farmer Field Schools (FFS) Approach which has just been developed. This has greatly improved the participation of the farmers in both decision making and also management of the existing facilities hence improving on the functionality.

#### *14.2.10 Performance Indicator: % of permit holders complying with permit conditions*

The percentage of complying permit holders improved from 72% to 78% as reported in the Sector Report of 2017. However, these are sample results from only 79% of the total number of permit holders. Secondly, the figure is silent on the actual number of permits that should be issued to take into consideration those water sources without permits. However it should be noted that the Ministry has uploaded the guidelines and criteria of awarding the permits on the Ministry Website.

### *14.3 15. Other Actions outside Indicator Scope*

#### *14.3.1 Composition of the Good Governance Working Group*

The composition of the Good Governance Water and Sanitation Working Group was strengthened as every department in the Directorate of Water Development and Directorate of Water Resources Management nominated a competent officer to liaise with the Secretariat in executing the duties of the governance workplan in order to achieve timely outputs. This action has mainly improved on the implementation of the Monitoring Framework which is key i representing the results of the performance of the sector as a whole in the Governance section.

#### *14.3.2 Uganda Water and Environment Week*

The Secretariat participated fully in the 1st Water and Environment Water Week where there was an exhibition stall to mainly sensitize the Sector stakeholders on the achievements and plans for the Good Governance Working Group. There was also a paper presented which clearly communicated the objectives and vision of the WASH good Governance Working group which was greatly enriched with the eventual discussion that ensued.

#### *14.3.3 Meeting with Water Integrity Network (WIN)*

The Secretariat had a very engaging meeting with a representative from the Water Integrity Network where focus was on how to improve the implementation of Governance activities in the Water sector. Emphasis was mainly on how the WIN can support the GGWG secretariat to enhance the performance of the group in order to achieve better results and also feed into the regional action plan which is being facilitated by the WIN.

#### *14.3.4 Update of the Good Governance Action Plan*

The Good Governance Action Plan was revised with focus on how to operationalise the 10 indicators developed under the Monitoring Framework. It should be noted that several meeting were held which eventually produced the annual Action Plan but however the major constraint which has been identified

is the lack of enough financial resources to effectively implement the Action Plan.

#### *14.3.5 Kampala Waste Water Dialogue*

The GGWG effectively participated in the above mentioned forum where focus was on how to ensure that in the execution of the Kampala Waste Water strategy governance issues are prioritised. The discussion eventually produced a comprehensive governance plan to aid the effective implementation of the Kampala Waste Water plan in order to effectively offer the desired services to the people in the Kampala City.

### 14.4 Challenges

The challenges of good governance in the sector have not changed since last year. They still include limited measures for a strong permanent secretariat, and limited financing.

***Secretariat***

The GGWG secretariat is still challenged with managing to get participation of the Civil Society and the Donor partners in the Governance sectoral activities. This has continued to derail the implementation of the activities since the required input from these critical stakeholders in the sector is either unavailable or inadequate.

***Financing***

The Good Governance Monitoring Framework has got a lot of activities to be executed in order to effectively evaluate and analyse the performance of the sector. Therefore in order to produce efficient and timely results there is need for more financial support to be accorded to the Secretariat.

### 14.5 Conclusion and Recommendations

**Strengthening the Secretariat;** There is need for all the stakeholders in the sector to commit representatives to the Good Governance Working group so as to have a comprehensive Working Group which will eventually deliver timely results. There is also need for these respective stakeholders to support the Secretariat with the available budget and workplan so that there is enough visibility of the Governance approach in the sector.

**Financing;** The GGWG has developed a comprehensive budget to operationalize the just revised Action Plan. The Ministry has taken lead to fund this budget but it should be noted that the budget is still inadequately funded. Hence the need to jointly fund this Budget with all stakeholders so that the Secretariat can be facilitated to ably execute the different activities in the