THE REPUBLIC OF UGANDA

NATURAL RESOURCES, ENVIRONMENT, CLIMATE CHANGE, LAND AND WATER MANAGEMENT

PROGRAMME PERFORMANCE REPORT 2021

MINISTRY OF WATER AND ENVIRONMENT

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NATURAL RESOURCES, ENVIRONMENT, CLIMATE CHANGE, LAND AND WATER MANAGEMENT PROGRAMME

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MINISTRY OF WATER AND ENVIRONMENT

TABLE OF CONTENTS

FOREWARD xi
EXECUTIVE SUMMARY xii
CHAPTER 1: INTRODUCTION 2
1.1 Programme Description 2
1.2 Institutional Framework 3
1.3 Programme Report 4
CHAPTER 2: PROGRAMME PLANNING, FINANCE AND CAPACITY DEVELOPMENT 6
2.1 Introduction 6
2.2 Programme Budgeting 6
2.3 Programme Monitoring and Reporting 8
2.4 Programme Financial Performance 8
2.4.1 Programme Budget for FY 2020/21 8
2.4.2 Programme Allocations in the Medium term 8
2.4.3 Budget share by Vote 9
2.4.4 Budget Performance 10
2.4.5 Off- budget- CSOs 10
2.4.6 Grant funded projects 12
2.5 Programme Capacity Development 15
2.5.1 Training plans and numbers trained for identified specialties 15
2.5.2 Applied groundwater modelling specialists 16
CHAPTER 3: WATER RESOURCES MANAGEMENT 18
3.1 Introduction 18
3.2 Water Resources Management Outcome Indicators 19
3.2.1 Overall outcome level performance 19
3.2.2 Analysis of the performance of each WRM outcome indicator 20
3.2.2.1 Compliance with water abstraction and waste water discharge permit conditions 20
3.2.2.2 Percentage of water samples complying with national standards for water bodies 24
3.3 Water Resources Management Interventions 34
3.3.1 Develop and implement integrated catchment management plans for water resources catchment areas 34
3.3.1.1 Catchment management plans prepared 34
3.3.1.2 Water management measures implemented in priority sub catchments 34
3.3.2 Establish functional gender sensitive regional and zonal management committee for water resources 40
3.3.3 Ensure effective early warning and early action for sustainable efficient utilisation of water resources 40
3.3.4 Maintain natural water bodies and reservoirs to enhance water storage capacity to meet water resource user requirements 50
3.3.5 Procure equipment for monitoring set standards on air, noise, water resources and soil 51
3.3.6 Create a critical mass of human resource to undertake enforcement of set standards and regulations 51

3.3.7 Build partnerships with stakeholders such as KCCA, Uganda Police, Urban Authorities and non-state actors to enhance compliance....51
3.3.8 Undertake relevant applied research aligned to development needs and existing gaps...51
3.4 Emerging issues/Challenges and undertakings....55
3.4.1 Challenges....55
3.4.2 Recommendations....55
CHAPTER 4: NATURAL RESOURCES, ENVIRONMENT AND CLIMATE CHANGE....57
4.1 Introduction....57
4.2 NRECC Outcome Indicators....57
4.2.1 Percentage of Land Area covered by Forests....57
4.2.2 Percentage of Land Area covered by wetlands....58
4.2.3 Increase permit holders complying with ESIA condition at the time of spot check....59
4.2.4 Air Quality Index PM2.5....59
4.2.5 Average Annual change in Green House Gas (GHG) Emissions (MtCO2e)....60
4.2.6 Climate Change Vulnerability Index....60
4.2.7 Percentage Change in the Accuracy of meteorological Information....60
4.2.8 Percentage automation of weather and climate network....60
4.3 NRECC Interventions....61
4.3.1 Strengthen conservation, restoration of forests, wetlands and water catchments, hilly and mountainous areas....61
4.3.2 Promote rural and urban plantation development and tree planting including the local and indigenous species....62
4.3.3 Formulate economic and social incentives for plantation forests....63
4.3.4 Promote application of performance based sustainable forest management criteria for all forest sector development aspects and scale up agroforestry as a climate smart agriculture practice....63
4.3.5 Establish dedicated fuel wood plantations necessary to contribute to achieving or exceeding net biomass surplus levels....64
4.3.6 Ensure the protection of forests, rangelands and mountain ecosystems....64
4.3.7 Improve the management of district and private forests....64
4.3.8 Assure a significant survival rate of planted tree seedlings....64
4.3.9 Develop wetland management plans to support gazetting and demarcation of existing wetlands....65
4.3.10 Restore the natural integrity of degraded wetlands to their ecological functionality..67
4.3.11 Other strategic interventions for wetlands....70
4.3.12 Implement national targets on threatened/endangered species, restoration of natural habitats, management of invasive alien species with support and participation of local communities and indigenous peoples....70
4.3.13 Identify and declare special conservation areas to raise the conservation status of areas outside protected areas that are important biodiversity areas....70
4.3.14 Integrate environmental management in all disaster and refugee response interventions.71
4.3.15 Leverage technology to strengthen enforcement capacity for improved compliance to standard agro-forestry practices....71
4.3.16 Mobilise and significantly increase financial resources from all sources to conserve and sustainably use natural resources and mitigate disasters....71
4.3.17 Increase funding for promoting of non-consumptive uses of the natural resources....72

4.3.18 Develop and implement a framework that reduces adverse per capita environmental impact of cities (air quality and waste management practises).....72
4.3.19 Mainstream environment and natural resources management in policies, programmes and budgets with clear budget lines and performance indicator.....72
4.3.20 Improve coordination, regulation and monitoring of environment management at both central and local government levels.....72
4.3.21 Strengthen control and management of chemicals, pollution and environmental disasters.....73
4.3.22 Increase funding on decentralized environment management.....74
4.3.23 Formulate and implement vehicle emission standards and sustainable management of chemicals to curtail the high levels of air, land and water pollution particularly in urban areas.....74
4.3.24 Integrate education for sustainable development in national curricular at all levels for an environmentally literate citizenry.....74
4.3.25 Undertake applied research and innovation on sustainable consumption and production to ensure resource use efficiency to reduce domestic material consumption per capita.75
4.3.26 Building capacity for climate change adaptation and mitigation including hazard/ disaster risk reduction.....75
4.3.27 Promote continuous integration of climate change and disaster risk reduction in planning, budgeting and reporting.....76
4.3.28 Undertake issuance of carbon footprint certificates to support the industrial sector move towards carbon neutrality.....76
4.3.29 Finalize the development of a national Green House Gas Inventory and its Monitoring, Reporting and Verification System (MRVS). Review Uganda's 2015 Nationally Determined Contributions in light of local emerging issues and new global climate change action ambition.....77
4.3.30 Promote natural resource accounting to improve the national income measurement.....78
4.3.31 Undertake economic valuation of selected ecosystems and their services.....78
4.3.32 Integrate natural capital and ecosystem service accounting into the system of national accounts.....78
4.3.33 Build sectoral, institutional and local government capacity in natural capital accounting.78
4.3.34 Mainstream climate change resilience in programmes and budgets with clear budgets lines and performance indicators.....79
4.3.35 Scale up use of renewable energy through off-grid electrification and Liquefied Petroleum Gas.....80
4.36 Build gender response capacity in climate change monitoring and evaluation systems through integration in local government performance assessment and national monitoring frameworks.....80
4.3.37 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.....80
4.3.38 Establish eco-friendly municipal and city waste collection and sorting facilities, and systems for recycling and reuse as a remedy for immense methane emissions from open landfills.....81
4.3.39 Formulate green and climate change resilient and mitigative building codes for the housing sub-sector.....81
4.3.40 Enhance outcomes from negotiation of carbon projects and develop bankable projects..81
4.3.41 Develop local finance solutions tailored to micro, small and medium enterprises engaged in sustainable production and generation of climate change responsive technologies....81

4.3.42 Build partnerships with stakeholders to formulate instruments such as climate and green bonds....81
4.3.43 Enhance access and uptake of meteorological information....81
4.3.44 Increase investment in value addition to environment and natural resources products and services....83
4.3.45 Increase funding for promoting non-consumptive uses of the natural resources....83
4.3.46 Mobilise and significantly increase financial resources from all sources to conserve and sustainably use natural resources....83
4.3.47 Increase awareness on sustainable use and management of environment and natural resources....83
4.3.48 Develop a clear communication strategy on sustainable natural resource management..84
4.3.49 Undertake targeted sensitization campaigns with information packaged in forms tailored to the information needs of recipient....84
4.3.50 Build strategic partnerships with other players such as; private sector, cultural institutions, media and politicians....84
4.3.51 Promote research, innovation and adoption of green appropriate technology to foster sustainable use and management of Water Resources & ENR....84
4.3.52 Develop a clear research agenda for this programme in partnership with relevant stakeholders....85
4.3.53 Undertake relevant applied research aligned to development needs and existing gaps..85
4.3.54 Promote forest cluster-based wood processing industries....85
4.3.55 Support local community-based eco-tourism activities for areas that are rich in biodiversity or have attractive cultural heritage sites....85
4.3.56 Promote payment for ecosystem services, biodiversity offsets and benefit sharing arising from use of biological resources....85
4.3.57 Transfer the command of Environment Police Force from Ministry of Internal Affairs to NEMA and NFA....85
4.3.58 Establish Environmental Courts within the Judicial System....85
4.3.59 Establish (put in place and equip) District Focal points for the Uganda National Meteorological Authority (detach from District Natural resources/Environmental Officers)....85
4.4 Challenges....86
CHAPTER 5: LAND MANAGEMENT....88
5.1 Introduction....88
5.2 Land Management Outcome Indicators....88
5.2.1 Increase the percentage of titled land....88
5.2.2 Reduce land related conflicts by 30 percent....88
5.3 Land Management Interventions....89
5.3.1 Complete the roll-out and integration of the Land Management Information System with other systems....89
5.3.2 Fast track the formulation, review, harmonisation and implementation of land laws, policies, regulations, standards and guidelines....89
5.3.3 Undertake a comprehensive inventory of Government land....89
5.3.4 Capitalize the Land Fund to ensure access to land by lawful and bonafide occupants....90
5.3.5 Strengthen the capacity of land management institutions in executing their mandate geared towards securing land rights....90

5.3.6 Promote land consolidation, titling and banking....90
5.3.7 Acquire land for infrastructure/utility corridors....90
5.3.8 Promote tenure security including women's access to land....91
5.3.9 Establish the national Spatial Data Infrastructure (NSDI) to enhance data integration for planning and development....91
5.3.10 Develop and implement a Land Valuation Management Information System (LAVMIS).91
5.3.11 Promote integrated land use planning....91
5.4 Emerging issues/Challenges and undertakings....91
CHAPTER 6: DISASTER PREPAREDNESS AND RISK MANAGEMENT....93
6.1 Introduction....93
6.2 Disaster Management Outcome Indicators....93
6.2.1 Human mortality and missing persons directly attributed to water and environment related disasters per 100,000 population....93
6.2.2 Economic Loss (USD) incurred per disaster as a % of GDP....93
6.3 Disaster Management Interventions....93
6.3.1 Strengthen the policy, legal and institutional framework for effective disaster risk governance, management and response....93
6.3.2 Institutionalize Programme disaster risk planning....93
6.3.3 Develop a National Disaster Risk Management Plan....94
6.3.4 Undertake a disaster risk screening of the NDPIII and generate information to inform implementation planning....94
6.3.5 Finalize and disseminate the National Risk Atlas....94
6.3.6 Strengthen the Disaster Risk Information Management Systems....94
6.3.7 Enhance capacities for storage, management and distribution of relief commodities....94
6.3.8 Strengthen the national store and relief chain management system....94
6.3.9 Ensure timely access to relief food and non-food commodities to disaster victims....94
6.3.10 Enhance the capacity for resettlement of persons at risk of disasters....94
6.4 Emerging issues/Challenges and undertakings....94
CHAPTER 7 MWE CONTRIBUTION TO OTHER PROGRAMMES....96
7.1 MWE CONTRIBUTION TO HUMAN CAPITAL DEVELOPMENT....96
7.1.1 RURAL WATER SUPPLY....96
7.1.1.1 Rural Water Outcome Indicators....96
7.1.1.2 Detailed performance analysis for each outcome indicator....96
7.1.1.3 Rural Water Outputs for FY 2020/21....101
7.1.1.4 Rural Water and Sanitation Regional Support Centres....109
7.1.1.5 Appropriate Technology Centre for Water and Sanitation....109
7.1.1.6 Challenges and Recommendations....115
7.1.2 URBAN WATER SUPPLY....116
7.1.2.1 Urban Water Outcome Indicators....116
7.1.3 WATER UTILITY REGULATION....141
7.1.3.1 Contracting/Licensing....141
7.1.3.2 Performance of Umbrella Authorities of Water and Sanitation....144
7.1.3.3 Performance of National Water and Sewerage Corporation (NWSC)....147
7.1.3.4 Regulation Campaigns Conducted for Sanitation Standards (Regulatory tools and

instruments).....151
7.1.3.5 Guidelines for Standardization of Micro and Bulk Mechanical Cold Water Meters.....151
7.1.3.6 Guidelines for Drinking Water Pipes and Fittings.....152
7.1.3.7 Water Quality Testing Kits for Drinking Water.....152
7.1.4 RURAL AND URBAN SANITATION.....153
7.1.4.1 Introduction.....153
7.1.4.2 Rural Sanitation initiatives during FY2020/21.....153
7.1.4.3 Rural Sanitation and Hygiene.....157
7.1.4.4 Urban Sanitation initiatives during FY2020/21.....161
7.1.4.5 Progress on Sanitation and Hygiene Indicators.....165
7.1.4.6 Key Emerging Issues.....168
7.2 MWE CONTRIBUTION TO AGRO-INDUSTRIALISATION.....169
7.2.1 WATER FOR PRODUCTION.....169
7.2.1.1 Introduction.....169
7.2.1.2 Water for Production Outcome Indicators.....169
7.2.1.3 Water for Production Interventions.....172
CHAPTER 8: CONTRIBUTION OF CSOs/NGOs TO NRECCLWM PROGRAMME.....177
8.1 Environment and Natural Resources Civil Society Organisations (ENRCSOs).....177
8.1.1 Introduction.....177
8.1.2 Financial contribution of ENR CSOs to the programme.....177
8.1.3 Strengthen conservation, restoration of forests, wetlands and water catchments and hilly and mountainous areas.....178
8.1.4 Restore the natural integrity of degraded wetlands to their ecological functionality;....179
8.1.5 Improve coordination, regulation and monitoring of environment management at both central and local government levels;.....180
8.1.6 Finalize the development of a national Green House Gas Inventory and its Monitoring, Reporting and Verification System (MRVS).....182
8.1.7 Scale up use of renewable energy through off-grid electrification and Liquefied Petroleum Gas.....183
8.1.8 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.....184
8.1.9 Increase awareness on sustainable use and management of environment and natural resources.....184
8.1.10 Build strategic partnerships with other players such as; private sector, cultural institutions, media and politicians.....186
8.1.11 Undertake relevant applied research aligned to development needs and existing gaps..187
8.1.12 Cross-Cutting Issues.....188
8.1.13 Emerging issues/Challenges and undertakings.....188
8.2 Uganda Water and Sanitation Network (UWASNET).....191
8.2.1 Reporting profile.....191
8.2.3 CSO presence/intervention by region.....192
8.2.4 Critical analysis of investment trends.....192
8.2.5 CSO Investment FY2020/21.....194
8.2.6 CSO contribution to district local government budgets.....194

8.2 CSOs investment in the Human Capacity Development Programme.....194
8.2.1 Access to rural water supply.....194
8.2.2 Access to safe and clean water sources in rural areas.....195
8.3 Access to inclusive sanitation and hygiene services in rural areas.....198
8.4 Cso Investment In The Climate Change, Natural Resources, Environment, And Water Management Program.....204
CHAPTER 9: CROSS CUTTING ISSUES.....209
9.1 Introduction.....209
9.2 Gender Equality and Women Empowerment.....209
9.3 Gender Indicators.....209
9.3.1 Percentage of Water and Sanitation Committees (WSC) with at least one woman holding a key position.....209
9.3.3 Gender in staff Composition.....210
9.3.4 Gender and equity Responsive Planning and budgeting.....213
9.3.5 Economic Empowerment and Initiatives to support the poor and disadvantaged.....214
9.3.6 Livelihood Empowerment initiatives by LEAF project.....217
9.3.7 Pro- poor activities.....217
93.8 HIV/ AIDS Mainstreaming.....217
9.3.9 Environmental and Social Safeguards.....221
9.3.10 Challenges for mainstreaming cross- cutting issues.....222
CHAPTER 10: CHALLENGES, CONCLUSIONS AND RECOMMENDATION.....223
ANNEXES
Annex 1: Program Description 226
Annex 2: Access to Safe Water Supply – Rural and Urban June 2021.....231
Annex 3: Functionality of Rural and Urban water facilities – June 2021.....233
Annex 4: Equity, Gender and Management – June 2021.....235
Annex 5 Villages with Safe Water Source – June 2021.....237
Annex 6: Functionality of Water Sources by Technology - June 2021.....239
Annex 7: Map of WUCs with Women in Key Positions - June 2021.....244
Annex 8: Map of Safe Water Sources with WUCs - June 2021.....245
Annex 9.1: NWSC Operational Areas as of June 2021.....246
Annex 9.2: Water Production (m3) and Capacity Utilization (%) as at 30th June 2021.....249
Annex 9.3: Status of Household Connections as at 31st June 2021.....251
Annex 9.4: Status of Pro-Poor Connections as at 30th June 2021.....253
Annex 9.5: Status of Sewer Connections as at 30th June 2021.....255
Annex9.6: Status of Mains Extensions (Km) as at 30th June 2021.....257
Annex 9.7: Number of Staff as at 30th June 2021.....258
Annex 10: Annual Performance of Umbrella Authority of Water and Sanitation.....260
Annex 11: Detailed Performance of the WfP Department in the F/Y 2020/21.....266
Annexes 12: ENR-CSOs contributing to the Report.....269
Annex 13: UWASNET Members who submitted reports for FY2020/21.....270
Annex 14: Csos That Submitted Reports.....275

FOREWORD

Natural resources, environment, climate change, water and land management are critical to the reduction of due to disasters, achievement of increased household incomes and improvement of quality of life of the population. They present an impetus for sustainable exploitation of the key growth opportunities of agriculture, minerals, petroleum and tourism, ultimately contributing to increase in incomes and improved quality of life. The poor management of natural resources including land, water, and environment coupled with the worsening effects of climate change persist with dire implications on the quality of life, low agriculture productivity and macroeconomic variables such as economic growth and inflation. For this reason, this Programme on Natural Resources, Environment, Climate Change, Water and Land Management was conceptualized around positioning natural resources, environment and land resources to contribute to the realization of the sustainable industrialization agenda of the NDPIII 2020/21-2024/25. Specifically the Programme contributes to the NDPIII objective of *Enhancing Value Addition in Key Growth Opportunities.*

This is the 1st Natural Resources, Environment, Climate Change, Lands and Water Management (NRECCLWM) Programme Report (PPR)2021. It presents the performance of the Programme during the Financial Year (FY) 2020/21 with respect to investments, achievement of outcomes and interventions, and challenges. It is based on Programme Indicators and interventions as outlined in NDPIII and Programme Implementation Action Plan (PIAP). It covers natural resources, environment, climate change, land and water management, disaster preparedness and risk management. The report also covers Ministry of Water and Environment (MWE) contribution to other programs as well that is – Human Capital Development and Agro-industrialisation, the contribution of NGOs/CSOs and cross cutting issues.

During this year the program has subsequently registered a forest cover increase to 12.4% in 2017. Various interventions to restore forest cover included: 59,588ha of the cumulative 1,072,182ha of Central Forest Reserves (CFRs) constituting 85% of the CFRs were protected, freed from illegalities and encroachment to enhance natural forest regeneration in various parts of the country.

The programme has managed to increase compliance with ground water abstraction permit conditions to 78.4%. from 76.8%. A total of 187 new water permit applications were received and assessed, of which 89% were issued.

The total land titled/registered increased to 22% in FY 2020/21 from 21.73% in 2019/20. The low achievement was partly because of the COVID-19 pandemic which led to closure for land offices.

During the FY 2020/21, the mortality related to natural disasters was 26 persons which translates into 0.06 persons per 100,000 population. This was lower than the 38 persons lost due to natural disasters in FY 2018/19.

Underfunding remains a major challenge; the budget allocation in the MTEF is far below the projected funding to achieve the outcomes and implement the interventions as outlined in NDP3 and PIAP. The reallocation of budgeted funds to fight COVID-19 pandemic has exacerbated the problem.

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

Sam Cheptoris (MP)
MINISTER OF WATER AND ENVIRONMENT
POLITICAL HEAD, NRECCLWM PROGRAMME

EXECUTIVE SUMMARY

Introduction

This is the first Natural Resources, Environment, Climate Change, Lands and Water Management (NRECCLWM) Programme Report (PPR). It presents the performance of the Programme during the Financial Year (FY) 2020/21 with respect to investments, achievement of outcomes and interventions, and challenges. It is based on Programme Indicators and interventions as outlined in NDPIII and Programme Implementation Action Plan (PIAP). It covers natural resources, environment, climate change, land and water management, disaster preparedness and risk management. The report also covers Ministry of Water and Environment (MWE) contribution to other programs – Human Capital Development and Agro-industrialisation, the contribution of NGOs/CSOs and cross cutting issues.

Data used for this report is derived from databases in the Ministry of Water and Environment, District Local Governments, semi-autonomous Agencies, Ministry of Lands Housing and Urban Development (MLHUD), Office of the Prime Minister, Ministry of Education and Sports, Ministry of Health and the Uganda Bureau of Statistics (UBOS).

Programme Financing

During the FY 2020/21, the programme received a total of UGX 804.26 bn. This included UGX 250.17 bn for disaster management, UGX 208.27 bn for land management and UGX 345.82 bn for Environment, Natural resources, Climate Change and Water management. External financing constituted UGX 476.46 bn, representing 59.2%.

Out of the UGX 803.14bn allocated to the programme, UGX 728.78bn was released, representing 94% performance. Approximately UGX 74.4bn was not released due to to re-allocations to other programmes in order to respond to the COVID-19 pandemic. The total expenditure was UGX 637.88 bn representing 85% of the released funds. NWSC and Umbrella Authorities contributed to the Appropriation in Aid budget. The appropriated budget amounted to UGX 567.39bn and the collections during the financial year were UGX 438.238bn representing 77.2% of the budget. Civil Society Organisations (CSOs) contributed a total of UGX 9.3 bn comprising ENR-CSOs contributed USD 1,223,325 or UGX 4.53 bn and UWASNET contributed UGX 4.78 bn. The money was spent on interventions related to Natural Resources, Water Resources and Climate Change.

Water Resources Management

Compliance: A total of 645 permit holders of groundwater, surface water and wastewater discharge were monitored for compliance with the provisions of Water Act and permit conditions with ground water abstraction permit conditions was 76.8% and surface water abstraction was 78.4%. Compliance with waste water discharge was 65%. A total of 187 new water permit applications were received and assessed, of which 89% were issued. 251 applications for permit renewal were received and 71% were renewed.

A total of 196 wastewater samples was collected and analysed from industrial and municipal wastewater discharges. The compliance to the National Effluent Discharge standard with regard to COD was 47.9%, TSS was 71.5% and TN was 25.3%

Drinking water monitoring: 868 water samples were collected from point water sources from 38 districts country wide. Compliance with the National Potable Water Standards with respect to E.coli for rural water supply by technology was 73%, 54%, 51%, 43% and 24% for deep wells, rain water harvesting, protected spring, shallow well and dug well respectively.

A total of 989 samples were collected from urban water supply systems serving 72 large towns, small towns and rural growth centres country-wide. Compliance with the National Potable Water Standards with respect to E.coli for urban water supplies was 90%. This represented a decline in performance compared to the previous year which stood at 94%.

Catchment management: 5 catchment management plans were developed for River Mitano, River Nyamwamba, River Nkusi, River Muzizi and River Semliki Catchments of transboundary significance were developed. These plans aim at supporting the reversal of catchment degradation, increased ecosystem resilience and productivity, and improved community livelihoods/ socio-economic development.

Measures implemented in catchments and sub catchments of Opeta Bisina, Lake Kochobo, Kelim Taboki, Pager Matidi, Agago, Aswa 1, Upper Maziba, Lower Maziba and Middle Maziba located in Awoja, Aswa and Maziba, Nyamwamba Catchment included (i) 1,428,772 trees seedlings distributed and planted to improve the basin vegetation cover; (ii) 58 km of soil and water conservation measures; (iii) 14 tree nurseries established under public private partnership with a production capacity of 1,530,580 tree seedlings per planting season; and (iv) 248 water harvesting and flood control structures constructed in the catchments including 31 percolation pits, 30 gabions and 187 trenches of 1km each. One gender sensitive Water Catchment Management Committees was established for Kiiha Catchment. Two Sub Water Management Zone offices have been set up; one in Kabale and another in Karamoja.

Adapting to Climate Change for Lake Victoria Basin Project (ACC-LVB) commenced demonstration of climate change adaptation technologies at selected project intervention sites: (i) Enhancing Ecosystem Resilience through Promotion of Energy Saving Stoves; (ii) Enhancing Adaptive Capacity of Communities to Climate Change through Sustainable Pasture Management in Mubende; (iii) Strengthening Community Resilience to Drought through Construction of two (2) Communal Valley Tanks in Kyankungu and Kalungi villages, Mubende District.

The Lakes Edward and Albert Basin Strategy and Investment Plan (LEAB SIP) prepared. The Bathymetric surveys for Lakes Edward and Albert was completed. Participated in the Technical and Advisory committee meeting in which Uganda was elected as a representative of the Eastern Region on the African Water Facility.

Surface Water & Ground Water monitoring network: Throughout the FY 2020/21, the water resources monitoring network operated below 50%. This was This was attributed to flooding, chronic vandalism, changing landlords since the new landlords are not willing to host the monitoring stations and inadequate budgetary allocation.

Water Resource Institute (WRI) organized, supported and conducted **10** short course trainings of both national and international nature involving a total **383** participants, **5** working sessions and **4** meetings. The trainings covered cost sharing arrangements with various institutions and organizations such as MWE, GIZ UNESCO, Makerere University Kampala (MUK), Global Water partnership

(GWP), UNICEF, UNESCO, World Bank, LVBC, IGAD, Uganda Drillers and Contractors Association (UDCA) among others. The Ministry of Water and Environment spearheaded by Water Resources Institute organized the third UWEWK2020 and fourth UWEWK2021.

Water Policy revision and Water Act amendment: The Ministry submitted to Cabinet Secretariat the draft Cabinet Memorandum for review. Cabinet Secretariat reviewed the Memorandum and made comments which are being addressed by the MWE.

Natural resources, environment and climate change

Land area covered by Forest: The Biomass Study (2017) indicated that Uganda registered a reduction in forest-land cover from 24.1% in 1990 to 9.6% in 2015 and subsequently registered a forest cover increase to 12.3% in 2017.

During the reporting period the interventions to restore forest cover included: 59,588ha of the cumulative 1,072,182ha of Central Forest Reserves (CFRs) constituting 85% of the CFRs were protected, freed from illegalities and encroachment to enhance natural forest regeneration in various parts of the country. A total of 12,811ha out of the planned 32,000 ha of new tree plantations were planted in Central Forest Reserves.

The area and productivity of industrial forest plantations on Central Forest Reserves (CFRs) increased to 143,611.4ha (by 32,611ha). 9,755km of 506 CFRs boundaries re-surveyed, demarcated and maintained under National Forestry Authority. 45,768,078 assorted quality seedlings from 32 nurseries and verified seed sources (Bamboo, Indigenous and exotic species) were supplied with >70% survival planting across the country. NFA raised and supplied 19,372,131 (53.2%) out of the planned 36,350,400 quality assorted seedlings to the general public and for NFA own planting.

Land area covered by wetlands: According to the mapping exercises undertaken in 1994 and 2015, the wetland coverage declined from 15.6% in 1994 to 13% in 2015. Although the wetland coverage is estimated at 13% of Uganda's surface area, only 8.9% (21,526km^2) of this is intact while 4.1% (9,885km^2) in under some form of degradation.

The interventions undertaken during FY 2020/21 to increase wetland coverage included: The area under wetland management plans increased from 6376.5km^2 in 2019/2020 to 6507.34Km^2 in FY 2020/21. Atotal of 531km of critical wetlands were demarcated. A total of 10,038.8 ha out of the planned 21,876 of critical wetlands were restored across the country.

Air quality Index $PM_{2.5:}$ The air quality standards focused around Kampala metropolitan areas where 154% of targeted air quality compliance was achieved in FY 2020/21. There is still weakness in enforcement, compliance and monitoring, hence the need to have national air quality legislation, regulation, monitoring systems and standards enforcement

Climate Change Vulnerability Index: The country with NDC Support Programme is in the process of the developing the Vulnerability index for the country and the process is expected to end in December 2021.

Accuracy of meteological information: The Accuracy of forecasts FY 2020/21 was 75-80% against the annual target of 66%.

Automation of weather and climate network: The percentage of automation of weather and climate network increased from 51.4% in FY 2019/20 to 62% in FY 2020/21. 91 out of the 146 districts had at least an Automatic Weather Station (AWS) installed compared to 75 districts in FY 2019/20. This represents 21% increase in the districts covered

Land Management

The total land titled/registered increased from 21.73% in 2019/20 to 22% in FY 2020/21. The low achievement was partly because of the COVID-19 pandemic which led to closure for land offices.

During the FY 2020/21 the interventions undertaken for land management included: A total of 5,624 land related conflicts were received. Out of these, 2,400 were mediated/resolved. This represents 42.67% performance. 8,607 sub division surveys carried out for Lawful and bonafide occupants in Bunyangabu, Mbarara, Kakumiro and Kibaale Districts Acquired. 11,195.611 hectares of Land from payments made to Absentee Landlords for Lawful and bonafide occupants. 16,538 Certificates of Customary Ownership prepared. 200 Certificates of Occupancy prepared. Completed and issued 3,958 Certificates of Customary Ownership in the Districts of Pader, Butelaja, Adjumani, Kisoro, Soroti, Katakwi, Namutumba, Bulisa and Kabale. Issued 3,281 Certificates of Title out of 26,090 to women across the country to promote tenure security.

Disaster preparedness

During the FY 2020/21, the mortality related to natural disasters was 26 persons only. This translates into 0.06 persons per 100,000 population. This was lower than the 38 persons lost due to natural disasters in FY 2018/19.

In the FY 2020/21, the economic loss from disasters was estimated at UGX. 563 Bn in FY 2020/21. This translates into 0.4% of GDP lost due to natural disasters. The interventions included: Finalized consultations on the Peace Policy and the draft Policy is awaiting Top Management approval and onward submission to Cabinet.

Natural Resources, Environment, Climate Change, Land and Water Management Outcome Indicators

Outcome	Indicators	Baseline FY2017/18	2020/21	
			Target	Achieved
Increased compliance to all water permit conditions	Compliance to ground water abstraction (%)	76	77	76.8
	Compliance to surface water abstraction (%)	78	78.5	78.4
	Compliance to waste water discharge (%)	63	64	65.3
Enhanced water quality management	Percentage of water samples complying with national standards for water bodies	ND	ND	ND
	Percentage of water samples complying with national standards for water collection points	ND	65	Rural 62.2% Urban 90%
Increased land areas covered by forests and wetlands	% of land area covered by forests as % of total land area	9.1%	10.3	12.3
	% of land area covered by wetlands as a % of total land area	8.9%	9.08%	8.9
Increased titled land	Titled land as a percentage of total land area	21	24	22
High compliance with a environmental and social impact assessment (ESIA)/ Condition by developers	Percentage of permit holders complying with ESIA conditions at the time of spot check	40	50	80
Improved Air quality in cities	Trends in Air Quality Index $PM_{2.5}$	147	155	154
Climate Change responsive Development Pathway	Average Annual Change in a Green House Gas (GHG) emissions (MtCO2e)	1.39	1.31	ND
	Climate Change Vulnerability Index	2.5	3	ND
Reliable and accurate Meteorological information	Percentage of accuracy of meteorological information	60	66	75 - 80
	Percentage of weather and climate network automated	30	40	62
Reduced human and economic loss from natural hazards and disaster.	Human mortality and missing persons directly attributed to water and environment related disasters per 100,0000	150	130	0.06
	Economic loss (USD incurred per disaster as a % of GDP)	7.5	7	0.4
Increase income and employment from natural resources	Proportion of green jobs to total jobs	25%	28%	ND

Note ND means No Data

CHAPTER 1:
INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 Programme Description

The Natural Resources, Environment, Climate Change, Land and Water Management (NRECCLWM) Programme is one of the 18 Programmes of NDP3. It is responsible for sound management and sustainable utilization of natural resources, environment, land and water resources and mitigation of the impact of climate change for socio-economic development of Uganda. The Programme, therefore, is central to realization of the NDP III goal of increased household incomes and improved quality of life of the population, set under the theme "***Sustainable Industrialization for Inclusive-growth, Employment and Wealth Creation***".

The Third National Development Plan (NDPIII) whose goal is to increase household income and improve the quality of life of Ugandans has adopted a programme approach to planning, budgeting, implementation and reporting. This entails programme and performance-based budgeting to address the persistent implementation challenges resulting from uncoordinated planning, weak harmonization, limited sequencing of programmes and poor linkages between outcomes and outputs experienced in the past NDPs.

Programme Goal

The Goal of NRECCLWM Programme is to stop and reverse the degradation of Water Resources, Environment, Natural Resources as well as the effects of Climate Change on economic growth and livelihood security.

Programme Objectives

i. Assure availability of adequate and reliable quality fresh water resources for all uses.
ii. Increase forest, tree and wetland coverage, restore bare hills and protect mountainous areas and rangelands.
iii. Maintain and/or restore a clean, healthy, and productive environment.
iv. Reduce climate change vulnerability and carbon footprint.
v. Reduce human and economic loss from natural hazards and disasters.
vi. Increase incomes and employment through sustainable use and value addition to water, forests and other natural resources.

Programme Results

i. Increase water permit holders complying with permit conditions at the time of spot check:
   a. abstraction – surface from 76% to 85%.
   b. abstraction – groundwater from 73% to 83%.
   c. waste water discharge from 59% to 68%.
ii. Increase water samples complying with national standards:
   a. water bodies at 65% by 2025.
   b. supplies/water collection point at 80% by 2025.

iii. Increase land area covered by forests from 9.1% to 15%.
iv. Increase land area covered by wetlands from 10.9% to 12%.
v. Increase permit holders complying with EIA conditions at the time of spot check from 40% to 90%.
vi. Increase the accuracy of meteorological information from 80% to 90%.
vii. Increase the percentage of automation of weather and climate network from 30% to 80%.
viii. Increase the percentage of titled land from 21 percent to 40 percent; and
ix. Reduce land related conflicts by 30 percent.

1.2 Institutional Framework

The Ministry of Water and Environment is lead Ministry responsible for implementation of the Natural Resources, Environment, Climate Change, Land and Water Management Programme. The Minister of Water and Environment is the lead Minister for the programme and provides policy guidance jointly with the Minister for Lands to hold the technical leadership accountable for implementation of the programme.

The Permanent Secretary of the Ministry of Water and Environment is the designated technical leader and coordinator for the implementation of the programme bringing together all the several state and non-state actors in the programme and steers and chairs the Programme Working Group.

Programme Working Group (PWG) is the policy making organ, within the overall NDP programme approach, in which Government (*all MDAs under the Programme*) and other stakeholders come together to function, discuss and agree on:

i. Inter and intra agency planning;
ii. Priority interventions and Resource allocation;
iii. Delivery of services; and,
iv. Joint monitoring & evaluation of multi-agency activities.

Through the Program Working Group (PWG), all stakeholders are convened to set the priorities for implementation, identify the key policy and project requirements and key implementation bottlenecks to be resolved.

Sub-Programmes – There are three sub-programmes (i) Natural Resources, Environment and Climate Changes, (ii) Water Management, and (iii) Land Management. These are related to interventions/ outputs contributing to Programme Outcomes.

Directorates/Departments – These are administrative units within the institutions that implement Interventions/activities of the programme.

Programme Working Group Secretariat – The Secretariat of the Programme is housed at the Policy and Planning Department of the Ministry of Water and Environment as the leading Ministry in the Programme. The Commissioner Policy and Planning Department is the Secretary to the PWG and responsible for the day to day running of the Programme Secretariat.

1.3 Programme Report

The Natural Resources, Environment, Climate Change, Land and Water Management Programme Performance Report (PPR) is the most important document for assessing the performance of the Programme. It provides an annual assessment of investments, achievement of outcome targets and progress in implementation of interventions and actions as outlined in the NDPIII and Programme Implementation Action Plan (PIAP). It highlights the major challenges and strategic issues which effect performance.

This is the First NRECCLWM Programme Performance Report. It is based on programme approach to planning, implementation and reporting which commenced in the FY 2020/21. It has been prepared through a participatory process with inputs from the Ministry of Water and Environment (MWE), National Environment Management Authority (NEMA), National Forestry Authority (NFA), Uganda National Meteorological Authority (UNMA), National Water and Sewerage Corporation (NWSC), Ministry of Lands, Housing and Urban Development (MLHUD), Office of the Prime Minister, Local Governments, Uganda Water and Sanitation NGO Network (UWASNET) and Environment and Natural Resources CSO Network.

A senior management team quality assured and synthesised these inputs. The primary data sources are Local and Central Government reports and databases at District Local Governments and MWE.

Chapter 2 presents Programme Planning, Finance and Capacity Development. It presents an analysis of on-budget and off-budget resources, Government (GoU) and Development Partner contributions, and contributions from large cross-sectoral projects and programmes.

Chapter 3 presents the performance of Water Resources Management sub-programme including water resources planning and regulation, water quality, monitoring and assessment, and international and transboundary water. Chapter 4 presents the performance of the Natural Resources, Environment and Climate Change.

Chapter 5 presents the performance of Land Management and Chapter 6 Disaster Preparedness and Risk Management. Chapter 7 Presents the contribution of MWE to other programmes – Human Capital Development and Agro-Industrialisation. It analysis the performance under rural and urban water supply, sanitation and water for production.

Chapter 8 presents the contribution of Environment and Natural Resources (ENR) CSOs and Uganda Water and Sanitation NGO Network (UWASNET). Chapter 9 Presents the cross-cutting issues including gender, HIV/AIDS and Pro-poor initiatives. Chapter 10 presents the Conclusions and Recommendations.

CHAPTER 2:

PROGRAMME PLANNING, FINANCE AND CAPACITY DEVELOPMENT

CHAPTER 2

PROGRAMME PLANNING, FINANCE AND CAPACITY DEVELOPMENT

2.1 Introduction

The Ministry of Water and Environment is lead Ministry responsible for implementation of the Natural Resources, Environment, Climate Change, Land and Water Management Programme. Through the Program Working Group (PWG), all stakeholders are convened to set the priorities for implementation, identify the key policy and project requirements and key implementation bottlenecks to be resolved. The priorities for the subsequent financial year are set in line with the Budget Process Calendar.

The agreed outputs and priorities are then translated into annual programme action plans for each implementing entity. The action plans are submitted annually to the Ministry of Finance, Planning and Economic Development and Office of the Prime Minister for approval.

MWE is responsible for coordination and development an annual Programme Budget Framework Paper (PBFP). This is done in consultation with all relevant stakeholders of the programme and entails consolidation of the BFPs of each vote that contribute to the Programme. The process is guided and overseen by the PWG to ensure that the final budget estimates are intended to finance the agreed priorities and actions of the program approved by the Programme Working Group (PWG).

MWE is supposed to consolidates, based on submissions from votes and agencies, the quarterly and annual programme reports on the progress of the results of the programme and submits to the OPM, both semi-annual and annual stage as well as Ministry of Finance.
Detailed description of the programme is provided in Annex 1

2.2 Programme Budgeting

In the FY 2020/2021, the government effectively implemented the programme as stipulated in the NDP III. The FY 2020/2021 budget was based on programme-Based Budgeting framework ensuring that the sector plans and budgets are linked and focused to sector outcomes rather than outputs.

The budget strategy for the financial year in focus was "Industrialisation for inclusive growth, Employment and Wealth creation" and in order to actualise this overall government strategy, the Programme "domesticated" this through the sector Investment Plan 2017-2023, the NRM Manifesto pledges 2021-2026 and the multiyear projects carried forward from the previous years that link to the sector outcomes.

At a lower level, major focus of the budget catchment management planning and implementation, enhanced tree planting and forestry restoration through reclamation, replanting of the gazetted areas, wetland restoration and maintenance of the critical wetlands national wide.

New Projects

The programme implements projects as a vehicle of achieving the programme's objectives and goals. Projects are prepared and submitted to the Development Committee of Ministry of Finance, Planning and Economic Development (MoFPED) where they are subjected a critical review and analysis to ensure the strategic fit by testing their credibility over the four stages of project cycle development.

During the FY 2020/21, the programme prepared and approved three new projects. The annual project requirement is approximately **UGX 5.156** bn annually under GoU funding and **UGX 78.7.8bn** as their total value for project life. However, there is still low funding to these projects despite having been approved by government. Project financing is still a programme issue because budget ceiling is not increasing over the years. Table 1 shows the projects and their approved budget.

Table 1: New projects approved into the PIP for the FY 2020/2021-2025 period

Programme	Code	Project Name	Start Date	End Date	Approved budget for FY 2020/21 (UGX)	Total Project cost
04	1761	Strengthening Drought Resilience For Small Holder Farmers And Pastoralists in the Igad Region-Lokere Catchment, Uganda	2021/22	2025/26	2.156bn	6.3bn
04	1762	Potable Water Project	2021/22	2025/26	3.00bn	78.7bn

Other projects in pipeline submitted to the Development Committee are presented in Table 2.

Table 2: Pipeline projects submitted for approval

Sr.N		Project Name	Current Status
1	ENRCCLWM	National Tree Planting Project	Profile
2		Enhancing Resilience Of Communities and Fragile Ecosystems to Climate Change Risk In Katonga and Mpologoma Catchments	Pre-feasibility
3		Transboundary Water Development and Management Project	Concept
4		Multinational Lakes Edward and Albert Integrated Basin Management and Investment Project (LEAF III)	Profile
5	Human Capital Development	Kampala Sanitation Program - Lake Victoria Protection Project Phase III (LVP III)	Profile
6		Wakiso West Water and Sanitation Project	Profile
7		Water and Sanitation Development Facility – Karamoja (WSDF-K)	Pre-feasibility
8		Strengthening Water Utilities Regulation Project	Pre-feasibility
9	Agro- Indus-trialisation	Water for Production Regional Centre – Central	Concept
10		Water for Production Regional Centre – Karamoja	Concept
11		Water for Production Regional Centre - East Phase II	Concept
12		Water for Production Regional Centre – North Phase II	Concept
13		Water for Production Regional Centre - West Phase II	Concept

2.3 Programme Monitoring and Reporting

During the FY 2020/21, project monitoring was greatly affected by COVID-19 pandemic restrictions on movements. The Ministry undertook limited technical supervision as and when possible, with limited numbers. This activity was also affected by re-allocation funds as directed by Cabinet/ Parliament in order to fight COVID-19 pandemic.

2.4 Programme Financial Performance

2.4.1 Programme Budget for FY 2020/21

During the FY 2020/21, the programme received a total of UGX 804.26 billion. This include UGX 250.17 billion for disaster management, UGX 208.27 billion for land management and UGX 345.82 billion for Environment, Natural resources, climate change and Water management. Details are presented in Table 3. Sources funds included government (treasury), external financing, Appropriation in Aid, and Off budget funding from development agencies like UNDP, Denmark and UNICEF.

Table 3: NRECCLWM Programme funding by sources

Category	Disaster Management	Land Management	Environment, Natural resources, climate change and Water management	Total Program Allocation
Wage	0.55	8.72	39.55	48.82
Non- wage	4.38	50.22	59.25	113.85
GoU Dev't	12.06	48.23	101.95	162.24
External Financing	233.18	101.10	142.18	476.46
Arrears	0.00	0.00	2.89	2.89
Total	**250.17**	**208.27**	**345.82**	**804.26**

2.4.2 Programme Allocations in the Medium term

Table 4 presents the programme budget allocation in the medium term. The projected funding is based on the Medium-Term Expenditure Framework (MTEF) allocation released by the Ministry of Finance Planning and economic development. It should be noted that the allocations are below the programme funding requirements and projections as spelt out in the NDP III. The total allocation for the programme for the FY 2020/21 was UGX 804.24bn against the NDP III annual requirement of UGX 895.14bn; representing 90% funding. This will affect the achievement of the NDPIII targets and outcomes. The programme requires additional funding and efficient utilisation of the available resources if it is to deliver on its targets set in NDP III.

Table 4: Programme Budget Allocation in Medium Term

	Approved		MTEF budget projections			
	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Wage	48.82	44.324	44.324	43.26	43.32	43.38
Non-Wage	113.85	55.679	55.679	100.97	118.37	139.19
GoU Dev't	162.24	444.208	444.208	315.08	316.15	317.3
External	476.46	834.445	958.04	1309.86	1536.55	939.38
Arrears	2.89	3.99	0	0	0	0
Total	**804.26**	**1,382.65**	**1,502.25**	**1,769.17**	**2,014.39**	**1,439.25**

2.4.3 Budget share by Vote

The individual vote allocations are shown in Table 5. The proportional share of the budget by vote is depicted in Figure 1. MWE, disaster management and land management components had the biggest share of the budget. Minimum allocations were made to climate change and environment yet they are key in achievement of the programme goals and objectives.

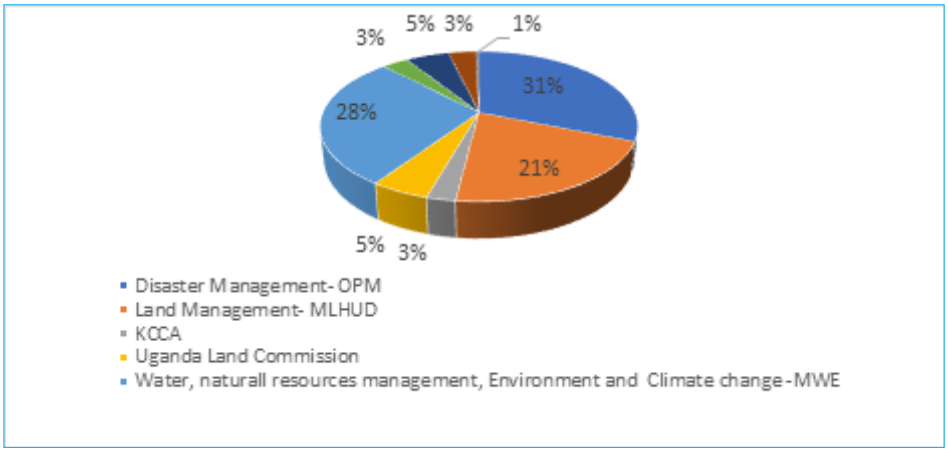

Figure 1: share of budget allocation by Votes under the ENRCCLWM Programme

Table 5: Programme Budget allocation by Vote FY 2020/21 as Propriated By Parliament

FY 2020/2021 Budget allocation by Votes under the ENRCCLWM Programme (UGX billion)								
Vote	**Programme Name**	**Wage**	**Non-Wage**	**Go U**	**Ext. Fin**	**AIA**	**Arrears**	**Total**
003	Disaster Management- OPM	0.55	4.38	12.06	233.18	0.00	0.00	**250.18**
012	Land Management- MLHUD	8.10	49.65	8.92	101.01	0.00	0.00	**167.68**
122	KCCA	9.37	10.48	0.18	0.00	0.00	0.00	**20.02**
156	Uganda Land Commission	0.61	0.57	39.32	0.00	0.00	0.00	**40.50**
019	Natural resources, Environment, Climate Change and Water Management -MWE	7.78	1.49	73.70	142.18	0.00	2.89	**228.04**
150	Environmental Management	6.72	17.84	0.99	0.00	0.00	0.00	**25.56**
157	Forestry Management	8.27	21.43	12.88	0.00	0.00	0.00	**42.58**
302	National Meteorological Services	7.41	5.00	14.20	0.00	0.00	0.06	**26.68**
500	Natural Resources Management- LG's	0.00	3.00	0.00	0.00	0.00	0.00	**3.00**
	Total	**48.82**	**113.85**	**162.25**	**476.37**	**0.00**	**2.95**	**804.24**

2.4.4 Budget Performance

Out of the UGX 803.14bn allocated to the programme, UGX 728.78bn was released, representing 91%. It should be noted that this performance includes 28% supplementary release to the land's component during the financial year. Approximately UGX 74.4bn was not released due to to re-allocations to other programmes in order to respond to the COVID-19 pandemic. Performance on externally financed projects was also hampered by the lockdown and low activity during the period due to COVID-19 restrictions especially to foreign based companies and human resources. Table 6 shows the programme budget performance in FY 2020/21.

Table 6: Programme budget Releases and expenditure for the FY 2020/21

Vote	Programme Name	Budget	Release	Expenditure	% Of Budget Released	% Of Release spent
003	Disaster Management- OPM	250.18	237.05	195.38	95%	82%
012	Land Management- MLHUD	167.68	214.05	164.31	128%	77%
122	KCCA	20.02	17.48	17.29	87%	99%
156	Uganda Land Commission	40.50	46.60	45.84	115.3%	98.2%
019	Water, natural resources management, Environment and Climate change -MWE	228.04	166.37	144.8	73%	87%
150	Environmental Management	25.56	18.811	18.496	74%	98%
157	Forestry Management	42.58	32.49	31.05	75.3%	97.6%
302	National Meteorological Services	26.68	18.96	17.71	71%	93%
500	Natural Resources Management- LG's	3.0	3.0	3.0	100%	100%
	Total	**804.24**	**754.81**	**637.88**	**94%**	**85%**

During the FY 2020/21, NWSC and Umbrella Authorities contributed to the Appropriation in Aid budget. The appropriated budget amounted to UGX 567.39bn and the collections during the financial year were UGX 438.238bn representing 77.2% of the budget. Performance under this component was mainly hindered by the COVID-19 pandemic lockdown and the Cabinet directive of "no disconnection" of customers during the lockdown period. This hampered payment enforcement and collections during the period in question. The Water Utilities recorded an approximate UGX 38.177bn in arrears during the year under review. Table 7 presents performance of appropriation in Aid.

Table 7: Performance of Appropriation in Aid 2020/2021 in UGX bn

Vote Function/Centre	Budget	Release	% Release spent
NWSC	566.39	464.01	81.92%
Umbrella Organisation	10.20	9.82	96.27%
GRAND TOTAL	**567.39**	**438.235**	**77.24%**

2.4.5 Off- budget- CSOs

Table 8 shows the financial contribution of ENR-CSOs. 16 CSOs reported interventions in Natural Resources, Climate Change and Water Management with total investment of UGX 4.78 billion. This is 18.6% increase from UGX 4.03 billion in FY2019/20.

Table 8: ENR-CSO Financing per subsector

Subsector	Agency	Budget	Release	Spent	% Release
Environment and Natural Resources	CSOs	4.78bn	4.78bn	4.78bn	**100%**
Total		**4.78bn**	**4.78bn**	**4.78bn**	**100%**

Table 9: Funding of components of other programmes (HCD & Agro-industrialisation)

Programme	Vote	Sub-sub programme	Wage	Non - Wage	Go U	Ext. Fin	AIA	Arrears	*Total*
HCD	019	Rural Water Supply and Sanitation	0.55	2.59	64.62	74.81	0	4	146.57
	019	Urban Water Supply and Sanitation	0.44	0.32	155.54	766.97	438.01	6	929.27
	500	Rural Water Supply and Sanitation- LG's	0.00	10.00	79.40	0	0	0	89.4
	500	Urban Water Supply and Sanitation- LG's	0.00	2.50	0.00	0	0	0	2.5
Agro- Industrialization	019	Water for Production	0.21	0.04	109.56	102.27	0	1.5	213.58
Total			**1.20**	**15.45**	**409.12**	**944.05**	**438.01**	**11.5**	**1,381.3**

Table 9 shows the budget performance of the components of other programmes implemented by MWE.

Table 10: Budget performance for components of other programmes under MWE (HCD & Agro-Industrialisation)

Programme	Vote	Sub-sub programme	Budget	Release	Expenditure	% Of Budget Released	% Of Release spent
HCD	019	Rural Water Supply and Sanitation	146.57	87.28	78.39	60%	90%
	019	Urban Water Supply and Sanitation	929.27	520.72	508.54	56%	98%
	500	Rural Water Supply and Sanitation- LG's	89.4	89.4	87.612	100%	98%
	500	Urban Water Supply and Sanitation- LG's	2.5	2.5	2.475	100%	99%
Agro- Industrialization	019	Water for Production	213.57	113.57	113.03	53%	100%
Total			**1,381**	**813**	**790**	**59%**	**97%**

2.4.6 Grant funded projects.

The external financing portfolio to the programme is USD 1,544.72 million of which USD 136.2 million are grants and USD 1,208.52 million are loans. These are to last up 2024. Four projects were completed and 10 are ongoing. These projects are funded by the World Bank, Arab Bank for Economic Development in Africa (BADEA), African Development Bank (AfDB), European Investment Bank (EIB) and French Dev't Fund (AFD) through development loans. The loan portfolio during the FY 2020/21 amounted to USD 1,208.5 million financing 12 projects. There was no new loan agreement signed during the financial year.

Fiscal performance: The overall projects performance rating was moderate at 54% fiscal performance. 40% or 5 projects were rated satisfactory up from 33% from in the FY 2019/20. 50% or 7 projects were rated moderately satisfactory by June 2020 and 10% or 2 projects were ranked unsatisfactory. Table 11 shows the performance of loans and grants.

Table 11: Performance of grants and loans

Programme Name	Project Title	Implementing Agency	Source of Funding	Date of effectiveness	Initial Closure Date	GRANT Amount Committed (US$ m)	LOAN Amount Committed (US$ m)	Amount Disbursed to by June 2021	% of Original Lifetime Covered	% Disbursed	Fiscal Performance Rating
NRECCLWM-Programme	Farm Income and Forest Conservation Project Phase II (FIEFOC-II)	MWE/DWD	AfDB & NDF	06-Jan-16	30-Jun-21	5.6	76.7	58.9	100%	71.5%	Moderately Satisfactory
	Multi-National Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project (LEAF)	MWE/DWRM	AfDB	11-May-16	31-Dec-21		6.99	6.82	91%	97.6%	Satisfactory
	Building Resilient Communities, Wetland Ecosystems and Associated Catchments in Uganda	MWE	GCF	01-Sep-17	01-Sep-25	24.140		7.879	48%	32.6%	Moderately Satisfactory
	Enhancing Resilience of Communities to Climate Change	MWE/DWRM	ADAPTATION FUND	01-May-17	30-Apr-22	7.149		4.386	83%	61.4%	Moderately Satisfactory
Human Capital Development Programme	Integrated Water Management & Development Project (IWMDP)	MWE & NWSC	IDA	01-Jul-19	02-Dec-24	29	251	30.35	37%	10.8%	Moderately Satisfactory
	Water and Sanitation Development Project – North Phase 2	MWE/ WSDF-N	KfW	23-Oct-18	31-Dec-22	9.48		4.20	64%	44.3%	Satisfactory
	NEXUS GREEN Development of Solar Powered Water Supply Systems	MWE	UK Export Finance	01-Jul-19	30-Jun-22		110.1	0	67%	0.0%	Not Satisfactory
	Kampala Sanitation Programme Phase I	NWSC	AfDB	28-Feb-10	31-Dec-15		53.19	53.19	100%	100.0%	Satisfactory
			KfW	01-Mar-10	01-Jan-16	13.8	-	13.76	194%	99.7%	Satisfactory
	Kampala Sanitation Programme Phase (supplementary)	NWSC	AfDB	19-Apr-18	30-Apr-20	-	26.85	26.31	157%	98.0%	Moderately satisfactory

Programme Name	Project Title	Implementing Agency	Source of Funding	Date of effectiveness	Initial Closure Date	GRANT Amount Committed (US$ m)	LOAN Amount Committed (US$ m)	Amount Disbursed to by June 2021	% of Original Lifetime Covered	% Disbursed	Fiscal Performance Rating
	Kampala Water Lake Victoria WATSAN Project I (KW-LVWATSAN -I)	NWSC	EIB	28-Apr-11	23-Nov-15	-	108.76	108.76	223%	100.0%	Moderately satisfactory
Human Capital Development Programme		NWSC	AFD	28-Apr-11	23-Nov-17		108.76	108.76	155%	100.0%	Moderately satisfactory
		NWSC	KfW	28-Apr-11	23-Nov-17	37.2		26.00	155%	69.9%	Moderately satisfactory
		NWSC	EU-IFT	28-Apr-11	23-Nov-17	9.92		9.46	155%	95.3%	Moderately satisfactory
	Kampala Water - Lake Victoria Water & Sanitation Project -II (KW-LVWATSAN -II)	NWSC	AFD	25-Jan-19	31-Dec-24		173.00	81.31	41%	47.0%	Not satisfactory
	Water Supply and Sanitation Programme - Phase II (WSSP- II)	MWE/DWD	AfDB	11-May-16	30-Jun-21		92.3	92.3	100%	100.0%	Satisfactory
	Strategic Towns Water Supply and Sanitation Project (STWSSP)	MWE/DWD	ADB	01-Jul-19	30-Jun-24		62.48	16.800	40%	26.9%	Satisfactory
	South Western Cluster Towns of Masaka and Mbarara Project	NWSC	AFD	14-Jan-19	31-Dec-24		138.4	6.92	41%	5.0%	Moderately Satisfactory
	Total					**136.29**	**1,208.5**	**656.11**		**54%**	

2.5 Programme Capacity Development

2.5.1 Training plans and numbers trained for identified specialties

During the FY 2020/21, the following trainings were conducted:

i. Conducted one face to face training in Water Diplomacy and Negotiation and Hydro Diplomacy were conducted for 33 (11 females & 22 males) and 23 (8 females & 15 Males) participants. These were drawn from National Water and Sewerage Corporation, Ministry Staff, National Forestry Authority, Uganda National Meteorological Authority, National Environment Management Authority, NGOs and Private Sector as well as Local government. The training was aimed at empowering Officers' ability to resolve conflicts through peaceful means and have the power to control emotions, develop empathy and create social dynamics that enable them to strike the right balance/ shared common ground.

ii. Conducted one on-job training for staff of the Water and Sanitation Development Facility (WSDF), Central in the areas of procurement and contract management. The activity involved review of procurement documents (bid documents, evaluation reports and minutes of contracts committee meetings, record keeping and documentation/ records management, management of contracts committee meetings and contract management. The training was conducted for a total of 25 (13 females & 12 males) officers. It was aimed at reducing the procurement gaps to improve efficiency and effectiveness of the process.

iii. In the bid to Strengthen capacity of MWE including its regional structures (Technical Support Units) in planning, monitoring, and coordination of WASH programmes, UNICEF supported the implementation of capacity development intervention in the thematic area of Solar Design, Installation and Operations and Maintenance of Water Supply System. A total of 25 (3 Females & 22 males) participants attended the training. These came from MWE Regional Offices of Water for Production Regional Centre- West (WfPRC-W), WSDF-SW, WfPRC-C, WSRC-6/TSU 6, Albertine Management Zone, District Water Officers from selected districts, Private Sector and the NGOs. The training was aimed at addressing the priority capacity gaps in Solar Water Supply Systems and to improved functionality of water supply infrastructure in both the urban and rural areas in the country.

iv. Conducted 2 training on borehole siting, drilling supervision and test pumping for twenty-five Technicians held in April 2021 at the Water Resources Institute, Entebbe. Thirty-five (4 Female and 31 Male) officials from the districts of the West Nile sub region, MWE regional office - WSDF-N, Umbrella for Water and Sanitation – Karamoja (UWS-K), Upper Nile Management Zone, District Water Officers from 11 districts in West Nile sub region, as well as Non-Government Organisations and the private sector in April,2021 in Arua City. The trainings were conducted to enable participants to understand their roles and responsibilities in the borehole siting, drilling, and construction and test pumping and as well as in solar designs, installations and operations and maintenance of water supply systems in order to improve on the life span of boreholes drilled through proper supervision, recording and maintenance.

v. Six Applied trainings were conducted during the Uganda water week 2020/21. Table 12 shows the summary of the trainings.

Table 12: List of the Trainings conducted during the Uganda Water and Environment Week 2020/21

No.	Training title	Target group	Proposed dates	Organizers	Number of participants	Category
1	Write shop (UWEWK2021)	Paper presenters for UWEWK2021	11-12 March 2021	MWE	27	Training
2	Natural resources based business and entrepreneurship: climate smart	Hybrid-UWEWK2021 participants	22nd March 2021	Makerere University and MWE	40	Training
3	Natural Capital Accounting in Uganda: Introduction for Decision Making	Hybrid-UWEWK2021 participants	23rd March 2021	Directorate of Environment Affairs	60	Training
4	Integrated Water Resources Management-a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction	Hybrid-UWEWK2021 participants	24th March 2021	International Institute for Rural Reconstruction and MWE	60	Training
5	The Shift Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation	Hybrid-UWEWK2021 participants	25th March 2021	GIZ, Water for People and MWE	50	Training
6	Introduction to GIS Asset Mapping and Surveying final output examples – Asset mapping, elevations, survey data, etc.	Hybrid-UWEWK2021 participants	25th March 2021	Women in GIS Uganda, Engineers without Boarders (EWB)-USA and MWE	40	Training

2.5.2 Applied groundwater modelling specialists

One training was conducted in ground water management for 25 personnel to equip them with technical skills to be able to analyse data and improve on decision making. The skills would lead to improved modelling skills and help in planning for underground water for sustainability.

CHAPTER 3:

WATER RESOURCES MANAGEMENT

CHAPTER 3

WATER RESOURCES MANAGEMENT

3.1 Introduction

Water Resources Management Subprogram contributes to the Programme goal through assuring availability of adequate and reliable quality fresh water resources for all. Water touches every aspect of life and is key in achievement of all the socio-economic development needs of any country and is a necessary ingredient for improving people's livelihoods, incomes and creating jobs.

Uganda's water resources have to be managed in an integrated manner so as to assure availability of adequate and good quality water resources to ensure that various NDP III programmes are supported to achieve their goals amidst the various water related challenges. The subprogramme targets will be achieved through a number of priority actions:

i. Implementation of catchment-based water resources management through the four Water Management Zones (WMZs), supporting and facilitating preparation of Catchment Management Plans and establishment of Catchment Management Organizations (CMOs) to promote coordination and collaboration among stakeholders.

ii. 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.

iii. 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.

iv. 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.

v. 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.

vi. 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.

vii. 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.

viii. Support the Water Resources Institute (WRI) to undertake and implement its four core functions of applied training, applied research, outreach and dialogue.

The specific interventions and sub-interventions for the subprogram as guided by the NDPIII are:

a) Improve coordination, planning, regulation and monitoring of water resources.

- Develop and implement integrated catchment management plans for water resources catchment areas.
- Demarcate and gazette conserved and degraded wetlands.
- Establish functional gender sensitive regional and zonal management committees for water resources.
- Ensure effective early warning and early action for sustainable efficient utilization of water resources.
- Maintain natural water bodies and reservoirs to enhance water storage capacity to meet water resource use requirements.

b) Strengthen enforcement capacity for improved compliance levels

- Procure equipment for monitoring set standards on air, noise, water resources and soil pollution.
- Create a critical mass of human resource to undertake enforcement of set standards and regulations.
- Build strategic partnerships with other players such as private sector, cultural institutions, media and politicians.
- Undertake relevant applied research aligned to development needs and existing gaps.

3.2 Water Resources Management Outcome Indicators

3.2.1 Overall outcome level performance

Table 13 presents Water Resources Management (WRM) performance indicators as outlined in the Programme Implementation Action Plan (PIAP), the baseline, target for FY 2020/21 and achievement. Overall, the targets for compliance were achieved. There was improved compliance with permit conditions for ground and surface water, and waste discharge compared to the baseline.

Table 13: sub-programme Outcomes and Indicators

Outcome	Indicators	Baseline	Target Fy2020/21	Achieved Fy2020/21
Objective 1: Assure availability of adequate and reliable quality fresh water resources for all users				
Increased compliance to all water permit conditions	Compliance to ground water abstraction (%)	76	77	76.8%
	Compliance to surface water abstraction (%)	78	78.5	78.4%
	Compliance to waste water discharge	63	64	65%
Enhanced water quality management	Percentage of water samples complying with national standards for water bodies	ND	ND	ND
	Percentage of water samples complying with national standards for water collection points	ND	65	Rural 62.2% Urban 90%

ND denotes No Data

3.2.2 Analysis of the performance of each WRM outcome indicator

3.2.2.1 Compliance with water abstraction and waste water discharge permit conditions

Compliance refers to the percentage of water abstraction and discharge permits holders complying with permit conditions. The permit conditions considered are compliance to water abstraction volumes measures set by the MWE; and quarterly submission of data for the wastewater discharge standards including possession of wastewater treatment facilities for wastewater discharge and compliance to permitted.

Table 14 shows the permit type and condition, number of permit holders and proportion of compliant permit holders in FY 2020/21. A total of 645 permit holders of groundwater, surface water and wastewater discharge were monitored for compliance with the provisions of Water Act and permit conditions. 74% complied with permit conditions complied.

Table 14: Compliance to Permit Conditions FY 2020/21

Permit Type	Permit condition	Total No. of Permits Holders monitored	No of permits complying	Percentage compliance (%) FY 2020/21
Groundwater	Abstracting within permitted amount	233	179	76.8
Surface water	Abstracting within permitted amount	222	174	78.4
Wastewater discharge	Effluent discharge	190	124	65.3
Total		**645**	**477**	**74%**

Assessment of permit applications

During FY 2020/21, 187 new water permit applications were received and assessed; out of which 172 new permits (89%) were issued. Some applications were not approved for permit issuance due lack of required application information like water source details, evidence of payment of permit processing fees and ownership of the necessary equipment's for the case of drilling permit applications. Details are provided in Table 15.

Table 15: Summary of new permits applications received and issued for FY 2020/2021

S/N	Type of applications	Received	Issued	%
1	Groundwater	83	71	85.5
2	Surface water	65	65	100
3	Construction	22	23	100
4	Waste water	9	7	96
5	Drilling	8	6	75
	TOTAL	187	172	89

A total of 251 applications for permit renewal were received; out of which 179 permits (71%) were renewed. Some of the applications were not approved for renewal due to non-compliance to permit conditions such as: i) submission of self-monitoring data for abstraction and/ or discharge and ii) non-payment of annual water use fees even after persistent reminders and iii) delayed or non-response or no provision of justification or reasons for non- compliance to permit conditions.

Table 16: Summary of renewal permit applications received and issued for FY 2020/2021

S/N	Type of applications	Received	Issued	%
1	Groundwater	77	51	66
2	Surface water	48	27	56
3	Construction	20	29	145
4	Waste water	45	32	71
5	Drilling	61	40	66
	TOTAL	251	179	71

Overall, 351 permits (172 new and 179 renewal) were issued in FY2020/21 compared to 301 permits issued in FY 2019/20. This represent 15% increase. Figure 2 shows the trend of water permit applications received, assessed, and issued over the last five years.

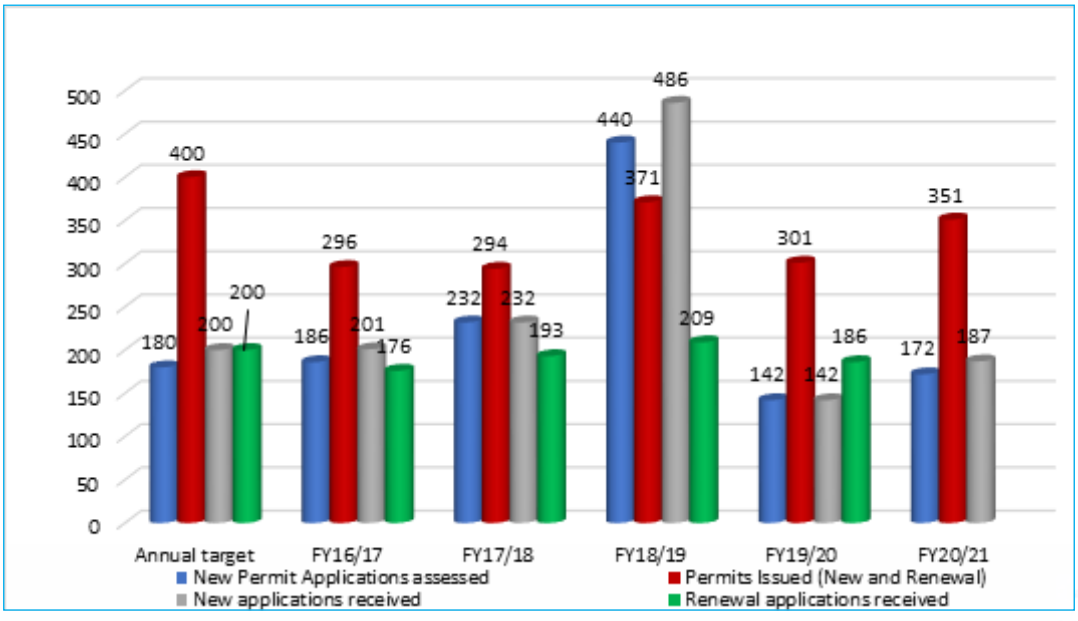

Figure 2: Trends of water permit applications received and permits issued over the last five years.

It is noted that there has been a general increase in the number of permit applications received, assessed and issued since FY2016/17 up to 2018/2019. This was attributed to increased awareness campaigns, continuous inventory and mapping of potential water permit holders and close follow up on the processing permit application received at the Department.

Regulation of borehole drilling in urban areas

To regulate the increasing demand of private boreholes in urban/gazetted water supply areas, permission to drill boreholes are issued to those who submit their requests with sufficient evidence for a need of an alternative water supply source. In the current year 2020/21, a total number of 49 requests were received; out of which 23 permissions to drill boreholes were issued. The reasons for rejection of requests included poor environmental and sanitation conditions at the proposed drilling sites, lack of sufficient evidence to justify the need for alternative water supply source and failure to secure no objection letters from the relevant mandated water supply authority in their area.

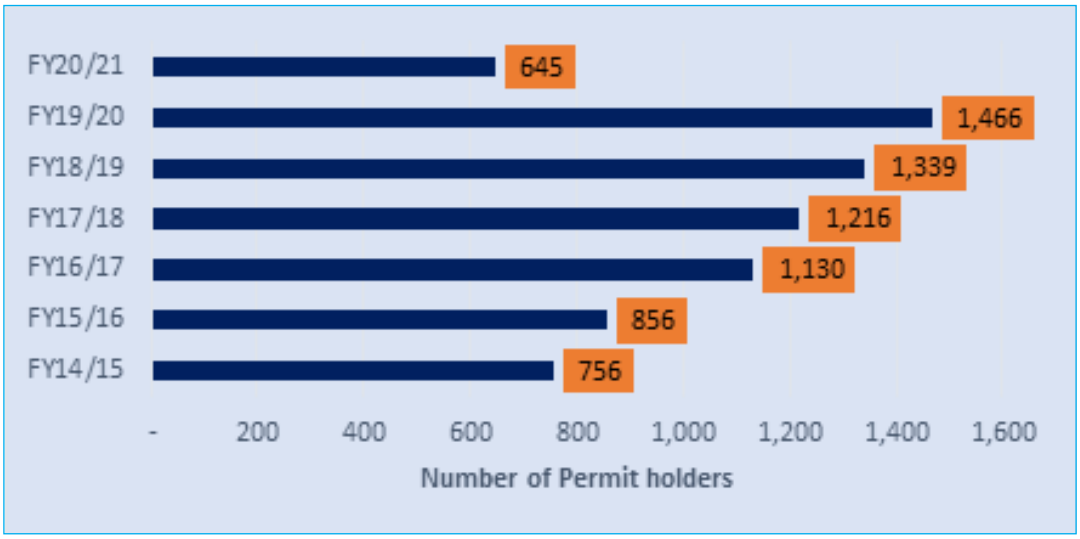

Figure 3: Permit holders monitored for compliance over the years

The number of permit holders monitored for compliance was very low during the reporting year because of the outbreak of COVID pandemic and subsequent total lock down of the country.

Compliance to waste water discharge permit conditions

The criterial used to assess waste water discharge permit holders comprised of self-monitoring data, wastewater quantity and quality, standards, non-tax revenue and status of permit. Figure 4 presents waste water discharge permits and their ranks in compliance.

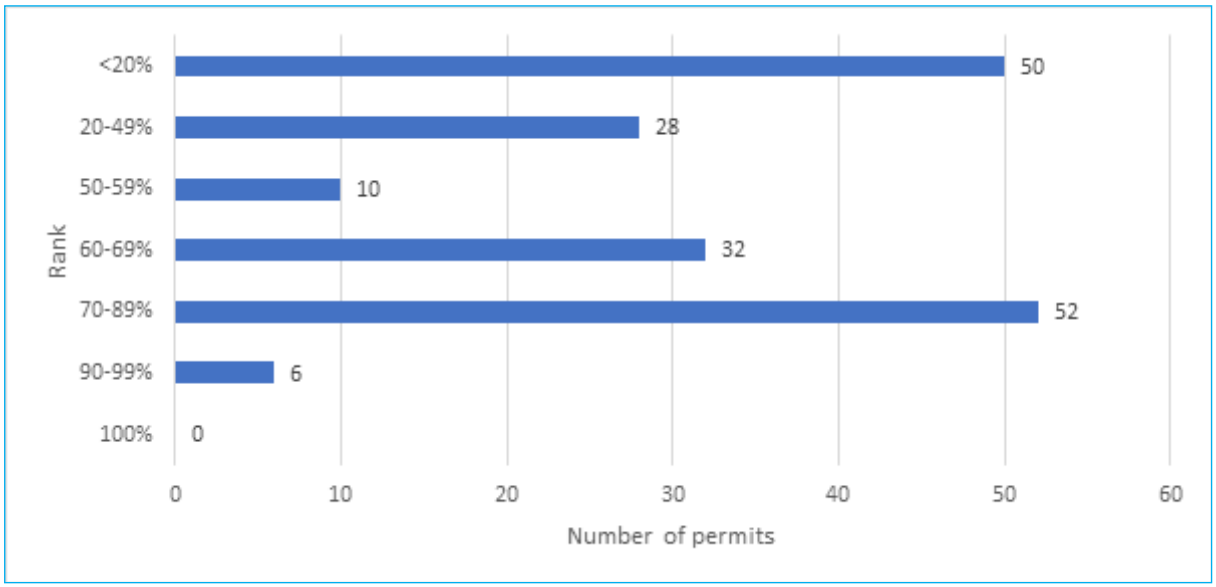

Figure 4: Waste water discharge permits and their ranks in compliance

Wastewater Reduction at Source

The department in collaboration with Uganda Cleaner Production Centre (UCPC) is supporting selected industries located in the districts of Wakiso, Mpigi, Kampala, Mukono, Buikwe and Jinja to adopt Resource Efficient and Cleaner Production (RECP) techniques and practices as one of the means to reduce pollution from industries at source before discharging into water resources and the environment.

Activities undertaken so far include Training of Trainers (TOT) meetings, mapping and surveying of industries and baseline data collection. A four-day training of trainers' meeting facilitated by resource persons from UCPC was conducted for 22 persons from the department to enhance their technical knowledge on cleaner production approach for reducing pollution from industries. A team from UCPC and the Ministry also visited industries and held entry meetings with management of 87 enterprises. The visits were aimed at seeking management support in adoption of Resource Efficient and Cleaner Production (RECP) techniques and practices in the respective enterprises. The teams also conducted walk through assessment to observe the current water, material and energy use practices in the enterprises. 31 wastewater samples were collected for assessment of baseline wastewater quality of the enterprises.

Conclusion

i. Generally, there was very good reception of the concepts of RECP by the enterprises visited with all recognizing how it will contribute to improvement in water, materials and energy use efficiency thus leading to reduction in operational costs and better profits for the enterprises.

ii. 70 industries out of the 87 industries assessed have been selected based on their willingness to participate in the project.

Industrial Wastewater quality

The quality of wastewater from municipal and industrial discharges is monitored for compliance to wastewater discharge Regulations. In the FY 2020/21, a total of 196 wastewater samples were collected and analysed from industrial and municipal wastewater discharge points. This was an increase by 30% from 151samples collected and analysed in the previous reporting period. Among the major industries assessed were breweries, fish processing, soft drink processing, milk and dairy products, meat and meat products, sugar processing and tannery. Others were oils and fats, battery manufacturing, pharmaceuticals, flower farming and sewerage stabilisation ponds.

Key findings

i. The average compliance to Chemical Oxygen Demand (COD) was 47.9% against the national wastewater discharge limit of 100 mg/l.
ii. The average compliance to Total Suspended Solids (TSS) was 71.5% against the national wastewater discharge standard of 10 mg/l.
iii. The average compliance to Total Nitrogen (TN) was only 25.3% against the national wastewater discharge standard of 10 mg/l.

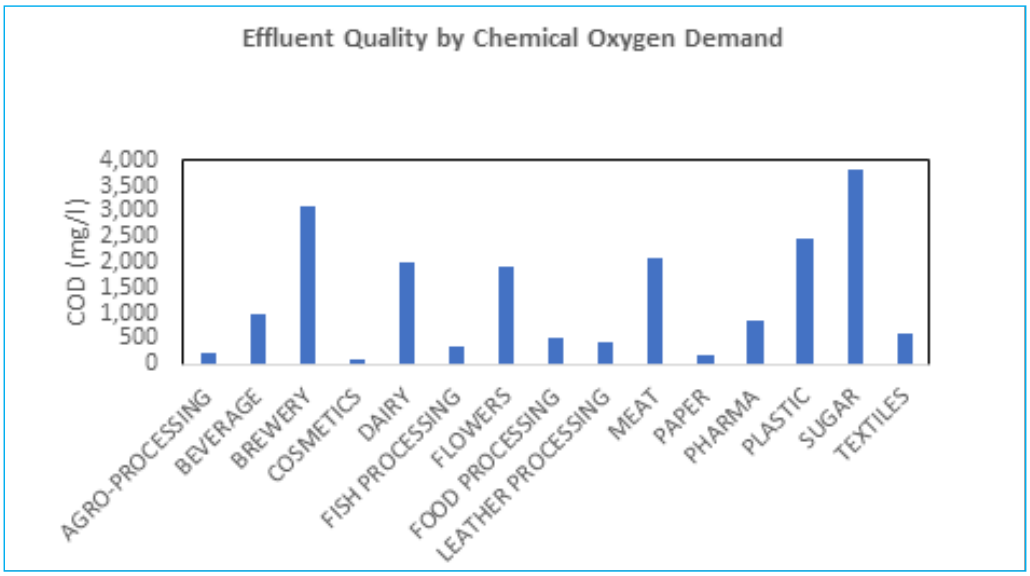

Figure 5: Industrial Wastewater quality by Chemical Oxygen Demand

3.2.2.2 Percentage of water samples complying with national standards for water bodies

National Water Quality Monitoring

The national water quality monitoring network is issue-based for integrated monitoring and assessment of water quality and comprises stations for monitoring:

a) Impact of human activities on water resources quality. This includes stations for monitoring SDG indicator 6.3.2 (ambient water quality),
b) Compliance of industrial and municipal effluent discharges to national wastewater standards and indicator SDG 6.3.1(effluent quality) and,
c) Compliance of quality of domestic water supplies with national standards and indicator SDG 6.1.1 (drinking water quality)..

Ambient Water Quality

Ambient water quality monitoring is multi-objective, long-term and measures adherence to water quality objectives to preserve aquatic ecosystem functions and maintain water resources quality for all water uses as prescribed in the National Water Policy. It measures impacts of human activities on water resources and detects seasonal water quality variations and trends.

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In the FY 2020/21, a total of 385 water samples were collected from the ambient monitoring network out of planned 476 water samples representing a performance level of 81%. This was a significantly better performance compared to 93 samples collected in FY 2019/20. This improved performance was attributed to improvement in funding for Water Quality Management activities. Table 17 below presents the performance of ambient water quality monitoring by WMZ.

Table 17: Ambient water quality monitoring by WMZ

WMZ	Stations	Annual target of samples	No. of samples collected	Performance (%)
Upper Nile	16	64	16	25
Albert	65	148	140	95
Kyoga	33	132	120	91
Victoria	33	132	109	83
Total	**147**	**476**	**385**	**81**

Water quality of the Inner Murchison Bay

The Inner Murchison Bay (IMB) is a semi-enclosed small water body lying on the northern shores of Lake Victoria, south east of Kampala City. The main drainage system into the IMB is the Nakivubo channel which carries domestic, municipal, industrial and storm water from Kampala city and discharges into the bay through the Nakivubo wetland. Increased urban effluent load coupled with reclamation of the wetland for human settlement, industries and farming activities have reduced the effectiveness of the wetland to filter out pollutants entering the bay considerably. The result is that IMB is now both a sink and source of pollution to the rest of Lake Victoria. The pollution of IMB affects the safety of water supply for over 2 million residents of Kampala City and its surrounding areas who rely on Ggaba water supply as their primary source of drinking water.

In the FY 2020/21, as part of water quality monitoring of the IMB, the department conducted three water quality monitoring trips on the lake and visited 20 sites within the IMB. Field measurements were taken from the overnight sampling expeditions and a total of 177 water samples and 80 sediment samples were collected for further laboratory analysis for determination of physical, chemical and biological water quality characteristics.

Key findings

1. Continued deposition of sediments from the Kampala city especially through the Nakivubo channel has turned the bottom of the IMB into a fibrous mud reducing the total depth to less than 2 meters.
2. The temperature – depth profiles showed isothermal conditions throughout the bay with minimal temperature variations of 0.5OC at most.
3. Organo-phosphorous based pesticides (Chlopyrifos) which were detected in the water column may compromise the safety of drinking water supply for Kampala city.
4. Heavy metals (lead, cadmium, arsenic, chromium, copper, zinc and aluminium) detected both in the water and sediment samples were within levels that pose no threats to human health.
5. Poor physical water quality (turbidity, suspended matter and transparency) was observed throughout the bay with light penetration ranging from 0.4 to 1.0 meters only
6. The bay is hypertrophic as evidenced by high concentrations of total nitrogen and total phosphorus as high as 2.65mg/l and 5.10 mg/l respectively.

Cyanobacterial blooms in freshwater ecosystems: Causes and consequences on their functioning and their uses (Summary from WaSAf Policy Brief No.1)

The Water Sources in Africa (WaSAf) project was implemented in three urban centres in Africa namely Dakar in Senegal, Abidjan in Ivory Coast and Kampala/Jinja in Uganda. All the three cities use surface water resources to supply drinking water. The main focus of the project in Uganda was the assessment of cyanobacteria in the Murchison Bay in Kampala and Napolean gulf in Jinja.

Cyanobacterial blooms almost always occur in freshwater ecosystems displaying high phosphorus and nitrogen concentrations (eutrophic ecosystems). These phenomena are visually easy to identify due to the very pronounced green color of the water during the blooms and due to the accumulation of green materials at the surface of the lakes for some species.

Cyanobacteria are able to produce numerous metabolites, some of which are toxic to humans and animals. Among these toxic metabolites, three classes of cyanotoxins have been distinguished. i) Microcystins are the most common hepatotoxins produced during planktonic blooms of cyanobacteria. These toxins are associated with liver cancer in humans, and they have more recently been found to have an effect on fertility. ii) Anatoxins are cyanotoxins produced mainly during the proliferation of benthic cyanobacteria. They are neurotoxins which are frequently involved in the death of animals, particularly dogs and iii) Dermatotoxins and irritant toxins which do not cause mortality but disturb recreative activities in freshwater ecosystems by affecting the skin.

The main exposure routes of humans to these toxins are (i) the consumption of untreated water by communities directly using lake water during a bloom for drinking and/or cooking and bathing; (ii) the consumption of fish which have accumulated cyanotoxins from the lake experiencing severe cyanobacterial blooms and (iii) skin and/or eye contact with dermatotoxins during recreational activities and/or bathing. The economic impacts of cyanobacteria blooms are summarized in figure 6 below.

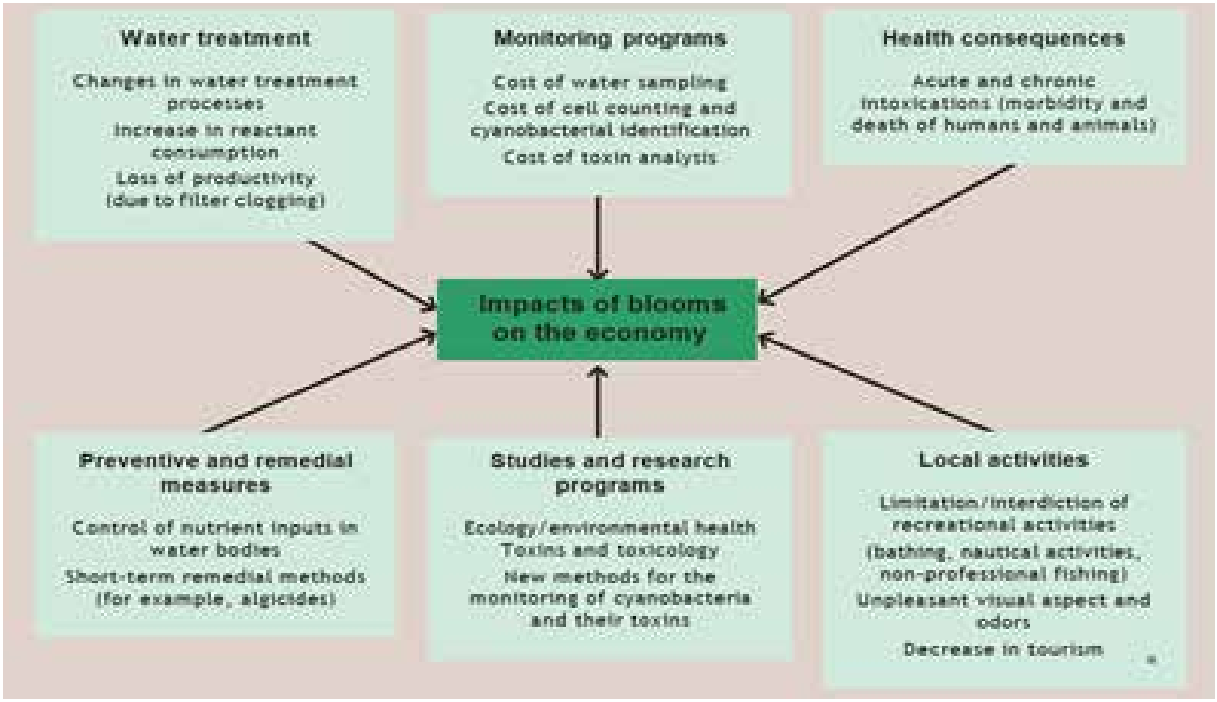

Figure 6: Multiple impacts of cyanobacterial blooms on the economy

Wastewater quality

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iii. The average compliance to Total Nitrogen (TN) was only 25.3% against the national wastewater discharge standard of 10mg/l

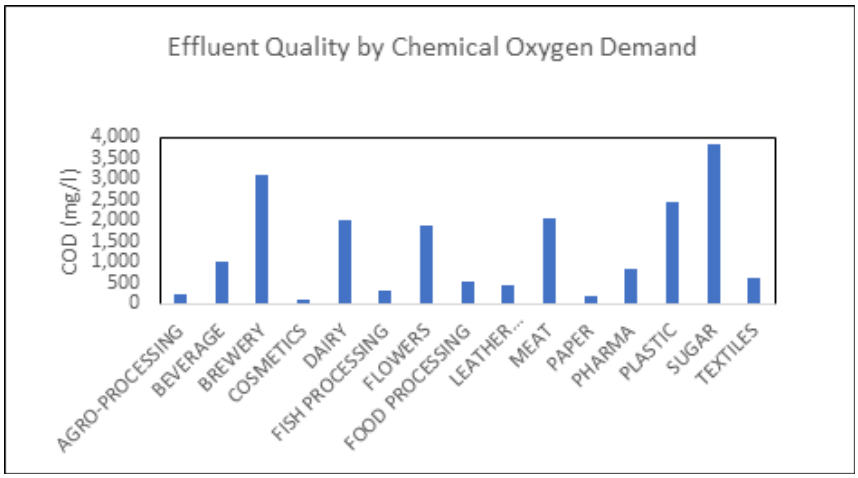


Figure 7: Industrial Wastewater quality by Chemical Oxygen Demand

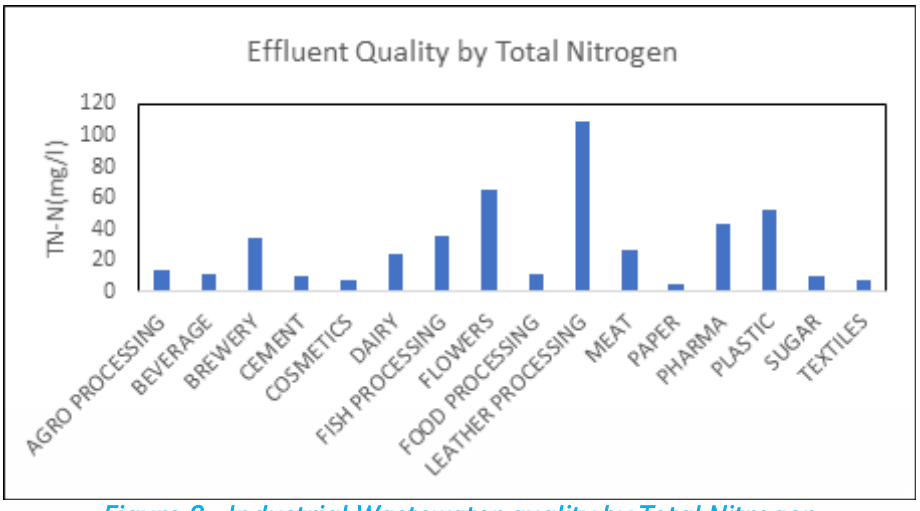


Figure 8: Industrial Wastewater quality by Total Nitrogen

Drinking water quality

Drinking water is monitored for compliance to the Uganda Potable Water Standard, which prescribes the limits of various contaminants in drinking water for protection of public health. The drinking water quality indicator is defined as "the percentage of water samples taken at the point of collection that comply with national standards for rural (point water sources) and urban (pipe water schemes).

Water quality of rural water supplies

For purposes of water quality reporting, rural water supply means improved point water supply technologies (deep well, shallow well, protected springs, dug well and rain water harvesting)

In the FY 2020/21, a total of 868 water samples were collected from point water sources in 38 districts country-wide and analysed for compliance to national standards for drinking water quality. This was a 36% performance improvement against the 639 water samples collected in 2019/20. Compliance to *E.coli* was; 73%, 54%, 51%, 43% and 24% for deep wells, rain water harvesting, protected springs, shallow well and dug well respectively as indicated in figure 9 below.

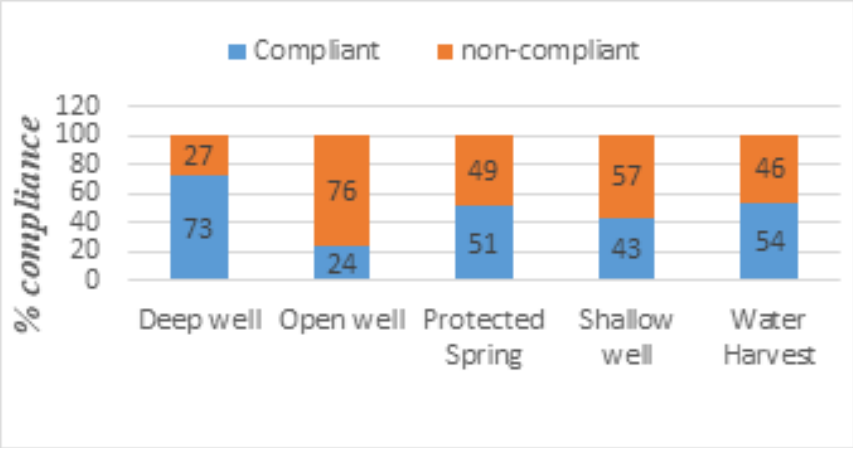


Figure 9: Compliance to E.coli by water supply technology

Key outcomes

The data from the assessment has been used by the respective district local governments to sensitise the communities and promote water safety planning.

Water quality of urban water supplies

Urban water supply for purposes of water quality reporting is taken to mean a water supply system where water is delivered to consumers through a piped network with or without any form of treatment.

In the FY 2020/21, a total of 989 samples were collected from urban water supply systems serving 72 large towns, small towns and rural growth centres country-wide. Towns covered included: Kampala, Mbarara, Lira, Mbale, Fort Portal, Jinja, Hoima, Tororo, Masaka, Mpigi, Luwero, Masindi, Nebbi, Kitgum, Kabale, Kasese, Moroto, Soroti, Masaka, Masindi, Arua, Entebbe and Gulu. Others included; Kitgum, Koboko, Nebbi, Pakwach, Otuke, Alebtong, Iceme, Kamdini, Pajule, Mucwini, Namukora, Omiya Anyima, Adjumani, Midigo, Yumbe, Ovujo, Madi-Okolo and Anaka.

The number of samples collected in reporting period presents a performance improvement of 56% compared to 632 water samples collected in FY 2019/20. Out of the 989 water samples collected, 890 complied with the National Potable Water Standards with respect to *E.coli* which is 90% compliance level. This represented a decline in performance compared to the previous year which stood at 94%. The decline may be due to flooding that affected several water sources and water supply schemes such as the Kachung water supply in Dokolo. The impact of flooding on water quality is shown below.

Impact of Floods on Water Quality

Heavy rains from May 2019 to February 2020 around Lake Victoria resulted in high water levels of the lake. This caused flooding downstream around Lake Kyoga and along the Nile River system. The floods displaced communities and destroyed infrastructure including water and sanitation infrastructure.

Figure 10: Submerged Kachung Water Intake

Figure 11: Borehole at Agwata P/S

The direct impact of floods on water quality was contamination of water supplies with faecal matter. Even after the floods receded, as shown in Fig.12 below, 70% of all samples taken from Kachung village in August this year, 2021 were all contaminated with E.coli, bacteria that originates from human faeces. Probably water points were contaminated by submerged sanitation facilities. This poses a big threat to human health in terms of outbreak of water borne diseases.

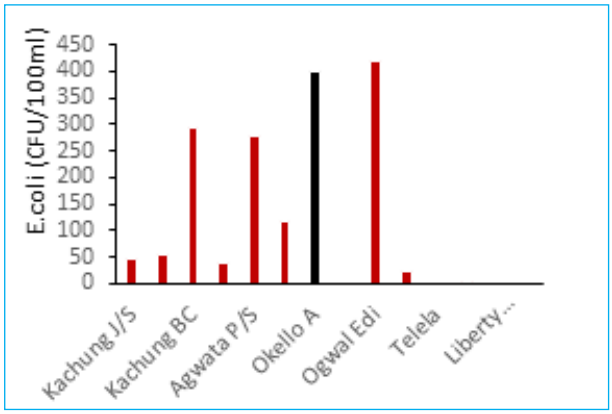


Figure 12: E.coli levels (August 2021)

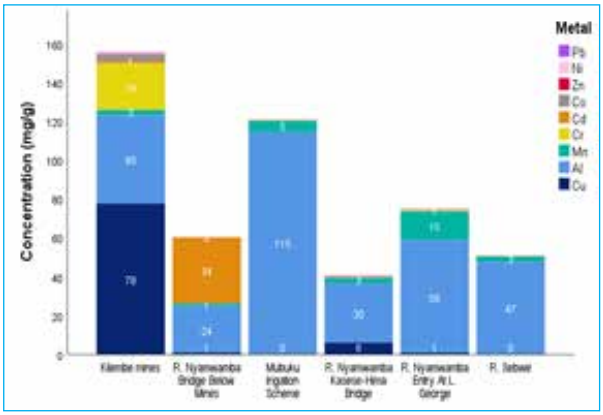


Figure 13: Trace Metal Availability in Sediments, Kasese (September, 2021) 8: E.coli levels (August 2021)

In Kasese, floods washed mine tailings from Kilembe mines into R. Nyamwamba which empties into Lake George. Toxic metals in high concentrations alter the aquatic ecosystem and biodiversity. Through the food chain, toxic metals can affect human health in various ways. Some toxic metals cause cancer in humans.

Impact of Pollution on Fisheries

In January, 2021, large numbers of dead fish were observed on Lake Victoria in the bays around Entebbe and other shoreline areas. This raised public concern. Water quality assessments were undertaken to investigate the cause of the fish kills. Depth profiles for different water quality parameters including dissolved oxygen, temperature, pH and electrical conductivity were taken in the field. In the laboratory, a qualitative analysis for presence of any poisonous organic compounds of concern such as pesticides and other toxic substances was conducted using a Liquid Chromatograph/ Mass Spectrometer (LC/MS).

Nitro-acetamide were detected in one of the fish tissue samples while 1,3-Oxathiolane, 5-methyl-; Thiourea, N,N-dimethyl- were found in the second fish sample. No poisonous compounds were found in the water and fish tissue. Presence of Thiourea, N,N-dimethyl was likely a result of reactions of fish tissue metabolites and secondary reactions involving tissue urea that may have accumulated as a result of oxygen deficiency and stress.

From the results, there was no evidence of organic compounds in the environment that could be toxic to the fish. Pesticides and other forms of organic pollutants were not detected in the water samples and fish tissue samples.

Observations

i. Fish kill affected only the Nile Perch (Lates Niloticus) fish species across all sizes from a few inches long to several meters.

ii. The mass analysis found no poisonous compounds in the water and fish tissue.

iii. There was slight temperature stratification and anoxic conditions at some sampling stations. This was the possible cause of the mass fish deaths in the lake.

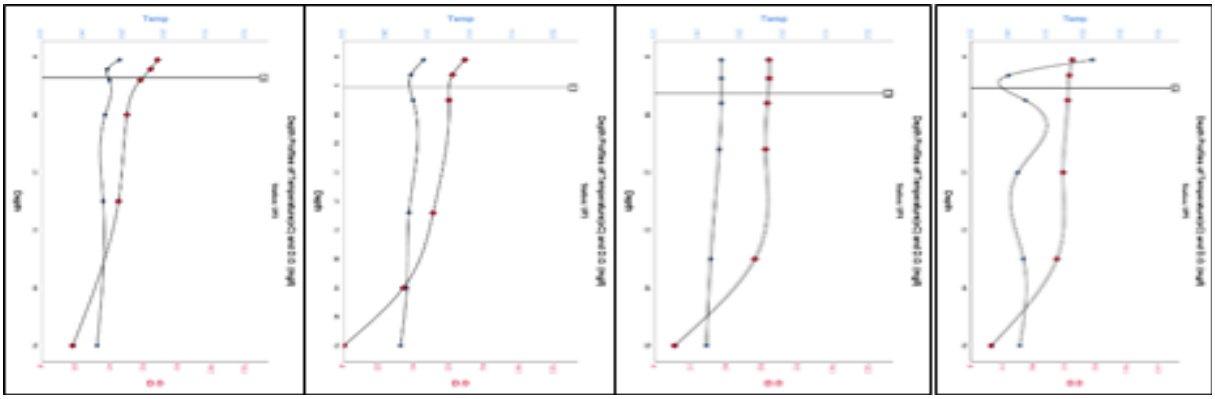


Figure 14: Temperature and Dissolved Oxygen profiles

Figure 15: Dead Nile Perch (Lates Niloticus) along the shores of L. Victoria, Entebbe.

Performance of DWRM Laboratories

The National Water Quality Management Strategy defines a three-tier laboratory system for Uganda with a National Water Quality Reference Laboratory (NWQRL) in Entebbe supported by Regional Water Quality Laboratories (RWQLs) and Basic Laboratories in different institutions and water supply schemes. The laboratories receive and analyze samples from both the department networks and external clients. External clients are served at a fee to generate Non-Tax Revenue (NTR).

Performance of the National Water Quality Reference Laboratory at Entebbe

A total of 8,994 water samples were analyzed by the laboratories. 6,397 water samples were analyzed in the National Water Quality Reference Laboratory at Entebbe and 2,597 water samples were analyzed by the 4 RWQLs. This was an improvement from 4,183 samples analyzed in the previous FY 2019/20, representing a performance improvement of 115%.

The turn-around time at the NWQRL was 9 working days over the reporting period. This was a slight improvement in performance compared to 10 working days achieved in the previous year although short of the 7 working days target. This was attributed to COVID- 19 lockdown when the laboratories operated at 10% staffing level and electricity disconnections due to non-payment.

Performance of Regional Water Quality Testing Laboratories

2,597 water samples were analysed by the 4 RWQLs. The distribution of water samples collected per Regional laboratory was as follows: Mbarara,715; Lira, 604; Mbale, 653 and Fort Portal 625 samples.

NTR collected

The Water Quality Laboratories generate Non-Tax Revenue (NTR) from analytical services provided to external clients using government procedure for collection of NTR.

In the financial year ending June 2021, NTR totaling to **UGX 348,068,394** (three hundred forty-eight million sixty-eight thousand three hundred ninety-four shillings only) was generated by the National Water Quality Reference Laboratory and the four Regional Laboratories. **UGX 301,311,394** was collected by the National Water Quality Reference Laboratory at Entebbe and **UGX 46, 757,000** was collected by the four Regional laboratories. Lira collected **UGX 19,053,000**, Mbale **UGX 4,616.000**, Fort Portal collected **UGX 18,045,000** and Mbarara collected **UGX 5,043,000**. This was an improvement of 46% compared to the previous year when NTR collected was **UGX: 238,874,150/=**.

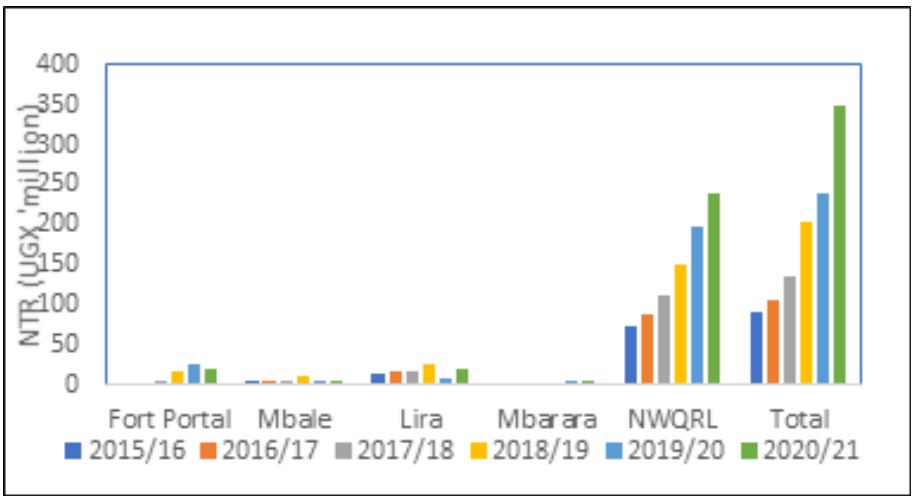


Figure 16: Trend of Non-Tax-Revenue

Challenges

i. Accumulated and un-paid electricity bills leading to disconnection of the laboratory power supply by UMEME and delayed sample analysis.

ii. Inadequate funding for water quality management activities in the WMZ.

iii. Lack of water transport thus making regular lake wide monitoring very expensive.

iv. Delays in procurement.

v. Low level of staffing.

vi. Dilapidated building and inadequate laboratory space at the NWQRL in Entebbe.

vii. Low compliance to drinking water and wastewater standards.

viii. Emerging challenges of floods, water related diseases and covid-19.

ix. Increasing water pollution.

3.3 Water Resources Management Interventions

3.3.1 Develop and implement integrated catchment management plans for water resources catchment areas

3.3.1.1 Catchment management plans prepared

Catchment management planning guidelines came into effect in 2013 and were updated in 2020 to include aspects of climate change. Currently 15 Catchment management plans have already been prepared in the different catchments using the catchment management planning guidelines.

During this FY 2020/21, five catchment management plans of River Mitano, River Nyamwamba, River Nkusi, River Muzizi and River Semliki Catchments of transboundary significance were developed to provide a long-term strategy for sustainable development and utilization of water and related resource within the catchment. The plans aim to support the reversal of catchment degradation, increased ecosystem resilience and productivity, and improved community livelihoods/ socio-economic development.

3.3.1.2 Water management measures implemented in priority sub catchments

The CMPs identify critical issues, challenges, opportunities, and threats within the catchments which need to be addressed to ensure the socio-economic development of the people. Guided by these key issues, challenges, threats, opportunities, key water resources planning principles and national strategies, the following measures have been implemented in several catchments and sub catchments Opeta Bisina, Lake Kochobo, Kelim Taboki, Pager Matidi, Agago, Aswa 1, Upper Maziba, Lower Maziba and Middle Maziba located in Awoja, Aswa and Maziba, Nyamwamba Catchment:

i. 1,428,772 trees seedlings have been distributed and planted as improvement to the basin vegetation cover.
ii. 58 km of soil and water conservation measures.
iii. 14 tree nurseries have been established under public private partnership with a production capacity of 1,530,580 tree seedlings.
iv. 248 water harvesting and flood control structures have been constructed in the catchments. These include 31 percolation pits, 30 gabions and 187 trenches of 1km each.

Figure 17: On th left; a water hervesting pond under construction in Alebtong district Gegere Subcounty and on the right; a fully constructed water harvesting pond with stabilized bunds and fenced with milk tree.

Stakeholders benefiting from income generating and livelihood opportunities

Community sensitization meetings were conducted, training of Project Affected Persons undertaken and the formation of Water and Environment Cooperatives (WECs) in some restoration sites is ongoing. The beneficiaries were confirmed, sensitized and will be trained in implementation of alternative income generating activities. Once community members have been sensitized, trained and have formed their WECS, funds will be released to them for management and lending to selected beneficiaries.

Demonstration centers established to demonstrate innovative catchment management measures

Three demonstration centers have been established to show case the best practices in ecosystem conservation, Income Generating Activities and Climate-Smart Agriculture. The demonstration centers include;

- Kachwekano Zonal Agricultural Research and development Institute in Kabale demonstrating Climate Smart Agriculture.
- Ngetta Zonal Agricultural Research and development Institute in Lira demonstrating Income Generating Activities.
- National Semi-Arid Resources Research Institute in Serere demonstrating Ecosystem's conservation.

Three demonstration centers have been supported with the renovation of the training halls, supply of training equipment and setting up of demonstration plots.

Figure 18: Picture of the completed structure of the conference hall at Serere Demo centre

Water Policy revision and Water Act amendment

The Water Policy Committee meeting held in December 2020 urged the Ministry to submit the Cabinet Memoranda related to Water Policy revision and amendment of the Water Act. On 3rd May 2021, the Ministry wrote a letter to the Cabinet Secretariat submitting the draft Cabinet Memorandum for review by the Cabinet Secretariat. Cabinet Secretariat reviewed the Memorandum and made comments which are being addressed by the MWE.

Water Management Zone offices set up

Two Sub Water Management Zone offices have been set up; one in Kabale and another in Karamoja.

The Catchment Management Committees (CMCs) are constituted through a number of Districts that have already been delineated along a common natural resource coming together. These structures will have to be reconstituted because the political leaders were voted out of the office or have since passed on.

Joint Transboundary catchment investment projects prepared

The Lake Victoria Basin Commission, (LVBC) is coordinating the Adapting to Climate Change for Lake Victoria Basin Project (ACC-LVB), which is supported by the Adaptation Fund through UN Environment to a tune of USD 5 Million grant for all EAC Partner States. The overall objective of this project is to "reduce vulnerability to the negative effects of climate change in the Lake Victoria Basin (Burundi, Kenya, Rwanda, Tanzania and Uganda), by building climate resilience". The project has five outcomes logically linked to the achievement of its overall objective:

i. Strengthened institutional capacity to integrate climate resilience into transboundary water catchment management.
ii. Improved delivery of accurate and timely climate information – with an emphasis on transboundary water catchment management – to regional and national policy makers, technical officers and local communities.
iii. Climate change adaptation technologies transferred to communities to reduce their vulnerability to climate change.
iv. Regional resilience to climate change promoted through innovative, community-based projects.
v. Improved knowledge management frameworks for the collection and maintenance of regional knowledge in transboundary water catchment management and climate change adaptation practices.

Interventions for this project in Uganda were adopted from the Katonga Catchment Management Plan and hotspot areas where interventions are taking place are Masaka (Buyanga Parish in Kyanamukaka sub-county and Kanywa Parish in Buwunga sub county) and Mubende (Bubanda Parish in Kigando sub county and Bushwabwera Parish in Kitenga sub-county).

During the period under review, the project commenced demonstration of climate change adaptation technologies at selected project intervention sites:

i. Enhancing Ecosystem Resilience through Promotion of Energy Saving Stoves in Mpala, Serinya, Kitoma & Kanywa villages in Masaka and Kalungi village in Mubende.
ii. Enhancing Adaptive Capacity of Communities to Climate Change through Sustainable Pasture Management in Mubende.
iii. Strengthening Community Resilience to Drought through Construction of two (2) Communal Valley Tanks in Kyankungu and Kalungi villages, Mubende District.

Communities developed sub-projects and four proposals were approved and funded for ecosystem restoration, and putting into practice soil and water conservation measures. These proposals included:

i. Enhancing community resilience to the impacts of floods and droughts through soil and water conservation (construction of contour bunds and water harvesting) in Kitoma and Kanywa village, Kanywa parish, Buwunga sub-county Masaka District - Zibula Atudde Kitoma Group
ii. Increasing wood biomass and energy efficiency through tree growing and construction of wood saving stoves for enhanced adaptive capacity of communities in Sserinnya and Mpala villages, Buyaga Parish in Kyanamukaaka Sub-county in Masaka District - Buyaga Rural Environment Conservation Initiative.
iii. Building resilience of water stressed rural community through ecosystem-based

adaptation along River Nabakazi in Kalungi Rwabagoma and Buswabwera villages in Mubende district – Kalungi Agali-Awamu Women's Group.

iv. Strengthening the resilience of communities and fragile ecosystems to climate change impacts through promotion of climate smart agriculture, and water conservation technologies in Kyankungu and Lugaaga villages of Bubanda and Dyangoma Parishes in Kigando Sub-county, Mubende District – Kyankungu Youth Farmers Group.

These interventions will result into more than 500 households benefitting from water conservation practices, up to 200 hectares under climate-smart agriculture, and up to 100 hectares of land restored using an Ecosystem-based Adaption approach.

The Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project was assigned environmental classification of category 2, in line with the African Development Bank's Integrated Safeguards System. The Project is generating significant positive environmental and social impacts through promotion of ecological integrity of the Lakes' natural resources and ensuring sustainable livelihoods. The positive impacts of the project include: (i) reduced siltation and sedimentation of the lakes; (ii) improved water quality in the lakes; (iii) reduced overfishing and improved fish stocking; and (iv) restored and protected catchments and river' buffer areas. Solutions to the negative impact on environmental changes such as land degradation, natural resource depletion and climate change are incorporated into the project which resulted in improved well-being of participating beneficiaries and also social equity.

The LEAF II Project was designed to among others ensure that:

1. Existing Integrated Management Plans (ILMP) for Lake Edward and Albert are updated and adopted by both Uganda and DR Congo: a study to "Prepare the Lakes Edward and Albert Integrated Basin Management Plan" was commissioned. It is led by the NELSAP LEAF regional component in collaboration with both countries. The process was consultative with different stakeholders from both countries, with representation from the Ministries of Water and Environment; Agriculture, Fisheries and Livestock; Works and Transport; Energy; Environmental management agencies; Civil society; etc. the study developed several deliverables, including:
    a. Basin Situational Analysis Report
    b. Design of permanent transboundary basin organisation (*Lakes Edward and Albert Basin Organisation [LEABO]*)
    c. 7 Thematic investment sub-plans in: *(i) Water resources management (incl. flood and drought management, environmental monitoring, watershed and wetland rehabilitation, pollution management), (ii) Fisheries resources and aquaculture, (iii) Agriculture and livestock, (iv) Navigation and maritime safety, (v) Invasive aquatic weeds control, (vi) Hydropower and electrification, and (vii) Strategic basin infrastructure.*
    d. Basin water resources management and planning model,
    e. Natural resources database,
    f. Web-based Basin Information Management System.

The 7 thematic sub-plans built upon the situational analysis to identify investments (both structural and non-structural) and other interventions to address the identified issues and build on the opportunities within the lake basin in both Uganda and DR Congo.

2. The Lakes Edward and Albert Basin Strategy and Investment Plan (LEAB SIP) prepared. The objective of each thematic sub-plan under the Lakes Edward and Albert Integrated Basin Management Plan study was to set out a "logical set of actions and interventions within the thematic area" that contributed to the achievement of the strategic objectives of the LEAB Strategy and Investment Plan (LEAB SIP).

   The objective of the LEA Basin Strategy and Investment Plan (LEAB SIP) is to provide a clear agreed management and sustainable development strategy for the water and associated natural resources of the LEAB for the next 30 years (i.e. 2020 – 2050). The LEAB SIP Vision for 2050 as agreed by both countries is: "*A conflict-free, well-serviced basin in which the well managed and sustainably developed natural resources support improved, secure livelihoods, and shared economic growth*".

The Bathymetric surveys for Lakes Edward and Albert was completed. The resultant bathymetric maps and associated survey outputs will guide and strengthen water resources and fisheries research and its related sectoral activities; water resources planning and management; navigation and maritime safety; and other lake-based activities.

Develop frameworks for the development, management and operation of joint projects

The NDP III set out to develop Frameworks for the development, management and operation of joint projects to facilitate the process. During the period under review, the Government of Uganda and the Government of Kenya finalized negotiations on the sustainable management and development of transboundary water resources in Sio-Malaba-Malakisi river basins. The MoU seeks to foster cooperation, the sustainable development and management of transboundary water resources among the Parties for mutual benefit. The MoU will be facilitating resource mobilization for, and implementation of the Joint Angololo Multipurpose Water Project that is under design. The project between Uganda and Kenya will see the development of a 30 million cubic meter capacity dam and a 3300 hectares irrigation scheme.

Support to national, transboundary and international Obligation (NBI, AMCOW)

MWE 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 have been through partnership and cooperative management initiatives Nile Basin Initiative (NBI), Nile Equatorial Lakes Subsidiary Action Programme (NELSAP), African Ministers' Council on Water (AMCOW) among others.

Nile Basin Initiative (NBI)

Nile Basin Initiative was established in 1999 by 10 countries that share the river Nile to harness the full potential of the common River Nile Basin water resources for sustainable social-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. Entebbe (Uganda) hosts the NBI Secretariat. During the FY2020/21, the following achievements were realized:

- The government fulfilled part of its obligation to supporting international organisations by paying **USD 261,000** towards NBI operations and maintaining the institutions personnel, equipment and also governance meetings.

- The NBI secured funding from Global Environment Facility (GEF) through UNDP to implement a 5-year ground water project entitled ***"Enhancing conjunctive management of surface water and ground water resources in selected transboundary aquifers: Case study for selected shared groundwater bodies in the Nile Basin".*** The project aim is to foster the more effective utilization and protection of selected shared aquifers through further improving the understanding of the available groundwater resources and demonstrating conjunctive management that optimizes the joint use of surface and groundwater. In Uganda the project is being implemented in the Mt. Elgon aquifer (Uganda/Kenya) and Kagera aquifer (Uganda, Tanzania, Rwanda and Burundi).

- The current status is that the Regional, International and National consultants have been recruited and at national level the project is coordinated through the International and Transboundary Water Affairs department. The project has embarked on its initial output of producing the Shared Aquifer Diagnostic Analysis (SADA) report that is currently estimated at 60% progress.

- The department supervised coordinated the consultancy for the development of the trans-boundary wetlands management plans, Conservation investment plans and Monographs for the 3 wetlands Sango bay Minziro (Uganda/Tanzania), Sio-Siteko (Uganda/Kenya), Semliki Delta (Uganda/D.R.Congo). In addition, the management committees for the implementation of the plans were established as well as the draft Memoranda of Understanding (MoUs) for cooperative management of the trans-boundary wetlands.

- Supported participation of Uganda in regional cooperative meetings and joint stakeholder' for Regional Nile Day, 6th Nile Basin Development forum. This greatly facilitated in enhancing awareness of the NBI achievements at National and regional levels as well as creating the opportunity to reflect on success and challenges of the last 22 years of transboundary cooperation on the Nile and also consolidating member states commitments to the Nile Basin Cooperation agenda as laid out in the NBI's 10-year strategy.

African Ministers' Council on Water (AMCOW)

The African Ministers' Council for Water (AMCOW) was formed in 2002 in Abuja in 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 following were achieved:

- Participated in the Technical and Advisory committee meeting in which Uganda

was elected as a representative of the Eastern Region on the African Water Facility. In addition, a number of projects under Ground Water and Sanitation support to Northern Uganda and South Sudan are under formulation.

- Officers were trained on the Pan African Water Supply and Sanitation Monitoring and Reporting system (WASSMO).

3.3.2 Establish functional gender sensitive regional and zonal management committee for water resources

During the FR 2020/21, one gender sensitive Water Catchment Management Committees was established for Kiiha Catchment.

3.3.3 Ensure effective early warning and early action for sustainable efficient utilisation of water resources

Operational optimal Surface Water & Ground Water monitoring network established

In order to ensure effective early warning and early action for sustainable efficient utilization of water resources, the surface water and groundwater monitoring networks were operated and maintained. Figure 19 shows the quarterly operational status of the monitoring stations.

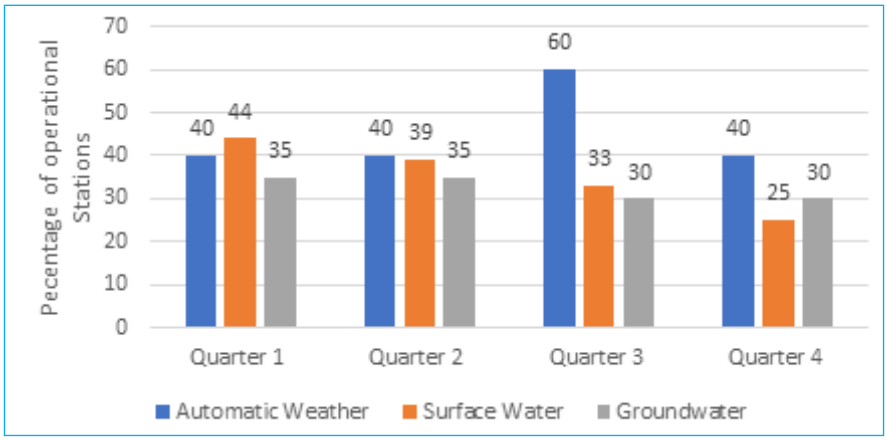


Figure 19: Operational status of Stations for Early Warning and early action for sustainable and efficient utilization of Water Resources

Throughout the FY 2020/21, the water resources monitoring network operated below 50%. This was This was attributed to:

x. The floods experienced around the country during 2020 led to damage of most surface water stations (Ref. table 8). For example, some stations like Kiruruma and Nyamugasani were completely washed away. Others like Bugondo are still under water and are therefore inaccessible. A comprehensive assessment of the damage is yet to be undertaken.

xi. The sub-sector faces chronic vandalism despite efforts to sensitize the communities in the neighborhood of the monitoring stations. The stations are vandalized for different components such as solar panels, metal parts for scrap, etc. For example, the surface water station at Katonga was vandalized soon after its commissioning.

xii. During the establishment of the groundwater monitoring stations, MWE identifies the

appropriate site and permission is sought from the land owner to drill and manage the monitoring station on their property. A number of stations have been closed as a result of changing landlords since the new landlords are not willing to host the monitoring stations. This affected the following stations; Maracha, Mbarara UNICEF and Nkokonjeru monitoring stations.

xiii. The budgetary allocation for the operation and maintenance of the monitoring networks is inadequate to cover the entire network. The management of the water resources monitoring network is a recurrent activity which involves: 1) Payment of gauge readers to ensure that the sites are clear and accessible at all times and that the stations are in good working condition; 2). Measurement of flow at each station. Additional costs are involved where the stations transmit data in real time since such stations require scheduled preventive maintenance of the sensors and batteries as well as data bundles for data transmission.

The poor operation of the monitoring network poses a very serious threat to the management and use of Uganda's water resources as it leads to gaps in the data for the affected monitoring stations. This renders the quality of the data poor. If the gaps are too large, gap filling results become inaccurate and hence there is insufficient information to provide early warning for floods and droughts, inform feasibility studies for infrastructure (dams, roads, water supply schemes, industries) development and WRM. This contributes to unpreparedness for disasters and unsustainable infrastructure due to inadequate data to inform designs and high investments in infrastructure.

Table 18: Surface Water level Monitoring Stations Affected by Rising Water Levels and Floods in 2020 and 2021

No	River/Lake	Name of Water Level Station	Flood Impact	Emergency Action Taken	Further Recommendations
1	Victoria	Jinja	• Automated chart recorder inaccessible due to submergence • Silt affecting telemetry sensor	• Using safety gear to access • Periodic preventive maintenance	Need for upgrading access Need for flushing out the well
2	Victoria	Entebbe	• Telemetry house & staff gauges inundated	• Nil	Reconstruction of telemetry house & gauges
3	Kagera	Kikagati	• Telemetry house & staff gauges submerged	• Telemetry digital equipment safely removed • Temporally gauges added	Reconstruction of telemetry house & permanent gauges
4	Kagera	Masangano	• Telemetry house, bench marks & staff gauges washed away	• Telemetry digital equipment safely removed	Reconstruction of telemetry house & permanent gauges
5	Kiruruma	Kiruruma	• Telemetry house, bench marks & staff gauges washed away	• No equipment at time of flooding	Reconstruction of telemetry house & permanent gauges
6	Muvumba	Mirama hills	• Telemetry house, bench marks & staff gauges washed away	• No equipment at time of flooding	Reconstruction of telemetry house & permanent gauges
7	Victoria Nile	Mbulamuti	• Staff gauges submerged	• Temporally gauges added	Permanent gauges required
8	Kyoga	Bugondo	• Telemetry house & staff gauges all submerged	• Digital equipment safely removed, • transfer of old gauge & temporally gauges added	Reconstruction of telemetry house & permanent gauges
9	Kyoga Outlet	Masindi Port	• Staff gauges submerged twice	• Telemetry house submerged, • Transfer of old gauge & temporally gauges added	Rehabilitation of telemetry house & permanent gauges
10	Kyoga	Kachung	• Telemetry house & staff gauges all submerged	• Temporally gauges added	Rehabilitation of telemetry house & permanent gauges
11	Sironko	Sironko	• Staff gauges washed away	• Nil	Additional permanent gauges required
12	Greek	Kelim	• Telemetry house & staff gauges all submerged	• None (No equipment to secure)	Rehabilitation of telemetry house & permanent gauges
13	Awoja	Mpologoma	• partial blockage of water way by water hyacinth	• Removal of water hyacinth	Provision of dredging equipment's for maintenance of the water bodies at flow measurement sections
14	Malaba	Malaba	• Staff gauges submerged	• Temporally gauges added	Additional permanent gauges required

No	River/Lake	Name of Water Level Station	Flood Impact	Emergency Action Taken	Further Recommendations
15	Albert	Butiaba	• Staff gauges submerged	• Temporally gauges added	Additional permanent gauges required
16	Kafu	Kafu	• Some staff gauges vandalised and others submerged	• Temporally gauges added	Additional permanent gauges required
17	Nyamwamba	Nyamwamba	• Telemetry house washed away	• No equipment at time of flooding	Reconstruction of telemetry house & permanent gauges
18	Albert Nile	Panyango	• Staff gauges submerged	• Temporally gauges added	Additional permanent gauges required
19	Atura	Atura	• Telemetry house & staff gauges all submerged	• No equipment at time of flooding	Rehabilitation of telemetry house & permanent gauges
20	Kwania	Kwania	• Telemetry house & staff gauges all submerged	• No equipment at time of flooding	Rehabilitation of telemetry house & permanent gauges
21	Kyoga Nile	Kamudin	• Staff gauges submerged	• Nil	Additional of permanent gauges

Wetland Hydrology

Hydrology is probably the single most important driver of wetland processes. Many of Uganda's wetlands are characterized by seasonal and longer-term fluctuations in water depth. These fluctuations control the internal hydrodynamics, which in turn affect chemical and biological processes within both the water column and the sediments. In addition, wetland vegetation adapts to variations in water inundation over both space and time. Therefore, changes to land use or drainage of wetland catchments can ultimately disturb this natural balance in the wetland hydrology and its ecosystem. Understanding and quantifying the processes controlling water level fluctuations are vital to understanding wetland regimes. Determining wetland hydrology is therefore important for understanding how the wetland system functions and for predicting its response to natural (e.g., climatic) and imposed (e.g., management) hydrological change.

Sixteen digital water level monitoring stations were constructed and installed in wetlands in the eastern and western Uganda with the support from the United Nations Development Programme under the project "Restoration of Wetland ecosystems". Temporal variability and linkages among hydrologic components of these wetlands will be examined using measured data from the installed water level monitoring stations. Conceptual wetland models will be developed to describe the interactions between the wetlands, the surrounding catchments, and the local groundwater. The pictures below show some of the constructed stations.

Figure 20: Digital water level monitoring station installed at Aleres in Pallisa district

Groundwater for socio-wellbeing, sustainable industrial growth

Uganda largely relies on groundwater for domestic use and recharge of groundwater ensures availability of the water for the present and future generations. Through the WIS, the rate of recharge of Uganda's aquifers was monitored. There was a general increase in groundwater recharge all over the country.

The groundwater monitoring well located in Rwebisengo in Ntoroko district monitors the impacts of climate change on the groundwater levels in the region. The observed groundwater level readings depict the impacts of the dry and wet seasons on groundwater resources in the region. During the dry season, groundwater levels decline, and during the wet season, increased groundwater levels were observed. This could partially be explained by the dependence on rainfall to recharge groundwater in the region. Groundwater observations in the area show a general increment as depicted by the trend line in figure 20.

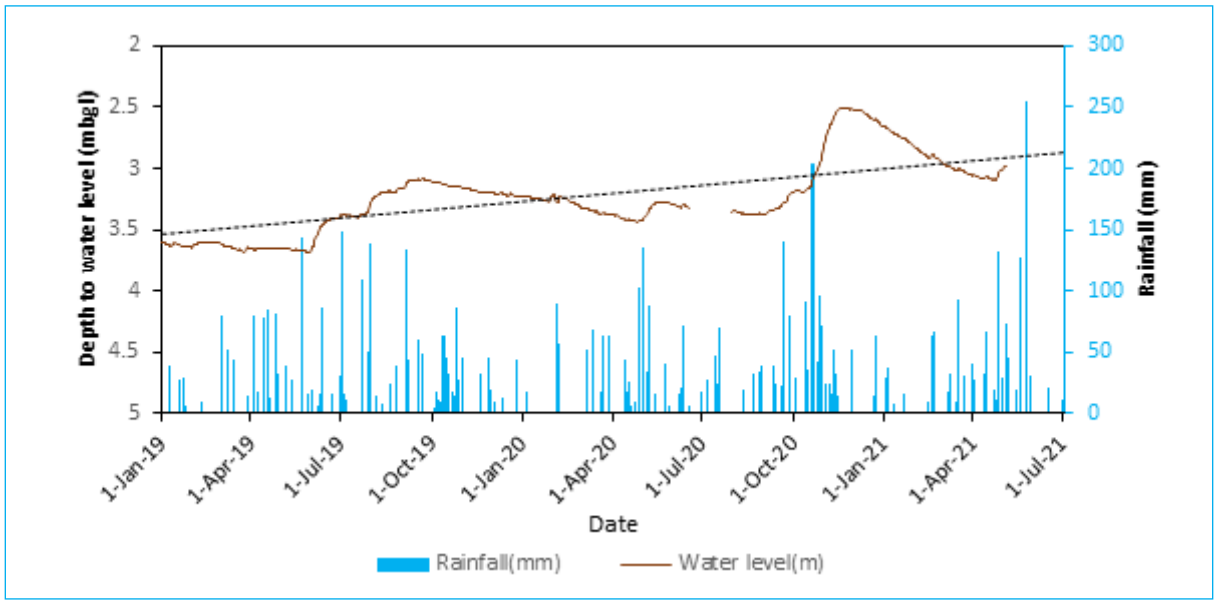


Figure 21: Groundwater fluctuations over time at Rwebisengo monitoring station

In Isingiro, the observed groundwater level readings do not indicate a direct relationship between the dry and wet seasons. This could partially be explained by a delayed response of groundwater recharge to rainfall. Groundwater observations in the area show a slight increment as depicted by the trend line in figure 21.

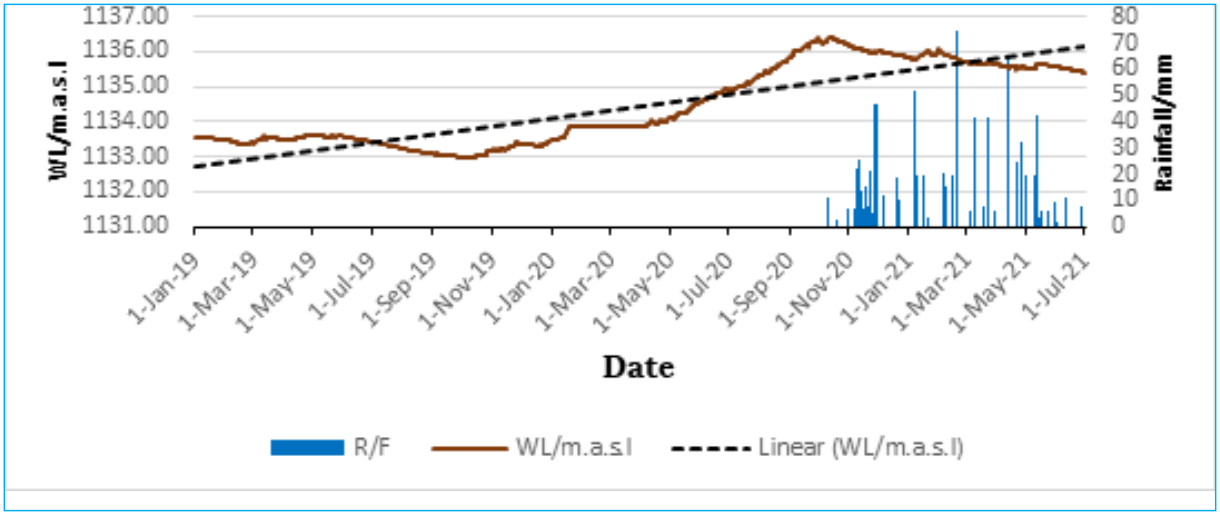


Figure 22: Groundwater fluctuations over time at Isingiro monitoring station

The rate of groundwater abstraction from motorized boreholes is monitored to ensure sustainability of aquifers. Nkozi University relies on a well field with 2 motorized boreholes. A monitoring borehole was constructed to inform groundwater management strategies for the aquifer. Figure 22 shows the water level trends in the aquifer. The hydrograph for the Nkozi station indicates an increase in the water level. This is an indication that the water is being used sustainably.

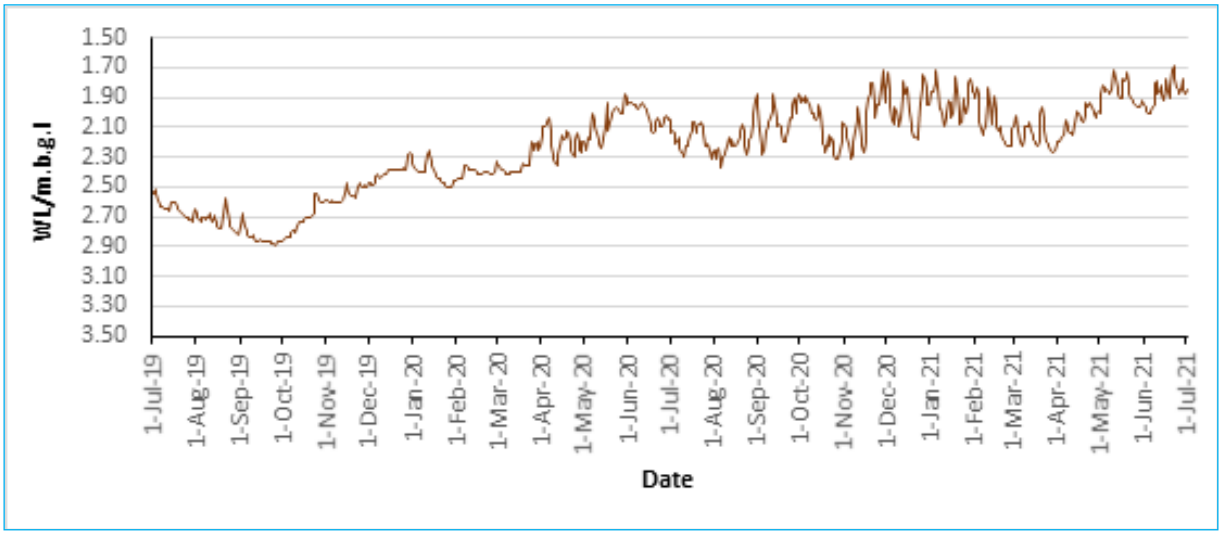


Figure 23: Hydrograph of Nkozi monitoring station

The increase in groundwater recharge in Rwebisengo which is found in the Albertine region is happening at a time when Uganda is stepping up her efforts in oil and gas development. The integrated management of the resource will ensure availability of sufficient water for upstream oil and gas activities as well as related developments in the region. On the other, the slow recharge of groundwater in Isingiro which is found in the cattle corridor is occurring against increased water demand due to population growth, urbanization and new developments of groundwater for irrigation and industrial purposes. Droughts and floods due to climate change are also increasingly being felt within Uganda. The region is therefore likely to be water stressed especially since groundwater acts as the buffer during prolonged droughts. Investments in groundwater management are therefore necessary to reverse this threat.

Outlook Hydrological system

Through the hydrological system, stakeholders have been updated on the status of the lakes Victoria, Kyoga and Albert. This has enabled Office of the Prime Minister (OPM), and Local Governments (LGs) to plan for the affected communities and thereby reduce the negative impacts of the rising water levels.

Uganda experienced rising water levels and floods in the country throughout 2020. The high-water levels and floods in the country resulted from above normal rainfall in Eastern Africa. The above normal rainfall was caused by a positive Indian Ocean Dipole (IOD) that created a low-pressure zone in the region. This pushed moist air inwards near the continent leading to widespread storm clouds and wetter conditions from September 2019 to February 2020. The high inflows as well as above normal rainfall led to rise water levels in the major Lakes (Victoria, Kyoga and Albert) and floods in the areas surrounding these major water bodies. The water levels remained high throughout the reporting period as evidenced by figure 24.

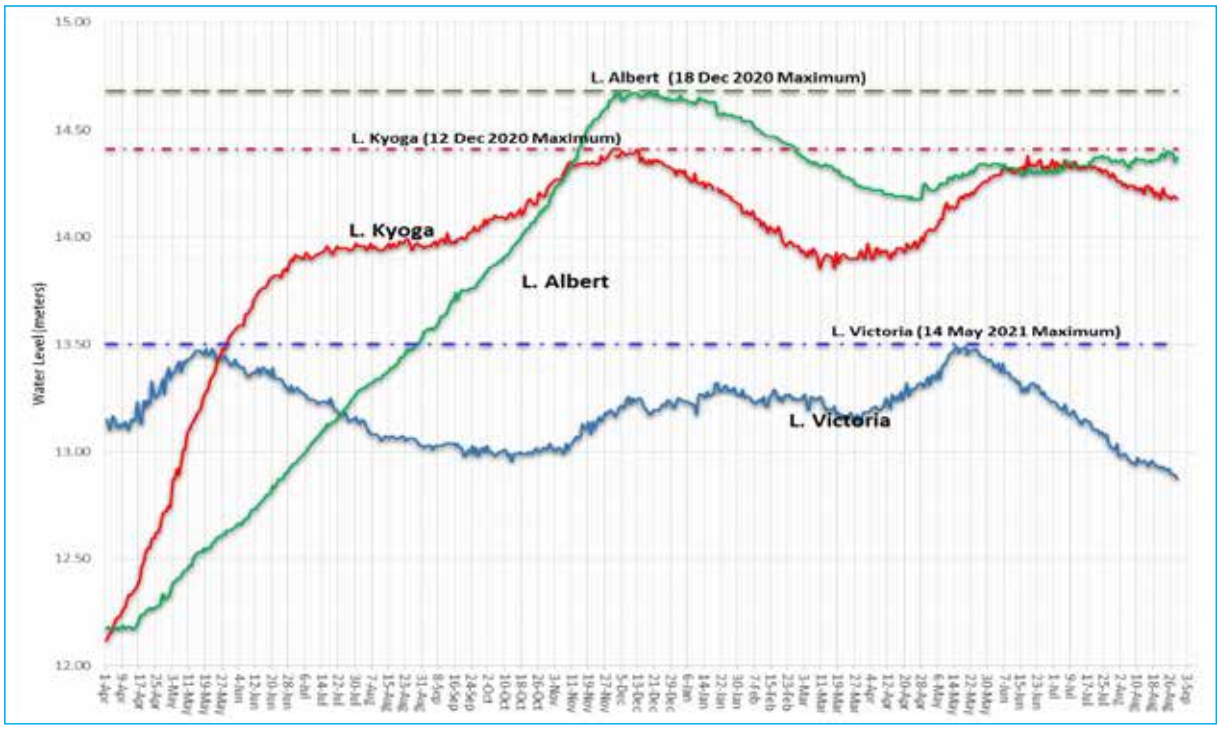


Figure 24: Trends in Water level of Lakes Victoria (blue), Kyoga (red) and Albert (green) 2020-21

The high-water levels in lakes especially Lake Kyoga and Albert coupled with on-going torrential rainfall may lead to a further rise of levels resulting in flooding of the surrounding areas. Figure 25 shows the areas affected area along Lake Albert.

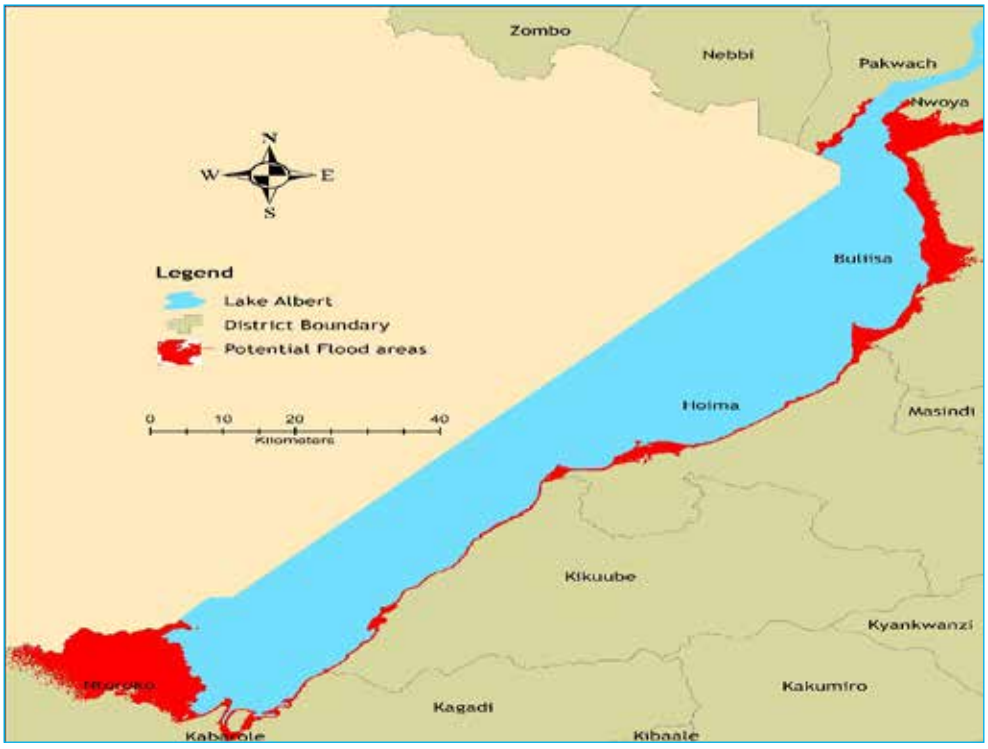


Figure 25: Flood affected areas along Lake Albert

Catchment Water Resources Assessment

The assessment of Lake Kalunga in Rakai district followed media reports on the sudden retraction of the Lake Kijanebarola shoreline at Kalunga landing site in Ddyango Town Council in Rakai District. The community reported that the retraction occurred on the 14th of May 2021. The incident took place within a period of 4 hours and fish nets which were set within the area disappeared, papyrus was seen moving towards the Lake outlet at very high speed. Figure 20 shows the extent of the water recession. The shore line at this point shifted inshore by approximately 200m. A water level drop of approximately 2m was observed from the marked points before and after recession.

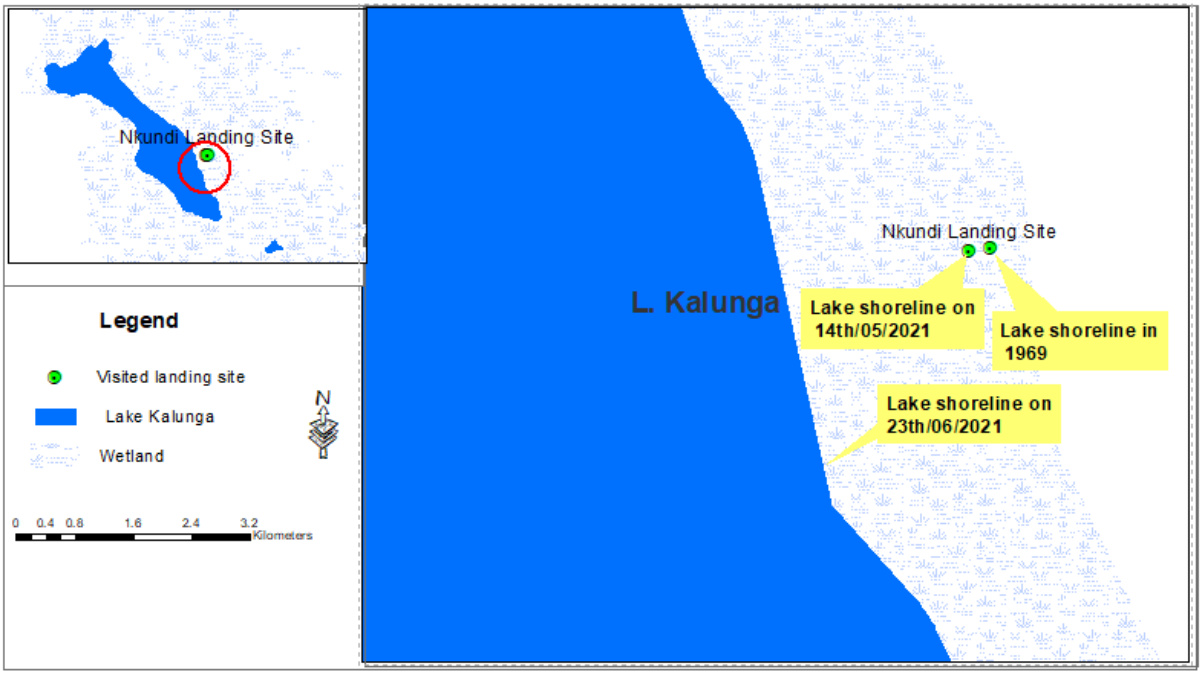


Figure 26: Map of Lake Kalunga indicating the previous and current extents

Conventional and isotopic techniques were employed to investigate the cause of the sudden recession. It was found that the disappearance was not due to hydrological reasons. Isotope techniques confirmed that the water had not disappeared underground as had been alleged by the community. The cause of the recession was attributed to a bridge construction downstream at Lake Kijenebalola. It is presumed that during construction, water was temporarily dammed and it extended to Lake Kalunga, once the dam gave way the water level in the lake receded.

Surface water for sustainable infrastructure development

Hydropower is the largest generator of Uganda's energy, this is mostly concentrated along the Nile system starting at the outlet of Lake Victoria with Nalubaale - Kirra, Bujagali, Isimba and Karuma further downstream. The hydropower schemes downstream of Owen falls lack storage and are operated as run-of river systems and therefore rely on the outflow from Lake Victoria. Therefore, the water level and outflow from Lake Victoria is important in sustaining the hydropower generation in the country.

The highest Net Basin Supply (NBS) for Lake Victoria was recorded in January to May 2020 (Figure 27). On the other hand, the months of June to August 2021 were dry months with a zero-net inflow into Lake Victoria. This lack of net inflow into the lake for three consecutive months has continued

to affect the lake levels which are on a declining trend as indicated in figure 22. Considering that over 80% of the lake's water comes from rainfall, the lack of net inflow may be attributed to the reduction in rainfall over Lake Victoria and its basin during the June, July and August (JJA) rainfall season in 2021. While there is a decline in the water levels of Lake Victoria, the current levels are still much higher than the long-term average (figure 28) and as such have not affected socio-economic activities.

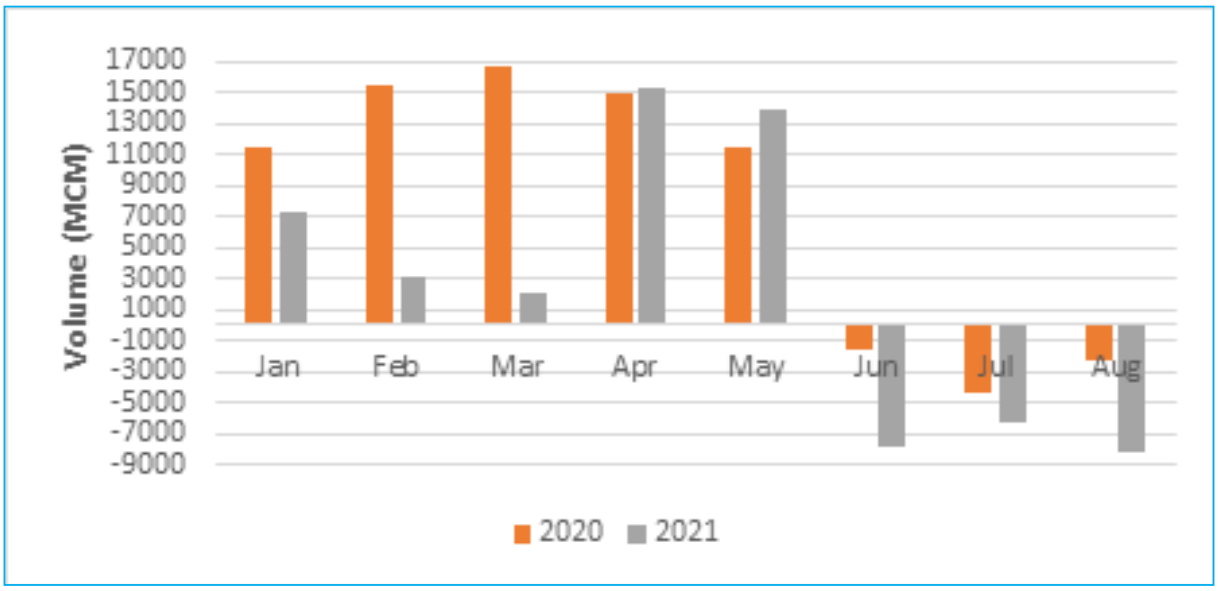


Figure 27: Monthly Net Basin Supply for the Years 2020 and 2021

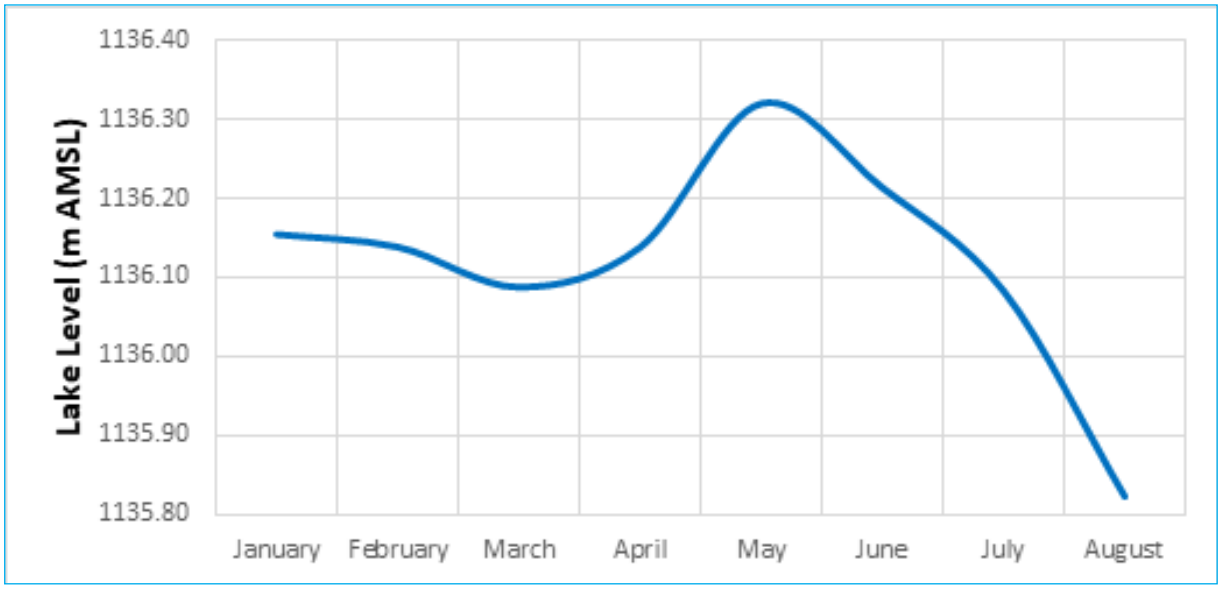


Figure 28: Lake Victoria Monthly Levels

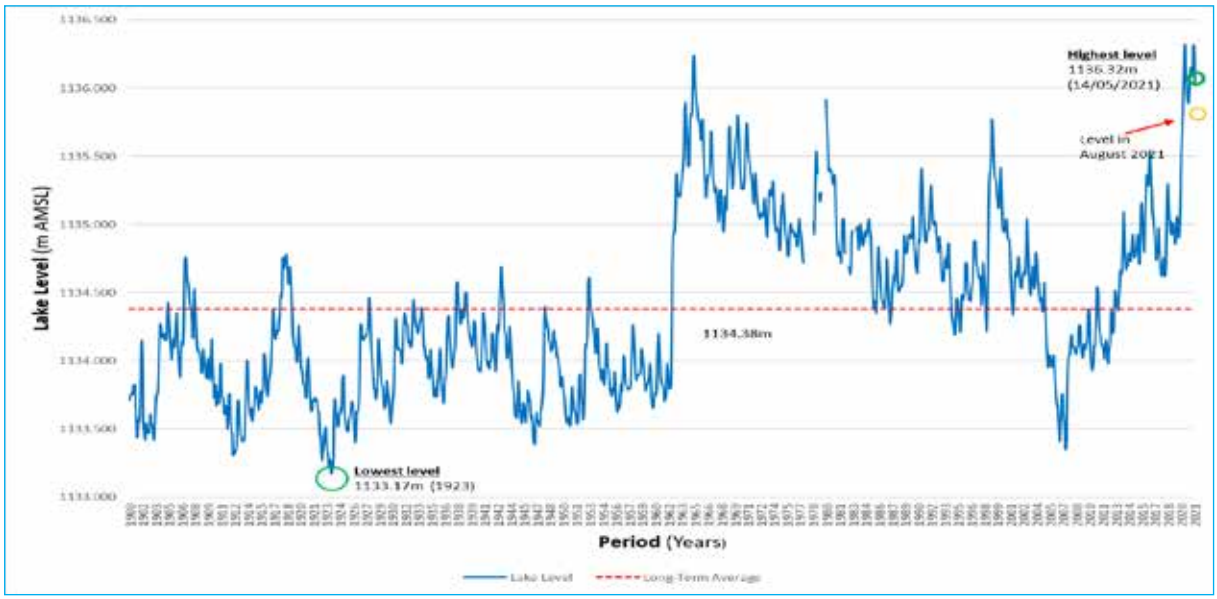


Figure 29: Lake Victoria Mean Monthly Levels from 1900 to 2020

Operational water information systems at the central level and in the 4 water management zones

Through the operation of the Water information system (WIS), the water available for different uses such as hydropower, industries, agriculture and ecological services have been monitored throughout the reporting period.

3.3.4 Maintain natural water bodies and reservoirs to enhance water storage capacity to meet water resource use requirements

Three floating Islands were identified in Lake Victoria, assessed and interventions undertaken, by a multi-sectoral team, involving their initial moving to safe gorges and cutting them into manageable chunks. Under the NELSAP – Regional Power Trade Project, 946Km of power transmission lines and 17 associated sub-stations were established to provide interconnection within the region. The projects have been used as the foundation for negotiating more financial resources in the effort of promoting cooperative planning, joint development and use of the shared water resources.

The Support to Hydropower Project aims at optimizing use of Lake Victoria for hydropower production at Owen Falls dam, as well as at downstream plants, while conferring benefits to other riparian countries. This is being achieved through development of the Water Regulation and Management Tool for River Nile in Uganda, popularly known as the "Nile Tool". The tool will guide the water resources regulation of the Nile within Uganda and provide information to guide national negotiations with riparian states on the Nile and Lake Victoria regarding the development of an adaptive "Agreed Curve". During the period under review, the tool was used to generate naturalized flows as part of Policy and Scenario Assessment for Uganda's defense pertaining to a Jinja dam operation lawsuit at the East African Community Court of Justice.

Financial resources to conduct a feasibility study for sand dams and Sub-surface dams in Karamoja sub - region, were secured from UNICEF. The project aims to enhance groundwater recharge to ensure the availability of water to the communities. The target area for this intervention is Dopeth Catchment that straddles Kaabong and Kotido districts.

Strengthen enforcement capacity for improved compliance levels

3.3.5 Procure equipment for monitoring set standards on air, noise, water resources and soil

One project proposal on the implementation of a smart water management system was developed and is undergoing review, to ascertain which water management zones will be supported. The system is expected to improve the collection of water abstraction data from various water users in real-time and transmit it to MWE for accurate, reliable and timely reporting/regulation of water resources. The equipment will include smart water meters and wireless data collectors. A high-resolution Cameras were purchased to facilitate dam inspections. Inhouse training of eight staff members on dam safety monitoring and inspections is ongoing

3.3.6 Create a critical mass of human resource to undertake enforcement of set standards and regulations

i. 233 Water users, Wastewater dischargers and Local Government officials were trained in enforcement of water resources standards and regulations.
ii. 72 unregulated waters users were sensitized
iii. Eight NGOs and Government Parastatals (IRC, PROTOS, Water for People, MWUWS, NWSC, JESE, HEWASA, CARE) were sensitized on compliance to water resources management regulations, standards, and policies
iv. Five staff members from DWRM as well as stakeholders from the Ministry of Energy and Mineral Development (MEMD), ERA, UEGCL, UETCL, NEMA and Hydropower operators are being training in the determination of environmental flow.

3.3.7 Build partnerships with stakeholders such as KCCA, Uganda Police, Urban Authorities and non-state actors to enhance compliance

The Water Resource Institute (WRI) engaged and initiated collaboration and partnership of **15** Institutions and Organizations to support the Institute both financially and technically to deliver on its mandate of applied training, applied research, dialogue and outreach. Four Memorandum of Understanding (MoUs) between MWE and the partners Buganda Kingdom, WaterAid Uganda, Worldwide Fund (WWF) was finalized. The MoU with Food Rights Alliance (FRA) was being finalized.

The Policy for engaging the retired professionals in Water Resources Institute was approved and an advertisement was published in Newspapers with deadline of 14th April 2021 for interested professional to submit their Letter of Interest (LOI). **50** professionals submitted their LOI. Evaluation was completed and procurement of these professionals is ongoing.

3.3.8 Undertake relevant applied research aligned to development needs and existing gaps

Water Resources Institute

The Water Resources Institute (WRI) was established in Uganda in March 2018. It is part of implementation of the Water Sector Reforms and response to wide consultations that pointed out the need to address water resources related issues such as pollution, climate variability, reduction in water availability, and to balance water needs for agriculture, energy, industry and households in the country. Water Resource Institute aims to be a centre of excellence in the conservation, development and management of water and related resources for sustainable development of Uganda. It is planned to be a semi-autonomous Institute that undertakes the following tasks:

i. Integrated capacity building courses for mid-career officers and officers joining the water sector in the country.
ii. Conduct basic and applied research.
iii. Implement outreach activities in relation to research and other activities.
iv. Human resources development.
v. Promote policy dialogue on water and other related issues.

During the FY 2020/21 the WRI undertook the following activities:

i. Implementation of the Water Resources Institute 10-year strategic plan and 5-year business plan.
ii. Holding two Uganda Water and Environment Weeks (UWEWK2020 and UWEWK2021)
iii. Organizing, supporting and conducting short course trainings, working sessions and meetings were held at the Institute.
iv. Holding and supporting policy dialogues on water and related issues.
v. Publicity and developing and disseminating of outreach materials.

The Water Resources Institute has continued to implement and deliver on its four thematic areas i) applied training, ii) applied research, iii) outreach and iv) dialogue. In the FY 2020/21 WRI conducted applied trainings through short courses, outreach and dialogue through Uganda Water and Environment Week (UWEWK).

In this FY 2020/21, the WRI organized, supported and conducted **10** short course trainings of both national and international nature involving a total **383** participants, **5** working sessions and **4** meetings. The trainings covered cost sharing arrangements with various institutions and organizations such as MWE, GIZ UNESCO, Makerere University Kampala (MUK), Global Water partnership (GWP), UNICEF, UNESCO, World Bank, LVBC, IGAD, Uganda Drillers and Contractors Association (UDCA) as shown in Table 19.

Table 19: Showing the List of the Trainings, working sessions and meetings conducted and held at Water Resources Institute FY2020/21

No.	Training title	Target group	Proposed dates	Organizers	Number of participants	Category
1	Working Session to review the Revised Strategy Operationalizing CbIWRM	DWRM and WMZ staff	12-13 Aug 2020	MWE and Hydrophill Consultants	31	Working session
2	Meeting by NEMA	NEMA staff	23-25 Sep020	NEMA	10	Meeting
3	Water Diplomacy and Negotiations	Water and environment sector staff and Makerere University students	14-16 Oct 2020	MWE, MAK UNESCO and others	33	Training
4	Hydro-Diplomacy	IGAD Countries' Water Professionals	9-10 Dec 2020	IGAD, World Bank and MWE	23	Training
5	Working session to harmonise the environment and natural resource (ENR) assessment tools for budget compliance	NEMA, NPA, Office of Auditor General, MWE	21-22 Jan 2021	NEMA, NPA, Office of Auditor General, MWE	10	Working Session
6	Brainstorming meeting	WRI Staff	25th Jan 2021	WRI	10	Meeting
7	Working Session to describe Adaptation Technologies and Community-based Adaptation interventions to be implemented in Uganda	LVBC (National Project coordination team)	4 -5 Mar 2021	MWE (LVBC)	6	Working Session
8	Meeting by NEMA	NEMA staff	9 -10 Mar 2021	NEMA	15	Meeting
9	Write shop (UWEWK2021)	Paper presenters for UWEWK2021	11-12 March 2021	MWE	27	Training
10	Natural resources based business and entrepreneurship: climate smart	Hybrid-UWEWK2021 participants	22nd March 2021	Makerere University and MWE	40	Training
11	Natural Capital Accounting in Uganda: Introduction for Decision Making	Hybrid-UWEWK2021 participants	23rd March 2021	Directorate of Environment Affairs	60	Training
12	Integrated Water Resources Management- a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction	Hybrid-UWEWK2021 participants	24th March 2021	International Institute for Rural Reconstruction and MWE	60	Training
12	The Shit Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation	Hybrid-UWEWK2021 participants	25th March 2021	GIZ, Water for People and MWE	50	Training
14	Introduction to GIS Asset Mapping and Surveying final output examples – Asset mapping, elevations, survey data, etc.	Hybrid-UWEWK2021 participants	25th March 2021	Women in GIS Uganda, Engineers without Boarders (EWB)-USA and MWE	40	Training

No.	Training title	Target group	Proposed dates	Organizers	Number of participants	Category
15	Validation working Session of the draft reports for the project- enhancing resilience of communities and fragile ecosystems to climate change in Katonga catchment,	Relevant staff of MWE, Local Government official from Katonga catchment area	30 Mar 2021	MWE/Global Water Partnership	25	Working Session
16	Uganda Drillers Association	Technicians	7 to 8 April 2021	MWE/Uganda Drillers Association	25	Training
17	National Tailor-Made Training in Groundwater Management	MWE groundwater technical staff	1st -2nd June 2021	MWE and IGAD	25	Training
18	NBI Journalist training and Award ceremony 2021	NBI riparian countries Journalists	10th -11th June 2021	NBI-NELSAP-LEAF		Training and Award Ceremony
19	Training in drilling supervision and contracts management	Life Water International Staff and Contractors	2nd -4th June 2021	MWE and Life Water International	20	Training

Implementation of Water Resources Institute Strategic and Business Plan

The WRI -Mentorship program was launched during UWEWK2021 with the objectives of:

i. Establishment of partnerships and collaboration with key strategic partners in water and environment sector
ii. Engagement of key professionals to provide services to the WRI to undertake mentorship and internship scheme of young and mid-carrier professionals in water and environment Fields of Practice
iii. Mentor young women and men to deliver professional services in the water and environment Fields of Practice

The first phase of piloting the program will involve women in mainstream Water and Environment sector (MWE and its agencies). WRI is planning to have approximately 20-25 mentees in its first mentorship group by the end of September 2021.

Uganda Water and Environment Week

The Uganda Water and Environment Week (UWEWK) is a weeklong event that provides an interface for knowledge exchange and dialogue on pertinent water resources issues among sector actors and other stakeholders. During this reporting period 2 UWEWKs (UWEWK 2020 and UWEWK2021) were held. Week events of UWEWK2020 were postponed due to COVID-19, thus holding of hybrid event in September 2020.

UWEWK2020

During the first half of FY2020/21 the Ministry of Water and Environment spearheaded by Water Resources Institute organized the third UWEWK2020. The UWEWK2020 was held both virtually and physically from 13th to 18th September 2020. The event was organized under the theme: "water and environment resources for inclusive-growth, employment and wealth creation". Three sub-themes were proposed to further elaborate on water and environment issues and challenges. These include with 3 sub themes: *i)* Water and Environment Security for Inclusive-growth, ii) Water and Environment for Employment and Wealth Creation and iii) Climate change and achievement

of NDP III goals. Five parallel sessions, five applied short course trainings and Four side events were also conducted during the week.

UWEWK2021

The fourth UWEWK2021 organized by the Ministry of Water and Environment spearheaded by Water Resources Institute was organized and held in the month March 2021. The overall theme "Water and Environment security for socio-economic transformation of Uganda" with Four sub-themes: a) Valuing Water and Environment resources for socio-economic transformation of Uganda; b) Water and Environment in a creative economy; c) Managing Water and Environment shocks and d) Water and Environment security for smart urban growth.

About 3094 attendees were registered both online (2386) and physical (708) for UWEWK2021

The outcomes and recommendations from the UWEWK2021 have been designed as action areas in respect to addressing water, environment and climate change challenges identified during the event.

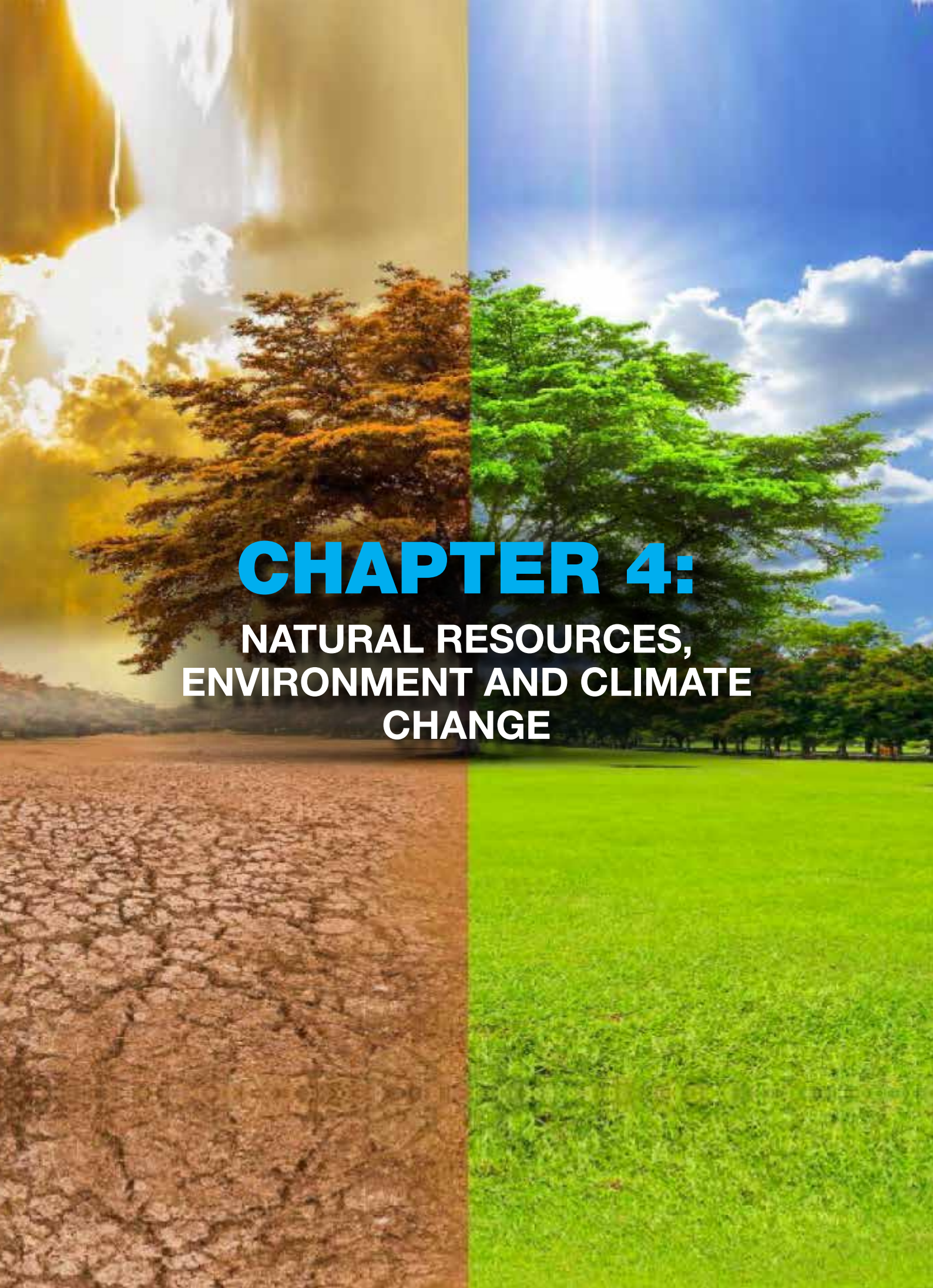
3.4 Emerging issues/Challenges and undertakings

3.4.1 Challenges

i. Poor catchment management practices
ii. Inadequate funding for IWRM
iii. Emerging challenges of floods, water related diseases and covid-19
iv. Limited awareness of importance of WRM
v. Low compliance to drinking water and wastewater standards.
vi. Lack of water vessel equipment thus making regular lake wide monitoring very expensive
vii. Inadequate enforcement of water laws and regulations
viii. Low awareness about the role of water resources in supporting achievement of various NDP programs and targets
ix. Low staff numbers at various levels to perform the required functions
x. Many cases of vandalism of the stations which render the stations non-operational and lead to data gaps

3.4.2 Recommendations

i. Improve stakeholder involvement in catchment based integrated water resources management
ii. Implement the resources mobilization strategy for integrated water resources management
iii. Build partnerships with key stakeholders and partners in water resources management
iv. Determine the contribution of water resources in achievement of various NDP programs and targets
v. Mobilize stakeholder's involvement and support in implementation of the proposed strategic and specific interventions



CHAPTER 4:

NATURAL RESOURCES, ENVIRONMENT AND CLIMATE CHANGE

CHAPTER 4

NATURAL RESOURCES, ENVIRONMENT AND CLIMATE CHANGE

4.1 Introduction

The Natural Resources, Environment and Climate Change (NRECC) Subprogramme is one of the three sub-programmes of NRECCLWM. It contributes to the NRECCLWM programme goal of reducing environmental degradation and adverse effects of climate change and improving the utilisation of natural resources for sustainable economic growth and livelihood security. It is responsible for achieving the following programme objectives: (i) Increase forest, tree and wetland coverage, restore bare hills and protect mountainous areas and rangelands; (ii) Maintain and/or restore a clean, healthy, and productive environment; (iii) Promote inclusive climate resilient and low emissions development at all levels; (iv) Reduce human and economic loss from natural hazards and disasters; (v) Increase incomes and employment through sustainable use and value addition to water, forests and other natural resources.

Its key results are: (i) Increase land area covered by forests from 9.1 percent to 15 percent; (ii) Increase land area covered by wetlands from 8.9 percent to 9.57 percent; (iii) Increase permit holders complying with ESIA conditions at the time of spot check from 40 percent to 90 percent; (iv) Increase the accuracy of meteorological information from 80 percent to 90 percent; (v) Increase the percentage of automation of weather and climate network from 30 percent to 80 percent.

The implementing Agencies include: Ministry of Water and Environment (MWE); Ministry of Local Government (MLG), Ministry of Energy and Mineral Development (MEMD), Ministry of Tourism and Wildlife and Antiques (MTWA), National Environment Management Authority (NEMA), National Forestry Authority (NFA), Uganda Wildlife Authority (UWA), Uganda National Meteorological Authority (UNMA) and Environment and Natural Resources Civil Society Organisations (ENR_CSOs).

The performance in the FY 2020/21 is presented based on the outcomes and interventions outlined in NDPIII and as elaborated in Programme Implementation Action Plan (PIAP).

4.2 NRECC Outcome Indicators

4.2.1 Percentage of Land Area covered by Forests

The development agenda for Uganda is committed to sustainable management of forest landscapes. Data from the National Forestry Authority (NFA) Land Use Land Cover Biomass Study (2017 unpublished) indicated that Uganda registered a reduction in forest-land cover from 24.1% in 1990 to 9.6% in 2015 and subsequently registered a forest cover increase to 12.3% in 2017 (Table 20). Forests on private land reduced from 16.3% to 5.4% and protected forests reduced from 7.9% to 6.9% of the national land area. The annual forest cover loss was 1.8% over the 27 years. Annual

forest cover loss was recorded highest on Private Forests; 82,254ha (1.7%) and 7,689ha (0.1%) on protected forests. The data indicates that while the proportion of forests outside protected areas (PAs) reduced from 3,325,846ha (67%) of the total forest cover area in 1990 to 765,651ha (39%) in 2015 and increased to 1,104,982ha (44%) in 2017, forest cover on protected areas increased from 33% in 1990 to 61% in 2015 and to 56% in 2017.

Table 20: Forest cover trend in Uganda (1990–2017)

Forest category	Forest Type	1990	2000	2005	2010	2015	2017
Private forests	THF well stocked	174,006	146,211	80,034	53,325	34,064	31,475
	THF degraded	176,014	178,097	153,049	64,542	39,732	39,270
	Woodland	2,963,088	2,025,737	1,836,577	705,493	646,412	608,368
	Plantation	12,738	7,198	11,727	18,970	45,443	425,869
	Subtotal	**3,325,846**	**2,357,243**	**2,081,388**	**842,330**	**765,651**	**1,104,982**
% Private forests		16.3%	11.5%	10.2%	4.0%	3.8%	5.4%
Protected forests	THF well stocked	477,104	557,719	520,923	455,058	495,059	492,654
	THF degraded	97,048	48,454	38,645	42,438	62,132	62,861
	Woodland	1,011,420	809,004	941,421	585,346	566,526	630,635
	Plantation	22,328	14,144	21,799	30,890	62,280	214,134
	Subtotal	**1,607,900**	**1,429,321**	**1,522,788**	**1,113,731**	**1,185,997**	**1,400,284**
% Protected forests		7.9%	7.0%	7.4%	5.3%	5.8%	6.9%
Total forest cover (ha)		**4,933,746**	**3,786,564**	**3,604,176**	**1,956,061**	**1,951,648**	**2,505,266**
% Total forest cover		24.1%	18.5%	17.6%	9.4%	9.6%	12.3%
National land area* (ha)		**20,465,745**	**20,474,456**	**20,448,859**	**20,866,959**	**20,405,768**	**20,409,730**

Source: NFA GIS Mapping and Biomass Study (2017)

4.2.2 Percentage of Land Area covered by wetlands

Wetlands are complex ecosystems with an extensive network coverage in Uganda. According to the mapping exercises undertaken in 1994 and 2015, the wetland coverage declined from 15.6% in 1994 to 13% in 2015. Although the wetland coverage is estimated at 13% of Uganda's surface area, only 8.9% (21,526km^2) of this is intact while 4.1% (9,885km^2) in under some form of degradation. This decline is attributed to a number of factors including urbanization, population increase, uncoordinated planning and demand for more arable land.

However, with the intensified efforts in restoration, intact wetland coverage is anticipated to be on the increase. Preliminary results from the LULC mapping under NFA show that the class 8 of wetlands that includes permanent wetlands occupied by papyrus, sedges and floating vegetation increased from 716,721ha in 2015 to 877,337ha in 2019. Table 21 shows the area covered by wetlands in 1994 and 2015.

Table 21: Wetland coverage by water regime between 1994 and 2015

Year	1994	2015
Seasonality	Area (Sq.km)	Area (Sq.km)
Permanent	10,381.0	7,325.5
Seasonal	27,178.4	24,087.3
Total	**37,559.4**	**31,412.8**

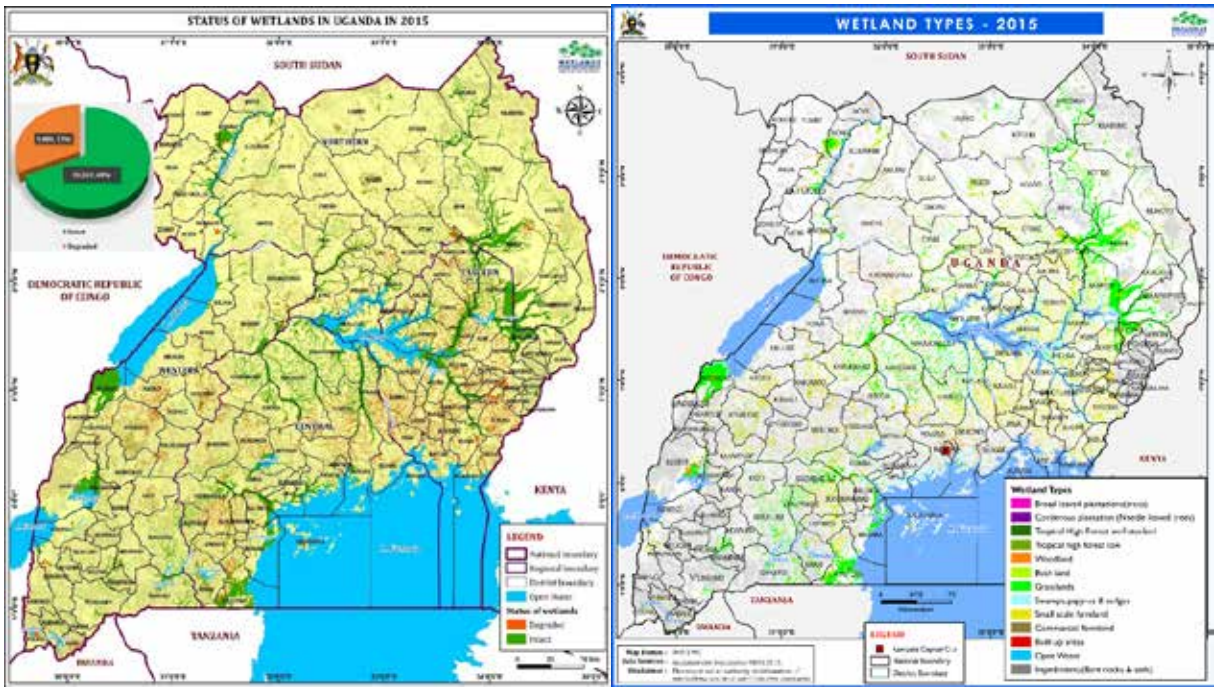


Figure 30: Wetlands distribution by use/cover types

4.2.3 Increase permit holders complying with ESIA condition at the time of spot check

80% of permit holders complied with ESIA conditions in FY2020/21 with more focus on industries, waste management and water sector. Among the compliance issues identified include; inadequate or no provisions for proper solid waste management and inadequate or no provisions for proper treatment of waste water / industrial effluent. Other issues were emissions to air particularly from steel furnaces, boilers and textile making, noise generation beyond the set standards, failure to put in place adequate provisions for occupational safety and health , and handling of raw materials, particularly scrap in steel rolling plants that exposes workers to occupational health hazards.

The NDPIII target is 90% against the current achievement of 80%. It is likely the target will be achieved by the end of 5 years.

4.2.4 Air Quality Index $PM_{2.5}$

The air quality standards focused around Kampala metropolitan areas where 154% of targeted air quality compliance was achieved in FY 2020/21. There is still weakness in enforcement, compliance and monitoring, hence the need to have national air quality legislation, regulation, monitoring systems and standards enforcement. NEMA is developing air quality standards and regulation

under the NEA 2019. Currently the Authority is using World Health Organization (WHO) and East African Community (EAC) standards and regulations to observe air quality standards. Effective enforcement requires air quality monitoring tools and equipment which the Authority does not have, these are real-time monitoring tools and portable (hand held) equipment.

4.2.5 Average Annual change in Green House Gas (GHG) Emissions (MtCO2e)

The GHG emissions for 2020/21 was not estimated due to gaps in the sectoral data.

4.2.6 Climate Change Vulnerability Index

The country with NDC Support Programme is in the process of the developing the Vulnerability index for the country and the process is expected to end in December 2021.

4.2.7 Percentage Change in the Accuracy of meteorological Information

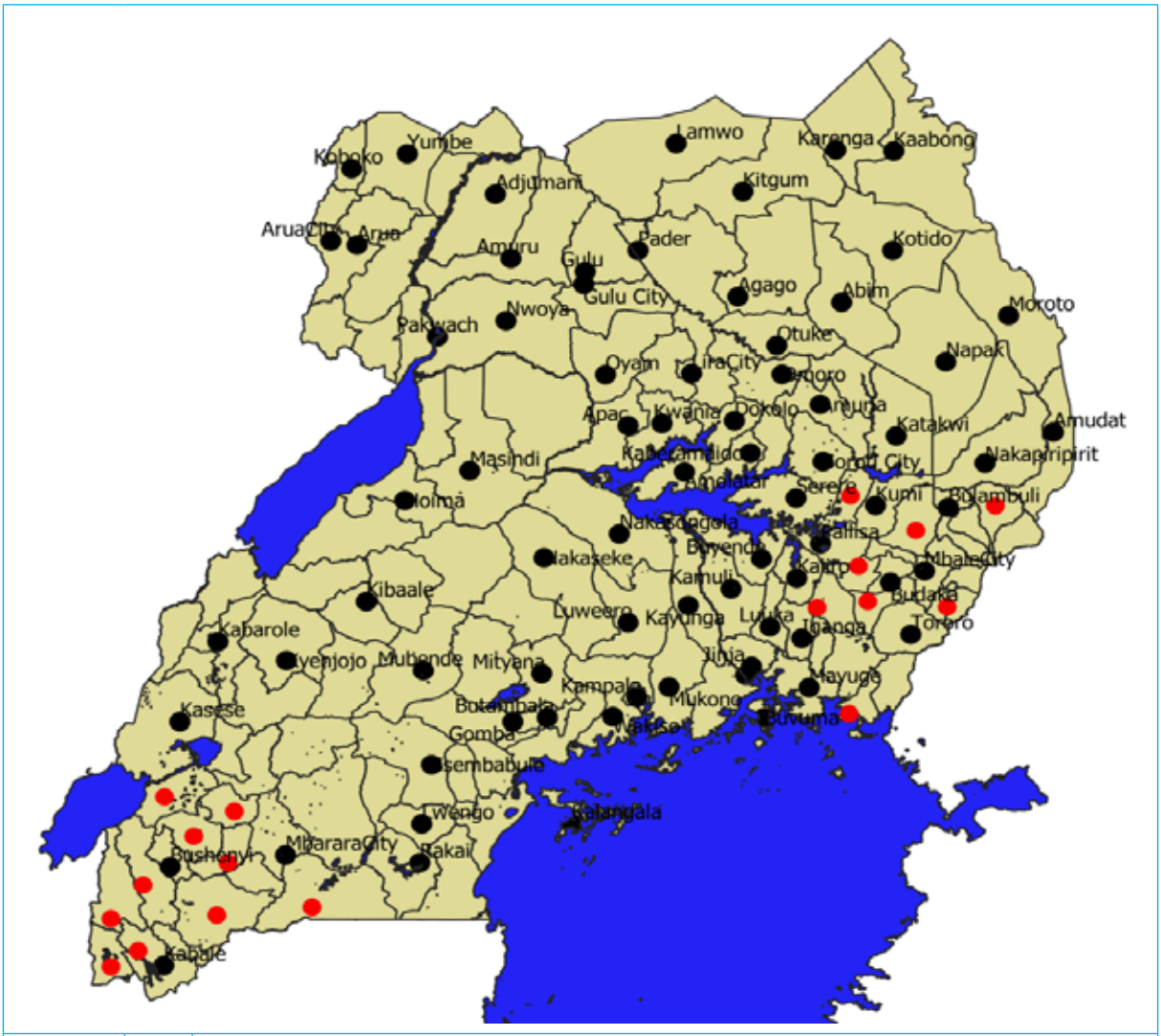
Accuracy of a seasonal forecast refers to the percentage reliability or precision of a predicted forecast in relation with what is observed or measured on ground. Accuracy is always given in terms of percentage range.

The Accuracy of forecasts for the financial year 2019/2020 was 72-76% while the Accuracy of forecast for 2020/2021 was 75-80%. The NDP III target is 90% against the current average level of accuracy of the seasonal rainfall forecast of 77.5%. The low achievement was attributed to changes in the climate systems such as Elnino Southern Oscillation (ENSO) which was negative hence affecting the moisture coming to the eastern Africa region. However, this was an improvement compared to the average level of accuracy of the seasonal rainfall forecast for FY 2019/20 which was 74%.

4.2.8 Percentage automation of weather and climate network

The percentage of automation of weather and climate network increased from 51.4% in FY 2019/20 to 62% in FY 2020/21. 91 out of the 146 districts had at least an Automatic Weather Station (AWS) installed compared to 75 districts in FY 2019/20. This represents 21% increase in the districts covered.

The NDP III target is 80% against the current achievement of 62%. At the current rate of progress, it is likely the NDPIII will be achieved by the end of the 5 years.



KEY		
	●	Station established in FY 2020/2021
	●	Station established as of FY 2019/2020

Figure 31: Distribution Weather Stations in Uganda

4.3 NRECC Interventions

4.3.1 Strengthen conservation, restoration of forests, wetlands and water catchments, hilly and mountainous areas

During the reporting period, 59,588ha of the cumulative 1,072,182ha of Central Forest Reserves (CFRs) constituting 85% of the CFRs were protected, freed from illegalities and encroachment to enhance natural forest regeneration in various parts of the country. The National Collaborative Forest Management (CFM) policy review (2020) was finalized. The policy mainstreams forest management with gender and equity requirements. CFM promotes the development of livelihood and conservation partnerships with stakeholders including local communities, Urban Authorities, Civil Society, Faith based and cultural institutions to promote payment for ecosystem services

and benefit sharing arising from use of forest resources.18,199ha was managed under MOUs and CFM agreements by community-based associations. 103,177ha (8%) of forests reserves were managed under Collaborative Forest Management with local communities and 171,655ha (14%) were managed under MOUs and licensees in CFRs.

4.3.2 Promote rural and urban plantation development and tree planting including the local and indigenous species;

During the reporting period, there were a number of initiatives that contributed to an increased area of planted forests in Uganda. These included EU funded Sawlog Log Production Grant Scheme (SPGS), the Farm Income Enhancement and Forestry Conservation Project (FIEFOC), the Investing in Forests and Protected Areas for Climate Smart Development-IFPA-CD), the private investor plantations established on CFRs, the Community Tree Planting Programme under the NFA, and the support through a number of projects managed and coordinated by the district local governments. Other initiatives by government included the 40 million tree planting campaign launched on the 21st March 2021. Table 22 summarizes the area planted during the reporting period. A total of 10,910 ha were planted under these initiatives.

Table 22: Area planted with trees

No	Initiative/project	Area planted (ha)	Remarks
1	IFPA-CD	1,988	Districts covered included: Rubanda, Rukungiri, Kabale, Kasese, Butaleja, Mbale, Bundibugyo, Sironko, Buhweju, Mitooma, Namisindwa, Kamwenge, Ntoroko, Kabarole, Kagadi, Kiboga, Kikuube, Buliisa, Bududa, Bundibugyo, Manafwa and Sheema.
2	FIEFOC 2	1,530	
3	Districts	811	17 local governments of Bundibugyo, Jinja, Kabarole, Kakumiro, Mityana, Mukono, Kaberamaido, Soroti, Bushenyi, Bukomasimbi, Kibuku, Kibaale, Kakumiro, Mbarara, Kalaki, Kamuli and Buikwe reported tree planting.
4	SPGS	1,000	
5	40 Million tree campaign	5,581	Planting trees was done by Churches, schools, and Companies
	Total	**10,910**	

The area and productivity of industrial forest plantations on Central Forest Reserves (CFRs) increased to 143,611.4ha (by 32,611ha). An updated database of NFA tree licensees provided Plantations establishments for both rural and urban tree planting with fast growing and indigenous tree species across the country.

Establishment of new tree Plantations

A total of 12,811ha out of the planned 32,000 ha of new tree plantations were planted in Central Forest Reserves. NFA established 1,817ha and licensed tree planters 10,994ha. Table 23 shows the plantations established in the CFRs.

Table 23: Plantations Establishment in Central Forest Reserves

Performance Indicators	Baseline	Achieved 2019/20	Target 2020/21	Achieved 2020/21	Percent	CFRs where the planting took place
Area of industrial timber plantation established by NFA (ha)	11,000	1,400	2,000	1,817	91	Mafuga- Kirima (140.7ha), Muko (12ha), Rwoho (50ha). Katugo (180ha) Lendu (631ha), South Busoga (87ha), Mwenge (64ha), Opit & Abera (200ha), Mbarara-(50ha), Kyoga (40ha) of bamboo biomass plantation established in Namasagali CFR.
Area of industrial timber plantation established by Private Tree Farmers (ha)	100,000	90,451	30,000	10,994	36.7	Established by 269 of the total 4,344 licensed tree planters in various CFRs across the country
Total	**111,000**	**91,851**	**32,000**	**12,811**	**40**	**Established by both NFA and licensee**

4.3.3 Formulate economic and social incentives for plantation forests

NFA licensed the development of 4 of the total 18 ecotourism concessions in partnership with the private sector to Support local community-based eco-tourism activities in CFRs that are rich in biodiversity and have cultural heritage sites in Kalagala-Itanda falls, Mabira, Kalangala, Kalinzu, Echuya, Bugoma and Budongo

Provided 158 tree planting and 8 Ecotourism development licenses for establishment of tree plantations and Eco-sites in Central Forest Reserves. 10 harvesting licenses were issued in CFRs by government and licensees. Provided free and subsidized high-quality tree seedlings to the public in all regional nurseries across the country.

10ha were demarcated and mapped for Collaborative Forest Management (CFM) with local communities in Budongo System Range. A cumulative total of 18,199ha were managed under CFM agreements by community-based associations.

4.3.4 Promote application of performance based sustainable forest management criteria for all forest sector development aspects and scale up agroforestry as a climate smart agriculture practice

In order to promote performance based Sustainable Forest Management (SFM), 9 of the cumulative 44 Forest Management Plans (FMPs) were develop and implemented in line with NFTPA 2003, Forestry regulation of 2016 and National Forest Standards. The plans were for Kalagala, Kotido, Bunya, Mwenge and Mafuga Plantations, Buvuma Islands, Mpanga, Matiri and Kasana-Kasambya Sectors.

4.3.5 Establish dedicated fuel wood plantations necessary to contribute to achieving or exceeding net biomass surplus levels

NFA's biological assets are the natural forest and plantations within the CFRs. The plantation biological assets grew from UGX 104 billion in 2019 to UGX 106billion in 2020. Economic valuation of natural forest stock remains under development of the natural capital accounts.

4.3.6 Ensure the protection of forests, rangelands and mountain ecosystems

In order ensure the protection of forests, rangelands and mountain ecosystems, 677km of Central Forest Reserves (CFRs) boundaries were resurveyed, marked and maintained. This constituted 29.5% of the total 9,755km of 506 CFRs boundaries re-surveyed, demarcated and maintained under National Forestry Authority (NFA).

The boundaries resurveyed were in the following CFRs; Kyahi (18.5km), Kandanda-Ngobya (20km), Angutawere (9.5km), Kumi (3 km), Lwamunda CFR (23 km), Kyewaga CFR (6.8 km), Kojja CFR (3.8 km) (No pillars in Kojja), Bulundo (8.2km), Naludugavu (3km), Wamasege (2.4km), Nawandigi (2.5km), Budongo (43km),) Namwasa (5km), Bugoma (25km), Kyewaga (6.8Km), Kaduku (15.8 Km), Nyabyea (4Km) & Rwensama (9 Km), Kyoga range (11Km), Bukaleeba CFR, Lakeshore Range Bajo (56km), Koko (3.8km) and Wankweyo-(10km).

4.3.7 Improve the management of district and private forests

During the reporting period, the forestry sub sector mobilized a grant to forestry in the local governments through support from the World Bank funded UGIFT Project. This project intends to enhance extension service delivery of local governments as well as provide the much-needed technical support for forestry to infrastructure projects funded under UGIFT.

4.3.8 Assure a significant survival rate of planted tree seedlings

45,768,078 assorted quality seedlings from 32 nurseries and verified seed sources (Bamboo, Indigenous and exotic species) were supplied with >70% survival planting across the country. The NDP III ENRCCWLM programme developed the Forest Resources Development and Management Project for inclusion in the Public investment Plan 2022/23. It aims at increasing Uganda's forest cover from the current 12.4% to 15%, increase seed production from 20 tons to 40 tons and assorted seedlings from 40million to 80million by 2025.

During FY 2020/21, NFA raised and supplied 19,372,131 (53.2%) out of the planned 36,350,400 quality assorted seedlings to the general public and for NFA own planting. This a reduction when compared to FY 2019/20 where 26,398,947 of assorted seedlings were raised and supplied. This was partly caused by the COVID-19 pandemic.

Seedlings production under CTPP: 11,445,681 out of 19,536,000 seedlings targeted were produced in Mafuga (357,954), Mbarara (501629), Mwenge (602,000), South Busoga (234,807), Katuugo (450,000). Lendu (400,000), NTSC (944,109), Budongo Systems Range - Kagadi-(275000), Kyamugongo/Hoima - (175,000), Masindi (100,000), Kiryandongo (244,761), KYR Jinja (220,396), Soroti (106,255) and Mbale (172,518), LSR - Nandagi (160,000) and Mpanga (100,000). Activity scheduling and procurement SBR (249,344) in Kumbu Nursery (13 women, 6 men and 4 youth) SWR Ndekye (400,000), Mubuku (114,761), Muzizi Range (1,011,874) at Kasenyi (385,890), Bukomero (245,074), Karugutu-(57,810) and Mityana (36,700), Achwa-(696,437) at

Lira-(184,201), Gulu-(250,078), Apac (262,158), West Nile Range (503,366), Arua (200,000), Koboko (100,000), Nebbi (100,000), Moyo (51,914) and Adjumani (51,452).

Seedling production for sale: 7,923,450 out of 16,814,400 seedlings planned were produced and sold. Mwenge Nursery produced (98,000), South Busoga (211,463), NTSC (395,668), Katuugo (300,530), and WNR (10,000). Seedlings of eucalyptus grandis supplied to Lendu Plantation Unit for own planting purpose. BSR produced (50,000), Commercial seedlings in Masindi tree Nursery KRR (2,665), Moroto (5,150), KYR (242,888), Jinja nursery KYR (56,599), KYR (2,500) for beating up 20ha in Namafuma CFR, LSR (36,000) at Gangu Nursery, MRR (364,200) in Kasana Kasambya and Singo Hills. SBR (248,876) at Kumbu Nursery, Achwa (343,949), Gulu (200,000) and Kitgum (143,949). Budongo Range (343,788), Muzizi Range (154,562) from Kasenyi, Bukomero, Karugutu and Mityana Nurseries. Karamoja (7,818) and Kyoga Range (20,820). Budongo System Range (590,000), Masindi (380,000), Hoima (110,000), Kibale (100,000), Karamoja (67), Kyoga Range (274,544) Jinja, Mbale and Soroti, Mbarara (20,487), Namanve TSC (711,821) and Katuugo (150,000). UNHCR-Mwenge (590,000) and Mbarara (230,146).

The average survival of tree seedlings established in plantation management area was 75%. Survival of tree seedlings supplied to the farmers is compromised by a number of factors including to lack of sufficient technical advice provided by the forestry staff to the farmers and limited financing to facilitate the staff to engage with the farmers. For the tree seedlings supplied, the survival rate was about 71%.

NFA also collected, processed and supplied 66,536kg of seeds from Community Tree Planting Project (CTTP) and 43,149kg from UNHCR funding.

4.3.9 Develop wetland management plans to support gazetting and demarcation of existing wetlands

The area under wetland management plans increased from 6376.5km^2 in 2019/2020 to 6507.34Km^2 in FY 2020/21. Table 24 shows the trends in the wetland area with approved management plans.

Table 24: % Cumulative wetland area with approved management plans over the years

2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
11.30%	**11.30%**	**18.4%**	**18.4%**	**20.3%**	**20.7%**

Source: Wetlands Management Department

In 2020/21, 7 management plans were planned and developed covering an area of 130.84km^2. At the current rate of developing wetland management plans, it will take more than 20 years to cover the total wetland area with management plans.

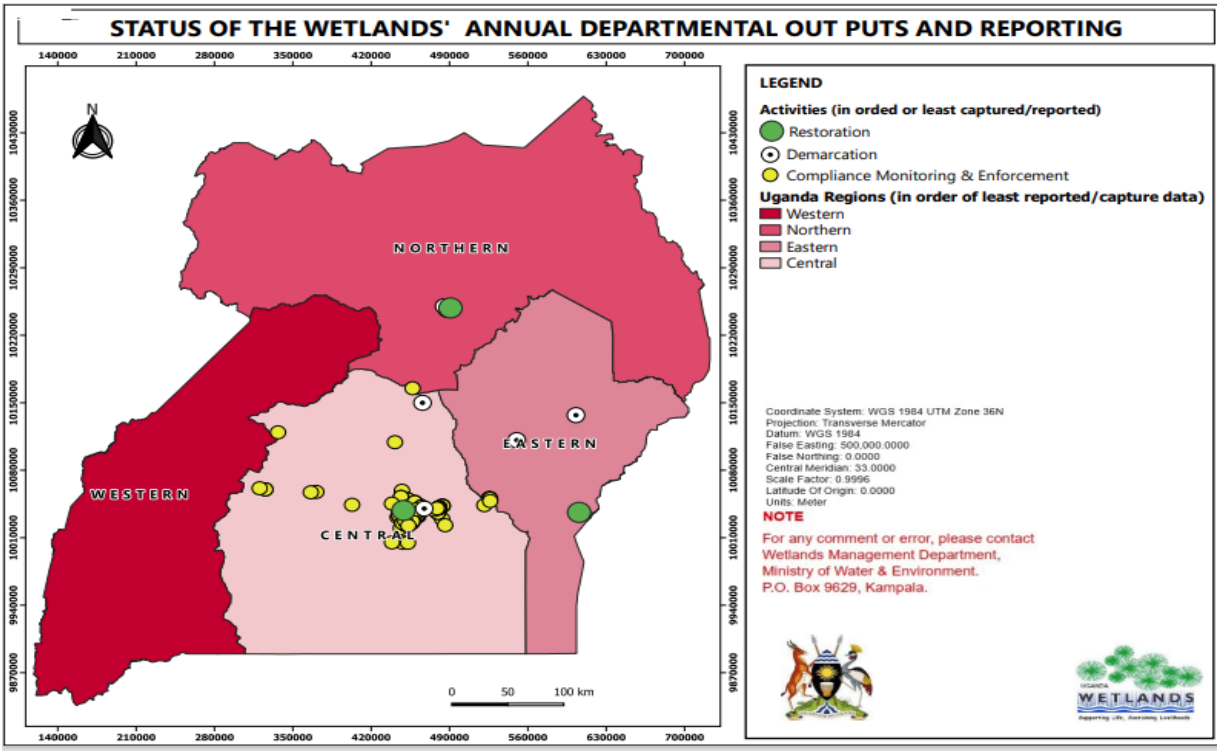


Figure 32: Status of wetlands in Uganda

In FY 2020/21, Seven community gender responsive Wetlands Management Plans were Developed in Central Uganda (Nkonka wetland in Buvuma, Kiyanja-Kaku wetland in Lwengo and Namaya wetland in Mpigi and Wakiso) and in Eastern Uganda (Namatala wetland management plan in Tademeri sub-county in Budaka and Agu wetland system in Ngora sub-county, Ngora district). In Northern Uganda (Owei wetland in Amuru district) and in Western Uganda (Rufuha wetland in Ntungamo district).

The wetland management plans for Lake Nakuwa Ramsar site in Pallisa, Kaliro and Kamuli, covering 3,800 hectares were reviewed.

400 wetland resource users were trained against the planned 800. These were from the districts of Pallisa at papaya, Nyaruzinga in Sheema, Kandekye- Ruhobero, Kabale, Ntungamo, Ngora, and Bukedea. This training enabled participants to improve on their current methods and practices of managing wetland resources.

Wetland Demarcation

Uganda's wetlands constitute a total perimeter of144,316Km. Inthe last five years, 1,728.5Kmhave been demarcated with pillars, beacons and live markers. This means that only 345.7 Km are demarcatedannually. At this rate, all wetlands will not be demarcated by 2040 unless resources are provided to demarcate at least 7,129.4 Kmper annum. Figure 6 shows the trends of wetlands demarcation.

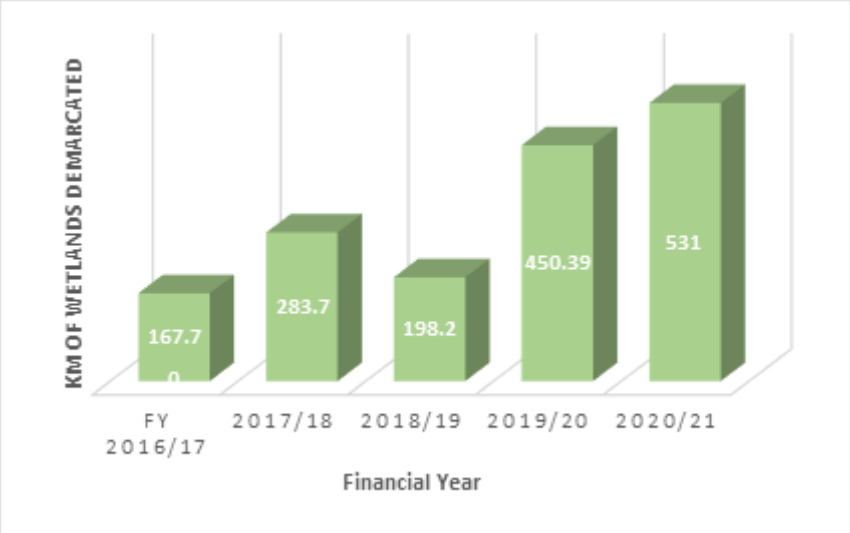


Figure 33: Wetlands Demarcation Trends for the Past 5 Years

In FY 2020/21 a total of 531km of critical wetlands were demarcated. This was an increased from 450.39km demarcated in FY 2019/20. . This increase in length of wetland demarcated was attributed to the increased funding from GOU and support from the Green climate Fund. The areas covered are presented in Table 25 below

Table 25: Wetlands demarcated in FY 2020/21.

Wetland Name	Area demarcated (km)	Location
Kyenzogyera-Mushaha, Mpangango	138	Western
Tirinyi-Mpologoma, Ppiyai-Asuret, Papayo, Komorotot, R. Manafa	235	Eastern
Chosan Cholol, Ogwete, Olupe Popong, Zombo, Achorichori, Suruma-Iniangwa, Okole,Tochi	108.4	Northern
Nakayiba	49.5	Central
Total	**530.9**	

Source: Wetlands Management Department

4.3.10 Restore the natural integrity of degraded wetlands to their ecological functionality

During the FY 2020/21, strategic actions were undertaken against the increasing degradation of the Environment and Natural Resources. A total of 10,038.8 ha out of the planned 21,876 of critical wetlands were restored across the country. Majority of restoration activities were carried in the South-Western and Eastern Uganda. This was due to the contribution of GCF project in those two regions. The achievement was less than half of the target because of COVID 19 pandemic. Table 26 shows the restored wetlands in FY 2020/21.

Table 26: showing restoration of degraded wetlands in FY 2021/21

Name of wetland	Area restored (ha)	Location
Kyenzogyera – Mushasha	1361	Buhunga, Bitsya and Kalungu sub-counties in Buhweju district
Nyamuhizi-Kigogo	1550	Mitooma Subcounty, Mitooma district
	2663	Ibanda, Kitagwenda, Rukungiri, Kabale, Rubirizi, Mitooma, Buhweju, Kanungu, Lira, Yumbe, Kampala, Wakiso, Masaka, Kyotera, Kayunga, Lwengo, Butambala and Rakai
Mazuba-Mpologoma	1982	Mazuba sub-county Namutumba District
Tirinyi wetland	1528	Tirinyi sub-county Kibuku district
Kapujan	734	Kapujan sub-county in Katakwi,
Tochi	19.3	Amuru
	10	Lira city- Eastern division
Obubua	2	Yumbe district
Arocha	24	
Okole	13	
Lutembe Bay Ramsar	50.4	Wakiso District (Entebbe Municipality)
Lugala	48	Rubaga Division, Kampala City
Mpasha	21	Ibanda
Total	10,005.7	

Source: Wetlands Management Department

Figure 34: Images showing restoration of Mushasha wetland in Buhweju District

NEMA supported the protection of fragile ecosystem including the restoration and demarcation of wetlands in Kiretwa Peninsula, Lake Nakivale shores in Isingiro district, Ntungamo district, Otuke district, Jinja city/district, Kayunga and Kamuli districts. Activities included community sensitization on ecosystem management, buffer zone demarcation and protection including removal of illegal structures in the buffer zones and tree planting in the buffer zones.

Cumulatively, over 230ha of degraded ecosystems was restored, demarcated and are slowly gaining ecological functionality. Restoration of Nyamirima, Kakyerere and Kamiira wetland systems located in Nyamirima Cell, Kashozi East ward, Kashozi Division, Sheema Municipality commenced. This wetland discharges directly into River Rwizi.

Voluntary compliance and physical restoration exercise for the protection of Kakyerere, Nyamirima, Kamiira wetland systems was initiated with formulation of an MoU between NEMA and SINZA Co Ltd. This restoration is targeting River Muzizi and its catchment in Kyenjojo.

300 ha of degraded ecosystems targeting critical sections of River Muzizi and its catchments was restored. This was done mainly through mapping and physical restoration through removal of illegal structures. 200h a (approx. 6kms) of degraded land was restored through removal of illegal structures.

The trend in wetland restoration over the years has been increasing but more strategic interventions must be implemented to match with the 10-year restoration projections. Table 27 shows the projections in wetland restoration.

Table 27: showing projections in wetland restoration for next 10 years

2018/19 Baseline	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
21,526	21,876	22,176	22,476	22,776	23,076	23,376	23,676	23,976	24,276	24,576
8.9%	9.08%	9.20%	9.32%	9.45%	9.57%	9.70%	9.82%	9.95%	10.07%	10.2%

Source: Wetlands Management Department

Demarcation of river banks and lakeshores

DESSS carried out inventory and profiling of 15 km river Nile bank, 30 km River Wambabya and 10km Lake Kwania. The objective was to identify the ongoing activities within the likely buffer zones, impact and influence of planned boundary delineation in relation to its protection, conservation and restoration.

Wetland Gazettement

In order to strengthen the management of wetlands and also support the legal actions on wetland degraders, Wetlands Management Department (WMD) embarked on the process to gazette all wetlands. The process involved delineation of all wetland boundaries, generation of boundary coordinates, production of maps and agreement on the categorization criteria. This was then followed by National consultations for the Gazettement of Wetlands and a draft Gazettement instrument was prepared and submitted by the Ministry of Justice and Constitutional Affairs.

Wetland Status Mapping

The wetlands status report for 2019 was finalized and produced. This is a key decision-making tool that will guide management and wise use of wetlands. It details the wetlands in Uganda, the changes that occurred from 1994 to 2019, the threats to wetlands management, management challenges and also proposes scenarios for management of wetlands.

4.3.11 Other strategic interventions for wetlands

Soil and Water retention Facilities

The Wetlands Management Department under "Building Resilient Communities, Wetland Ecosystems and Associated Catchments in Uganda Project has constructed Nine soil and water storage and retention facilities against the planned 12 to enhance infiltration in wetland systems in Western Uganda (Rufuha wetland in Ntungamo and Kabanyonyi wetland in Kabale) and Eastern Uganda (Agu Wetland in Ngora, Nyakambu wetland and Papaya wetland in Pallisa).

These have increased the water retention capacity of the wetland by reducing the amount of water running through the wetland. Presence of water in the wetland throughout the year and increased vegetation cover has enhanced the capacity of the wetland to withstand drought conditions resulting in continued provision of ecosystem services and products.

Mini-Irrigation schemes.

To improve the livelihood of communities adjacent to wetlands, two mini-irrigation schemes were established at Nyaruzinga and Kandekye-Ruhorobero located in Bushenyi and Sheema districts. These schemes will support communities to engage in agriculture activities throughout the year and reduce their dependency on rain fed agriculture. In addition, 20 fishponds were constructed in the districts of Ngora, Pallisa, Sheema, Bushenyi and Ntungamo.

Policy, Planning, Legal and Institutional Framework

The Wetland Management Department reviewed the National Wetland Policy for the conservation and management of wetland resources. In the FY 2020/21, the Regulatory Impact assessment was undertaken that guided the development of the Wetlands Bill which is now in its final stages of development. National consultations for the Gazettement of Wetland were conducted, draft Gazettement instrument was prepared and submitted by the Ministry of Justice and Constitutional Affairs.

4.3.12 Implement national targets on threatened/endangered species, restoration of natural habitats, management of invasive alien species with support and participation of local communities and indigenous peoples

3,128ha of the total 456,679ha of natural forest cover were restored with threatened high value indigenous tree species and bamboo in CFRS across the country. Natural (CFRS) forest cover restoration was conducted with support and participation of local communities and indigenous peoples throughout the country. 103, 177ha (8%) of forests reserves were under collaborative forest management with local communities

4.3.13 Identify and declare special conservation areas to raise the conservation status of areas outside protected areas that are important biodiversity areas

During FY 2020/21, designation of Lake Wamala Wetland system as a Ramsar Site was planned but this was to be guided by detailed socio-economic and ecological assessments. Studies of the various Taxa such as plants, socio-economics and mammals were conducted and the Ramsar Information Sheet partially populated pending finalisation of all the remaining three ecological studies.

4.3.14 Integrate environmental management in all disaster and refugee response interventions;

Developed and improved infrastructure in 6 regional nurseries of Hoima, Masindi, Lamwo and Koboko and produced 5,028,671 seedlings (97%) out of the targeted 5,190,000 seedlings. Restored 471 ha of degraded parts of CFRs in Bugoma CFR impacted by Kyangwali Refugees Settlement, Eria and Era CFRs impacted upon by Palorinya Refugees Settlement. Weeded 440hectares and protected 771 hectares of the restored area. Carried out awareness programs and publicity initiatives (Signposts installed in CFRs and nursery sites, 100 customized T-shirts printed). Improved information communication technology (ICT) through installation of ERDAS GIS software, procured 2 laptops, 1 desktop and 10 tablets.

With support from the Office of the Prime Minister, joint monitoring of refugee settlements and host communities in the West Nile region were conducted. Area covered included Adjumani district (Adjumani settlements), Yumbe district (Bidibidi settlement), Arua and Madi-Okolo districts (Rhino camp &Ivemp). Joint monitoring of Oruchinga, Nakivale and Rwamwanja refugee settlements and host communities were carried out. During the monitoring, a number of environmental issues were identified, including continued degradation of the environment due to clearance of land for settlements, fuel wood, construction poles and cultivation.

A number of interventions were ongoing including Environment and Energy interventions in the settlements by Nsamizi institute. Nsamizi with funding from UNHCR is implementing environmental and climate-resilient interventions within Nakivale, Rwamwanja and Oruchinga. These interventions are mainstreamed into each sector, through awareness, advocacy and education to mitigate identified environment and social impacts. The major achievements of Nsamizi include tree planting and maintenance, wetland restoration and protection, promoting energy saving practices and sustainable solid waste management practices.

The Farm Income Enhancement and Forestry Conservation (FIECO) Project Phase II supported afforestation in some of the refugee hosting districts in Adjumani, Isingiro and Kamwenge. Support to energy saving technologies through training on briquette making and construction of lorena energy saving stoves were provided to households for refugees and host communities. A total of 10,720 Lorena stoves were constructed in the South-West, with Nakivale (3,895), Rwamwanja (2,500) and Oruchinga (800).

4.3.15 Leverage technology to strengthen enforcement capacity for improved compliance to standard agro-forestry practices

There was activity implemented under this intervention.

4.3.16 Mobilise and significantly increase financial resources from all sources to conserve and sustainably use natural resources and mitigate disasters

During the reporting period, the forestry sub sector was able to mobilise financing to a tune of USD 178.2 million for implementation of IFPA-CD project. This project will promote sustainable forest management in the protected areas (National parks for tourism services provision and CFRs) as well as enhance restoration of degraded areas of the refugee hosting communities in 18 districts.

A USD 39 million Project Proposal titled "Accelerating Uganda's REDD+ Strategy Implementation, and Upscaling Forest Landscape Restoration (FLR) in the Northern Moist Farmlands and Karamoja Landscapes of Uganda" is due for submission to the GCF for financing.

4.3.17 Increase funding for promoting of non-consumptive uses of the natural resources

National Forestry Authority partnered with USAID to promote Ecotourism development and collaborative Forest Management (CFM) in Budongo and Kalinzu CFRs. A budget of USD 1.1 million was planned for structural and capacity development. The structural designs, and consultants' scooping report was approved for both sites. Planned to put a modern visitors centre, a 500-metre canopy walk and a low capacity campsite accommodating 15-20 people. USAID supported capacity building for NFA staff and reviewing of CFM guidelines.

NFA partnered with Biodiversity for Resilience supporting CFM groups' development in strengthening their capacity in bee keeping, honey production and value chain addition. The project is only localised in Karamoja and Lamwo regions. NFA also partnered with Wildlife Conservation Society (WCS), to build capacity of CFM groups, bee keeping, honey production and value chain addition. These took place in Kagadi, Mwenge Plantations and Muzizi range.

Maintain and/or restore a clean, healthy, and productive environment

4.3.18 Develop and implement a framework that reduces adverse per capita environmental impact of cities (air quality and waste management practises)

NEMA has concluded the following regulations and are due for dissemination; the Air quality regulation 2020, Oil Spill Preparedness and Emergency Response Regulations 2020, the National Environment (Environmental Impact and Social Assessment) Regulations 2020, the National Environment (Standards for discharge of Effluent into Water or on Land) Regulations 2020. The implementation of these regulation will reduce the adverse per capita environmental impact of air pollution as well improve on the waste management practices.

4.3.19 Mainstream environment and natural resources management in policies, programmes and budgets with clear budget lines and performance indicator

NEMA conducted follow up engagement on the issuance of the certificate of compliance to a lead agency. The purpose was to harmonize NEMA`s draft compliance tool with that of National Planning Authority. A new harmonized assessment tool is under development and will be pretested on a few agencies. The Standard Operating Procedures (SOPs) for coordination and compliance to environmental laws has been completed and can be accessed from the website. www.nema.go.ug

4.3.20 Improve coordination, regulation and monitoring of environment management at both central and local government levels

NEMA conducted two regional performance review meetings to build capacity for the newly appointed District Environment Officers. This was intended to discuss and agree on roles and responsibilities of the Environmental Management Institutions in accordance with the provisions of the National Environment Act No. 5 of 2019, and streamline reporting on environment management.

The performance review involved 45 districts from central and eastern Uganda comprising of District Natural Resource Officer and Planners. Out of these 20 were male and 17 were female. NEMA coordinated and supported 44 local governments on environment planning, integration of environment in departmental and sector budgets, challenges and opportunities associated with environment sector in the respective districts.

The Local Governments supported included Kasese, Kitagwenda, Hoima, and Fort Portal cities and Hima TC in Western region. Mitooma, Kyegegwa, Rwampara and Isingiro in the South – Western region. Kitgum, Amuru, Lamwo and Pader in the Northern region. Bukuya, Myanzi, Kassanda, Kassanda Town Council, Manyogaseka, Naluttutu and Kikadwa in Kasanda District in the Central region. While in the Eastern region, Kilaki, Anuria, Serere and Soroti City. A total of 103 participants of which 48 (47%) female and 55 (53%) male selected from Technical Planning Committee attended.

The central region registered improvement in regard to collaborations between the ENR Directorate and Health Directorate of Mpigi Local Government. There is weak environmental collaboration between the ENR Directorate, Works Directorate and Procurement and Disposal Unit as revealed by the findings such as wide spread water retention/flooding as a result of blocking the flow of rivers through wetlands, poor solid waste and storm water management.

The WMD conducted capacity building workshops for the District Local 8 Government staff in wetlands management. Trainings were carried in 14 districts of; Buhweju, Bushenyi, Kabale, Sheema, Ntungamo, Rukiga, Rubanda, Rukungiri, Mitooma, Rubirizi, Kisoro and Kanungu, Butebo, Pallisa, Kumi and Ngora.

DESSS disseminated the National Biodiversity and Social Offset strategy in 16 districts in the Eastern Uganda and 8 districts in the Albertine graben. The dissemination workshops targeted the District Natural Resource Officers, District Environment Officers, District Wetland Officers, and District Forestry Officers. DESSS provided technical backstopping, inspection and supervision of 15 local governments in Eastern region. The local governments were found to be understaffed in the natural resources departments, with increased cases of environmental degradation compared to previous years.

Furthermore, wetlands assessments of Rushebeya-Kashambya in Rukiiga, and production of the inventory guide as a mechanism to improve the capacity of Local governments to undertake wetland inventories was conducted. Wetland inventories in Kitgum and Nwoya districts were also initiated and an inventory for wetlands in Gulu finalized.

4.3.21 Strengthen control and management of chemicals, pollution and environmental disasters

DESSS and NEMA participated in the virtual meetings of the Conference of Parties (CoPs) for the Stockholm and Basel Conventions. The online meetings discussed mainly interim programmes of work and budgets as well as representation to the different Committees under the respective Conventions. Technical briefings were delivered on proposals submitted to amend the Basel, Rotterdam and Stockholm Conventions which would be considered by the COPs during the face-to-face segment. This will support the ongoing implementation of the national chemicals' management plan.

With the support of UN Environment Programme, DESSS and NEMA updated the national chemicals and waste profile for Uganda. This profile will provide a comprehensive assessment of the national chemical's management infrastructure relating to institutional, legal, administrative and technical aspects alongside the understanding of the nature and the extent of chemical availability, storage, use and disposal in Uganda.

4.3.22 Increase funding on decentralized environment management

NEMA built capacity of 25 District ENR Committee Members (16 male and 7 female) of Kumi district to handle environment issues, enhance decentralized environment management functions of the Local Government, and consequently promote sound environment management was undertaken.

4.3.23 Formulate and implement vehicle emission standards and sustainable management of chemicals to curtail the high levels of air, land and water pollution particularly in urban areas

There was no activity implemented under this intervention.

4.3.24 Integrate education for sustainable development in national curricular at all levels for an environmentally literate citizenry

A rapid evaluation was undertaken to assess the School Environmental Education Programme (SEEP) and the Project Based learning (PBL) to identify key best practices in the selected schools and to find the awareness programs that compliment decision making to improve awareness programs supported by NEMA and other lead agencies. The evaluation would as well provide opportunities to strengthen to promote environmental literacy in the informal and formal education sector.

The school evaluated included; Sacred Heart SS, Pope Paul SS, Kirombe Primary School in Gulu city, Wanyange Girls, Mwiri College, Kira College Butiki, Jinja College, and Jinja S.S.S in Jinja. The key priorities were environmental education and awareness in schools to promote tree planting, energy efficiency, waste management, school greening initiative, and nutritional enhancement from fruit tree planting.

The school Environmental Education (EE) City projects led to mobilization of resources/funding from development partners like Food and Agricultural Organization (FAO), local Non-Governmental Organizations (NGOs) like Forum for African Women Educationists Uganda (FAWEU), Stanbic bank, African Medical and Research Foundation (AMREF) among others. The recommendations included strengthening networking among the schools and within the school EE coordinators; building capacity of the EE coordinators in ENR management, biodiversity and climate financing and retooling of the teachers and learners to enhance digital learning (virtual network systems and computers).

Follow up on action points agreed with NEMA during Environmental Education and awareness meetings in 2019, was done in the districts of Teso region and in the 10 schools that participated in Moroto district to ascertain the level of progress in implementation of Environmental interventions. The exercise engaged head teachers from the following schools: Moroto Prisons Primary School, Kasimeri Primary School, Eagle's Nest Primary School, Moroto Police Nursery & Primary School, Moroto Municipal Primary School, and Moroto Demonstration School. Others were Nakapelemen Primary School, K.D.A Primary School, Rupa Primary School and Kidepo Pupu Community School. NEMA also interacted with both the senior education officer and the district education officer.

Eleven Districts and Municipalities in Teso sub-region were followed up. The districts included Kaberamaido, Soroti, Amuria, Katakwi, Kapelebyong, Serere, Ngora, Kumi and Bukedea districts. The follow up was intended to provide technical backstopping to the Local Governments and schools in the implementation of previously agreed action plans on Environment management.

The development of environment awareness resource book for environmental managers in Uganda was completed. 12 participants of which 6 were 6 females focused on creating a benchmark to enhance the capacity of the facilitators on environment awareness and literacy programs at

different levels. The production involved National Curriculum Development Centre (NCDC), United Nations Educational, Scientific and Cultural organization (UNESCO) and coordinated by NEMA.

4.3.25 Undertake applied research and innovation on sustainable consumption and production to ensure resource use efficiency to reduce domestic material consumption per capita

There was no activity implemented under this intervention.

Promote inclusive climate resilient and low emissions development at all levels

4.3.26 Building capacity for climate change adaptation and mitigation including hazard/disaster risk reduction

Uganda is already experiencing the effects of a changing climate that is; changes in precipitation, water availability, length of seasons, incidents of extreme weather patterns, floods, desertification, distribution and prevalence of pests and diseases (Awojobi, 2017; Echeverría, Terton, & Alec, 2016; Environmental Alert, 2010; Moreira et al., 2008)including local governments, and support for vulnerable populations is needed for Burkina Faso to maintain the development gains achieved in recent years. Of particular concern are the country's agricultural capacity, and the population's limited access to medical professionals and improved sanitation facilities. High dependence on climate-sensitive livelihoods — agriculture, pastoralism, forestry and fisheries, leave Burkina Faso vulnerable. The issues are explored in this paper, which is one in a series of country reviews prepared to provide the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA. Prolonged droughts, unreliable rainfall patterns and floods as manifestation of climate change exerts more pressure on natural resources and has implications to the Ugandan economy, which largely depends on rain-fed agriculture, vulnerable to climatic variability. Declining crop yields, especially in Africa, could leave hundreds of millions without the ability to produce or purchase sufficient food.

The government has designed a number of initiatives to address the challenges of climate change and these include; development of Uganda National Adaptation Program of Action, climate change mainstreaming guidelines, National Climate Change Policy among others.

However, with the implications of climate change to development at both national and community level; and the national interventions designed by the Government; the district local governments that have direct linkage with affected communities have limited capacity to engage in adaptation planning and action (Echeverría et al., 2016). It is on this basis that the Ministry of Water and Environment, Climate Change Department (MWE/CCD) through the Strategic Programme for Climate Resilience (SPCR) organized a capacity building training on mainstreaming climate resilience into core development planning at the district local government level.

The workshops/ trainings were organised to;

- Build capacity of District Local Governments in the four regions (Central, Eastern, Northern and Western) in the country in addressing the climate change: causes and impacts, and disasters through knowledge enhancement.
- Strengthen the coordination and relationship between the District Local Governments in Uganda and the Ministry of Water and Environment to address climate change.

Figure 35: Participants from the district Local Governments engaged in climate and disaster risk reduction training.

4.3.27 Promote continuous integration of climate change and disaster risk reduction in planning, budgeting and reporting

With support from the World Bank and AfDB through NDC Partnership Plan, continuous stakeholder consultations were undertaken to review climate Change integration guidelines to capture disaster risk reduction. Local Governments were later sensitized on responsive planning and budgeting for climate and disaster risk. A needs assessment for 18 district local governments on climate change policy implementation was conducted. Capacity building for 6 local government of Kitgum, Kapchorwa, Isingiro, Manafwa, Mukono and Pader as well as communities was carried out on climate change Adaptation and Mitigation.

Conducted mainstreaming meetings to integrate climate change in 18 district development plans (Amudat, Moroto, Napak, Abim, Amuria, Kapelebyong, Otuke, Kole, Amolatar, Omoro, Lamwo, Pader, Agago, Adjumani, Moyo, Obongi, Yumbe and Zombo)

4.3.28 Undertake issuance of carbon footprint certificates to support the industrial sector move towards carbon neutrality

There was no activity implemented under this intervention.

4.3.29 Finalize the development of a national Green House Gas Inventory and its Monitoring, Reporting and Verification System (MRVS). Review Uganda's 2015 Nationally Determined Contributions in light of local emerging issues and new global climate change action ambition.

GHG Inventory for emission from 1995-2015 developed under the First Bi-annual Update Reporting covering Energy, AFOLU, IPPU and Waste. Currently developing an inventory for GHG Emission for 2016 and 2017.

An online National Monitoring Reporting and Verification (MRV) system to track changes in the emissions of Greenhouse gases (Carbondioxide, Methane and Nitrous oxide) has been developed with support from UNDP under the NDC Support Programme.

Capacity building training workshops were conducted for the CCD staff and the key emitting sectors: Waste, AFOLU, Industrial Processes and Product Use (IPPU), Energy and Transport sector.

A National Gender responsive MRV system was developed and is waiting for operationalization i.e. annual data collection, processing and developing GHG reports. 5 Regional, 1 CSO and 1 Youth NDC update consultations conducted hence Zero draft updated/enhanced NDC.

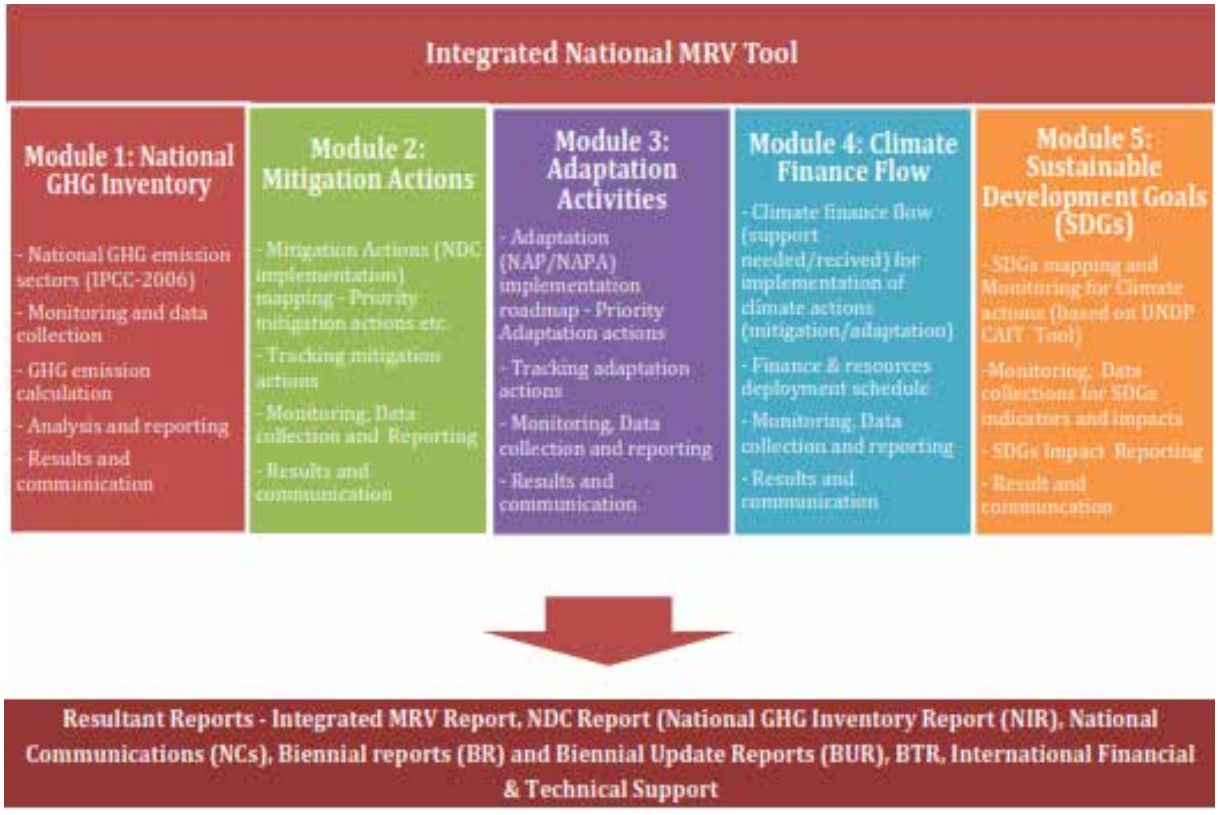


Figure 36: different components of the national MRV System.

4.3.30 Promote natural resource accounting to improve the national income measurement

NEMA coordinated a 3-year Natural Capital accounting (NCA) project supported and funded by UK government through UNEP-WCMC. Other implementing partners included Uganda Bureau of Statistics (UBOS), and National Planning Authority (NPA). The project aimed at integrating natural capital into sustainable development decision making in Uganda. The NCA is an environmental economic accounting recognized as an important tool for evidence - based policy making on the role of nature towards sound economic planning and development. NCA will provide means to measure flows and stocks using economics of production, consumption and accumulation. Compilation of biodiversity related natural capital accounts led to the completion of natural capital accounts such as, fisheries accounts, integrated tourism accounts and species/biodiversity accounts, land accounts and land degradation accounts. The next opportunities upon creation of these account include; building capacity to produce and use NCA, and institutionalize NCA across sectors among others.

4.3.31 Undertake economic valuation of selected ecosystems and their services

There was no activity implemented under this intervention.

4.3.32 Integrate natural capital and ecosystem service accounting into the system of national accounts

With support from the World Bank, natural capital accounts were constructed for lands, forestry and wetlands accounts. The two-year program was supported by the World Bank-led Wealth Accounting and the Valuation of Ecosystem Services Partnership (WAVES). This support includes providing technical and institutional knowledge for producing natural capital accounts, analysing results, and using the findings to inform policy and planning. The following were the key outputs from the project:

i. The land physical asset accounts detailing the physical changes of Uganda's land use and land cover over the period 1990 to 2015.
ii. A Wood asset and forest resources accounts detailing forest assets, the forested land and stock of forest resources, and the supply and use tables for wood and non-wood forest products in Uganda.
iii. An issues paper on adjusted macro-economic indicators showing the ANNI & ANS and their deviation from the GDP estimates because of natural resource depletion.
iv. An issues paper on the wood fuels sector detailing use of wood fuel in Uganda and its impact on the country's wealth.
v. An issue paper on natural capital accounting and its link to National development planning with recommendations for NDP III.
vi. A number of trainings on the System of Environment Economic Accounting and in the Adjusted Macro Economic indicators have been undertaken. The the objective is to raise awareness and increase understanding on the possible policy applications of NCA.
vii. Launched the preparation of the Forest and Wetlands Ecosystem Accounts in November 2020.

4.3.33 Build sectoral, institutional and local government capacity in natural capital accounting

There was no activity implemented under this intervention.

4.3.34 Mainstream climate change resilience in programmes and budgets with clear budgets lines and performance indicators

Working under the NDC Partnership Support, the Ministry of Water and Environment, Ministry of Finance Planning and Economic Development (MoFPED)and National Planning Authority (NPA) have established tools for mainstreaming Climate Change programmes (CDRS tool, Agriculture, Energy Water, Transport and Health Environment) to support national sectors and local government to climate proof investments against climate change at planning level.

MoFPED has embarked on mainstreaming climate change on the budget through developing climate budget tagging and appropriations. Currently climate and budget tagging process is at pilot level in four sectors (Water, Environment, Energy and Agriculture and in three local governments (Kasese, Mbale, Buikwe and Lira Municipality).

NPA in collaboration with the Ministry of Water and Environment are in the initial stage of revising the Planning Guidelines to include climate change. It is envisaged that once this process is accomplished, all MDAs including Local Governments will have representations of certificate of compliance for mainstreaming climate change, their budgets and plans before they are approved by Parliament.

Figure 37: A screen shot demonstrating the climate and disaster risk screening tool under pilot in the six key sectors

4.3.35 Scale up use of renewable energy through off-grid electrification and Liquefied Petroleum Gas

A project Concept Note was developed to prepare and implement Renewable Energy Specific National Mitigation Actions.

4.36 Build gender response capacity in climate change monitoring and evaluation systems through integration in local government performance assessment and national monitoring frameworks

Climate and Disaster risk screening (CDRS) tool was developed for six sectors – Agriculture, Energy, Water, Environment, Transport & Health. 205 trainers were trained on use the CDRS tools. Capacities of 24 local governments built on climate change adaptation and mitigation including hazard/disaster risk reduction.

Conducted trainings for 40 LGs on measurement of resilience:

- 12 Climate change indicators developed and submitted to OPM –only 1 was adopted.
- Initiated the update of the standard climate change indicators to include resilience.
- Conducted trainings for 40 LGs on measurement of resilience.

4.3.37 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

The Department with support from AfDB through the Pilot Programme on Climate Resilience project (PPCR) project conducted Community Awareness trainings on climate change and disaster risk reduction that targeted the Women, Youth and Farmer groups in the districts of Lira, Gulu, Arua, Yumbe, Kapchora, Manafwa, Luwero, Gomba and Mityana.

The training targeted the different sub counties in each of the mentioned districts. The Objectives of the Awareness training were:

- To increase community level understanding of climate change; the science, causes, effects, impacts and possible actions/options for mitigation and adaptation.
- To enhance stakeholders' participation in climate change planning from community to lower and upper local governments.
- To draw community experiences on weather, climate variability and change impacts that affect their livelihoods and service sectors (conduct a descriptive analysis).

The participants appreciated the efforts of the government especially in formulating policies, strategies and interventions in addressing climate. However, they noted that it is important for Government to secure funding for the actions and interventions to be effectively implemented.

The impacts of climate change on key sectors of the economy like agriculture and energy have key implications on communities and overall the development of the country. It is thus important that planning at the Local Government level strongly incorporates actions on climate change in order to minimize harm to the local populations.

4.3.38 Establish eco-friendly municipal and city waste collection and sorting facilities, and systems for recycling and reuse as a remedy for immense methane emissions from open landfills

There was no activity implemented under this intervention.

4.3.39 Formulate green and climate change resilient and mitigative building codes for the housing sub-sector.

There was no activity implemented under this intervention.

4.3.40 Enhance outcomes from negotiation of carbon projects and develop bankable projects.

Conducted capacity building to prepare the country's engagement in article six initiative of the Paris Agreement in partnerships with East Africa alliance for carbon markets and climate finance, GIZ, UNFCCCC regional collaboration in Kampala.

4.3.41 Develop local finance solutions tailored to micro, small and medium enterprises engaged in sustainable production and generation of climate change responsive technologies

Through the NDC Action project of UNEP, UNEP DTU and MWE are in the process of developing and refining the existing investment plans for CSA and Clean energy sector. The project also intends to mobilize financing for the private sector actors for increased uptake of solar powered irrigation, solar dryers and agroforestry investments.

An analytical study on integrated climate solution of agroforestry, solar powered irrigation and solar dryers investments has been conducted. The adaptation financing report in the context of Agroforestry, solar powered irrigation, and solar dryer investments for smallholder farmers has been developed. Provisions for climate financing were included in the National Climate Change Act 2021.

4.3.42 Build partnerships with stakeholders to formulate instruments such as climate and green bonds.

NDC partnership arrangement where the country under the Climate Action Enhancement Package (CAPE) for updating the current NDC and developing the current LTS.

- IRENA supporting work related energy statistics under the NDC update (USD70, 0000).
- UNPE supporting climate vulnerability index development (USD 467,500).
- Red cross Red Crescent climate center-capacity on measuring resilience.
- ICLEI (Local Government for Sustainability) Africa.
- Subnational actor's data collection and capacity building.
- GIZ revision of grid emission factor for electricity and LTS development (150,000 Euros).
- UNDP NDC Update consultation and preparation (USD 2886,000)

4.3.43 Enhance access and uptake of meteorological information

Three seasonal rainfall forecasts were issued in June- August, September-December and March-May for the period June 2020 to May 2021. Translated the seasonal forecasts into 35 local languages.

Conducted Countywide regional radio talk shows in Bushenyi, Mbarara, Mbale, Fort Portal, Lira, Gulu, Moroto, Kotido, Kampala and Soroti to disseminate and get feedback on the seasonal forecasts issued. After the presentations from the team, interaction with listeners was allowed through a call-in session, SMS messages and socio-media channels such as WhatsApp. The following issues were raised by the listeners: -

i. Inadequate weather monitoring stations in some areas.
ii. Delayed onset or early withdrawal of rains reported by almost all districts.

iii. Lack of access or irregular dissemination of early warning information reported by most districts.
iv. Increased occurrence of hydro-meteorological hazards such as floods, landslides, and drought among others.
v. Lack or inadequate understanding of the scientific language of the forecasts such as Above normal and below normal rainfall.
vi. The forecast is always in English and becomes difficult for farmers to read and understand.

Conducted Seasonal rainfall performance evaluations in Butambala, Sembabule, Mubende, Mpigi, Luweero, Buikwe, Nakasongola, Isingiro, Mbarara, Ntungamo Lira, Pader, Gulu, Omolo, Amuru, Tororo, Soroti and Moroto to generate feedback on the issued forecast.

The key findings were:

i. Weather and climate information is received in the district but mainly through the radios and emails. This information does not reach the grass root users in time due to absence of funds at the districts to disseminate information further.
ii. There has been an improvement in the accuracy of the seasonal weather forecast, apart from the daily weather forecasts which are not accurate.
iii. The public perception about the use of weather and climate information is still low, as few people utilise it while others prefer using indigenous knowledge to the issued forecast.
iv. UNMA needs to organise a training for the district officials in the interpretation of the weather forecasts to enable them build their capacity and give the right information to the farmers.

Conducted trainings for district extension staff (Production and Marketing, Natural Resources, and Community Development Officers) in Acholi sub-region on how to interpret and understand the technical words used in Seasonal Climate Outlooks in order to improve dissemination and utilization of climate information.

Profiled 1517 farmers comprising 667 females and 850 males to increase access to climate information in 24 districts of Mbale, Tororo, Butaleja, Kaliro, Namutumba, Kibuku, Budaka, Palisa, Butebo, Kumi, Bukedea, Ngora, Bushenyi, Mitooma, Rubirizi, Sheema, Buhweju, Ntungamo, Rukungiri, Kanungu, Kisoro, Kabale, Rubanda and Rukiga.

Conducted sensitization and awareness creation on application of weather and climate information among 156 farmers with 67 females and 89 males in Pallisa, Albetong, Amolator, Kalakai, Kapelebyong, Katakwi, Namisindwa, Bushenyi, Nakapriprit, Kotido, Moroto, Luweero, Nakaseke and Nakasongola districts.

Climate change and vulnerability mapping conducted in Kyotera, Lwengo, Lyantonde, Kalungu, Bukomansimbi, Gomba, , Ibanda, Buhweju, Kamwenge, Kasese and Bunyangabo. The key observations were: changes in rainfall patterns, increased incidence of crop pests and diseases, reduced crop yield and increased incidences of hazards like flood and droughts. Conducted popularization of the Weather Information Dissemination System (WIDS) in four regions of Uganda where Agricultural Officers and Natural Resources Officers were sensitized.

Conducted stakeholder engagements with Caritas, World Vision, Care International, Oxfam, Save the Children to enhance dissemination of seasonal climate forecasts in Uganda in their areas of operation.

Daily forecasts disseminated to 3 media houses of UBC TV, Star TV and Bukedde 1 T.V after the newscasts in Luganda, Swahili and English

1873 Terminal Aerodrome Forecasts issued for Entebbe and Soroti, 6543 Flight folders issued for Entebbe, 120 SIGMETs issued for Entebbe and 100248 METARs issued from synoptic stations of Entebbe, Makerere, Jinja, Tororo, Soroti, Lira, Gulu, Arua, Masindi, Kasese, Mbarara and Kabale.

Increase incomes and employment through sustainable use and value addition to water, forests and other natural resources

4.3.44 Increase investment in value addition to environment and natural resources products and services.

There was no activity implemented under this intervention.

4.3.45 Increase funding for promoting non-consumptive uses of the natural resources

The revised National Environment Act (NEA), 2019, included provisions on the use of the National Environment Fund (NEF). Engagement with Ministry of Finance, Planning and Economic Development is ongoing to ensure funds under NEF are used to support ENR restoration by stakeholders. Part of the engagement is to involve formulation of environment fiscal instruments to ensure annual percentage increase in capitalization of the National Environment Fund (NEF).

4.3.46 Mobilise and significantly increase financial resources from all sources to conserve and sustainably use natural resources

Developed bankable project proposals targeting global environmental funds. Concept note prepared for Forest Market Transformation at the tune of USD 88 million. Strengthening Resilient of RAMSAR wetlands to Climate Change impact USD 20 million. Reducing the Vulnerability of local people to Climate Change through Forest and Wetland EBA and launched at USD 6.35. Investing in Forest and Protected Areas for Climate Smart Development (IFPA-CD) project USD 178.2.

Bankable proposals were developed for (1) Conservation of Bio-diversity in Restored Wetland ecosystems and 2) Conservation of biodiversity in Ramsar sites. Concept notes for the two projects were completed and presented to the Environment, Natural Resources and Climate Sub-programme Working Group for endorsement. The proposals were endorsed with amendments and are scheduled to be presented to the Program Working Group, for subsequent submission to the Project Development committee of MoFPED.

4.3.47 Increase awareness on sustainable use and management of environment and natural resources

The 13th National State of Environment Report (NSOER) was launched in March 2021. The major highlights at the live panel were the role of the media in disseminating information, and how the NSOER considers the status of the environment and its importance. The report brings out issues of concern and challenges that ought to be handled by government and Citizens. Concern about the final disposal of waste impact on the environment more than natural causes, are among the greatest cause of climate change. Urban runoff, atmospheric transfer of pollution as major causes of water and air pollution respectively. The decline in soil quality was attributed to soil erosion, declining nutrients and population pressures on the land. This has greatly affected agricultural production. The full report can be accessed from the NEMA website at http://www.nema.go.ug.

4.3.48 Develop a clear communication strategy on sustainable natural resource management;

A communication strategy for the cancellation of titles in wetlands was developed. Technical teams from Ministry of Water and Environment, National Environment Management Authority, Ministry of Local Government, Ministry of Justice and Constitutional Affairs, Ministry of Trade, Industries and Commerce, etc, were constituted to undertake sensitization on the cancellation of titles in wetlands. The sensitization process was completed in Wakiso.

Sensitization materials were developed for the different categories of stakeholders, shape files for wetlands were compiled and handed over to Ministry of Lands, Housing and Urban Development, to be overlaid on the cadastral maps. A total of 330 titles in wetlands were cancelled in Kampala, Mukono and Wakiso.

4.3.49 Undertake targeted sensitization campaigns with information packaged in forms tailored to the information needs of recipient

Media campaigns to strengthen participation, access to information were launched. The Biodiversity campaign on *≠BePartOfTheSolution was to create awareness of the importance of biodiversity among Ugandan youth*. The campaign on ban of plastics –*taasa obutonde* is ongoing targeting mindset change on use of plastics in the country.

4.3.50 Build strategic partnerships with other players such as; private sector, cultural institutions, media and politicians

The MWE and NFA are engaging with Buganda Kingdom, Uganda Breweries, Stanbic Bank, Coca Cola, the Church Foundations on tree planting. An MoU is under preparation to advance the partnership for the 40 million tree campaign.

4.3.51 Promote research, innovation and adoption of green appropriate technology to foster sustainable use and management of Water Resources & ENR

The NEMA research Coordination strategy 2020/21–2024/25 has been developed. The strategy potentially spells out all aspects of research needs and will contribute to the formulation of policies and guidelines for sustainable development.

Studies on aquatic biodiversity, brown environment, and air pollution were concluded and draft reports are under final review. Investigative study on the impacts of hydroelectric power dams on the morphological divergence and diversity of Nile tilapia (Oreochromis niloticus) based on geometric morphometrics was submitted to the Journal of Hydrobiologia (Springer Nature) for publication.

A research study was conducted to assess the status of the various aquatic ecosystems in Uganda, including (1) Lake Mulehe (Kisoro), (2) River Nyamwamba & Lake George (Kasese), (3) River Rwizi (Mbarara), (4) River Mpanga (Fort Portal), (5) River Kagera & Lake Nakivale (Isingiro), (6) Lwela wetland (Kalungu), and (7) Lake Victoria (River Kasala Mukono).

A publication on the municipal waste management is online in the Journal of Air and Waste Management Association (Taylor and Francis). The study results from this paper show that over 70% of the wastes generated in Uganda are organics and thus a high potential for organic fertilizers and air pollution. The analysis shows that the air pollutants particularly, particulate matter (PM) and the greenhouse gases – NO2 surge because of high volume transport in Kampala exacerbated by Boda bodas. This was confirmed by the dramatic decline of the pollutants during the total lockdown of March 2020.

4.3.52 Develop a clear research agenda for this programme in partnership with relevant stakeholders;

There was no activity implemented under this intervention.

4.3.53 Undertake relevant applied research aligned to development needs and existing gaps

NFA signed an MOU with Bugoma Private Conservation Project to undertake research on habituation of Chimpanzee in the CFR for tourism.

4.3.54 Promote forest cluster-based wood processing industries

Standards for softwood wood products were endorsed in late 2020. These standards will improve the quality of wood products from all wood processing industries. Some clusters of wood processors have been supported by supply of efficient wood processing equipment in form of sawmills with support from partners including World Wildlife Foundation in Rwenzori areas.

Initiated the construction of 4 wood processing and innovation centres in 4 regions of Uganda.

National timber grading standards and certification guidelines were operationalized.

4.3.55 Support local community-based eco-tourism activities for areas that are rich in biodiversity or have attractive cultural heritage sites

Draft Guidelines for development of ecotourism in Central Forest Reserves are under review.

Guidelines for establishing community based eco-tourism in RAMSAR wetland rich in biodiversity are being formulated.

4.3.56 Promote payment for ecosystem services, biodiversity offsets and benefit sharing arising from use of biological resources

NEMA in collaboration with WCS are finalizing the national guideline on biodiversity and social offsets to guide the country on implementation of projects that may require offsetting of areas of biodiversity importance.

Implementation of Reforms

4.3.57 Transfer the command of Environment Police Force from Ministry of Internal Affairs to NEMA and NFA

Consultations are ongoing.

4.3.58 Establish Environmental Courts within the Judicial System

Consultations are ongoing.

4.3.59 Establish (put in place and equip) District Focal points for the Uganda National Meteorological Authority (detach from District Natural resources/Environmental Officers)

This intervention is pending finalization of restructuring of government.

Emerging issues/Challenges and undertakings

4.4 Challenges

i. **External Influence** in the operations of NFA by local leaders and representatives at various levels hindering management of CFRs including lawful eviction of encroachers, survey and demarcation of forest boundaries and establishment of eco-tourism.

ii. **Issuance of illegal Land titles in CFRs** by Uganda Land Commission and District Land Boards creating a lot of litigation and related costs to Government.

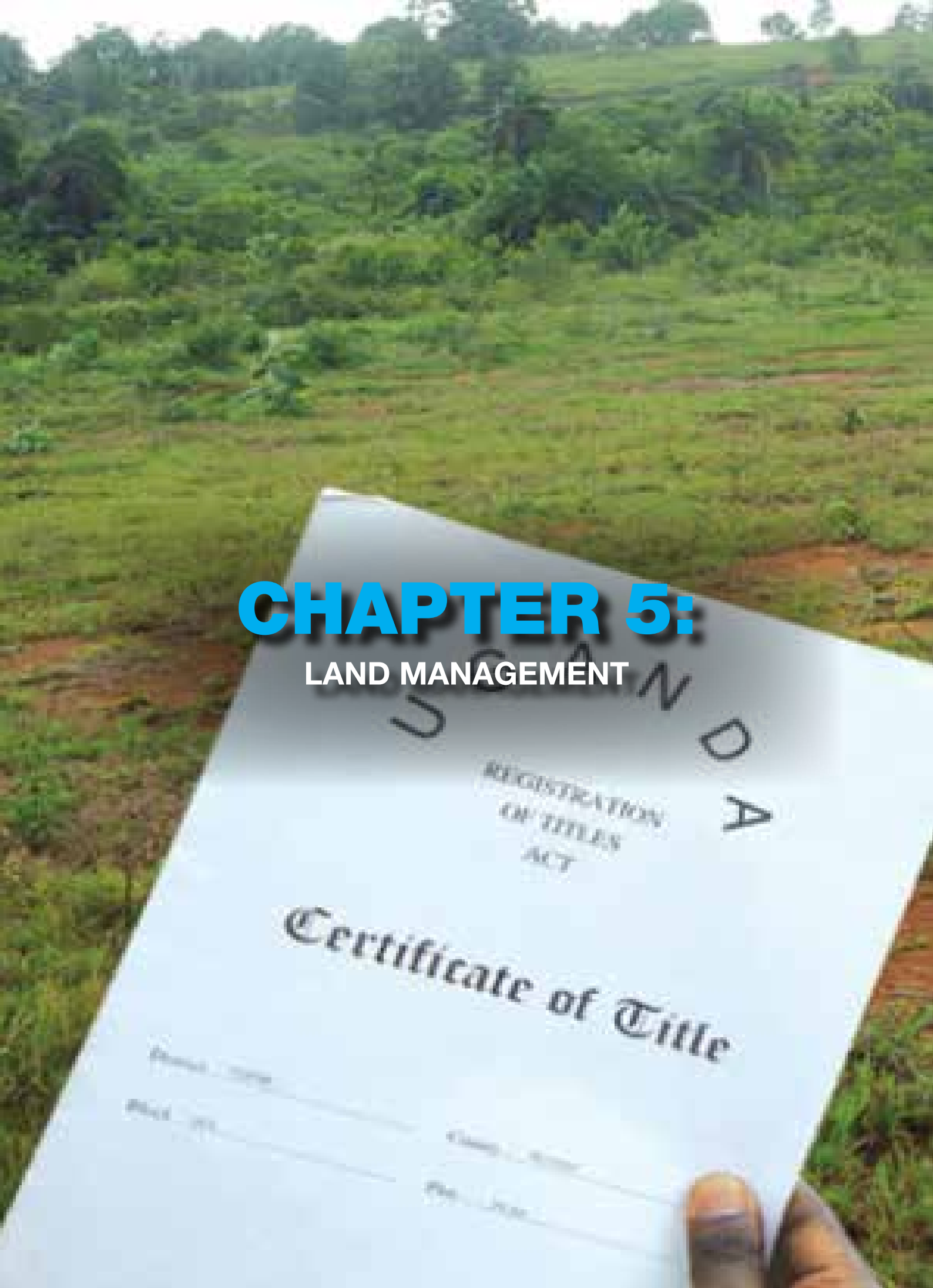
iii. **COVID-19 negatively impacted revenue and forest operations:** The effects of COVID-19 pandemic including the subsequent lockdown as part of the health and safety measures instituted by government led to a significant decrease in the number of tourists (both local and foreign) to NFA's ecotourism sites and successively to a decrease in Non-Tax Revenue. Additionally, the lock downs measures disrupted implementation of activities such as boundary survey and marking, monitoring and evaluation of field activities.

Recommendation

i. **Strengthening forest law enforcement and governance** through establishment of armed wing of Forest Rangers and professional investigators and prosecutors of environmental and forestry crimes. This should include strengthening stakeholder partnerships for forest conservation and livelihood improvement (e.g. Collaborative Forest Management, Corporate tree planting through MoUs, game ranching and others).

ii. **Provide incentives to private natural forests owners and commercial tree investors.** Providing incentives to private natural forest owners to keep the land under forest and private commercial plantation/tree investors to encourage large scale tree planting. There is need to consistently improve supervision at all levels of management, regular field visits by Range/Plantation staff and Senior Management Team will help build team work, boost staff morale and commitment to work.

iii. **Support forest protection, restoration and establishment of biomass energy plantations and woodlots** on private lands through strengthening stakeholder partnerships for forest conservation and livelihood improvement.



CHAPTER 5:

LAND MANAGEMENT

CHAPTER 5

LAND MANAGEMENT

5.1 Introduction

The objective of the Land Management sub-programme is to strengthen land management and land use in the country. The sub-programme is responsible for ensuring rational, sustainable use and effective management of land in Uganda with the overall objective of attaining land tenure security, especially on customary land, which remains largely unsurveyed and unregistered, and therefore, as well as the lawful and bona fide occupants on registered land.

In particular the sub-programme, is responsible for the following:

i. Supervision and monitoring of Land Management Institutions.
ii. To implement and enhance the Land Information System (LIS) and support its integration with other Government systems.
iii. Provide technical support, advice and guidance to the Lands, Housing and Urban Development sector and other Ministries, Departments and Agencies.
iv. Sensitize the public on land matters.
v. To conduct Land dispute resolution.
vi. Establishing geodetic controls and ensuring quality assurance for cadastral jobs and surveys in the country.
vii. Surveying of Government land and international boundaries.
viii. Production of all types of maps.
ix. Issuance of titles and general conveyance.
x. Conducting timely and reliable property valuations for Government and the public.
xi. Coordinating Land Sector reforms including planning and implementation processes.

The expected results are: (i) Increase the percentage of titled land from 21 percent to 40 percent and (ii) Reduce land related conflicts by 30 percent.

5.2 Land Management Outcome Indicators

5.2.1 Increase the percentage of titled land

The total land titled/registered increased from 21.73% in 2019/20 to 22% in FY 2020/21. The low achievement was partly because of the COVID-19 pandemic which led to closure for land offices.

5.2.2 Reduce land related conflicts by 30 percent

During the FY 2020/21, a total of 5,624 land related conflicts were received. Out of these, 2,400 were mediated/resolved. This represents 42.67% performance.

5.3 Land Management Interventions

5.3.1 Complete the roll-out and integration of the Land Management Information System with other systems

The roll out and integration of land management information system was implemented in the period of 2015-2019. This resulted in the establishment of the functional Land Information System (LIS) for the entire country including 22 Ministry Zonal Offices (MZOs) and the National Land Information Center (NLIC). The National Land Information System has been integrated with different MDAs including:

i. Uganda Revenue Authority for validating payments such as fees and stamp duty.
ii. National Identification and Registration Authority for validating of identification of persons.
iii. National Building Review Board for physical planning compliance.
iv. National Information Technology Authority for providing an integration platform for all Government agencies to share data.
v. Uganda Registration Service Bureau as a key one stop shop for all key land registration services such as land searches.

5.3.2 Fast track the formulation, review, harmonisation and implementation of land laws, policies, regulations, standards and guidelines

i. Consultative meetings with Ministries Departments and Agencies (MDAs) on the costing of the Land Acquisition Resettlement and Rehabilitation Policy (LARRP) conducted .
ii. National Land Policy implementation through supervision, monitoring and technically supporting 12 District Land Boards (DLBs – Butambala, Gomba, Ssembabule, Kotido, Abim, Napak, Sheema, Bushenyi, Kiruhura, Lyantonde, Lwengo and Buhweju), 12 District Land Offices (DLOs – Butamabala, Gomba, Ssembabule, Kotido, Abim, Napak, Sheema, Bushenyi, Kiruhura, Lyantonde, Lwengo and Buhweju) and 1 MZO (Arua).
iii. Draft costed Land Acquisition Resettlement and Rehabilitation Policy (LARRP) prepared.
iv. Eviction Guildeines incorporated in the Land Act pending approval by Top Management Meeting (TMM).
v. Six consultative working meetings on the Amendement of the Land Act and Land Acquisition Bill was undertaken.
vi. The Land Regulations prepared and are pending approval by TMM and Senior Management Meeting (SMM).

5.3.3 Undertake a comprehensive inventory of Government land

i. Collected UGX 1.429 Billion shillings as non-Tax Revenue in Premium and Ground rent.
ii. Issued 100 leases on Government land.
iii. Processed 100 Land titles for Government institutions.
iv. 14 land inspection exercises undertaken.
v. Consultant hired to undertake a study on implementation of the Government land inventory completed the study and implementation of recommendations is ongoing.

5.3.4 Capitalize the Land Fund to ensure access to land by lawful and bonafide occupants

i. 8,607 sub division surveys carried out for Lawful and bonafide occupants in Bunyangabu, Mbarara, Kakumiro and Kibaale Districts.

ii. Acquired 11,195.611 hectares of Land from payments made to Absentee Landlords for Lawful and bonafide occupants.

iii. Four sensitization and consultative meetings for District and Local Leadership were held in Bunyangabu, Mbarara, Kakumiro and Kibaale Districts.

5.3.5 Strengthen the capacity of land management institutions in executing their mandate geared towards securing land rights

i. Eight DLBs (Adjumani, Moroto, Kaabong, Kotido, Abim, Kamwenge, Arua, and Mubende) and 8 DLOs (Adjumani, Moroto, Kaabong, Kotido, Abim, Kamwenge, Arua, and Mubende) were trained in Land management. A total of 67 participants i.e 45 men and 22 women were trained.

ii. Supervised and technically supported 38 DLOs (Hoima, Kyenjojo, Fortportal, Kabale, Rukungiri, Katakwi, Kaberamaido, Mbale, Kapchorwa, Sironko, Jinja, Budaka, Iganga, Sembabule, Masaka, Gomba, Mukono, Wakiso, Mpigi, Gulu, Kitgum, Pader, Mbale, Sironko, Kumi, Mbarara, Isingiro, Ntungamo, Sheema, Buweju, Bushenyi, Butambala, Kotido, Abim , Napak, Kiruhura, Iyantonde and Lwengo), 38 DLBs (Hoima, Kyenjojo, Fortportal, Kabale, Rukungiri, Katakwi, Kaberamaido, Mbale, Kapchorwa, Sironko, Jinja, Budaka, Iganga, Sembabule, Masaka, Gomba, Mukono, Wakiso, Mpigi, Gulu, Kitgum, Pader, Mbale, Sironko, Kumi, Mbarara, Isingiro, Ntungamo, Sheema, Buweju, Bushenyi, Butambala, Kotido, Abim , Napak, Kiruhura, Iyantonde and Lwengo) and 15 MZOs (Kabale, Rukungiri, Kabarole, Soroti, Mbale, Masaka, Jinja, Mukono, Wakiso, Mpigi, Gulu, Mbale, Mbarara, Arua and Moroto).

5.3.6 Promote land consolidation, titling and banking

i. 16,538 Certificates of Customary Ownership prepared.

ii. 200 Certificates of Occupancy prepared.

iii. 18 Communal Land Associations (CLAs) in Napak and Amudat districts formed and certificates issued.

iv. 26,090 Titles issued.

v. A fully costed Concept Note for Rapid Physical Planning Assessment(RAPPA)prepared and submitted for approval.

vi. Validation workshop of the Fit-ForPurpose Strategy of the National Land Policy with Surveyors, Cartographers and Land officers conducted.

vii. Six Public sensitizations on land related issues held (Moroto, Adjumani, Bukalasa, Wakiso, Kamwenge and Joint NTV talk show with Oxfam).

viii. 67 public hearings on land matters conducted.

5.3.7 Acquire land for infrastructure/utility corridors

i. Basing on the National Physical Development Plan that provides a basic framework for the shared infrastructure corridor, terms of reference (TORs) for consultancy to develop guidelines and criteria for defining, aligning and mapping shared infrastructure

corridors in Uganda through a pilot along the Eastern Arm of the Main Spine of the National Infrastructure Corridor were cleared by World Bank.

ii. Inception meeting was held with MDAs involved in infrastructure development on 15th December 2020 to build consensus on the need to have shared National Infrastructure Corridors.

iii. The Consultant is on board to develop guidelines and criteria for defining, aligning and mapping shared infrastructure corridors and the 1st deliverable – Inception Report has been submitted.

5.3.8 Promote tenure security including women's access to land

i. Completed and issued 3,958 Certificates of Customary Ownership in the Districts of Pader, Butelaja, Adjumani, Kisoro, Soroti, Katakwi, Namutumba, Bulisa and Kabale.

ii. Issued 3,281 Certificates of Title out of 26,090 to women across the country to promote tenure security.

5.3.9 Establish the national Spatial Data Infrastructure (NSDI) to enhance data integration for planning and development

i. Twelve Geodetic Control Points (GCPs) established (4 in Oyam district, 4 Budaka and 4 in Lira)

ii. 412 passive stations and 15 Continuously Operating Stations (CORS) were maintained in 11 districts of Masaka, Fort Portal, Kibaale, Masindi, Gulu, Moroto, Lira, Jinja, Mbale, Arua, and Kabarole.

iii. Kiryandongo, Amudat, Rwamucucu (Rukiga District) district local govt administrative boundary were surveyed.

iv. Mt Elgon National park boundary was surveyed.

v. 26km of International Border and boundary of Terego -Madi-Okollo were surveyed.

5.3.10 Develop and implement a Land Valuation Management Information System (LAVMIS)

i. Process of procuring a consultant to develop the LAVMIS commenced.

ii. Developed terms of reference for the consultant

5.3.11 Promote integrated land use planning

Support supervision and physical planning needs assessment was undertaken in Pakwach, Madi-Okollo, Nansana, Lugazi, Kapchorwa, Obongi, Bugweri, Butaleja, Butebo, Njeru, Kalaki, Karenga, Ibanda, Kyenjojo, Ntoroko, Soroti, Namisindwa, Rubirizi, Kassanda,Kwania, KikuubeNabilatuk, and Omoro districts.

5.4 Emerging issues/Challenges and undertakings

i. The prevalence of COVID19 affected a number of activities especially those that involved community engagements and training.

ii. There is limited staff to implement the sub-programme activities. There is need to recruit more staff to fill the human resource gap.

iii. There is inadequate funding for the sub-programme's activities. There is need to increase funding to enable proper implementation of the sub-programme's activities.

CHAPTER 6:

DISASTER PREPAREDNESS AND RISK MANAGEMENT

CHAPTER 6

DISASTER PREPAREDNESS AND RISK MANAGEMENT

6.1 Introduction

The Management of disasters is a multi-sectoral and multidisciplinary process. The process involves all government ministries in collaboration with humanitarian and development partners, the private sector, local governments and the community. The Ministry responsible for Disaster Preparedness and Refugees is the Office of the Prime Minister. It is the lead agency in co-coordinating all stakeholders on disaster preparedness and management in the country.

The objective of disaster preparedness and risk management is to reduce human and economic loss from natural hazards and disasters. The expected results are reduced human mortality and missing persons, and economic loss due to water and environment related disasters.

6.2 Disaster Management Outcome Indicators

6.2.1 Human mortality and missing persons directly attributed to water and environment related disasters per 100,000 population

During the FY 2020/21, the mortality related to natural disasters was 26 persons only. This translates into 0.06 persons per 100,000 population. This was lower than the 38 persons lost due to natural disasters in FY 2018/19. The major causes of natural disasters are floods, landslides and lightening. The disaster-prone areas include Mt. Elgon (Bududa) and Mt. Rwenzori (Kasese) areas.

6.2.2 Economic Loss (USD) incurred per disaster as a % of GDP

In the FY 2020/21, the economic loss from disasters was estimated at UGX. 563 Billion in FY 2020/21. This translates into 0.4% of GDP lost due to natural disasters.

6.3 Disaster Management Interventions

6.3.1 Strengthen the policy, legal and institutional framework for effective disaster risk governance, management and response

i. The National Policy for Disaster Preparedness and Management was reviewed.
ii. Finalized consultations on the Peace Policy and the draft Policy is awaiting Top Management approval and onward submission to Cabinet.
iii. Drafted the Principles for the National Disaster Preparedness and Management Bill.

6.3.2 Institutionalize Programme disaster risk planning

- Conducted training on mainstreaming Disaster Risk Reduction into District Development Plans for the districts of Karamoja and Kigezi subregions.
- Developed District Contingency Plans for Mororo, Napak, Karenga, Amudat, Kotido, Nabilatuk, Nakapiripirit, Abim, Kaabong, Isingiro, Kikube and Kyegegwa.

6.3.3 Develop a National Disaster Risk Management Plan

Development of national disaster risk management plan is scheduled for FY 2021/22.

6.3.4 Undertake a disaster risk screening of the NDPIII and generate information to inform implementation planning

This intervention will be implemented in FY 2021/22.

6.3.5 Finalize and disseminate the National Risk Atlas

The National Risk Atlas was finalized, launched and dissemination is going. So far 6 districts of Kigezi subregion have been covered.

6.3.6 Strengthen the Disaster Risk Information Management Systems

Produced and disseminated 12 monthly reports on Forecast and Monitoring of Disaster risks situations across the country in the UNIEWS bulletin.

6.3.7 Enhance capacities for storage, management and distribution of relief commodities

OPM plans to construct a second store at Namanve.

6.3.8 Strengthen the national store and relief chain management system

There was no activity implemented under this intervention.

6.3.9 Ensure timely access to relief food and non-food commodities to disaster victims

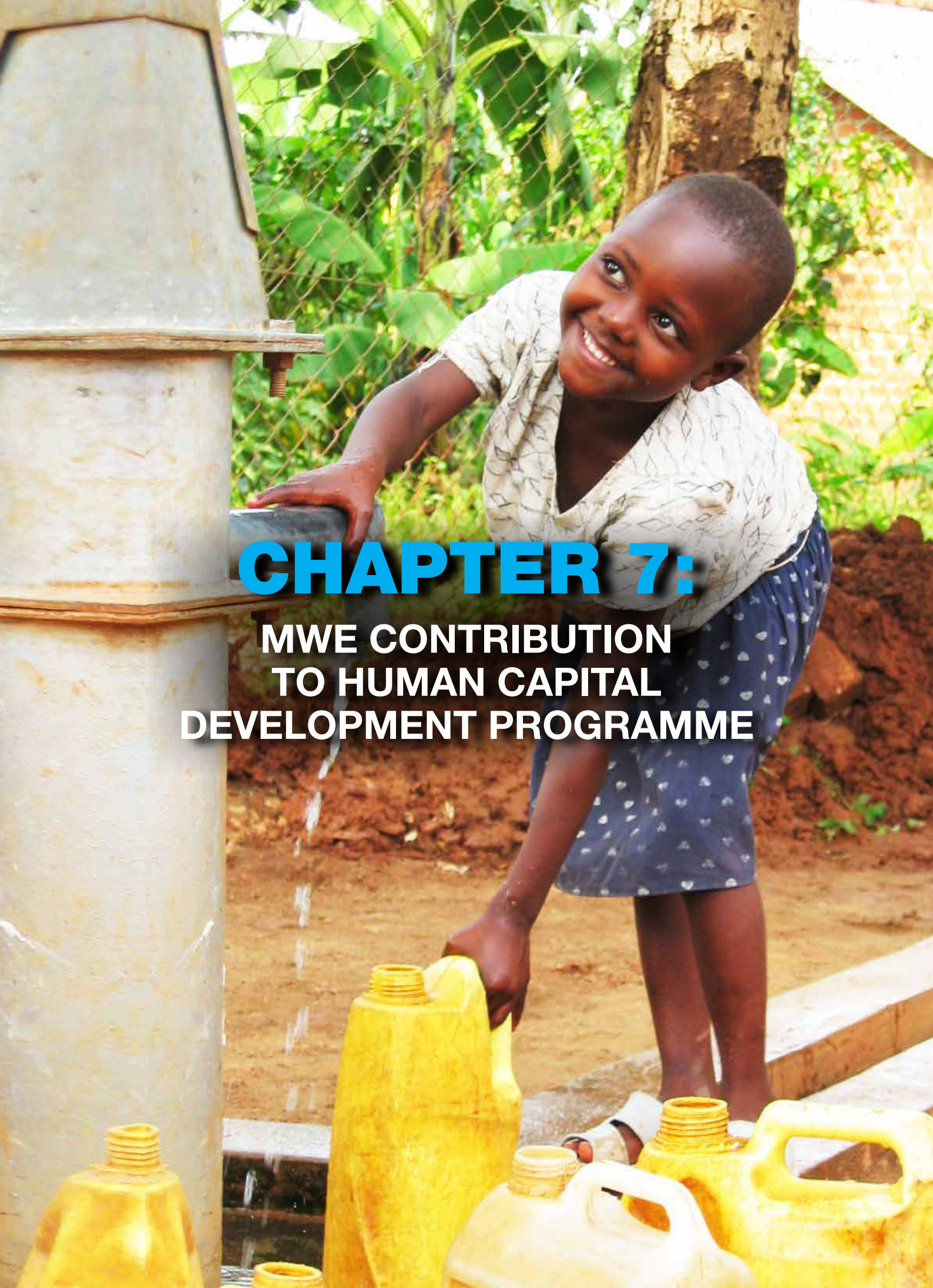
Supported two hundred twenty-two thousand (222,000) households affected by disaster all over the Country with relief food and non-relief food items

6.3.10 Enhance the capacity for resettlement of persons at risk of disasters

i. Relocated and resettled over 500 households in safer places from raising waters in Nakasongola and Bulisa districts.
ii. Construction of 22 Housing Units to resettle Internally Displaced Persons from risk of landslides in five prone districts is ongoing by the Engineering Unit of Uganda Police Force and UPDF.
iii. Procured seeds for the second phase of resettlement of Displaced Persons from risk of landslides.
iv. Conducted visits and assessments on the 193 reported disaster losses and damage sites (windstorms, hailstorms, floods, landslides, earthquakes) from Kayunga, Mayuge, Namutumba, Namayingo, Bukwo Sironko Kibuku, Pakwach and Obongi districts among others.

6.4 Emerging issues/Challenges and undertakings

i. OPM purchased 2,865 acres of land in the Mt. Elgon region to resettle victims of landslides. However, due to budgetary constraints, the resettlement exercise has delayed.
ii. Section 26 (1) -(6) of the Public Finance Management Act, 2015 established the Contingency Fund whereby 15% of the fund is supposed to be used to finance response to natural disasters. However, despite increased occurrence of disasters across the country this fund has not been fully provided; which has greatly constrained effective response to disasters.



CHAPTER 7:

MWE CONTRIBUTION TO HUMAN CAPITAL DEVELOPMENT PROGRAMME

CHAPTER 7

MWE CONTRIBUTION TO OTHER PROGRAMMES

7.1 MWE CONTRIBUTION TO HUMAN CAPITAL DEVELOPMENT

7.1.1 RURAL WATER SUPPLY

The objective of NDPIII for rural water supply is *increased access to inclusive safe water supply in rural areas*. The expected result is *increased access to safe water supply from 70 to 85 percent by 2025*. The performance analysis was based on outcomes and interventions implemented. At outcome level, the analysis focused on access to safe water supply, functionality of water facilities, community management and per capita cost of water infrastructure. At intervention level, the assessment covered projects implemented at central and local government levels.

7.1.1.1 Rural Water Outcome Indicators

Overall performance at outcome level

Table 28 presents the overall performance at outcome level in FY 2019/20 and FY 2020/21. Overall, the performance stagnated except for gender mainstreaming. The stagnation in rural safe water coverage was attributed to the annual rate of population growth rate which is higher than the rate of investment in water supply infrastructure to meet the growing demand for water. The other reason is the aging water supply infrastructure rendering many water facilities non-functional. Stagnation of the functionality rate was attributed to the rate of repair of water facilities was lower than the rate of breakdown of water facilities. There is need for increased investment in the rural water supply infrastructure to match the rate of population growth and aging water infrastructure.

Table 28: Progress made on realizing the NDP III 2020/2021- 2024/25 Targets

Outcome	Outcome Indicators	2019/20 Achieved	2020/21 Achieved
Increased access to rural water supply.	% of safe rural water supply coverage.	**68%**	**68%**
Enhanced functionality of water sources.	% of functionality rates of rural water system.	**85%**	**85%**
Increased number of villages with a safe and clean water supply.	No. of villages with a safe and clean water supply.	**38,785**	**38,809**
Gender mainstreaming	Percentage of Water and Sanitation Committees with at least one woman holding a key position	86%	90%

7.1.1.2 Detailed performance analysis for each outcome indicator

Percentage of rural population within access of an improved water source (1 km)

As of June 2021, the percentage of population using an improved water source was estimated at **68%**. This means that safe water coverage remained the same as of June 2020. This was based

on the data obtained from 77.6% districts. The new investments resulted into **921,247 persons** served during the reporting period. The stagnation of coverage was attributed partly to annual population growth rate (3%) which is higher than the rate of investment in the rural water supply infrastructure.

Based on the analysis done under the water atlas update, 69% of the districts had either equal or above the 68% of population using an improved water source. There was an improvement of the districts that use an improved water source from 64% in FY 2019/20 to 69% in FY 2020/21. *This therefore means that a higher number of* Ugandans are using an improved water source as compared to the last the FY 2019/20. Figure 1 shows the spatial distribution of rural safe water coverage.

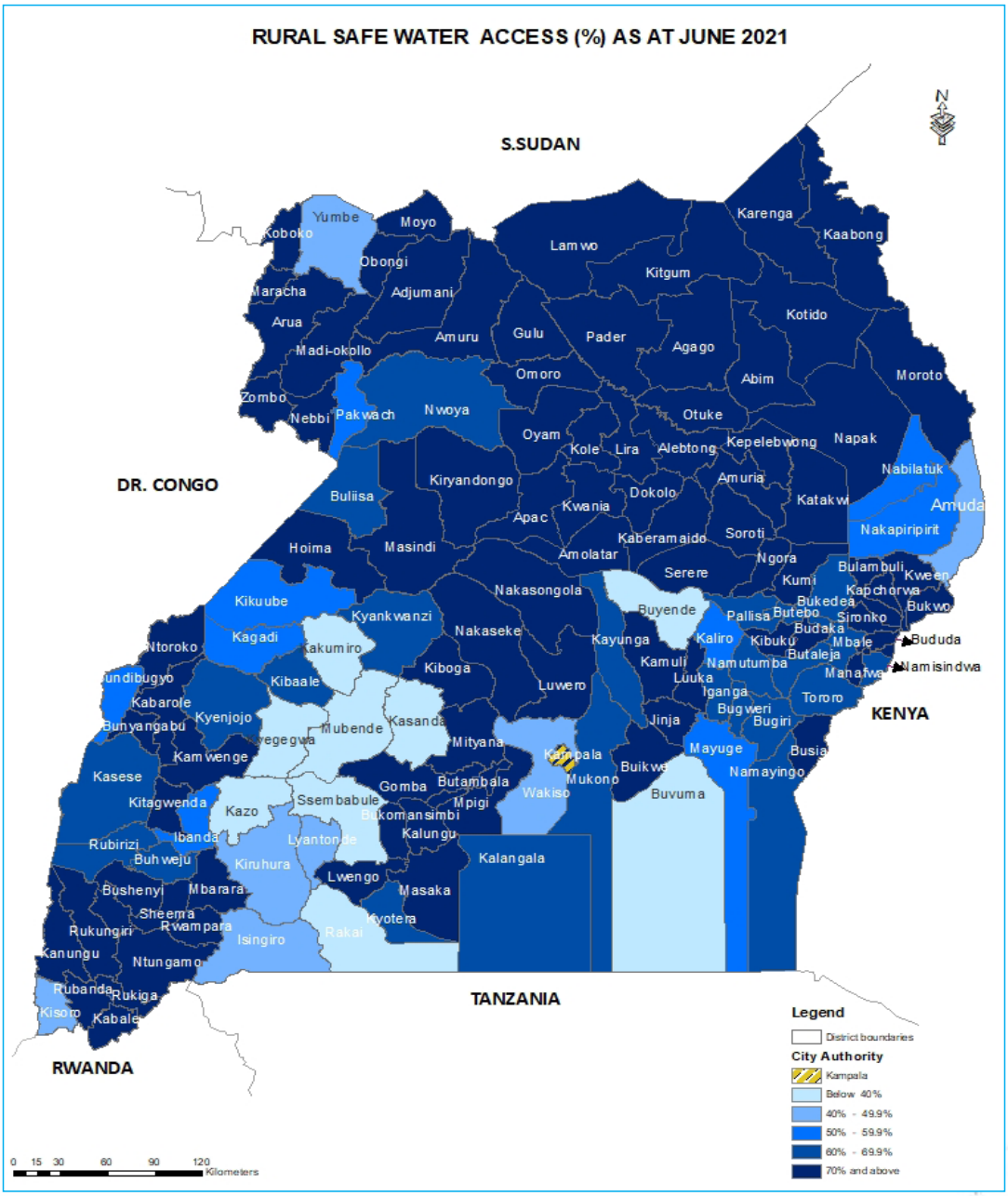


Figure 38: Rural safe water access

The districts with access of 50% and below included Buvuma (31%), Kyegegwa (31%), Kakumiro (34%), Kazo (36%), Rakai (36%), Buyende (37%), Kasanda (37%), Mubende (38%), Ssembabule (38%), Kisoro (42%), Lyantonde (43%), Wakiso (43%), Isingiro (45%), Amudat (47%), Yumbe (48%), Kiruhura (49%) and Kaliro (50%). Table 29 shows the rural water supply technologies.

Table 29: Categories of safe water supply technology as of June 2021

Source of water	Number	No. of persons served	%
Deep Borehole	42,007	12,602,100	**44.72%**
Shallow Well	21,722	6,516,600	**23.12%**
Protected Spring	29,261	5,852,200	**20.77%**
Tap Stands	20,597	3,089,550	**10.96%**
Rainwater Harvest Tank	20,367	122,202	**0.43%**
	133,954	**28,182,652**	**100.0%**

Source: Uganda Water Supply Database, June 2021

Boreholes remain as the most predominant water supply technology in rural communities registering slight increase from 44.7% in FY 2019/20 to 44.72% in FY 2020/21. The total number of facilities increased from **133,507** in FY 2019/20 to **133,954** in FY 2020/21. The number of persons served was **28,182,652** persons.

Percentage of villages with a source of safe water supply

During the FY 2020/21, out of the 57,150 villages (excluding Kampala district), only 38,809 villages had a safe water source compared to 38,785 villages in FY 2019/20. This indicates an increase in the number of villages having at least one improved water source by 24.[1]

% of water sources functional at time of spot-check

The functionality for rural water supplies stagnated at 85% since FY 2018/19. This is partly because the budget allocation on rehabilitation of rural water facilities which was not commensurate to the rate of breakdown of water facilities. Overall, 51% of the districts had functionality above the nationwide average of 85%. The 5 districts with lowest functionality include Omoro (43%), Kitgum (60%), Bundibugyo (62%), Gomba (62%) and Nabilatuk (65%) while the five districts with highest functionality include; Buikwe (99%), Iganga (98%), Kitagwenda (98%), Namisindwa (98%) and Rwampara (97%). Figure 3 presents the spatial distribution of functionality of rural water facilities.

% of water points with actively functioning Water & Sanitation Committees (WSC)

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.

The water supply database indicates that functionality of WSCs has stagnated at **90%** since the FY 2019/20. This was attributed to COVIID-19 pandemic which hampered the continuous sensitization/training of extension workers.

1 *This analysis includes areas covered by NWSC and Rainwater Harvesting Tanks*

Average cost per beneficiary of new water and sanitation schemes (USD)

The per capita investment cost is calculated as the "*total MWE and District Local Governments expenditure on rural water supply divided by the total of new people served*". It is estimated that, a total of **921,247** persons were served by MWE and DLGs with new water supplies in 2020/21 (i.e. **431,075** by the DWSDCG[2] and **490,172** by centrally managed projects).

The overall per capita cost for rural water supplies was estimated at USD **46** (**UGX 163,135**) lower than USD 72.63 (**UGX** 272,366) in FY 2019/20. The lower average cost per is due to the following reasons:

- Of the UGX 87,330,000,000 released, an estimate of **UGX 78,390,000,000** was expended on ongoing multi-year projects specially GFS and solar powered water systems that led to **490,172 persons** being connected to clean and safe water supply.
- Of the UGX 85,209,868,087 disbursed, an estimate of **UGX 71,897,899,436** was spent by the District Local Government that resulted into provision of clean and safe water to **431,075 persons.**

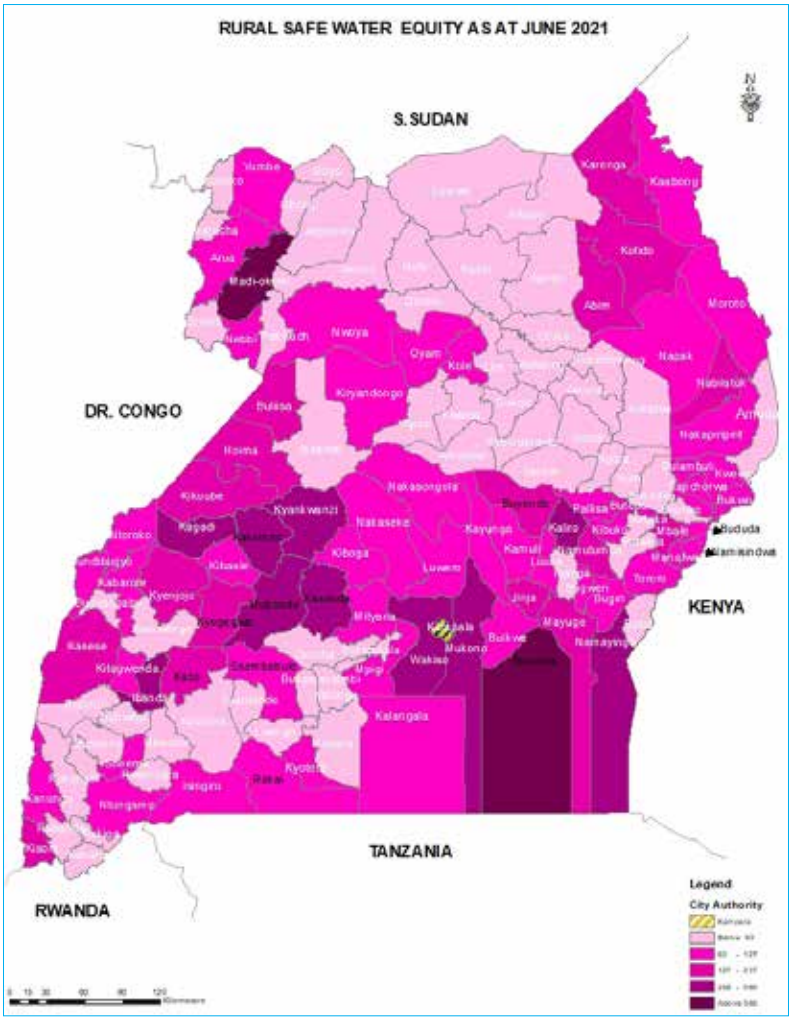


Figure 39: Rural Safe Water Equity as of June 2021

2 *This excludes 18 District Local Governments that did not submit their reports to Ministry of Water and Environment in FY 2020/21.*

Percentage of Water and Sanitation Committees with at least one woman holding a key position

It is a critical requirement for Local Governments to facilitate communities in formation and training of gender sensitive WSCs for all the newly constructed water sources. Formation of gender sensitive WSCs serves to establish leadership roles for women in the community with least one woman holding a key position including chairperson, vice chairperson, and secretary in the WSC. Data from Ministry of Water Supply Data Base from 134 districts indicates an improvement from 86% in FY 2019/20 to 90% of water sources have women occupying key positions in FY 2020/21.

The percentage improvement is attributed to the increased efforts by District Local Governments to revitalize dormant WSCs during the difficult times of COVID-19 to be able to supply clean and safe water to various communities.

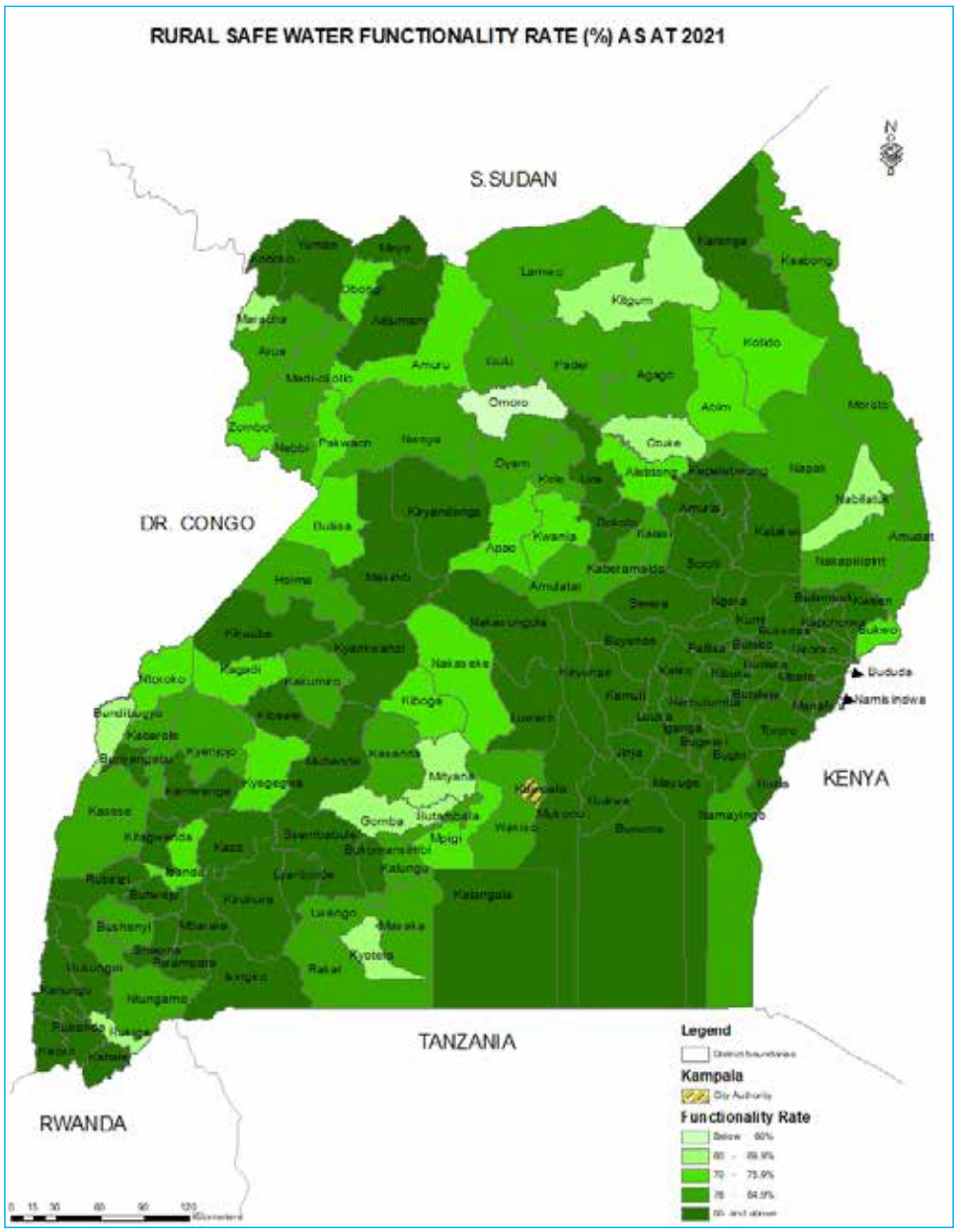


Figure 40: Rural safe water functionality rate (%) as of June 2021

7.1.1.3 Rural Water Outputs for FY 2020/21

i. Construction of Piped Water Systems

During the FY 2020/21, under the centrally managed projects, 4 of the planned 13 Large Gravity Flow piped water systems were constructed to completion (100%) serving a total of **142,064** persons. The 7 Large Gravity Flow systems are still undergoing construction. Under the District Water and Sanitation Conditional Grant (DWSCG) , **89** Water Supply Schemes/ GFS were constructed serving a total of **88,050 persons.** By end of June 2021, a total of **230,114 persons** were served by the completed piped water systems. Details are presented in Table 30.

Table 30: Progress of construction of Piped Water Systems

Output Description	Target	Achieved	Progress/ Comments
1. Construction of Piped Water Systems			
Rwebisengo Kanara Gravity Flow Scheme Phase I in Ntoroko District.	100%	100%	Rwebisengo-Kanara GFS –Phase I targets a population of 54,425 persons. The system is designed to last for 20 years. So far, 520 service connections serving a total of 12,240 persons have been achieved. The system is under the management of National Water and Sewerage Cooperation.
Lirima Gravity Flow Scheme Phase II in Manafwa District.	100%	100%	Lirima GFS Phase II serves a total of 40,800 persons. For further management, the system is under the National Water and Sewerage Cooperation.
Bukedea Gravity Flow Scheme in Bukedea District.	100%	100%	Bukedea GFS-Phase I targets a population of 262,343 persons. The system design is for 30 years. So far, 2,526 connections serving a total of 60,624 have been made. The system is under the management of Umbrella Organization – East.
Shuuku Masyoro Gravity Flow Scheme in Sheema District.	100%	100%	The system is designed to last for 25 years and targets a population of 135,868 persons. Shuuku Masyoro GFS serves a total of 7,200 persons and the system is under the management of National Water and Sewerage Cooperation.
Nyakabingo Water supply system in Rukungiri District.	100%	100%	Under this system, four (4 No) kiosks have been constructed in the community serving 800 persons.
District Local Government constructed Piped Water Supply Schemes/ GFS	99	85	(587 taps) serving a total of 88,050 persons.
Lukalu-Kabasanda Gravity Flow Scheme in Butambala District.	100%	92%	The system is designed to operate for 15 years and targets a population of 11,244 persons. So far, 553 connections have been made serving a population of 13,272 persons.
Orom Water Supply System in Kitgum-Lamwo District.	100%	90%	The scheme is designed for 20 years and targets a population of 1,819 persons. so far, 142 connections (87 connections in Orom and 55 in Katwotwo- Lakwanya) have been completed serving a total of 3,408 persons. The system was handed over to the Umbrella Organization-North.

Output Description	Target	Achieved	Progress/ Comments
Constructed Highway Sanitation facility in Kiruhura District.	80%	90%	Kiruhura highway sanitation project is at 90% completion with sanitation facility lock ups and restaurant at 85% completion, attendants house at 95% completion and overall sites works at 75% completion level.
Kabuyanda Water Supply System in Isingiro District.	100%	87%	Kabuyanda WSS in Isingiro is at 87% completion with 850 connections made to the system serving 20,400 persons.
Kahama Water Supply and Sanitation System Phase II in Ntugamo District.	90%	73%	The scheme targets a population of 22,009 persons. However, the set target of 90% was not attained due to COVID-19 pandemic that affected construction.
Construction of Mpungu-Nyakzinga WSS (Kasese)	30%	77%	Water flowing at 14 sites out of the 20 and transmission and distribution lines completed in 19 of the 20 sites.
Construction of Bitsya Gravity Flow System in Buhweju District.	5%	__%	Contract approved by no objection letter from World Bank and forwarded to Solicitor General for approval
Construction of Nyamugasani Water supply system in Kasese District.	5%	__%	Contract approved by no objection letter from World Bank and forwarded to Solicitor General for approval.
Kanyabwanga Water Supply System in Mitooma District.	70%	75%	Kanyabwanga WSS is at 75% completion with Pump house, generator house and dosing house completed with 16 public stand posts completed.

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.

ii. Construction of Solar/Wind Powered Water Supply Systems

Under the centrally managed projects, during the FY 2020/21, 40 Solar/ Wind Powered Water Supply Systems located in the districts of Pakwach, Nebbi, Zombo, Arua, Koboko, Kamuli, Budaka, Tororo, Butaleja, Luwero, Soroti, Kaberamaido, Abim, Lamwo, Wakiso, Mukono, Omoro, Amuru, Gulu, Kiruhura, Bukomansimbi, Kalungu, Kyotera, Butambala, Gomba, Mbarara, Kasese, Rukungiri, Kyegegwa, Wakiso, Ntungamo, Kiboga, Kibaale, Hoima, Mityana, Nakaseke, Buliisa, Kagadi and Kiruhura have been constructed to 73% completion with **187** public stands posts and **183** house connections currently serving **173,058 persons**.

With support from **UNICEF, 100** mini solar powered pumping water systems for schools and health facilities with extension to nearby community have been constructed in the districts of Adjumani, Arua, Kiryandongo, Moyo, Isingiro, Moroto, Napak, Amudat, Nakapipirit and Kotido serving **50,000 persons.** A total of **223,058** persons were served.

iii. Construction of New Point Water Sources

During the FY 2020/21, the MWE central team was able to construct and drill **300** new point water sources including 242 hand pumped wells and 58 production wells in the districts of Adjumani-3, Alebtong-6, Amuria-1, Budaka-1, Bugiri-1, Buhweju-3, Bukedea-8, Busia-1, Butambala-2, Gulu-1, Hoima-6, Iganga-5, Jinja-1, Kalaki-1, Kamuli-1,

Kamwenge-1, Kasanda-1, Katakwi-2, Kayunga-1, Kiruhura-1, Kitgum-14, Kumi-4, Kyegegwa-3, Kyenjojo-3, Lamwo-5, Luuka-4, Luwero-4, Lyantonde-1, Mayuge-6, Mityana-4, Mubende-2, Mukono-3, Nakaseke-3, Nakasongola-6, Namutumba-7,Ngora-1, Nwoya-3, Otuke-1, Serere-2, Sironko-2, Soroti-2, Ssembabule-2, Wakiso-4, Serere-23, Soroti-3, Mukono-11 Kamuli- 36, Nakaseke-7, Budaka-1, Luwero-1, Kibuku-5, Moyo- 5, Kumi -3, Kaberamaido- 2, Katakwi- 1, Gomba-5, Mukono- 17, Sembabule-1, Madi Okollo-1, Lira- 1 **serving 90,000 persons.**

Under the District Water and Sanitation Conditional Grant (DWSCG), **1,022** boreholes or hand pumped wells, **168** protected springs, **129** Rainwater Harvesting Tanks 10m^3 and 14 valley tanks were constructed serving a total of **314,075 persons** excluding 14 valley tanks that are animals. In summary, a total of **1,322** new point water sources were constructed and or drilled serving **431,075** persons. Table 31 shows the new point water sources under the DWSDCG.

Table 31: New point water sources under the DWSDCG

Technology	Planned[3]	Achievement	% Achieved	No. of persons served
Boreholes	1,164	1,022	87.8%	306,600
Protected Springs	165	168	101.8%	33,600
Rainwater Harvesting Tanks 10m^3	148	129	87.2%	875
Valley Tanks	13	14	107.7%	

iv. Construction of an improved water point per village

During the FY 2020/21, the total number of facilities increased from **133,507** in FY 2019/20 to **133,954**. The cumulative number of persons served was **28,182,652** persons in FY 2020/21 from **28,086,420** persons in FY 2019/20. During the FY 2020/21, out of the 57,150 villages (excluding Kampala district), only **38,809** villages had a safe water source as compared to 38,785 villages in FY 2019/20.

Additionally, a total of **921,247** persons are estimated to have been served by MWE and DLGs with new water supplies in 2020/21 (i.e. **431,075** by the DWSDCG[4] and **490,172** by centrally managed projects).

v. Provision of communal or institutional rainwater harvesting systems

During the FY 2020/21, **153** communal or institutional rainwater harvesting systems were constructed (129institutional rainwater harvesting tanks and 14 valley tanks. The **129** communal or institutional rainwater harvesting systems served **875** persons.

vi. Rehabilitation of existing point water sources

During the FY 2020/21, the central team rehabilitated **466-**point water sources across the country in Kiboga (13), Rukiga (10), Mukono (47), Kayunga (44), Wakiso (1), Kamuli (20), Kitgum (31), Lamwo (30), Pader (30), Alebtong (31), Arua (16), Terego (15), Omoro (30) Yumbe (12), Moyo (26), Pakwach (16), Nebbi (15), Koboko (15), Adjumani (15), Kalungu (49) serving **139,800** persons.

3 *Only 115 out of the 134 District Local Government have submitted their reports to Ministry of Water and Environment. Kampala District is excluded as it does not fall under our mandate as a Department.*

4 *This excludes 18 District Local Governments that did not submit their reports to Ministry of Water and Environment in FY 2020/21.*

On the other hand, the District Water and Sanitation Conditional Grant (DWSCG) to the District Local Governments (DLGs), **1,603** new point water sources were rehabilitated serving a total of **480,900 persons**. In summary, **2,069** existing point water sources were rehabilitated serving a total of **620,700** persons. In response to flood affected communities, **UNICEF** supplemented Ministry of Water and Environment's efforts under the emergency Water, Sanitation and Hygiene intervention by rehabilitating **32** boreholes serving **9,600 persons**.

The Japan International Cooperation Agency (JICA) supported the Ministry of Water and Environment to review O&M arrangements for rural water supplies with an objective of improving functionality by setting up four (4 No.) regional service /rehabilitation centres in Gulu, Jinja, Mubende and Masaka to spearhead the rollout and upscaling of the new system in a phased arrangement. Under, phase 1 of the roll out/ upscaling, 33 districts were selected; from the selected districts, **212** boreholes were rehabilitated serving a total of **63,600 persons.** In addition, a total of 199 boreholes were cleared for installation and guaranteed service /functionality was rolled out for 100 water sources. **Table 32 below.**

During the FY 2020/21, **2,313** existing point water sources were rehabilitated serving a total of **693,900** persons.

Table 32: JICA's Achievements as of June 2021

Region	Rehabilitation	Assessed
Gulu Service /Rehabilitation Centre (Nwoya, Gulu, Kitgum, Amuru, Agaga, Omoro, Alebtong, Pader, Lamwo and Lira	35	92
Mubende Service /Rehabilitation Centre (Mityana, Kiboga, Mpigi, Butambala, Kyankwanzi, Gomba, Kassanda, Mubende and Wakiso	97	45
Jinja Service /Rehabilitation Centre (Pallisa, Serere, Butebo, Kayunga, Mukono, Buikwe, Iganga, Soroti)	51	13
Masaka Service /Rehabilitation Centre (Bukomansimbi, Kalungu, Rakai, Lwengo, Lyantonde, Masaka, Kyotera, Rukiga and Mbale)	29	49

Figure 41:Team preparing to undertake airlifting

Figure 42: SUNDA installed on a borehole in Mubende

Innovative Approaches to the Rural Water Sub Sector: JICA supported the introduction of the automated "pay-per-fetch" mechanism at the boreholes referred to as SUNDA that ensured proper use of the community collections. This facility was able to provide "real time" information on water usage per household, number of active families and the peak periods for the water source among others. The system developed by a Japanese volunteer was locally fabricated and has potential for providing real-time data on functionality of water sources at a cost of UGX 1,800,000. In communities where this technology has been installed, the users have not reported any problems related to operations. By June 30th June 2021, the SUNDA system had been installed on 21 boreholes in Kasanda, Mubende, Butambala and Gomba Districts.

vii. Operation and maintenance interventions

a. Dissemination of O&M Framework

Disseminated the O&M framework with support from UNICEF, IRC, and USHA in the regions of Karamoja, North, West Nile, Rwenzori, Central and Busoga regions.

Figure 43: Launch of O&M Framework

b. Development of WSSM ASP Manuals

To operationalize the O&M Framework, the Ministry of Water and Environment together with Partners developed relevant user manuals for different categories of structures and operations. The manuals are intended to provide a guide for successful operationalization of the O&M Framework for rural water infrastructure in the country. The manuals will guide both the establishment and functioning of Water and Sanitation Boards (WSSBs) and Area Service Providers, and will be used as an important resource and reference to all stakeholders


MINISTRY OF WATER AND ENVIRONMENT

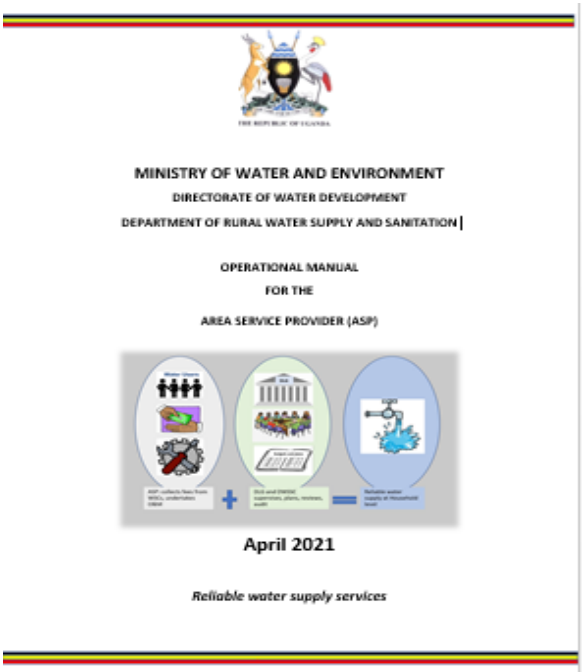
DIRECTORATE OF WATER DEVELOPMENT

DEPARTMENT OF RURAL WATER SUPPLY AND SANITATION

WATER SUPPLY SERVICES BOARDS (WSSB)

OPERATIONAL MANUAL

APRIL 2021


MINISTRY OF WATER AND ENVIRONMENT

DIRECTORATE OF WATER DEVELOPMENT

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OPERATIONAL MANUAL

FOR THE

AREA SERVICE PROVIDER (ASP)

April 2021

Reliable water supply services

c. Asset Analysis & Dissemination of Asset Registers

Monitoring of the functionality and mapping of the water sources has always been a part and parcel of the interventions for providing sustainable rural water services. The general objective of the Asset analysis is to identify, catalogue and classify all water systems within a district based on their current needs, level of water service provision, and general timeline for eventual repair and/or replacement of significant components. In order to prioritize which water systems will require intervention, the asset analysis tool assesses three different risk areas to a particular water system:

- **Age of Water System Components**: The Asset Analysis considers the current age and projected lifespan, or "useful life," of key water system components (e.g. intake structure, storage tank, etc.), to assess when certain components would be at risk of failure given their age. The primary information that will need to be collected to assess age-based risk will be the years of construction, installation, or significant rehabilitation (if this has occurred) of specific water system components.

- **Overall Functionality/Level of Service Provided by Water System**: The second risk area the Asset Analysis assesses is the overall level of service the water system provides, including an evaluation of water quantity, quality, consistency and comprehensiveness of water services. If the overall level of service of a particular water system is deficient and its functionality hindered, the system would be classified as having a more elevated risk.

- **Physical State of Water System Components**: Finally, the Asset Analysis assessment will include an evaluation of each key water system component's physical state to assess where certain components would be at risk of failure or limited functionality. Generally, to assess the physical state of different water system components, the survey carried out will ask you to evaluate and classify each component into one of three categories:

Overall, using the above three risk areas, the Asset Analysis helps to flag, prioritize and classify different water systems within a district based on risk and need for repair, and will help provide a foundation for a long-term plan to maintain, repair, augment, or replace a water system when necessary. The information will assist District Local governments who receive conditional grants to plan for O&M of the systems. They will be able to identify risk areas with respect to piped water systems in their district and plan for rectification. The Ministry of Water and Environment and RWSC can then help in providing technical support to the District Local government. In the coming months, the ministry plans to carry out Assets analysis across all districts in the country under the UGIFT programme.

CapManex Cost Determination for systems component repair and replacement

In addition to determining the priority for replacement and repair of WASH system components, Water for People engaged Aqua Consults, a consultancy firm that developed a CapManex determination tool using the collected data. As such costs for repair and replacement of system components have been determined for 12 districts. These costs are helpful in planning and budgeting at National and District level.

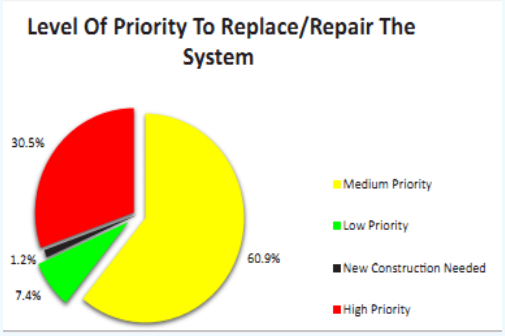
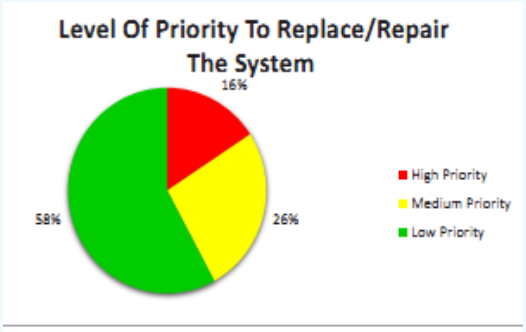
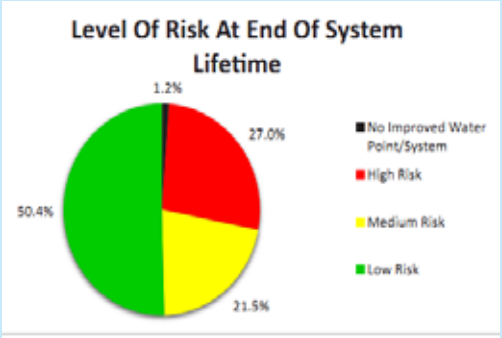
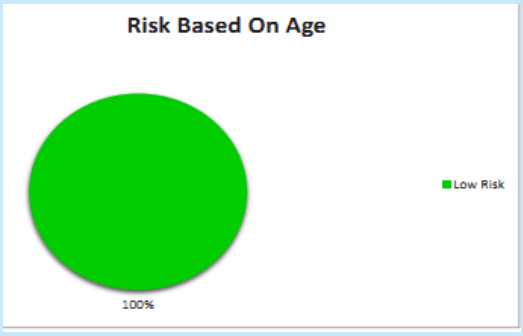
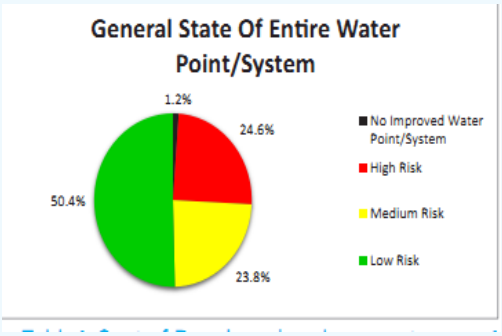
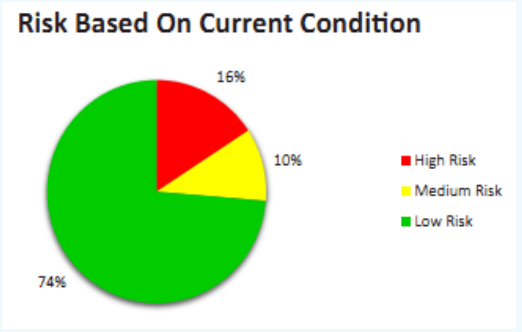
UNICEF and Water for People has since 2018 been supporting the Ministry of Water and Environment through the IOM division to compile district water supply assets inventories. To date 20 districts have developed Asset Registers and CapManex cost determination. The Districts include; refugee host communities supported by UNICEF (Adjumani, Kiryandongo, Kikuube, Isingiro, Madi okollo, obongi, Yumbe) and Kamuli. Water for people supported districts; Masindi, Kibuku, Kabarole, Ntoroko, Kiboga, Kamwengye, Luuka, Napak, Kaliro, Kibuuku and Gomba.

Examples of District WASH systems Assets analysis and CapManex Cost Determination Results

Example of Obongi District Local Government supported to compile its water assets inventory in September 2020. An inventory of all water assets in the district including their functionality status, risk levels due to age and physical state was carried out. It provides information resource for planning and budgeting.

Figure 44: Asset Analysis Findings in Selected Districts

OBONGI DISTRICT

	Point Sources	Piped systems
Point Water Sources	A total of 256-point water sources were visited. 251 of the water sources were protected deep boreholes, while only 5were protected shallow wells.	19 piped water systems were surveyed and data collected for analysis
Priority to repair or replace the water system		
Risk based on Age		
Risk based on general state of the water system		
Costing for Repair and Replace-ment of Point Water sources	Based on remaining life of the system components, a total of UGX 477,000,000 is required for replacement of aged components. •Based on physical state of the components, a total of UGX 1,075,087,500= is required to repair or replace the water system components. Overall UGX 1,552,087,500 is the total CAPMANEX cost for the point water sources.	From the analysis, a total of UGX 2,620,800,000 is required to replace and repair system components. • Based on remaining life of the water system components UGX 2,035,800,000 is required and spread over a period of time as per the table above. • Based on physical state UGX 585,000,000 is required.

viii. Rehabilitation, upgrade and expansion of existing Piped Water Systems

During the FY 2020/21, Nyarwodho GFS in Nebbi district was expanded/ extended by **1,617** connections serving **48,768** persons. The Upper Sipi GFS extension in Kapchorwa district was not extended because no funds.

UNICEF supplemented Ministry of Water and Environment's efforts under the emergency Water, Sanitation and Hygiene by rehabilitating **9** Gravity Flow Systems/ Solar Powered Systems serving **27,600 persons**. **3** solar powered water systems in Isingiro, Adjumani and Kiryandongo were upgraded serving **28,000 persons.** Through the rehabilitation, upgrading and expansion of piped water system, **104,368** persons were served.

ix Engineering designs submitted and approved

Five engineering designs for system in Teso region, Karamoja region, Kasese and West Nile were approved. 87 designs submitted by the District Local Governments to Ministry of Water and Environment were approved.

7.1.1.4 Rural Water and Sanitation Regional Support Centres

There are six Rural Water and Sanitation Regional Support Centres (RWSRCs) based in Fort portal, Soroti, Lira, Mbale, Moroto, Wakiso and Mbarara Cities. These are involved in the planning and developing rural water piped water supplies. RWSRCs supported the implementation of the DWSCG including monitoring compliance with standards, quality assurance and utilization of resources and capacity building. RWSRCs carried out research on rural water supplies operation and maintenance and supported District Local Governments in planning, budgeting, procurement and contract management.

RWSRCs p**repared a proposal on the additional financing for the Water Component under Uganda Intergovernmental Fiscal Transfers Program for Results (IFTRP). The** objective of this program is enhancement of the adequacy and equity of fiscal transfers to Local Governments and improving fiscal management of resources for service delivery by LGs. Effective from the FY 2020/21, the program is providing additional financing to the LGs up to a tune of UGX 150 billion over a period of three years. During the FY 2020/21, RWSRSCs participated in the Joint monitoring of UGIFT Projects to assess the functionality and completeness of LG government Water and Environment programs.

Key interventions included updating and disseminating Sector Grant and Budget Guidelines; back stopping LGs in Environment, Social Safe guards and Health risks; and participating in development of technical manuals, tools and guidelines. Participated in the review of the water and environment functions to strengthen guidance for water and environmental management at LG level; popularized the Operation and Maintenance Framework for Rural Water Infrastructure in five regional centres. Developed Performance Improvement Plans for poorly performing local governments; and trained 20 District Water Office staff in asset analysis to aid the development of the LG Database.

7.1.1.5 Appropriate Technology Centre for Water and Sanitation

The ATC located in Mukono is mandated to address technological and capacity challenges in the water and environment sector through applied research, skilling and promotion of appropriate technologies. With an expanded mandate, the Centre mainly focuses on applied research and innovative technologies in the areas of; water development, water resources management, sustainable environment management, sanitation and climate change resilience. In the FY 2020/21, the operations of Appropriate Technology Centre (ATC) have been strengthened. The following outputs were registered in FY 2020/21:

The ATC located in Mukono is mandated to address technological and capacity challenges in the water and environment sector through applied research, skilling and promotion of appropriate technologies. With an expanded mandate, the Centre mainly focuses on applied research and innovative technologies in the areas of; water development, water resources management, sustainable environment management, sanitation and climate change resilience. For the financial year 2020/21, the Centre accomplished the following tasks;

Rapid Assessment

Two rapid assessments were carried out i.e., one on the sector related challenges and the other specifically on community destruction associated with fluvial flooding due to rising water levels in major lakes in Uganda.

Community destruction associated with fluvial flooding: This assessment was carried in nine (09) districts i.e., Mayuge, Masaka, Wakiso, Kayunga, Nakasongola, Alebtong, Buliisa and Ntoroko, representing upstream, midstream and downstream districts. The objectives of the assessment included; i) Examining community knowledge about the causes, ii) Examine effects on livelihoods, water and environment infrastructure, iii) Benchmark stakeholders' initiatives to improve WasH conditions after flood disaster and iv) Evaluate suitability of community coping mechanisms. It was anticipated that results of these assessments would inform the needed technical interventions to minimize effects of future catastrophes of similar nature.

Results of the assessment indicated that; water levels rose gradually and was first observed in downstream district of Ntoroko in August 2019. In the upstream districts i.e., Wakiso, Masaka and Mayuge, the water level rise was first noticed between November 2019 and February 2020. Last to observe the rising water levels were the middle stream districts i.e., Kayunga and Nakasongola that did so between March to May 2020. Though Buliisa is categorized as a downstream district, it observed the water level rise at the same time with middle stream districts.

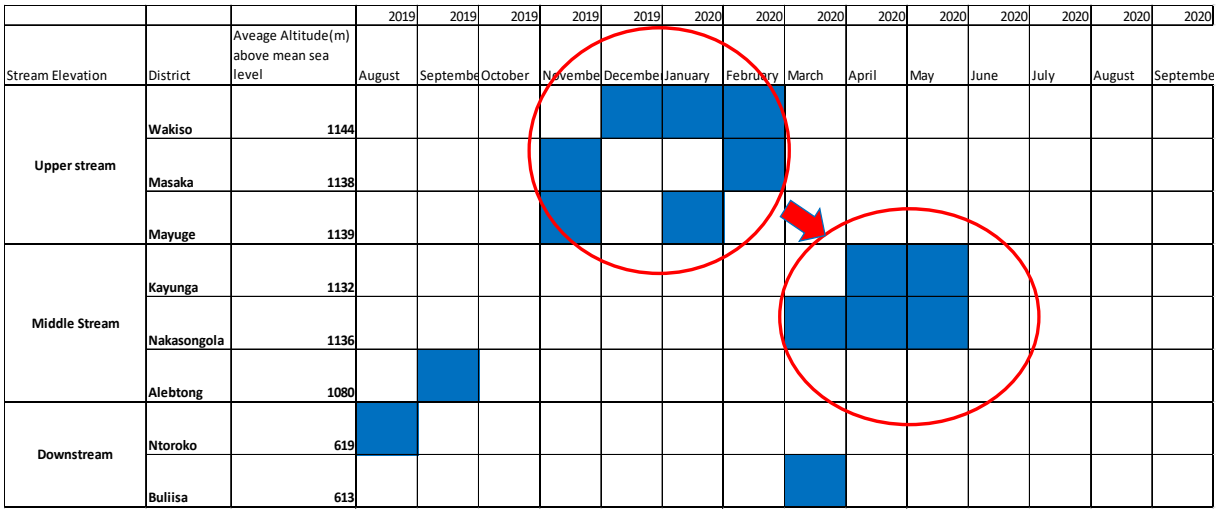


Figure 45: Period when Community experienced rise in water level

About the possible causes, community members alluded to destructive human activities in the catchment zones, increased rainfall intensity, inflow from other water bodies within the region, cyclic historical episode and melting of glaciers among others. As a result of the attributed floods,

water supply and sanitation facilities were sub-merged and access completely cut off – rendered inaccessible without regard to technology. Solid waste was washed into water bodies, built environment and gardens were destroyed, exotic tree species planted in the catchment dried up and ecological shift was observed (i.e., aquatic life -fish came in closest contact with settlement).

Emergency support given to the affected communities was mainly in form of temporary shelter, hand hygiene supplies, point of use water purification chlorine tablets and food items. There were not much tangible interventions in terms of hard infrastructure for water supply and sanitation services. By and large, community coping mechanisms were temporary and not sustainable. Community members accepted the tragedy and opted to keep retreating to relatively drier places as they wait for water to recede. Using historical evidence, they were quite sure that it would recede within 5 years as it did in 1962 and early 1990s.

For water supply, communities had no option but to used water directly from the lakes and many were using chlorine tablets from purifying drinking water. For sanitation on the other hand, communities either practice open defecation – directly dropping feces in the lake or look for nearby toilet facilities that survived being sub-merged. In Kanara sub-county Ntoroko district for example, more than 3000 displaced people were using the pit latrine at the health Centre and this was almost.

The study thus found it fitting to recommend i) construction of gray and green infrastructure combined in the flood affected areas to provide an effective buffer zone between settlements and water bodies and also to shield the communities from extreme shocks resulting from catastrophes relating to rising water levels. ii) Complete relocation of people from catchment zones to allow for regeneration and recovery of the depleted ecological systems iii) promote alternative livelihoods that upheld the concept and principles of circular economy to reduce overreliance on destructive extraction from environment.

Sector Related Challenges: A nation-wide rapid assessment of sector related challenges was carried out in 102 districts. This was done in consultations with the respective district water and health offices. Regions covered included; West Nile, Lango, Acholi, Mid-Central, Ankole, Teso, Bukedi, Kigezi, Busoga, parts of Rwenzori and Central regions. This assessment was planned to create a data base as well as inform future technological interventions in the respective districts. From the study, it was established that; Pollution, Low ground water potential, minerals concentration in ground water above acceptable standards and wetland encroachment are the four leading water related challenges compromising supply and access to safe water in Uganda.

Pollution is attributed to poor solid waste management, faecal disposal, agric-chemicals and poor industrial effluent disposal. Minerals in concentrations above acceptable in ground water mainly include iron and salts. Other ground water quality issues identified included water hardness, presence of manganese, oil, worms and low pH. Catchment is encroached purposely for agriculture, industrial purposes and settlement. On the sanitation front, the four leading challenges are; high water table, loose and collapsing soils, rock grounds, and poor attitude all which compromise efforts to achieve the desired universal sanitation goals. For environment, key challenges included deforestation, poor solid waste management, catchment encroachment and poor mining methods.

Nation-wide Stock Taking

A stock of water, sanitation, hygiene and environment technologies in Uganda and all Non-Government Organizations working in the sector was carried out. This exercise was carried out in 102 districts covering Regions covered included; West Nile, Lango, Acholi, Mid-Central, Ankole, Teso, Bukedi, Kigezi, Busoga, parts of Rwenzori and Central regions. the purpose of this exercise was to generate data for creation of an online technologies data base, to benchmark which technologies are working well, those that are failing and the reasons for.

Technologies: It was established that almost the same technologies are used everywhere in the country i.e., for water supply, the main technologies are; Piped water supply system, Rainwater harvesting and Deep boreholes. Much as protected springs and shallow wells are criticized for compromised water quality issues, they are widely used in all regions with faith-based organizations and NGOs championing their promotion. About 44.1% of the districts reported no technologies for large scale purification/treatment of water before distribution.

The rest report a mix of technologies used i.e., open oxidation and sedimentation, gravity driven membrane, online chlorine dosing, Sedimentation, filtration and chlorination and iron removal plant. Only Bukwo reported using the Automated Valveless Gravity Filter (AVGF) on their largest gravity based piped water supply system and Namayingo reported using a compact SAAFTH-Aqua-O based water treatment unit fitted with a modern mineral balancing technology. For point of use technologies, 66.7% districts reported promoting water boiling at household level. Other methods promoted include chlorination, filtration and solar disinfection (SODIS) (figure below). Mostly point of use water treatment/purification technologies are promoted by NGOs.

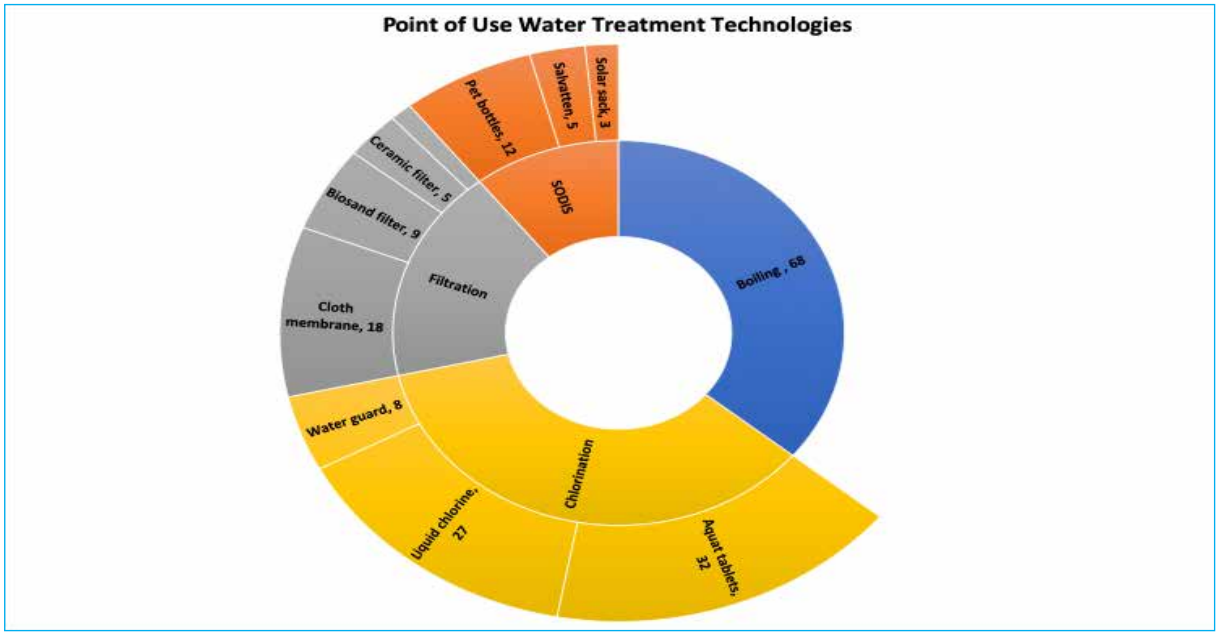


Figure 46: Points of use water treatment technologies

For water for production, technologies commonly used include; Valley tanks, valley dams, production wells, ponds, rock catchment, abstraction of surface water and in some cases tapping water from the mainstream piped water supply system. About 26.5% of the districts did not report any technology promoted for supplying water for production.

Commonest faecal sludge containment technologies commonly used include; unlined pit latrines, water borne toilets, ecological sanitation toilets and lined pit latrines (figure below).

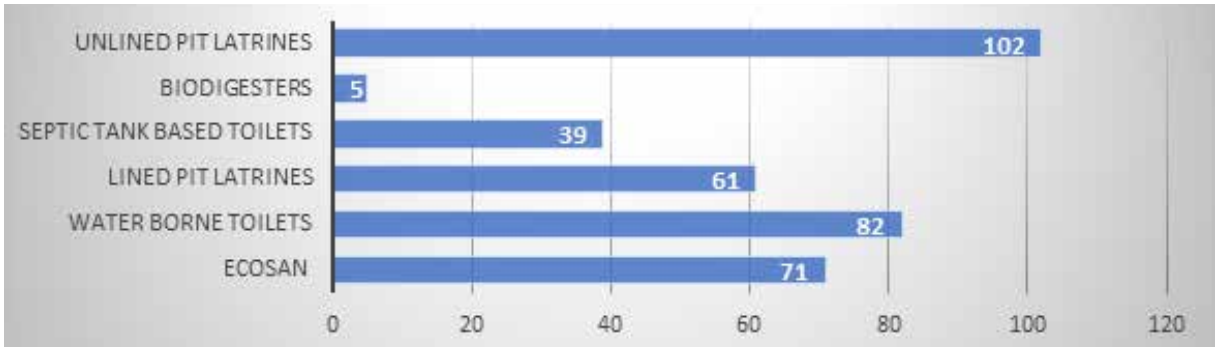


Figure 47: Faecal Sludge Containment technologies

Crude faecal sludge burial is the commonest faecal sludge management method used (figure below). This may not be environmentally viable and thus need for effective intervention.

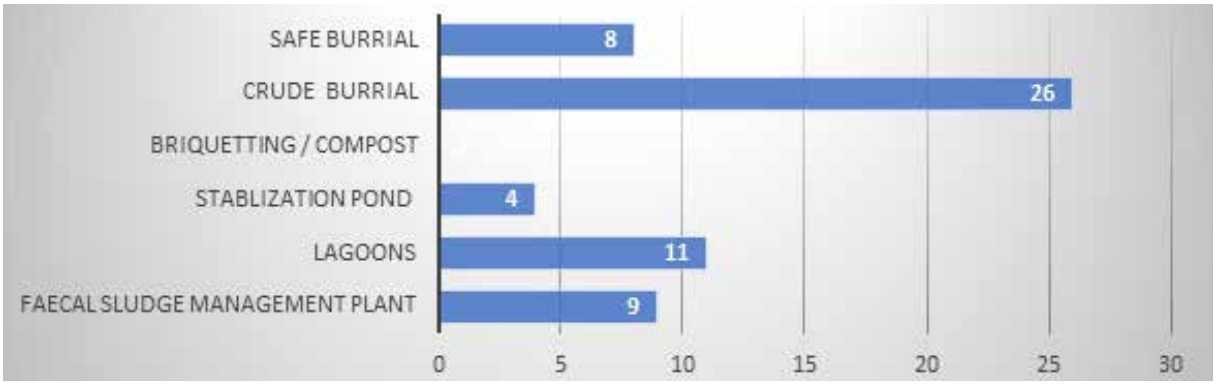


Figure 48: Faecal sludge management technologies

Other technologies used in the districts for upholding environmental sanitation are presented in the figure below. From the figure, it is apparent that open dumping of solid waste is practiced in all the 102 districts covered and this is a cause for alarm given the grave associated negative effects.

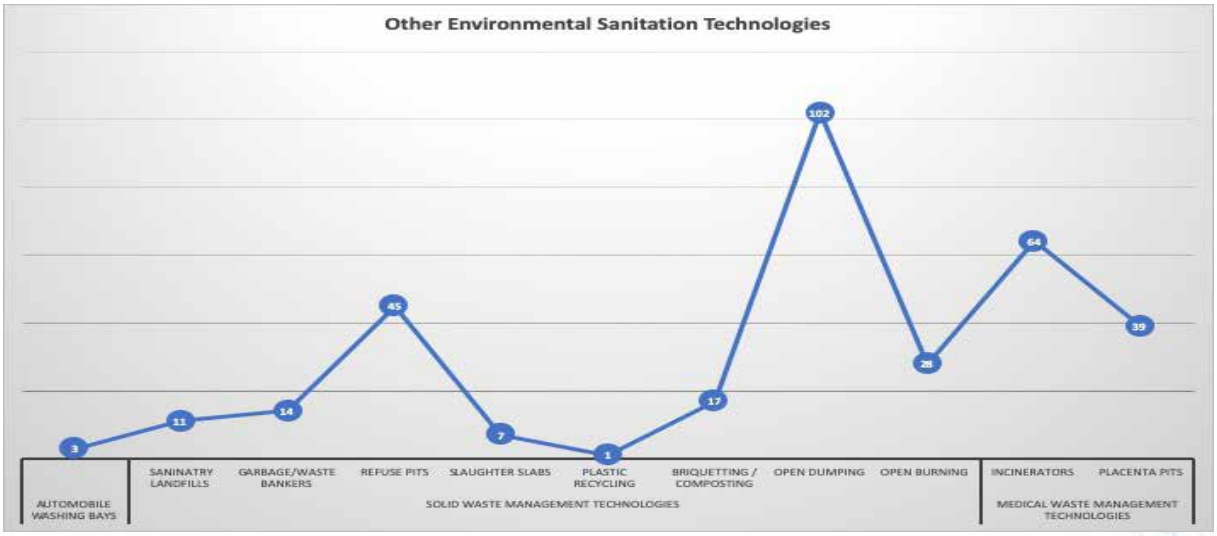


Figure 49: Other environment sanitation technologies

Technologies promoted for alternative energy include; use of locally produced biogas, biomass briquetting, solar energy and use of energy saving stoves. These are scantly promoted in the respective districts mainly by NGOs.

Amidst environmental degradation, there are efforts towards environmental repair. Among these are; afforestation and reforestation, erosion control, forest and wetland demarcation (figure below). However, effectiveness of these measures is seemingly too low compared to the damage at hand. There is need to implement more effective engineered solutions and support them with translational law enforcement.

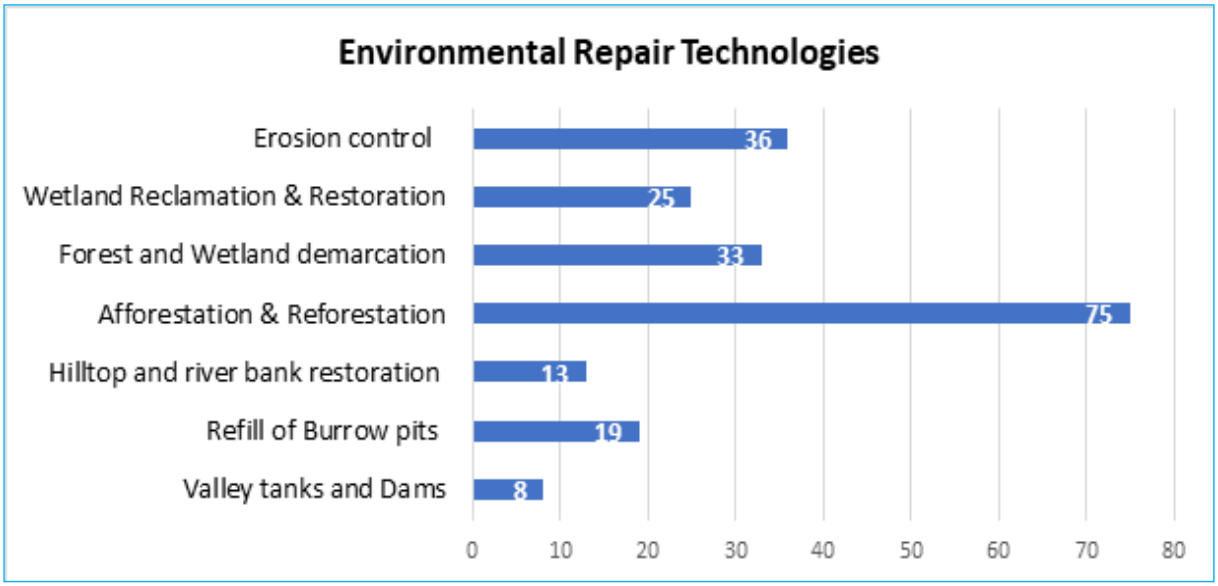


Figure 50: Environment repair technologies

Technologies Profiling

Technologies profiled in the gone financial year include; four (4) water purification/treatment technologies, one (1) alternative energy and one (1) energy saving technology. Specifically, the compact water treatment Unit, the mineral balancing technology, alkaline water purifier, LADIS water purifier, parabolic solar cooker and jikokoa stove. Laboratory tests with focus on both microbial and physio-chemical properties were carried out for technologies intended to improve water quality and for the other technologies, user interface assessment were carried out. From the laboratory assessment, only one out of the four technologies profiled met the water quality national standards for drinking water.

The rest failed to pass mainly on the microbial parameters. Results were discussed with technology promoters who agreed to improve efficacy of their technologies before promoting them for community use. Though it may not serve as a stand-alone, the alternative energy technology profiled was very handy and would provide a very good alternative, however it is associated with some health and safety risks that ought to be addressed before promotion in the community. The Jikokoa energy saving stove met the expected standards and the promoters were given a green light for promotion. However, to ensure effective update and sustainability, the promoter was encouraged to strengthen the service chain through skilling local communities to produce the briquettes used in the stove and do minor repairs on the technology in case of breakdown.

Stakeholders skilling

The Centre carried out three hands-on trainings for technology end-users and community masons who were 60% women. The trainings were on, construction, operation and maintenance of biogas-based toilets, low cost fossa alterna toilets and liquid soap.

Continuation of ongoing projects

Continuous projects at the Centre include; innovative Solid waste management, continuous development and promotion of Hand hygiene technologies, menstrual hygiene technologies, Vermiculture and development of technology user guides/manuals on a rolling basis. In this gone financial year, the Centre fabricated and distributed 638 mobile inclusive handwashing facilities. The Centre received financial support from JICA and WaterAid. The facilities were distributed in the districts of Mityana, Kasanda, Mubende, Kiboga, Kyankwanzi, Gomba, Mpigi, Butambala, Mukono, Wakiso and Kampala. On the same note, in partnership with UWASNET funded by WaterAid, the Centre constructed an inclusive institutional hand washing station at Vurra boarder point in Arua.

7.1.1.6 Challenges and Recommendations

i. COVID-19 pandemic greatly affected progress of planned interventions mainly because there was no supply of goods and services. Some Contractors' key staffs were grounded abroad and some materials could not be imported.

ii. There are capacity gaps within the District Local Governments leading to underutilization of the District Water and Sanitation Development Conditional Grant. This challenge has been exacerbated by lack of District Water Officers in about 12 districts. Where there are District Water Officers, they double as District Engineers in about 15 districts.

iii. In regard to Operation and Maintenance of Rural Water Supplies, the c**hallenges identified included the following;**

- Systemic constraints and limitations in the planning and financing processes for Operation and Maintenance of rural water supply infrastructure such as the planning and budgeting cycle;
- Nonfunctional supply chains and quality control for spare parts leading to high costs for spare parts;
- Lack of effective framework to facilitate meaning-full engagement of HPMAs and HPMs. As a result, HPMAs and HPMs are not meaningfully engaged to support maintenance of water supplies.

To address these challenges, the following recommendations are proposed:

i. Enhance financing mechanisms of the RWSRCs to ensure continuous Technical Support to the district local governments; to minimize the capacity gaps in planning, budgeting, procurement, implementation and O&M of water facilities.

ii. Continuous engagement with Ministry of Finance, Planning and Economic Development to increase the water grant.

iii. A multiple approach to water supply system to ensure a water source per village through large gravity flow schemes, solar powered mini-piped water schemes, boreholes,

rainwater harvesting and self-supply in water stressed areas as this approach will lead to a higher per capita cost, and therefore needs more financial resources.

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.

7.1.2 URBAN WATER SUPPLY

7.1.2.1 Urban Water Outcome Indicators

Urban population within access of an improved water source (200m)

The Department of Urban Water Supply and Sewerage during the financial year 2020/2021 increased performance on Water Access from 70.5% to 71.6%. The Annual target of 74.8% was not achieved because of the interference of the COVID-19 Pandemic that affected completion of the planned interventions. Over 10. Piped water supply and sanitation systems are still under construction, and 7. are under Procurement. The improvement from 70.5% to 71.6% was based on the increase in the number of piped Water Supply and Sanitation Systems constructed and completed from 16.

Piped Water Supply and Sanitation Systems for the previous year and the 26. Piped Water Supply and Sanitation Systems for the current period under reporting in the small towns. The target of the 20. Piped Water Supply and Sanitation Systems was achieved far beyond by 6. piped Water Supply and Sanitation systems. A target of 26.334 million people was planned for intervention during the year and 18.865 million people were served through the 26 Piped Water Supply and Sanitation Systems constructed to completion in the small towns and 5 in the large towns. Table 33 shows trends in access to safe water in urban areas.

Table 33: Water Access performance for the period 2010/2011 – 2020/2011

		10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
NWSC	Total Population (millions)	3.24	3.38	3.84	4.42	4.9	6.64	8.0	9.7	16.8	14.3	23.365
	Population served (Millions)	2.43	2.61	2.99	3.38	3.72	5.44	6.3	8.1	13.7	10.6	18.104
	%coverage	75%	77%	78%	77%	76%	82%	79%	84%	81.6%	74%	78%
MWE-Small Towns / RGCs	Total Population (millions)	2.38	2.49	2.61	2.23	2.07	1.69	1.50	1.6	1.543	491,197	2.969
	Population served (Millions)	1.28	1.42	1.52	1.46	1.38	0.45	0.44	0.57	0.733	275,678	0.761
New Schemes	%coverage	54%	57%	58%	65%	67%	27%	29%	36%	55.9.%	69.7%	25.6%
	%coverage											94.4%
Total Urban	Total Population (millions)	5.62	5.87	6.45	6.65	6.97	8.34	9.4	11.3	18.304	491,197	26.334
	Population served (Millions)	3.71	4.04	4.51	4.84	5.11	5.89	6.6	8.7	14.471	275,678	18.865
	%coverage	66	69	70	73	73	71	71	77	79.1	70.5	71.6

Upgrade Water Supply Systems in Large Towns

The Corporation currently operates in **258 towns** across **97 districts** serving approximately **18 million people** with an estimated service coverage of **78%.** This represents **97%** of the **HCDP** target of **265** service towns and a **15 %** growth in the number of people served from **15.7 million** as at June 2020 to **18.1 million** as at June 2021. The growth is attributed to increase in demand for NWSC services and increase in the target Population by **4%** from **22.5 million** to **23.3 million** people as at June 2021. Table 34 shows trends in safe water coverage in large towns.

Table 34: Trends in safe water coverage in large towns

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2020/21	Target Perf.
Number of Service Areas	218	237	253	258	258	265	97%
Target Population (No. of People)	8,002,874	14,247,466	14,247,466	22,545,177	23,365,821	23,365,821	100%
Population Served (No. of People)	6,310,824	10,590,910	10,590,910	15,703,934	18,104,072	19,627,290	92%
Water Service Coverage (%)	79%	74%	74%	70%	78%	84%	93%

During the FY 2020/21, the Corporation's water production capacity increased by **89,625 m^3 / day** from to **465,091 m^3** as at June 2020 to **554,716 m^3** at June 2021. The Corporation surpassed the target of **5,200 m^3/day**. The growth in the Corporations production capacity is attributed to implementation of various Capital development Projects in various Areas of Operation and Water Supply Stabilization Plans under the SCAP 100 Project which entailed implementation of quick win investments in water production infrastructure aimed at boosting water production and improving water supply reliability in the various NWSC Areas of Operation. Key undertakings of WSSPs include; installation of water pumps, replacement of booster pumps, drilling of boreholes, rehabilitation of transmission and distribution lines, construction of booster stations, construction of reservoirs and installation of alternative sources of power for continuous pumpage. Key among the Projects completed included; Kapchorwa Water Supply Project, Water Management and Development Project (WMDP)-Gulu and Fort Portal Water Production Improvements.

The volume of water produced consequently, grew by **3%** from **381,819 m^3/day** in the FY 2019/20 to **394,809** in the review period. Table 35 shows growth in water production capacity.

Table 35: Growth in Water Production Capacity for the FY 2016/17 – 2020/21

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2021	Target Perf.
Production Capacity (m^3/day)	417,884	459,170	463,284	465,091	554,716	470,291	118%
Water Produced (m^3/day)	330,785	346,602	369,644	381,819	394,809	406,575	97%
Growth in Water Production	-	5%	7%	3%	3%	6%	170%

Rehabilitation / Upgrade of the existing water supply in small towns:

Not planned however some small works were done in the 6 Regional Umbrellas of Water and Sanitation. 300 target is being planned for intervention during the next financial year. However, during the execution of the Mandate 8 Piped Water Supply and Sanitation Systems of Kayunga-Busana Phase 1, Kassanda, Kambuga, Alerek, Moyo, Ayillo II, Bidi-Bidi Zone V, Olijobo/Tika Refugee settlement systems were rehabilitated/ upgraded.

The Upgrading of the piped water supply and sanitation systems was not planned for intervention during the reporting period. However, some works on upgrade were done for the Water Supply and Sanitation systems of Alerek, Moyo, Kambuga, Ayillo II, Olijobo/Tika, Bidi-bidi Zone V, Kayunga I and Kassanda under regional WSDFs and 2,902 kilo meters as a result of extensions implemented under the 6 Regional Umbrellas of Water and Sanitation. A total of 8,231kilometres, 7,463 additional connections and 300 PSPs were the resultant outputs.

People with Access to Pro-poor facilities and regulatory water supply campaigns

Pro-poor facilities are the Public Stand Posts and the Institutional connections constructed for people to access water. These facilities are accessed at a cost less or equal to that at the yard tap / house connection.

In small towns 207 Public Stand Posts and 23 Institutional Connections were constructed. The total of 230 Pro-poor facilities were constructed in the small towns serving an additional population of 46,000 People of the small towns. The Annual target of 100 Connections was superseded by 130 Indicating a performance of 130%

In large towns during the Financial Year 2020/21, the Corporation installed **3,793** new PSPs bringing the total number of PSPs to **24,867.** This denotes an achievement of **190%** of the HCDP target of **2,000 PSPs** for the FY 2020/21.Table 36 shows trends in water connections in large towns.

Table 36: Trends in water connections in large towns

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2021	Target Perf.
New PSPs/Kiosks	1,087	1,503	3,550	4,429	3,793	2,000	190%
Total PSPs/Kiosks	10,424	11,927	15,855	21,615	25,393	23,615	108%
Active PSPs	85%	85%	95%	88%	83%	87%	95%

The annual target of 3,000 Pro-poor facilities was surpassed by 7,93 Pro-poor facilities indicating a performance of over 26.4% above the target.

Percentage of villages with access to safe water supply

Compared to the previous performance of 534 Villages and the 613 Villages served during the current reporting period. The increase in the number of villages was as a result of an increase in the towns constructed to completion. The villages under large towns being served during the reporting period indicated an overall 8,811 Villages. The performance in small towns is shown in Table 37.

Table 37: Villages served in small towns (2019 – 2021)

Year	No. of Additional Villages Served	Completed Towns
2021	613	26
2020	534	16
2019	453	12

Functionality rates of urban water systems

The functionality of the Piped Water Supply and Sanitation Systems performance declined from 94% to 90.2%. The decline was due to the overrun period where the rate at which monitoring and

timeline checking on the piped water supply systems was affected by the COVID – 19 Pandemic. Table 38 comparing functionality rate in the past 5 years.

Table 38: comparing functionality for last five years

Year	Functionality (%)
2021	90.2
2020	94.0
2019	94.3

In additional although the targets never indicated any figure for small towns, it is a routine implementation approach of the Umbrellas of Water and Sanitation that have remarkable 7,621 Kilometres including an additional 2,902 kilometres between the year 2017-2021. As a contribution to functionality, the 6 Umbrellas of Water and Sanitation have as well contributed 70,140 Metered Connections.

The rate at which the functionality has been improving year after year was this year affected by the COVID – 19 pandemic. The Umbrella of Water and Sanitation during the pandemic had to cut down the monitoring activities including both the frequency and the number of staff on ground to undertake the functionality monitoring. It is important that we as a sector have learn from this and thus suggest introduction and development of remote monitoring particularly on the functionality parameters.

Rehabilitation / Upgrade of the existing water supply in small towns

Not planned however some small works were done in the 6 Regional Umbrellas of Water and Sanitation. 300 target is being planned for intervention during the next financial year. However, during the execution of the Mandate 8 Piped Water Supply and Sanitation Systems of Kayunga-Busana Phase 1, Kassanda, Kambuga, Alerek, Moyo, Ayillo II, Bidi-Bidi Zone V, Olijobo/Tika Refugee settlement systems were rehabilitated/ upgraded.

Rehabilitation / Upgrade of the existing water supply in large towns

Water Management and Development Project (WMDP)-Gulu which included refurbishment and upgrading of the current Water Treatment Plant to 10,000 m3/day, construction of a new intake and Upgrading and expansion of the existing Wastewater Treatment Plant. This has improved water supply and sewerage services in Gulu City and surrounding areas.

Upgrade of Lira Water Supply System which involved expansion of the distribution network by 17km and rehabilitation of the water supply system which included installation of Raw Water Pumps for Kwania Intake, installation of new 300KVA Standby Generators for the Upgraded Booster Pump station at Angwata and installation of 300KVA Standby Generator for Kacungu Water Treatment Plant.

The target of 5,200 Piped Water supply and Sanitation System were planned for upgrade however this was not achieved because of the COVID-19 pandemic and as well it was sought as an over ambitious target to be achieved within a year comparing the targeted outputs and the planned Budget. 2 Piped Water Supply and Sanitation Systems in the large towns were upgraded.

Expansion of Water Pipe Network in large towns

During the FY 2020/21, the Corporation laid 444 Km of new water mains, 30% of the HCDP target of 1,500 Km. The total pipe network as at June 2021 stood at 20,495 Km. The performance was partly affected by Covid-19 lockdown effects that affected the Corporation's business and available funding to effectively implement the SCAP 100 project. However, with the easing of the restrictions, the Corporation anticipates that its business opportunities will be widened and it will be able to improve performance.

During the FY 2020/21, the Corporation made 42,998 new household water connections, which represents 107% of the HCDP target of 40,000. The total number of household connections as at June 2021 was 627,234 of which 88% were active. The Corporation recorded a reduction of 12% in the number of household connections installed during the FY 2020/21 partly due to lockdown effects that limited access with various customers due to covid-19 restrictions. The Corporation anticipates that with the easing of the covid-19 restrictions and opening up of the economy, its business opportunities will be widened and the Corporation will be able to improve the level of connectivity.

Table 39: Status of Household Connections as at June 2021

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2021	Target Perf.
New Household Connections	44,384	52,171	56,126	48,681	42,998	40,000	107%
Total Household Connections	427,258	479,429	535,555	535,555	627,234	585,555	107%
Active Household Connections	91%	91%	89%	87%	88%	87%	101%

Population using safely managed drinking water services located at premises-

Target of 24% Safely Managed Water

This parameter is calculated by %age on premises*percentage functionality*copying with water quality.

The safely managed safe drinking water was realized at 67.3% (Functionality*Access during the year 2020/2021 compared to the previous performance of 57.11% for the year 2019/2020.

Safely managed water scored at 67.3%% (Functionality (94%) * %age Access (71.6%) during the year 2019/2020 compared to 57% during 2018/2019. The slight improvement was on the emphasis increased to establish yard tap connections compared to establishment of the Public Stan Posts. The population using safely managed drinking was Increased through number of household connection in Small Towns (number) constructed which were realised at 3,659 In small Towns in the 24 Completed piped water supply and sanitation systems.

The Population using safely managed drinking water in large towns was achieved with construction of 5,351 Yard tap connections compared to 4,032 achieved during the previous financial year. The target of the 50,000 Connections was achieved / was not achieved to several reasons including COVID-19.

The Umbrellas of Water and Sanitation Contributed to safely managed dirking water through 6,850 additional Connections. Table 40 shows performance of safely managed water supply.

Table 40: performance of Safely Managed Water Supply

Year	Safely Managed (%)
2021	67.30
2020	57.11
2019	20.00

Increased number of Household Connections in small Towns:
The population as per the performance of the current year is being served through 5,351 Yard tap Connections, 207 Public Stand Posts and 23 Institutional Connections in the small towns.
Additional connection in small towns were as well achieved through extensions constructed and implemented by the 6 Regional Umbrellas of Water and Sanitation. These contributed an additional 6,850 connections.

A target of 20,000 Connections compared to the achievement of 13,044 Connections indication a performance of 65.22%.

Increased number of Household Connections in large Towns:

The NWSC in the large towns during the year constructed 42,988 Connections compared to the 50,000 Connections. A performance of 86.1% was realised. In additional NWSC in large towns constructed 3,793 PSPs.

e) Safe Water Supply Master plan Developed

The safe Water Supply improvement plans inclusive of Enhancement of the Monitoring and Evaluation, Commercial services, Visibility in the 6 Regions, Covid-19 Response plans for Small Towns and Large Towns are part of the Safe Water Supply Master Plans. This output was not planned for the reporting period however some preliminary plans have been affected. Plans for establishment of the Robust M&E System to which TOR have been developed. Commercial Services interventions has already for which the look out of the status in the 6 Regions has been established. COVID-19 Response plans development is underway.

Number of Household Sanitation enforcement and community follow up campaigns conducted including sensitizations for capacity improvement of water and sanitation committees

The performance target on the indicator was not part of the planning during the reporting period. However, the implementation of the piped water supply and sanitation systems in the constructed 26 Systems considered for capacity improvement of the water and sanitation committees.

Population of people with access to basic Sanitation in Urban Areas (Improved Toilets not shared with other households.

The Annual target for the indicator was 90%

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

Percentage of population using basic sanitation in urban areas stands at 46.2% in FY2020/2021 44.8% from FY2019/20. It should be noted that Percentage of population accessing any form of sanitation is 89.7% as compared to 89.1% in last FY 2019/2020.

Social behaviour change communication for construction and use of improved sanitation facilities in urban areas

The communication for construction and uses of improved sanitation facilities in urban areas was conducted across the Country by the WSDFs, Umbrellas of Water and Sanitation and the MWE Main stream project interventions. These were conducted through trainings, radio and TV talk shows, Sanitation mobilization campaigns, community mobilization and sensitization campaigns. The campaigns were conducted in 129 Rural growth centres indication a performance of 59.2% of the 218 Urban centres targeted. The variance was as a result of the Covid-19 pandemic where few staff would go to the regions for the activities and this was conducted scientifically. The activity was implemented in both implementation and design areas.

Population using safely managed Sanitation Service. – Annual target of 38%

Safely Managed Sanitation in urban areas

Safely managed sanitation is defined as the "percentage of the population using improved sanitation facilities not shared where excreta is safely disposed insitu or transported and treated off site" and computed as {(A+B+C)/D}*100 A denoting total household population disposing safely insitu, B- total household population reported to have emptied and transported excreta by gulpers/cesspool emptier, C- total household population using sanitation facilities connected to a sewer system, and D- total household population of District i.e. RGCs and Sub-counties.

Percentage of population using safely managed sanitation increased to 39.6% up from 38.9% which is attributed to the intensified sensitization and sanitation marketing strategies for emptying services available in the regions by Umbrellas of Water and Sanitation under Ministry of Water and Environment and other sector players/ partners hence raising public awareness.

Construction of Feacal Sludge Management process, transport and appropriate sewerage infrastructure in small towns.

The Small Towns Water and Sanitation intervention constructed FSM in the small towns of Kamuli, Dzaipi, Nakasongola to completion and designed the FSM in the towns of Nakapirpiirit, Kagadi, Buliisa, Buikwe, Dokolo, Kyenjojo, Kigumba, Waobulenzi, Kira, Kyazanaga, Kanungu, Moyo, Patongo, Adjumani, Namutumba and Kapchorwa. The Annual performance here was 30%. The low performance was as a result of the Pandemic which caused the delays in processes like land identifications and acquisition, completion of the Designs as well as flow of financial resources. The un usual performance was as well because of the effect of the COVID-19 pandemic which affected the recruited consultant to move on with the tasks during the lock down period.

Access to Faecal Sludge Management Services

A nationwide sector assessment supported by World Bank Water and Sanitation Program (WSP) in 2014, identified fifty (50) potential clusters of small towns to be provided with shared FS treatment/disposal infrastructure to help improve faecal sludge (FS) service chain management across Uganda. To date, less than 40% of the number of clustered towns has been provided with the needed treatment facilities but without improved collection capacity. The Ministry is therefore

directing its efforts towards improving the situation by providing additional treatment facilities and improving collection capacity to ensure universal access to all small towns' dwellers by 2030, in line with Government development aspirations and the Sustainable Development Goals (SDGs).

Construction of Feacal Sludge Management facilities and appropriate sewerage infrastructure in small towns

The Small Towns Water and Sanitation sub sector has constructed FSM in the small towns of Kamuli, Dzaipi, Nakasongola to completion and designed the FSM facilities in the towns of Wobulenzi, Kiira Municipality, Kigumba TC, Kanungu, Kyazanga, Namutumba, Kapchorwa,Patongo, Moyo, Nebbi Nakapirpiirit, Buliisa. Delays in completion of the designs was caused by the COVID-19 pandemic which affected the recruited consultant to move on with the tasks during the lock down period.
In addition, the existing potential for reuse is not adequately explored to maximize the related economic benefits. Several initiatives on FS reuse exist, but are not coordinated to derive synergies and draw lessons to improve performance. Reuse benefits can contribute to part recovery of operation and maintenance costs, and creation of job opportunities to improve livelihoods, particularly for the urban poor. A systematic and coordinated assessment of FS reuse market potential, together with development of strategies for promotion, marketing and sales would provide the opportunity to maximize related economic benefits.

To ensure sustainable delivery of infrastructure and services along the entire sanitation value chain (containment, collection, treatment and reuse), it is necessary that each link along the chain be developed based on appropriate business models, supported by relevant and effective regulation and institutions. Given a supportive environment, and based on experience in Kampala, this is likely to attract private sector participation and financing to accelerate delivery along the chain, once the business models are demonstrable and can result in achieving some margin of profit.

At the request of the Government of Uganda, the African Water Facility has provided funding support for consultancy services to undertake stakeholder consultations and prepare feasibility studies, detailed designs and investment plans for faecal sludge management in un-sewered urban centres in Uganda. The results of the studies and designs will inform stakeholders and development partners on the investments required, and will help mobilize resources to finance related infrastructure and services. The Towns under design are as Shown in the Table 41.

Table 41: Feasibility studies and detailed designs for faecal Sludge Treatment Plants (FSTPs)

Town/Proposed location of FSTP	Cluster Towns to be served	Region	Status
Wobulenzi	Wobulenzi, Luwero, Bombo, Semuto, Zirobwe, Busiika, Bamunanika, Kiwoko	Central	Designs completed
Kiira Municipality	Kiira, Kasangatti, Namugongo, Seeta, Kyaliwajala		Completed
Kigumba TC	Kigumba, Bweyale, Kiryandongo, Katulikire		Completed
Kanungu	Kanungu, Kihiihi, Katete, Kambuga, Butogota	South West	Completed
Kyazanga	Kyazanga, Kinoni, Mbirizi Lyantonde		Completed
Namutumba	Namutumba, Kaliro, Bugiri, Idudi, Namungalwe	East	Completed
Kapchorwa	Kapchorwa, Sipi, Binyiny		On-going
Patongo	Kalongo, Pader, Patongo	North	On-going
Moyo	Moyo, Laropi, Lefori, Arra / Dufile		On-going
Nebbi	Nebbi, Paidha, Pakwach		On-going

Construction, Development, Improvement of Sewerage infrastructure, support to transport equipment and transfer stations in large towns

The entire interventional performance requires a bigger consideration of New FSM treatment plants, upgrading of waste water treatment plants, provision of emptier and small trucks, development of transfer stations, and construction of public toilets. These were not planned for during the reporting period. Nevertheless, some little work was done to these areas of contribution:

New Faecal Sludge Treatment Plants

During the FY 2020/21, the Corporation completed the construction of the Nakivubo Wastewater Treatment Plant under the Lake Victoria Protection Project (LVP II) which comprises a faecal sludge treatment system and conventional sewage treatment system. The Plant is under defect liability period (testing).

Upgrade Waste Water Treatment Plants

The Corporation undertook a number of capital projects aimed at improving sanitation in the various Areas. Key among the Projects undertaken include;

Fort Portal Package Sewage Treatment Plant: The Project was aimed at addressing wastewater disposal challenges in the town Fort Portal. The key milestone was the design and installation of a Package Sewage Treatment Plant. The Project was completed

Projects under Implementation

Situation in Kampala and the surrounding Areas. The key milestones included; construction of Nakivubo Waste Water Treatment Plant at Bugolobi, Kinawataka Pre-treatment and Pumping Station and construction of Pumping Mains from Kinawataka Sewerage System to Nakivubo Sewerage System.

Projects at Procurement, Design, And Planning Stage (Inception)

Integrated Water Management Development Programme (IWMDP) – Mbale: This project Component is aimed at sanitation in Mbale City. The key milestones include; rehabilitation of Namatala and Doko sewage ponds, construction of a new sewerage plant serving the Islamic University of Uganda (IUIU) and neighboring areas, and construction of sanitation facilities in Mbale town center and the rural growth centers.

Upgrading Water and Sewerage Infrastructure in Masaka and Mbarara City under the South Western cluster Project: The Project is aimed at improving sanitation in the cities of Masaka and Mbarara. It entails rehabilitation and upgrade of sewerage systems.

Kiruddu Waste Water Treatment Plant: The project is being implemented in partnership with MoH and KCCA with the objective of providing medium to long-term solutions to the wastewater management challenges experienced by Kiruddu Referral Hospital and the surrounding community.

Kampala Sanitation Project – Lake Victoria Protection III (LVP III): The Project is intended to improve the sanitation situation in Kampala Metropolitan and the surrounding Areas. It entails expansion of Tertiary and Secondary Sewer Networks and development of Gaba and Mukono Wastewater Treatment Systems.

Emptier and Small trucks: The Corporation has 8 cesspool emptiers and 1 small truck, which are mainly used for servicing the Corporation's sewerage waste water treatment ponds to ensure continuous maintenance of the ponds. During the FY 2020/21, no new trucks were procured as was the target.

Construction of public toilets: As part of its Corporate Social Responsibility undertakings, the Corporation has constructed **141** public toilet facilities in various Areas specifically in informal urban settlements to improve living conditions of the poor living in these settlements. These include Areas of; Kawempe Division in Kampala, Masaka, Tororo, Gulu, and Arua. During the FY 2021, no new Public toilets were constructed as was the target.

Sewerage Pipe Network (Km Laid): During the FY 2020/21, **23 Km** of new water mains were laid, representing **75%** of the HCDP target of **30 Km.** The total sewer pipe network as at June 2021 stood at **715 Km**. The total sewer pipe network grew by 3%. Table 42 shows the status of the Sewers.

Table 42: Status of the Sewer Pipe Network (Km) as at June 2021

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2021	Target Perf.
New Sewer Mains Extensions	22	24	59	30	22	30	73%
Total Sewer Pipe Network	578	602	661	693	715	723	99%
Growth in Total Pipe Network	-	4%	10%	5%	3%	4%	73%

Connection of new sewer customers to increase access to Sewerage Services (New sewer connections)

During the FY 2020/21, the Corporation connected **216** new customers to the sewer network, representing **72%** HCDP target of **300 connections.** The total number of sewer connections as at 30th June 2021 stood at **25,180**, comprising **22,332 (89%)** active connections and **2,848 (11%)** inactive connections. Table 43 shows the status of sewer connections.

Table 43: Status of Sewer Connections as at June 2021

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21	Target 2021	Target Perf.
New Sewer Connections	316	272	368	277	216	300	72%
Total Sewer Connections	21,072	21,616	22,606	23,914	25,180	24,354	103%
Active Sewer Connections	90%	89%	92%	89%	89%	89%	100%

***New Sewer Connections exclude connections of existing customers that were connected to the sewer network within the reporting period.*

Percentage of population with hand washing facilities with soap and water at home in Urban Areas – target 42%

Social behaviour change communication for use of hand washing with soap and water investment in public hand washing facilities in urban areas.

The intervention target of 218 urban centres was achieved by 52.9% where local sensitization campaigns, local radio talk shows, small social distanced meeting at parish levels were conducted. The original plans had been village to village sensitization campaigns which were affected by the COVID-19 pandemic. This only enabled the implementation to reach 116 Urban Centres.

Access to improved Sanitation Facilities

Construction of public toilets during the FY 2020/21 to improve access to improved sanitation and hygiene in the Towns is summarized as shown in table 44.

Table 44:Construction of toilets in public places

Improving Access to Public Sanitation Facilities			
Planned	**Achieved**	**Implementing Agency**	**Remarks**
5 gender segregated institutional lined VIP latrines in Kazo cluster, Karago TC, Lwemiyaga RGC, Bigando RGC, Nyakatonzi RGC	-Kazo cluster at design stage under WSSP III land is identified and in acquisition process. -Construction in Bigando and Nyakatonzi RGCs is complete WHILE in Lwemiyaga RGC construction is at 98% completion	WSDF – South West	All the institutional toilets are 05 stance each and are gender segregated Construction of institutional/public sanitary toilet facilities in Karago TC is planned for in phase 2
Develop 3 Town Sanitation Plans for Nyakashaka TC, Nabigasa TC and Kabura-Mwizi TC	Town Sanitation Plans for Nyakashaka, Nabigasa and Kabura-Mwizi towns to be developed		Development of the Town Sanitation Plans scheduled for FY 2021/2022
Eight stance water borne public toilets in the urban councils of Tirinyi, Luuka, Nakapipirit, Suan, Kibuku, Buwuni, Bulambuli and Kachumbala	1 public toilet in Bulangira completed	WSDF-East	All the institutional toilets are 8-stance each and are gender segregated.

Other Initiatives and projects to improve sanitation and hygiene

The Ministry of Water and Environment through WSDF South West and Central Umbrella of Water and Sanitation constructed Kasali FSTP to address the sanitation challenge of sewerage and it is currently managed by Central Umbrella of Water and Sanitation. The FSTP has been in operation since January 2019 to date and the facility serves Kyotera District and the nearby areas of Lyantonde, Rakai and Masaka Districts. Kasali FSTP receives atleast 10 trips per a month. Kyotera town being one of the beneficially district to desludge its feacal waste to Kasali FSTP, the percentage of emptiable toilet facilities is still low (VIP toilets, lined pits, septic tanks) since the town is characterized with traditional pit latrines.

With the intense awareness creation on safely managed for the population served, there is has been a significant change in peoples' behaviour and this has greatly reduced on unsafe disposal of waste in the open drainage channels and the wetlands and communities have been informed that waste can be collected using cesspool emptier trucks since most of the building plans are only approved by the districts only if a structure to be erected has a lined VIP and a water borne toilet facility in place.

Kasali FSTP team have engaged Kyotera district sanitation committee, Health Inspectors and all the different sub counties and town councils, some community-based organizations, development partners among others in the different meetings to ensure that faecal waste is safely managed and ensure that sanitation marketing done at different levels of community engagements. However, key issues tackled include how best they can improve water and sanitation issues in the district.

Different initiatives like marketing, Central umbrella for Water and Sanitation is working together with (USHA) Uganda sanitation for health Activity-Masaka office to market Kasali FSTP facility in areas with in Kyotera district and the surrounding areas so as to improve the sanitation status in Kyotera. The main objective is to create an environment free from feacal matter considering the health and safety of feacal sludge entrepreneurs (FSMEs) and this is done through use of vouchers and stickers that are distributed throughout the communities.

Sales agents initiative under this, sales agents were selected from the existing VHTs and trained by USHA to do marketing and they are paid on commission basis. For every job they get they are entitled to 5% of the total pay for that particular job and they are motivated to market further and get clients.

In addition to sales agents Kasali FSTP operator works with blockers most especially people that do plumbing work and they rpovide leads at times and they are paid accordingly depending on the number of trips got from that particular client brought on board.

Liaising with health inspectors from sub counties and town councils that do regular inspection in people's homes, businesses and hotels there by identifying those in need of emptying sewage and compelling them to do so while giving those particular people our contacts so as to get the sewage emptying service.

Radio programmes and announcements. This was funded by USHA and through it people got to know about the facility some called for the service whereas others promised to call when their toilets are due for emptying.

Government initiative of construction of lined ventilated improved pit latrines in schools and health facilities has also helped in widening our customer base. Most of it all Kasali FSTP has a Marketing Officer employed by Cuws that is also responsible for marketing and sensitizing the community about Kasali FSTP facility and benefits of emptying their toilets and also guides communities in constructing emptiable toilets.

The Kyotera Town Council Authorities has also ensured that they only approve plan having emptiable toilet facilities like septic tanks and this has greatly helped in increasing the number of emptiable toilet facilities since this was passed by Government of Uganda in 2020 Kasali FSTP expects to even perform better in the coming years.

Figure 51: Sewage emptying skips

Industrial Parks with safe water supply and sewerage services

Water Supply systems Developed / Expansion targeting industrial parks

Large Towns

Uganda Investment Authority has established 4 Regional Science and Technology Industrial Parks, and 12 Industrial parks/ Business parks out of the 23 Industrial/ Business Parks it was tasked to establish across the country by 2021. The established Industrial Parks are at different stages of development and NWSC works closely with the Uganda Investment Authority (UIA), to ensure reliable water supply in the twelve (12) established Industrial and Business Parks. These include; Kampala Industrial and Business Park, Bweyogerere Industrial and Business Park, Luzira Industrial and Business Park, Kapeeka Industrial and Business Park, Jinja Industrial and Business Park, Mbale Industrial and Business Park, Soroti Industrial and Business Park, Karamoja Industrial and Business Park, Kasese Industrial and Business Park, Mbarara Small and Medium Scale Enterprises (SME) Park, and Nshaara Agricultural Land.

Water supply systems have been established for all 8 well developed industrial parks and the various businesses connected to the NWSC System. Nshaara Agricultural Land, Karamoja Industrial and Business Park and Mbale Industrial and Business Park are still under development and NWSC will continue working closely with UIA to ensure these parks are supplied with water. Some of the key initiatives undertaken in the FY2020/21 include: Expansion of the Water Pipe Network by **70.4 Km** which include; Kampala Industrial and Business Park **(21Km),** Kapeeka **(8.5Km),** Kasese **(7.5Km),** Nshaara **(10Km),** Jinja **(10Km**), Soroti **(2.4Km)** and Tororo **(11Km)** industrial parks. Table 45 shows new water mains extensions to industrial parks by NWSC.

Table 45: New Water Mains Extensions (Km) laid in the Industrial and Business Parks

Industrial and Business Park	2019/20	2020/21	Total
Kampala Industrial and Business Park	21.0	0.0	21.0
Kapeeka Industrial Park	7.8	0.7	8.5
Kasese Industrial Park	3.0	4.5	7.5
Jinja Industrial Park	4.0	6.0	10.0
Nshaara (Lyantonde) Industrial Park	3.0	7.0	10.0
Soroti Industrial Park	2.4	0.0	2.4
Tororo industrial Park	6.0	5.0	11.0
Total	**47.2**	**23.2**	**70.4**

Sewerage Services for the Industrial Parks

All the UIA Industrial Parks except Mbale Industrial Park fall outside the NWSC sewerage coverage area and as such are not being served by NWSC. The waste water treatment facilities of NWSC are designed to receive municipal waste and therefore connection of industrial waste cannot be done. The respective industries are required to carry out waste water pre-treatment.

Small Towns Water Supply

UIA has extended 9km line of water to the investors who were ready to commence such as Roofings, Steel and Tube, Coca Cola and others. The coverage is approximately 10% of the park. However, UIA is closely working with NW&SC and a project is underway to connect and upgrade the existing network to 30km (67%) to boost water efficiency at the park.

Projected Trends

Currently a consultant was procured to undertake the feasibility studies for the Kapeeka, Kabale industrial Park. The Feasibility studies was completed and the Consultant embarked on the Engineering Detailed Design for the Sewerage infrastructure including the Waste Water management strategy.

Specific Objectives of the Assignment Include:

i. To develop the detailed Engineering Designs and the Engineer's estimates
ii. Undertake the ESIA
iii. Prepare technical Documentation
iv. Undertake Construction Supervision for the Proposed Sewerage System
v. Plan for the enhancement and hybrid of the Water Supply System including both the industrial Park and the Communities within and around the industrial park.

There are 23 industrial parks in Uganda where piped Water Supply and Sewerage networks have been planned for institution and construction. 17.4% piped Water Supply and Sanitation Systems have been constructed and are operational. 82.6% are under plan for construction. Immediate industrial park water and sanitation systems ready for construction is Kabale Industrial Park which should commence by June 2022. The national Industrial park locations include Kapeeka, Namanve, Luzira, Bweyogere, Kasese, Nakasongola, Buliisa, Gulu, Lira, Arua, Soroti, Moroto, Mbale, Tororo, Iganga, Jinja, Maska, Luwero, Mbarara, Bushenyi, Kabale, Kabalore/Fortportal, Rakai, Mubende, Hoima, Nakaseke, Kyankwanzi, Rubirizi, Pakwatch, Kamuli.

Sewerage / waste water treatment systems developed / expansions targeting industrial parks

Sewerage Services for the Industrial Parks

All the UIA Industrial Parks except Mbale Industrial Park fall outside the NWSC sewerage coverage area and as such are not being served by NWSC. The waste water treatment facilities of NWSC are designed to receive municipal waste and therefore connection of industrial waste cannot be done. The respective industries are required to carry out waste water pre-treatment.

Sewerage System Development

An area of 20.68square kilometers of catchment area will naturally drain to the industrial park sewerage system. A sewer alignment of CBR of 2% to 14%, 5% to 90% and waste water treatment plant area of CBR 2% to 9% is part of the project.

Water Quality Monitoring samples taken that comply with national standards and catchment and water source protection sites constructed

Drinking Water Quality

The Water Drinking water quality was being monitored at a quarterly basis by the 6 Umbrellas of Water and Sanitation across the Country. This is monitored through a sampling technique and the selection and collection of the samples makes sure that all piped Water Supply and Sanitation Systems managed by the 6 Umbrellas are visited and samples picked / collected. Samples are collected from respective water supply systems at the source, at the tank, at collection points and then tested. During the Reporting period 94% of the Samples tested passed the National Standards compared to the 91% during the previous financial year 2019/2020. The decline was based on the fact that during COVID-19 pandemic lock down few monitoring campaigns to ensure that redress mechanisms take place were affected. Table 46 shows water quality monitoring in small towns.

Table 46: Performance of the Water Quality Monitoring in small Towns

Year	%age of samples complying with National Standards (%)
2021	94
2020	96
2019	89

Water quality monitoring samples in Large towns

The Corporation continuously monitors water samples collected from the Areas to ensure compliance to the required standards. During the FY 2020/21, the Corporation collected **25,500** samples, which was over and above the HCDP target of **250 samples**. **99.8%** of the water samples collected complied with the National Standards for the Bacteriological quality of potable water of **98%**, exceeding the WHO standard of **97%**. On Average, the overall compliance of both the physio-chemical (color, turbidity, chlorine residual, pH, Alkalinity, Hardness, Electrical conductivity) and bacteriological parameters was **98%.** Table 47 water quality in large towns under NWSC.

Table 47: Water Quality Performance as at June 2021

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 (%)	99.8
		Colour (%)	87.7
		Turbidity (%)	97.5
		Chlorine residual (%)	98.8
		pH (%)	100.0
		Electrical Conductivity (%)	100.0
		Alkalinity Total (%)	100.0
		Hardness Total (%)	100.0
		Average (%)	**98.0**

Catchment and water source protection measures in rural and urban areas

Water supply systems installed with Solar Energy – target 11 Systems

The Constructed Piped Water Supply and Sanitation Systems that are on-going in Nyakatonzi and Bigando in Kasese are some of the on-going systems that have been connected to Solar Packages. The Piped Water Supply and Sanitation system in the Refugee settlements of Ayillo II, Bidi-Bidi Zone V, Alijobo/Tika, Orwamuge, Offua III and Omugo VI, Alerek, Morulem, and Orwamuge.

Catchment and water source protection measures in urban areas in large towns

There is a strong connection between our business and the environment. The water we supply comes from the environment and the sewage we treat is discharged into the environment. The impact of climate change has presented enormous challenges to the Corporation. Some of the water sources are drying up due to prolonged droughts and encroachment on the catchment areas.

The Corporation is therefore making every effort to ensure that it runs its business in a way that takes environmental concerns seriously. Key Among the undertakings implemented during the FY 2020/21 to protect the Environment include:

Environmental Protection Programmes such as One Million Tree Campaign and Treevolution under which 1,100,000 and 795,300 have been planted respectively in partnership with National Forestry Authority (NFA), Uganda People's Defence Force (UPDF), School Water and Sanitation Clubs (SWAS), Young Water Professionals (YWPs) Uganda Chapter and the Ministry of Water and Environment (MWE). The Corporation's target is to plant 10,000,000 trees upon successful completion of the Programme.

Sensitization Programmes such as the School Water and Sanitation Clubs under which School going children are sensitized about the value of the environment and hygiene, and its impact on water for the current and future generations. This is implemented through drama, skits, poems and quizzes among others.

As a futuristic aspect, the Corporation is incorporating catchment protection as a component under its Projects. This has been implemented under some of the implemented projects including the WMDP Projects of Arua and Bushenyi.

Institutions with an improved water source

Construction / extension of water supply infrastructure targeting institutions (Schools, Prisons, Barracks, Religious institutions, health facilities, roadside sanitation.

Although this interventional target was part of the HCD Programme of the five years, this was not specifically planned for implementation during the reporting period. However due to dire need for this intervention, 23 Institutional facilities were constructed within the 26 Small Towns. Table 48 achievement of institutional sanitation.

Table 48: Institutional Sanitation Achievements

Institution	No. of facilities	%age achievements
Schools	12	52.2
Health Centres	4	17.4
Prisons	1	4.3
Religious establishments	6	26.1

Pupils enrolled in schools provided with basic Sanitation and Hand washing facilities

Social behaviour change communication for use of sanitation facilities and hand washing with water in schools – target 218 urban areas.

The implementation of the piped water supply and sanitation system was trying to increase on the school children enrolment and retaining. This was being affected through sensitization and communication about use of sanitation facilities and hand washing facilities in schools. During the implementation of the piped water supply and sanitation systems in the reporting period, more than 242 Sensitization campaigns were conducted in the 26 RGCs for purposes of sanitation and hand washing facilities usage. These campaigns were being operationalized through small / few membership meetings at church schools. These meetings were being organised through churches and mosques.

Regulation Campaigns conducted for Sanitation standards – target 4

Inspection and recommendations on the sanitation standards

This is a mandate for the regulation department of the Ministry of Water and Environment. The Water Utility Regulation Department (WURD) during the reporting period conducted 12 Regulation campaigns across the country. These campaigns targeted both NWSC and Umbrellas of Water and Sanitation in the 6 Regions. Key amongst other outcomes included:

Sanitation master plans developed

This intervention is a major plan for the programme however it was not part of the interventions for the period under reporting. Nevertheless, some preparation for the next year intervention was made. The pre-feasibility for the Wakiso Sanitation Master Plans was done through a recruited consultant.

Increased households' use of safe water – No. Of households

Sensitisation, monitoring and evaluation for water usage and hand washing practices at household level

The department through the Ministry of Water and Environmental Planning Department planned to develop a software tool / system through which sanitation monitoring and evaluation for water usage and hand washing practices would be implemented. An M&E System to foster this is under procurement and thus development. The system will be used for the Sensitization, Monitoring and Evaluation starting next financial year.

Increased knowledge on proper food handling, hygiene and sanitation

Community sensitization drives, conduct Radio talk shows – target 20.

During the reporting period community sensitization drives were conducted at Project specific level at projects. Radio talk shows were conducted at the regional and project levels. Over 6 Talk shows per region were held at a phased manner. These were conducted at mobilization level, projects implementation level, projects technical assessment and readiness for technical commissioning and technical commissioning / handover of the systems to the O&M stakeholders. An overall minimum of 24 Campaigns were conducted.

Increased hand washing practices by households – number of households –Zero target

Sensitize, monitor and evaluate for hand washing practices at household level

Hand washing is measured as "percentage of people with access to hand washing facilities" *and computed as (M/N)*100, M denoting total number of households with hand washing facilities, and N total number of households in the locality.*

Although the activity had been planned to commence next financial year, the ministry had set out the starting avenue for this activity. The ministry had embarked on mobilization for development of the sensitization tool at household level. Due to COVID -19 pandemic, the activity implementation planning was later thought of being implemented through the M&E System being developed by the Policy and Planning department.

Access to hand washing with clean water and soap reduced from 61.1% to 54.7% which is attributed to laxity of the population in sustaining the adherence to the COVID 19 prevention strategies at households.

Per capita Investment Cost in Small Towns

The Department having invested a total of 91.56 Billion Uganda Shillings, the Average Per Capita investment of the 26 Completed Towns was realized at 46.99USD compared to the previous year of 57.95USD. The highest per capita invest cost was for Buyamba Water Supply and Sanitation System because of the System being a surface Source System. The Lowest Per Capita investment cost was realized with Bidi-Bidi, Dzaipe, Karago 1, Olijobo/Tika, Ofua III Piped Water Supply and Sanitation Systems.

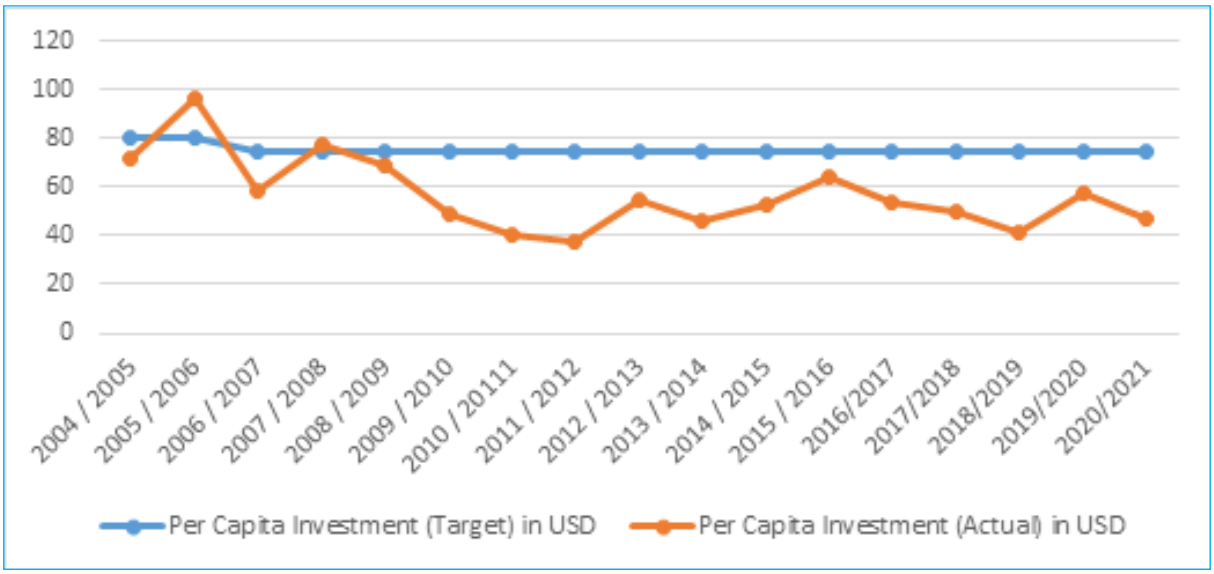


Figure 52: Per capita investment in small towns water supply

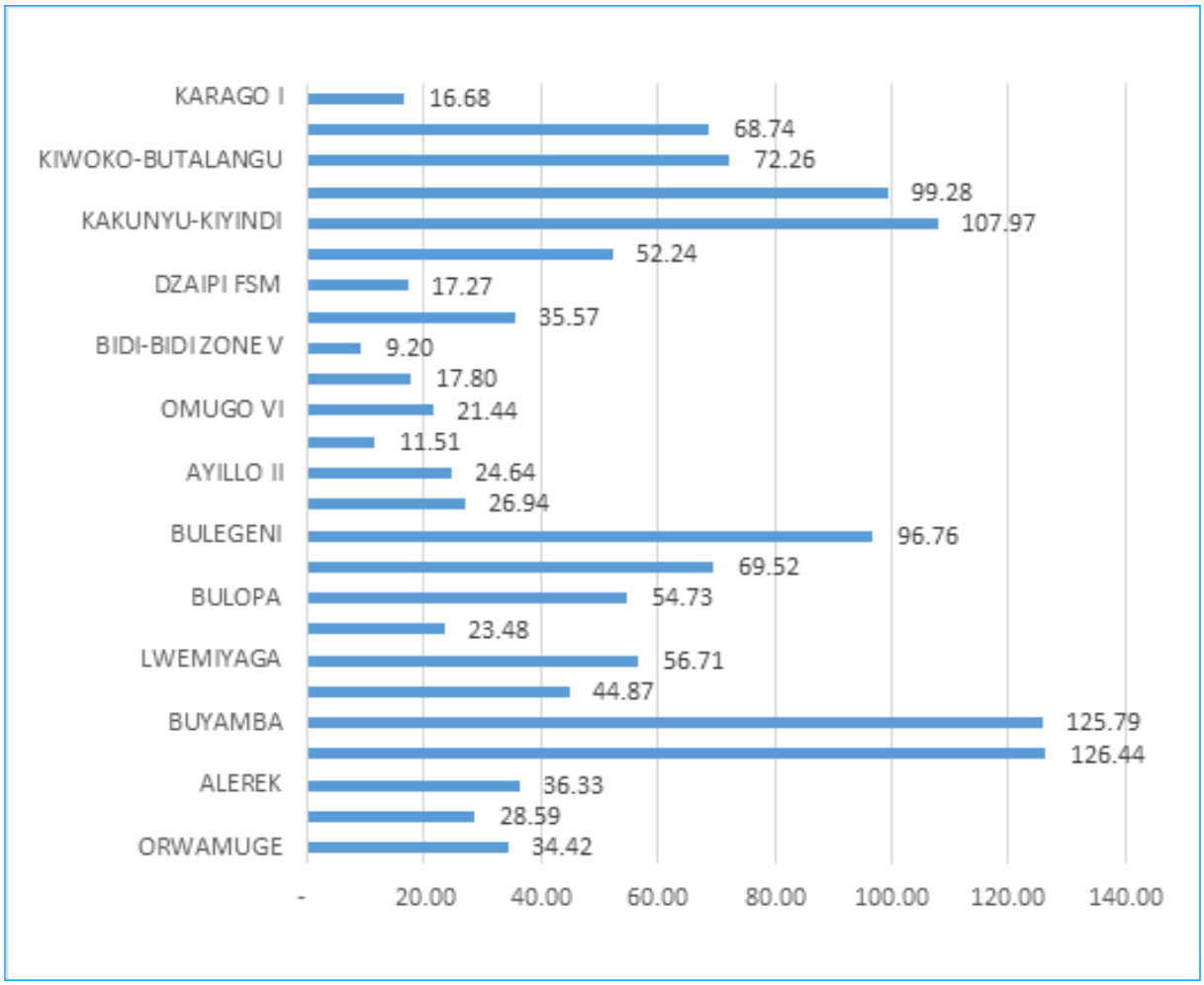


Figure 53: Per capita investment per town (USD)

NWSC Tariff Structure

The NWSC implements a uniform tariff policy with a cross subsidy across all towns and consumer categories. The tariff structure comprises of five categories with variable tariff rates. Public stand posts are charged the lowest tariff of Ushs.25 per 20-liter Jerry can. The PSP tariff is subsidized to ensure affordability for water by all. The sewer tariff is based on water consumption. Domestic consumers are charged 75% of their water consumption. Other category of consumers (Institutions and Commercial) are charged 100% of their water consumption. The same tariff structure applies to all service areas under NWSC jurisdiction for purposes of ensuring equity in pricing and accessibility to water and sewerage services. Table 49 shows the tariff structure.

Table 49: NWSC Tariff Structure as at June 2021 (VAT Exclusive)

Customer Category	Water tariff (Ushs./m^3)	Tariff per 20Liter Jerrycan (Ushs./m^3)	Sewerage Tariff (Ushs./m^3)
Public Standpipe	1,060	25	n/a**
Domestic	3,516	83	2.637
Institutions / Government	3,558	84	3,558
Commercial < 500m^3/m	4,220	99	4,220
Commercial > 1500m^3/m	3,373	79	3,373
Industrial < 1000m^3	4,220	99	4,220
Industrial > 1000m^{3Z}	2,500	59	2,500
Average Commercial	3,938	92	3,938
*** *n/a: The Corporation does not charge sewer tariff on the Public Stand Posts, save for instutionalised PSPs and are connected to the Sewer.*			

Non-Revenue Water (NRW) – Large towns

During the FY 2020/21, water losses increased by **1.1%** from **33.5%** in the FY 2019/20 to **34.6%** as at 30th June 2021. The water losses are more severe in the Kampala Metropolitan Area, where NRW stands at **40.6%**. The water losses are mainly attributed to rising levels of illegal water use by some customers, leaks and bursts due to road works. As a stopgap measure, the Corporation is implementing tailor made programmes in the various areas aimed at curbing water losses. The implementation of these programmes involves engagement of various stakeholders including collaboration with the Police and crime prevention units to fight water losses. The Corporation will continue being vigilant and more innovative in combating water losses.

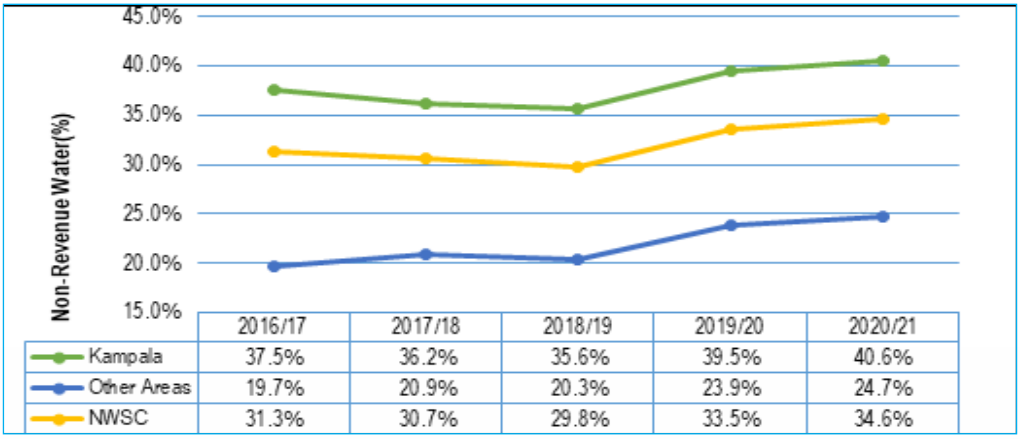


Figure 54: Annual Trend of NRW for the Period 2017 – 2021

Non-Revenue Water in Small Towns

The performance of the NRW under small towns was realised at 31% compared to the 37% of the previous year and the 30% standard. The performance was improved compared to the previous year performance due to the sophisticated tools and approaches for NRW monitoring in the piped water supply and sanitation systems of the 6 Regional Umbrellas of Water and Sanitation. Table 50 shows the Non-Revenue Water trends.

Table 50: NRW Performance 2017-2021

Year	NRW (%)
2021	31.0
2020	30.7
2019	33.4

Customer Satisfaction in Large Towns

Customer Satisfaction Index (CSI) is an average of all the various attributes of NWSC services that are believed to contribute to customer satisfaction. These include; water supply reliability, 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.

The Corporation registered an **11%** growth in the Customer Satisfaction Index **(**CSI) **from 77%** in the FY 2019/20 to **88%** in the FY2020/21. NWSC continues to undertake different initiatives aimed at ensuring sustainable expansion of water supply and sanitation services across the Areas of jurisdiction, to meet water demand and maintain customer delight.

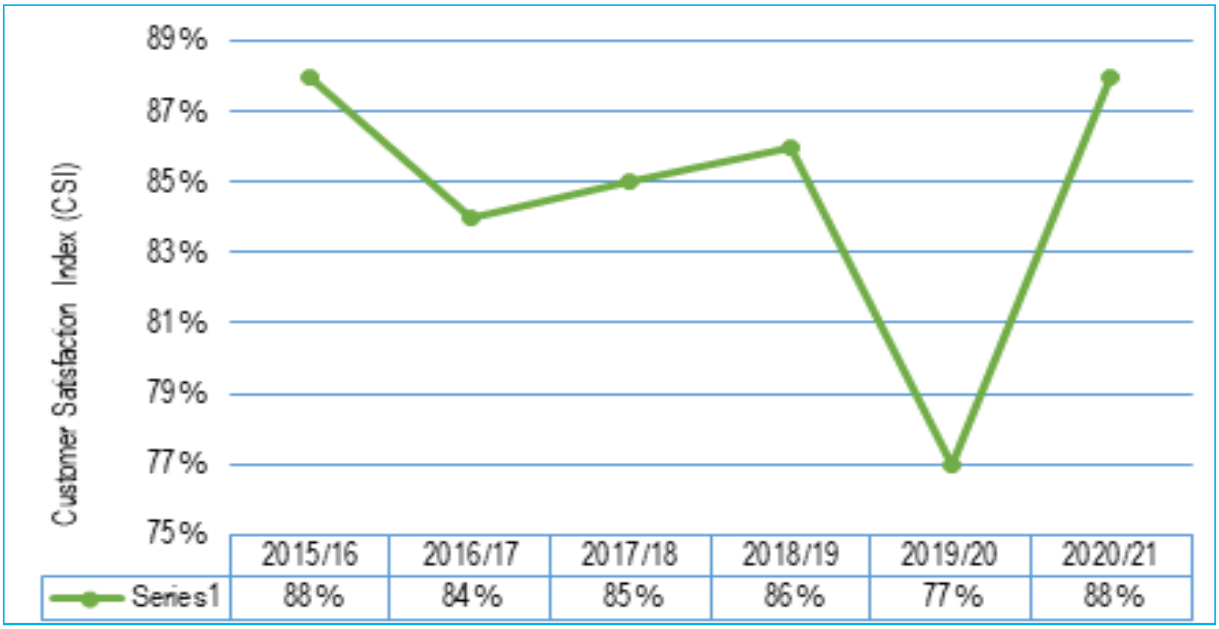


Figure 55: Customer Satisfaction Index Trends for the Period 2017 – 2021

Improved Energy Efficiency in Water Supply System

Construction of solar energy packages to improve energy efficiency of existing schemes (number of schemes)

The corporation operates **41** solar pumping systems across all service areas, aimed at improving energy efficiency in Water Supply systems**.** These have been significant in fighting climate change and reduced dependence on non-renewable sources.

Audit Recommendation

To track good governance and transparency, the Corporation reviews Management responses to audit queries from time to time. During the FY 2020/21, **223** recommendations were made to Management, of which **202** were acted upon, representing **91%** action rate. The Performance translates to an achievement of 108% of the GoU Performance Contract (PC 6) target of **84%**. Table 51 show compliance with audit recommendations by NWSC.

Table 51: Status of Compliance to Audit Recommendations (July- June 2021)NWSC

Area	Total number of recommendations made (No)	Number acted upon (No)	Percentage (%) acted upon	Target (%)
Kampala Water	24	22	92%	100%
Kapeeka	40	37	92%	100%
Bweyale	24	21	88%	100%
Ibanda	23	21	91%	100%
Hoima	34	30	88%	100%
Soroti	28	25	89%	100%
Moroto	33	31	94%	100%
Apac	17	15	88%	100%
Total	**223**	**202**	91%	**100%%**

Gender Composition in Large Towns

NWSC has undertaken various efforts towards the inclusion of women, which has increased the number of female participants in the sector. The Corporation is an equal opportunities employer. For instance, there have been improvements in the number of women involved in decision making at the top management level, although ladies are still few in the field operations despite affirmative action by government to enhance involvement of women through education. Table 52 shows the gender composition in the Corporation.

Table 52: Status of Staff Composition 1999 - 2021

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21
Total Number of Female Staff	943	2,385	2,578	1,256	1,365
Total Number of Staff	3,131	3,452	3,778	4,082	4,244
% of Female	30%	69%	68%	31%	32%

Basic Sanitation in urban areas

Basic sanitation is defined as the "percentage of the population using an improved sanitation facility not shared with other households" and computed as (F/G) *100, *F denoting total number of households with improved sanitation facilities not shared, and G-total number of households in the locality.* Percentage of population using basic sanitation in urban areas stands at 46.2% in FY2020/2021 44.8% from FY2019/20. It should be noted that Percentage of population accessing any form of sanitation is 89.7% as compared to 89.1% in last FY 2019/2020.

Urban Sanitation initiatives during FY2020/21

The Government of Uganda (GoU) adopted the Uganda Vision 2040; and has committed to improve the socio-economic status of Ugandans through key interventions like improved delivery of water and sanitation services. Recent Government efforts to promote delivery of household and public sanitation facilities, coupled with behaviour change campaigns has resulted in increased access to sanitation in urban areas. Over 90 percent of the existing sanitation facilities are on-site, and lack safe means of faecal sludge chain management (emptying, transportation, and disposal or re-use). The situation is exacerbated by the steady population growth due to increasing rate of urbanization (approximately

General Performance of the Small Towns / Umbrella of Water and Sanitation (2020-2021)

The 6 Umbrellas of Water and Sanitation by June 2021, had 498 Gazetted Piped Water Supply and Sanitation Systems and 299 Systems had been taken over and were transacting. In addition, a total of 294 Systems were being technically supported by the Umbrellas of Water and Sanitation. Excluding Piped Water and Sewerage / Sanitation Systems managed / operated by NWSC, there are 1,085 Piped Water Supply and Sanitation Systems in Small Towns and Rural Growth Centres.

Umbrellas of Water and Sanitation were offering 64 Employment opportunities at the 06 Umbrellas secretariats with MWE Contracts, 59 Employees at Umbrella Secretariats with Executive Committees Contracts. There are also 1,066 Employees in the respective 299 Piped Water Supply and Sanitation Schemes. The 6 Umbrellas of Water and Sanitation are currently hosted in 133 Districts serving a total population of 3,427,105 People. Between the year 2006 and 2021 the Umbrellas of Water and Sanitation have taken up 3,084 Villages for management. Table 53 shows umbrella tariff.

Table 53: Umbrella Tariff

	Pumping / Grid System (UGX)		Pumping / Solar (UGX)		GFS (UGX)	
Umbrella	Domestic per M^3	PSP @ Jerrycan	Domestic per M^3	PSP @ Jerrycan	Domestic per M^3	PSP @ Jerrycan
Upper Tariff	3,400	25	2,545	25	1,950	25
Lower Tariff	2,542	25	2,118	25	1,950	25

Table 54: Performance Scheme under Umbrellas

Indicator	swUws	mwUws	cUws	nUws	eUws	kUws	Total
% of all registered schemes that are fully functional (adequate water quantity and quality)	89%	83%	77%	90%	80%	65%	81%
% of schemes breaking-even (having an operational cost coverage ration>1)	77%	54%	91%	56%	80%	51%	69%

Table 55: Pipeline Network Intensification and metering – Umbrellas

Indicator	swUws	mwUws	cUws	nUws	eUws	kUws	Total
Total Length of pipe network – kms at 2017	1,300	1,200	1,352	1,349	1,780	640	7,621
Total Length of pipe network extensions added (kms) – 2017-2021	400	945	809	348	300	100	2,902
Total Number of metered connections- all schemes	6,632	10,927	24,329	9,957	15,368	2,927	70,140
Total number of added metred connections (all schemes) added since 2017	2,278	4,000	9,900	3,900	2,000	1,500	23,578

Table 56: Water Supply by Umbrellas

Indicator	swUws	mwUws	cUws	nUws	eUws	kUws	Total
Total Amount of Water Produced (Monthly)	36,390	76,023	115,000	38,189	63,628	15,272	344,502
Number of days with water supply at full capacity in a month	25	26	25	28	25	20	25
Average hours of water supply per day	20hrs	18hrs	12hrs	20hrs	12hrs	10hrs	15hrs
% of NRW in FY	27%	30%	32%	37%	36%	24%	31%

Table 57: Commercial performance of Umbrellas

Indicator	swUws	mwUws	cUws	nUws	eUws	kUws	Total
Total Number of Active Connections	6,624	10,592	24,057	9,963	15,368	2,269	68,873
Total Volume of Water Billed –Monthly (m3)	36,390	76,023	115,000	38,189	63,628	15,272	344,502
Total Amount Billed (Monthly) UGX	93m	186m	455m	165m	190m	37m	1.126bn
Total Revenue Collection	102m	166m	401m	144m	180m	29m	1.022bn
Collection Efficiency	109%	89%	94%	88%	96%	79%	91%

Challenges

The Corporation encountered some challenges that affected service delivery. These include:

i. **A number of villages still remain uncovered:** Many of the villages that fall under the newly taken over towns have no access to safe water.

ii. **Limited Financing:** Insufficient counterpart financing and delayed release of funds by Government is a major constraint to timely payment of contractors'/service providers. In addition, the available financial resources are not adequate for expansion of the water and sewerage systems to match the growing population needs. The recent Budget Cuts exacerbate the funding challenges.

iii. **Climate change and variability** affecting the reliability of water sources in meeting the ever-growing demand especially during long dry seasons.

iv. Vandalism and adulteration of Infrastructure Assets, leading into financial and revenue losses.

v. COVID-19 pandemic has disturbed the implementation schedules and timelines.

vi. Overwhelming demand for Water Supply which does not pace up with the level of financing.

vii. Forward and backward performance levels due to overgrowing numbers and sizes of Urban Areas (Cities, Municipalities, Town Councils and high population growth rate.

Way Forward

Key Infrastructure Development and financing Strategies

i. Mobilization of funding for downstream sewerage collection infrastructure for Greater Kampala, and design and implementation of low-cost appropriate sewage treatment technologies in other towns.

ii. Development of concept note for financing of 6-cities water supply improvement project(Lira, Soroti, Hoima, Moroto, Fort Portal and Jinja), to be implemented using modular designs that will increase water production capacity in each of the cities by at least 7,000m3/day sufficient to serve for 7-10yrs at a total project estimated budget of UGX 300 billion.

iii. Financial mobilization and implementation of climate change resilient infrastructure for NWSC Towns, through mixed technology options and decentralized WSS systems.

iv. Mobilization of financial resources for the implementation of the SCAP 100 Project (Phase II) over the next five years (2021 – 2026) to enable the Corporation achieve 100% service coverage in all villages under its jurisdiction. This will entail expansion of the water network by 7,000Km, installation of 325,000 new connections including 19,000 PSPs and reinforcement of the existing water infrastructure to support increased production and supply.

v. Water Supply and Sanitation Services to the Industrial Parks; NWSC with support from UIA and other partners will continue developing the required infrastructure to ensure adequate water supply and sanitation services to foster industrial growth.

vi. Sought out financing mechanisms that can pace up with the levels of demand for water supply services.

vii. Conduct an overall baseline survey for establishment of details on served and un served Small Towns and Rural Centres including growing trading Centres.

7.1.3 WATER UTILITY REGULATION

Regulation of water supply and sanitation services is needed to balance the commercial objective of efficient & sustainable service provision with the social aim of accessible & affordable water supply and sanitation services. Currently, the scope of Water Utility Regulation Department includes urban and rural piped water supply systems (including sanitation services) as well as water for production.

The current regulatory framework is by Performance Contract between Ministry of Water and Environment (MWE) and the respective appointed water and sewerage authorities. The Water Utility Regulation Department is responsible for regulating water supply and sanitation service provision in the sector. The major tasks among others include contracting/licensing, tariff approval, technical quality assurance, consumer protection and arbitration.
The Water Utility Regulation Department contributes to the Human Capital Development Program through:

a) Increase access to inclusive safe water, sanitation and hygiene (WASH) with emphasis on increasing coverage of improved toilet facilities and hand washing practices; and
b) (b) Invest in effective management of the entire WASH value chain segments such as containment, emptying, transportation, treatment, safe reuse or disposal.

The key outputs during the FY 2020/21 include increased access to inclusive safe water supply in urban areas and Support to improved WASH services in institutions. This annual performance report is organized based on the following indicator:

i. No. of people having access to pro-poor facilities (where people pay less or equal to the house connection Tariff),
ii. No. of Regulation Water Supply Campaigns conducted for Regulatory purposes,
iii. No. of Regulation Campaigns Conducted for Sanitation Standards.

To contribute to the above indicators, the performance assessment water authorities, Tariff approval and development of regulatory tools and instruments were undertaken.

Access to pro-poor facilities

To ensure access to pro-poor facilities, contracting and licensing, approval of water tariff as well as developing regulatory tools and instruments is critical. These aid in ensuring that customers mostly low-income areas receive affordable and quality water and sanitation services.

7.1.3.1 Contracting/Licensing

There are 9 running performance contracts with Water Authorities including; National Water and Sewerage Corporation (NWSC), Umbrella Authority of Water and Sanitation (6), Buikwe District Local Government and Kalangala Infrastructural Services limited (KIS). At the end of the reporting period, the total number of gazetted towns with operational water supply systems stood at 776. These schemes are under the various Utility management models (NWSC)-258, Umbrella Management Model-498 and Private Operator Model-20 (Buikwe-15, KIS-5) see table 1 . Because of the need to strengthen the regulatory function, the gazetting criteria has been streamlined and ready for implementation. The criteria goes a long way in addressing conflicts accruing from poorly demarcated Water Supply Areas. In addition to conflict resolution, the criteria will help water authorities to appropriately plan for future interventions.

Table 58: Contracted Water Authorities Operating Water Supply and Sanitation Services

Water Authority	Date of expiry of PC	No. of gazetted towns (No.)	Total Connections (No.)	Water Supplied (million m^3)	NRW %	Annual Revenue collection (Ugx billion)	Population served (No.)
NWSC	June 2021	258	724,006	102.4	35%	424	11,247,545
Umbrella Water Authorities (6 No.)	June 2022	Managing on 288 of the 498	68,873	4.1	31%	14.12	3,427,105
KIS	June 2029	5	1,156	0.06	17.4%	1.8	30,000
Buikwe District Local government	June 2022	15	347	0.05	34%	0.08	42,798
Overall		776	794,382	107	33.8%	440	14,747,448

Tariff approval (pro-poor and other water tariff)

In Tariff approval process, key considerations are made to ensure financial sustainability, equity, affordability and willingness to pay by consumers. Tariffs should accurately reflect the cost of supply to achieve efficient water production and allocation of resources, and reduce the economic and financial burden of subsidies on Government. During the reporting period, applications for tariff approval from 8 gazatted Water Authorities were received, reviewed and approved in accordance with Water Act CAP 152 and the tariff policy. To balance issues of equity in service access, pro-poor tariff is approved at less or equal to the domestic connection. The list of currently approved tariffs is presented in the schedule below;

Table 59: Schedules of Approved Tariffs for Gazetted Water Authorities

NWSC Tariff Structure 1st July 2020 – 30th June 2021

Category	Public Stand Pipes		Domestic Customer	Institution/ Gov't	Commercial <500m^3/ Month	Commercial 500-1000m^3/ Month	Industrial <1000m^3/ Month	Industrial >1000m^3/ Month
	UGX per 20ltr Jerrycan	Tariff UGX per m^3						
Tariff (VAT Exclusive)	25	1,060	3,516	3,558	4,220	3,373	4,220	2,500

Table 60: Tariff Structure for Umbrella Water Authorities 1st July 2020 – 30th June 2021

Category	Public Stand Pipes		Pumping (Grid) Tariff UGX per m^3	Pumping (Solar) Tariff UGX per m^3	Gravity Flow Schemes Tariff UGX per m^3
	UGX per 20ltr Jerrycan	Tariff UGX per m^3			
Central	25	1,060	3,500	2,545	1,950
South-Western	25	1,250	3,700	2,500	2,500
Mid-Western	25	1,060	3,390	2,500	1,500
Karamoja	50	2,500	3,000	2,500	N/A
Northern	30	1,500	2,000 - 3,540	1,770 - 2,950	2,596 (Nyar-wodho)
Eastern	50	2,500	1,700 - 2,542	1,700 - 2,542	1,000 - 2,650

Table 61: Tariff Structure for Kalangala Infrastructure Services 1st January 2021 – 31st December 2021

Category	Public Stand Pipes		Domestic Consumer Tariff UGX per m^3	Commercial consumer Tariff UGX per m^3
	UGX per 20 ltr Jerrycan	Tariff UGX per m^3		
Tariff (VAT Exclusive)	42	2,100	3,400	3,441

Table 62: Tariff Structure for Buikwe District Water and Sanitation Authority 1st January 2021 – 31st December 2021

Category	AQ-Taps/ Public Stand Pipes UGX per 20 ltr Jerrycan	Domestic Consumer UGX/m^3
Tariff (VAT Exclusive)	50	2,500

The table shows that NWSC approved tariff is uniform across all the water supply areas. On the other hand, Umbrella Water Authorities as well as KIS and Buikwe district local government charge system specific tariff depending on the pumping technology, affordability and willingness to pay. The system specific tariff has less gains on cross subsidisation and still burdens government to facilitate capital expenditures to increase access.

Compliance to pro-poor tariff (UGX 50 per 20 litre Jerry can)

The major Pro-Poor approaches include; subsidize tariffs, reduce connection fees, introduce and promote various types of public water points (PWPs) and densification & expansion of piped scheme networks to low income settlements. The Water Authorities bill the Public Stand Point a pro-poor tariff of UGX 25 for NWSC, UGX 25 – 50 for Umbrella Water Authorities, KIS and Buikwe District Local Government see table 2. Standpipes (PSPs) and Kiosks are operated by vendors without formal contracts/MOUs who impose on the community exploitive fees, thereby charging 2-3 times as much as the official tariff. The poor continue to pay more per unit volume of water across all the water authorities. In addition, vendors often don't comply with payment of the water bills consequently, making PSPs prone to being disconnected.

Therefore, there is urgent need to increase on the target number PSP constructed in order to increase on access to water by the poor population. All PSP vendors MUST charge a tariff of 50 shillings per 20 liter jerry can of water by introducing price tags on the PSPs. Formalizing the working relation between the PSP attendant and the Water Authority through formal PSP operation contract is critical.

The pro-poor strategy should be reviewed and redesigned to cater for emerging issues.

Regulatory Campaigns Undertaken

The regulatory campaigns conducted were largely to enhance technical quality assurance. The campaigns involved performance assessment of Water Authorities, strengthening sanitation regulation and developing regulatory tools and instruments.

Performance assessment regulatory campaign

A performances assessment of water authorities was done for a period of 24 months (FY2019/20 to FY2020/21). The major objective was to examine operational processes, explore performance achievements, and highlight lessons & experiences as well as offer recommendations for improvement of water supply services in the country. For Umbrella Authorities of Water and Sanitation, the assessment involved analysis of performance data from utility performance

management and information system (UPMiS) – a web based system and progress reports. Actual performance for indicators (KPIs) was compared to baseline & annual targets set out in the Performance Contracts.

On the other hand, National Water and Sewerage Corporation (NWSC) quarterly and annual progress reports based on the Key Performance Indicators (KPIs) were reviewed and detailed data validation conducted. The validation exercise was conducted in 10 randomly selected Water Supply Areas from the different regions including; Kampala (Mukono), Central (Iganga & Luwero), Eastern & Northern (Mbale, Nebbi/Paidha & Lira), South western (Fort Portal, Mbarara, Rushere & Kabale). The different findings are discussed below base of water authorities.

7.1.3.2 Performance of Umbrella Authorities of Water and Sanitation

The Umbrella organizations were declared as Water Authorities in 2017 to run the operation and maintenance of water supply schemes gazetted to them in addition to providing technical backstopping support to member schemes. A total of about 500 water supply areas have been gazetted to 6 Umbrella authority of water and sanitation. The first performance contract (PC 1) was signed for a period of three years effective 1st July 2019. The performance contracts set out roles, scope, rights & obligation as well as performance targets and measurements. The contract also provides for periodic performance assessments. A performance assessment was therefore conducted and performance for the 6 Umbrellas Benchmarked.

Benchmarking is based on the different performance scores and weights attached to the respective indicators. A score of 4 corresponds to outstanding performance (OTP), 3 corresponds to achievement of performance Contract targets (PCT), 2 corresponds to achievement of base year targets (BT) while Zero (0) corresponds to failure to achieve base performance targets (BBT). Each Umbrella Water Authority was rated based on their respective annual target for 2 financial years (FY2019/20 and FY2020/21). Colors were introduced for quick visual impression as Table 63 below.

Table 63: Color Codes for performance score

Rating	Colour	Score
Outstanding (8% above PC target)		4
Achieved PC targets		3
Achieved Base (2018) Targets		2
Below Base Targets		0

The benchmarking further involves weights that are based on the level of importance on the indicator in managing the water supply system. The performance benchmarking results are in table 63 below;

Table 64: Performance Rating of 6 Umbrella Water Authorities for 2 Years (FY 2019/20- FY202/21)

KPIs	Units	Weights	FY 2019/20						FY 2020/21					
			nUws	mwUws	swUws	eUws	kUws	cUws	nUws	mwUws	swUws	eUws	kUws	cUws
Technical														
New Water Connections	No.	5%	0.20	0.11	0.13	0.00	0.00	0.18	0.12	0.10	0.12	0.20	0.00	0.15
Non-Revenue Water	%	20%	0.00	0.00	0.80	0.73	0.00	0.00	0.60	0.00	0.80	0.60	0.64	0.50
Metering Ratio	%	5%	0.20	0.20	0.20	0.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Continuity of supply (Functionality)	Hrs/ Day	5%	0.20	0.00	0.20	0.00	0.00	0.20	0.20	0.20	0.11	0.00	0.10	0.20
Compliance to Drinking Water Standards	%	5%	0.20	0.12	0.20	0.00	0.11	0.20	0.20	0.14	0.14	0.20	0.14	0.18
Commercial														
Active Connections	No.	6%	0.24	0.14	0.13	0.19	0.13	0.00	0.24	0.13	0.14	0.24	0.13	0.16
Water Sales	m3/yr	6%	0.24	0.24	0.24	0.24	0.00	0.24	0.24	0.00	0.24	0.24	0.00	0.24
Collection efficiency	%	8%	0.32	0.00	0.20	0.27	0.22	0.28	0.32	0.00	0.32	0.00	0.29	0.19
Financial Viability														
Operating cost coverage ratio	%	8%	0.32	0.18	0.00	0.32	0.18	0.31	0.32	0.17	0.00	0.32	0.32	0.32
Budget for Investment	%	7%	0.28	0.14	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.14	0.28	0.14
Pro-Poor Orientation														
Pro-Poor Connections Growth	No.	10%	0.40	0.00	0.24	0.25	0.00	0.25	0.40	0.25	0.21	0.00	0.00	0.21
Overall			**2.6**	**1.1**	**2.6**	**2.3**	**1.1**	**2.1**	**3.1**	**1.5**	**2.6**	**2.1**	**2.1**	**2.5**

Table 64 indicates that there was improvement in performance in FY 2020/21 compared to FY 2019/20 save for Eastern Umbrella Authority of Water and Sanitation. The performance of Northern, South western and Central Umbrella Authority corresponds to achievement of performance contract targets (PCT) in FY 2020/21. Eastern and Karamoja Umbrella Authority performance corresponded to achievement of base target (BT) while mid-western Umbrella Authority performed below base targets (BBT) in both financial years (FY 2019/20 and FY 2020/21). The reward and sanction catalogue need to be strengthened so that good performers are rewarded.

It should however, be noted that whereas, performance benchmarking was undertaken, Umbrella are faced with issues of compliance to reporting and data integrity for some indicators. The benchmarking exercise was only based on selected indicators with complete data. Through the different regulatory visits, the following critical issues have been elaborated.

Metering (bulk and Micro meters)

All umbrella Water Authorities save for Eastern Umbrella had an outstanding achievement on metering ratio. However, through regulatory visits, high prevalence of malfunctioning meters was noted. Bulk meters that are paramount in water balance are missing at strategic points.

The Umbrella Authorities of water and sanitation are encouraged to fast track the process of installation and replacement of both micro and bulk meters. The sector through the Water Utility Regulation Department should equally fast track the establishment of regional meter testing and calibration centers. This will improve on the quality of meters on the market and ultimately curb water losses.

Continuity of water supply

This is based on standards as set out in design manual and in the performance contract. The number of hours in a day when water is available to the consumers. It is premised on supply of a minimum of 12 hours a day for a particular water supply system. Karammoja and South Western Umbrella Authority only achieved base year targets while Eastern Umbrella Authority performance was below the base target. Intermittent water supply in several water supply areas was noted during the reporting period. This was attributed to the constant power fluctuations caused by unreliable energy sources (Solar and HEP grid), system breakdowns which normally take long to get fixed. In other areas it was also attributed to reduction in water yield for example, in Isingiro production capacity dropped from $4m^3$/hr to only $2.5m^3$/hr. In Karamoja, water supply reliability is affected by long dry spells due to drought which leads to drying of some wells hence affecting the hours of supply. The most affected production wells are in; Abim, Nakapiripiriti, Morulemu, Amudat and Kacheri.

The unreliable water supply has prompted consumers to resort to unsafe water sources which are prone to water borne diseases. Additionally, the alternative sources are usually far forcing children & women to move for long distances to fetch water. The sector is encouraged to invest in bulk water transfer to increase the resource availability. There is also need to fast track the development of guideline for pipes and fittings which will guide utilities on the quality of pipes and fittings to be procured. This will reduce on the frequent bursts and leaks along distribution lines and consequently improve on supply reliability.

7.1.3.3 Performance of National Water and Sewerage Corporation (NWSC)

Table 65: Performance of NWSC against PC6 targets (FY 2019/20 and FY 2020/21)

Key Performance Indicator Technical	Minimum Performance Targets	Financial Year 2019/20						Financial Year 2020/21				
Non - Revenue Water (%)		QTR1	QTR2	QTR3	QTR4	Achieved	Target	QTR1	QTR2	QTR3	Achieved	Target
Kampala Water	38	37.9	39.2	36.7	45.1	39.7	36.0	42.4	42.2	41.0	41.9	35.0
Central Region	23	23.1	25.8	23.9	29.3	25.5	22.0	25.9	26.4	26.0	26.1	21.0
Northern & Eastern Region	20	18.6	22.8	24.9	27.0	23.3	19.0	26.6	26.1	25.0	25.9	18.0
Western & Southwestern Region	23	20.6	23.0	22.3	22.3	22.0	22.0	23.0	23.6	23.0	23.2	21.0
System Input Metering Coverage (%)	70		76.0	70.0	72.0	72.7	76.0	72.0	72.0	72.0	72.0	80.0
New Water Connections (No.)	40,000	19678	15813	12038	10058	57587	47000	14951	30686	41520	87157	125000
New Sewerage Connection (No.)	200	51	120	60	22	253	240	32	32	110	174	65
Capex Budget Implemented (%)	80		132		43		82	43	43	43	43	85
Commercial												
Water Sales Volume Growth (M^3 Million)	82	22.7	21.5	22.8	20.3	87.3	87.0	22.0	44.0	66.0	132.0	230.0
Collection/Billing Ratio (%)	95	101.0	77.0	97.0	92.0	91.8	95.0	105.0	106.0	103.0	104.7	95.0
Average Days Receivables (days)	83	78.0	69.0	90.0	108.0	86.3	77.0	102.0	96.0	100.0	99.3	74.0
Financial												
Return on Capital Employment	1		4.0		1.0		1.0	1.0	1.0	1.0	1.0	1.0
Operating Cost/Revenue (Work Ratio) (%)	85	80.0	82.0	86.0	78.0	81.5	85.0	75.0	73.0	75.0	74.3	80.0
Quality of Service and Environment												
Compliance to Drinking Water Standards (%)	98	97.5	98.0	98.0	98.0	97.9	98.0	98.0	98.0	98.0	98.0	98.0
Compliance to Sewerage Standards (%)	35	43.1	41.2	45.4	46.0	43.9	50.0	61.0	62.0	62.0	61.7	50.0
Pro-Poor Orientation												
Pro-Poor Connections Growth	980	1329.0	716.0	744.0	817.0	817.0	500.0	635.0	2124.0	3329.0	2759.0	350.0
Transparency and Governance												
Audit Recommendations implemented (%)	70	85.2	88.1	93.0	95.0	90.3	80.0	72.0	81.0	89.0	76.5	84.0
Customer focus and care												
Customer Satisfaction Index (%)	70		76.0	76.0	77.0	77.0	70.0	77.0	77.0	77.0	77.0	70.0

Table 65 shows that NWSC performance for FY 2019/20 and up to the 3rd Quarter of FY 2020/21 indicate that most of the targets for KPIs were achieved while others including NRW, average day's receivable, audit recommendations implemented, system input metering and CAPEX budget implemented were below the set target. The performance based on table 4 is expended as follows:

System Input Metering Coverage: The performance of this indicator was below target that is 72.7% was achieved in FY 2019/20 against an annual target of 76%. By end of 3rd quarter of FY 2020/21, there is a decline from 72.7% to 72% against an annual target of 80%. The corporation is encouraged to ensure 100% metering to enhance accuracy of water balance values.

New Water Connections: A total of 87, 157 new connections were made by close of the third quarter of FY 2020/21 against the annual target of 125,000. This good performance is noted although there is increasing number of dry zones in some of the areas visited which include Kampala, Iganga, Lira and Mbarara. The water demand in some of the areas exceed the production capacity of the water supply systems. It is therefore necessary to undertake interventions that boost production to satisfy the current demand.

New Sewerage Connections: The total number of new sewer connections made by the 3rd quarter were 174 against the annual target of 65 connections. The limited coverage of the sewer network is noted and the need for resource mobilization to increase on sewer lines and connections is critical.

Water Sales Volume Growth: At the end of the 3rd quarter, the performance was at over 100% level of achievement that is 132m^3 million was sold against the annual target of 230m^3 million. The performance review team noted erratic water supply in Mbarara, Iganga, Lira, Kyenjojo, and Kampala. However, the Corporations has made considerable intervention to the supply constraint by drilling additional boreholes, procurement of high capacity pumps, installation of water pump booster and construct of new reservoirs. The Corporation is therefore encouraged to fast track the different interventions aimed at addressing water supply constraints and reduction of NRW as well.

Collection/Billing Ratio: The reported collection efficiency in FY 2019/20 was 92% against the annual target of 95%. At the end of the third quarter of FY 2020/21, collection efficiency was over 100%. The PRT acknowledges this good performance amidst the COVID-19 pandemic challenges. However, there are challenges of non-payment by Institutions/Government customers across the area visited. There are also complaints of overbilling/erroneous billing which were noted in Kampala.

Receivables/Arrears: The Average Days Receivables was 108 against a target of 77 in FY 2019/20 and this worsened by the third quarter of FY 2020/21. This poor performance is mainly attributed to delayed payment by Institution/Government customers. The average day's receivable indicator exhibits a declining trend. The Corporation is therefore urged to take interventions aimed at reducing the day's receivable or engage government in discussion on timely payment of water bills.

Compliance to Drinking Water Standards: 98% compliance to drinking water standard was achieved during the review period. The PRT commends the Corporation for this good performance however, during field visits high water treatment costs were noted in areas that abstract water from river streams due to high water turbidity especially during rain seasons. The areas include Mbale- Manafwa River, Fort portal-River Mpanga and Lira-Kachung River.

Compliance to Sewerage Standards: The compliance of waste water quality was 46% against the annual target of 50.0% in FY 2019/20. There was an improvement and by the 3rd quarter of FY 2020/21 performance was at 61.7% against an annual target of 50%. This performance

is commendable though more needs to be done to ensure that the sewerage effluent quality conforms to international standards.

Regulatory Campaigns and non-revenue water performance

Non-revenue water might not matter during seasons of plenty water. However, given the rapid growth population growth in Uganda's urban areas, Water demand increases day by day. About 35.31m^3 (million) of treated water goes unaccounted translating to about UGX. 124.149 billion is something that should not be ignored. Reducing water losses is critical to efficient resource utilization, efficient utility management, enhanced consumer satisfaction, and postponement of capital-intensive additions to capacity.

Non-Revenue Water (NRW) for National Water and Sewerage Corporation

The overall NRW performance declined through the three-year period of performance contract 6 (PC6). NRW declined from 29% in 2018/19 to 33.5% in FY 2019/20 and by third quarter of FY 2020/21 NRW had declined to 35%. Performance based on NWSC regionalization indicate that Kampala Area losses over 41% of the water supplied. Whereas the other regions performed below the target, the NRW values oscillates between 20% and 25%. Kampala Water contributes about 60% of the water supplied by the Corporation implying any slight percentage lose in NRW translates into huge revenue loses. Indeed, about UGX 2.5 billion can be realized if NRW for Kampala is reduced by 1%. The high NRW in Kampala water is attributed to old pipe network which is prone to many leaks as well as bursts due to road construction works as noted during the regulatory field work activities. Faulty meters also contribute to commercial losses however there are plans to refurbish the old networks and replacement of faulty meters.

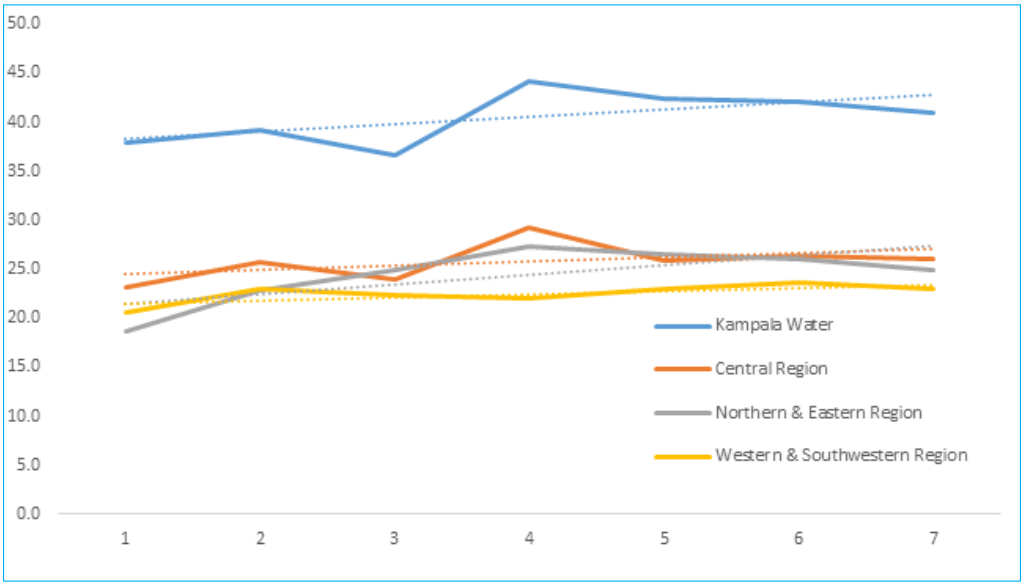


Figure 56: NRW Trend FY 2019/20 to FY 2020/21

The declining trend of NRW for Kampala remains a concern albeit the underlying operational and pandemic challenges. With the current trend of NRW, the KATOSI project which is likely to add about 160,000m^3 volume of water per day should be matched with adequate intervention that minimize water losses. Incentivizing NRW reduction is critical although the corporation needs to take note of the optimal level of NRW by striking a balance between the benefit of saving more water and the cost.

Non-Revenue Water for Other Towns outside NWSC

Figure 6 below shows the NRW performance of towns gazetted to Umbrellas and Karangala Infrastructural Services Limited. The performance has improved over the assessment period compare to the base year targets

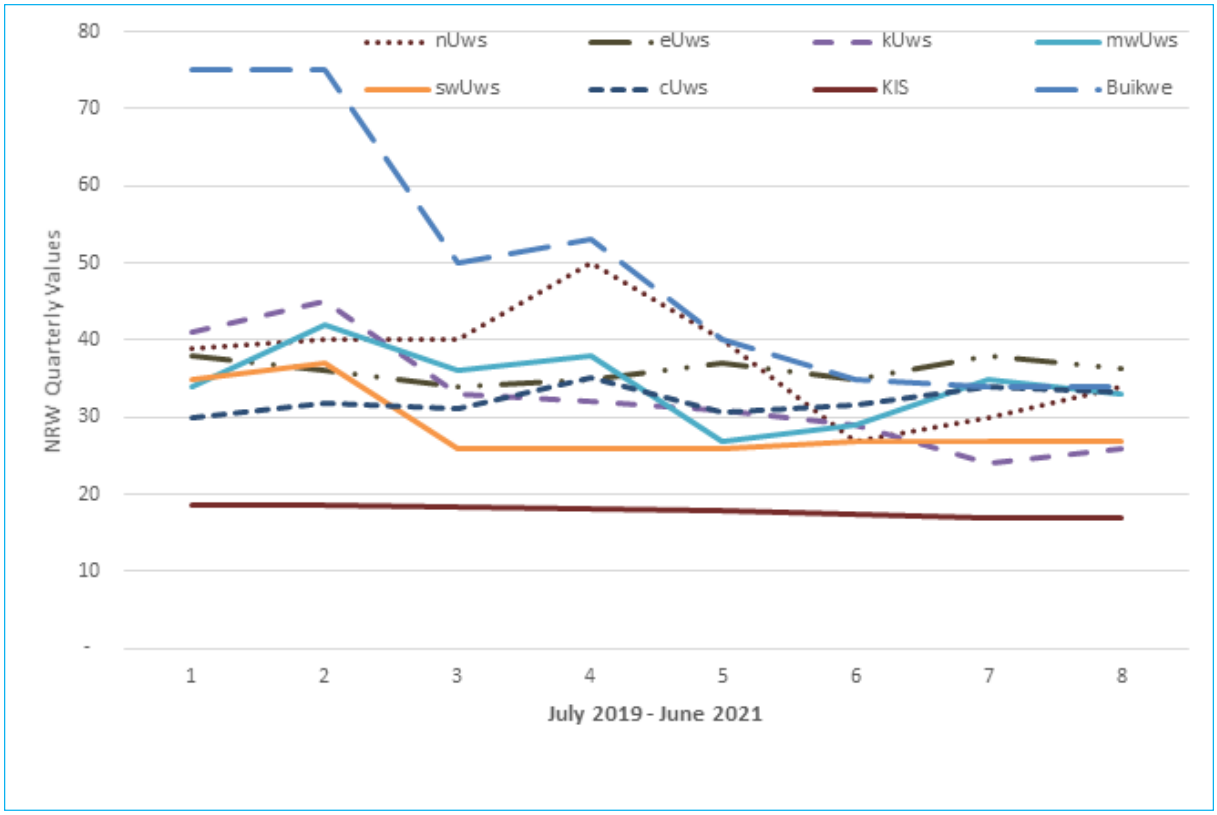


Figure 57: NRW for 6 Quarters (July 2019 – Dec 2020)

Generally, the NRW performance for Umbrella Authorities of Water and Sanitation and Kalangala Infrastructure Services Limited (KIS) has improved compared to the base targets. KIS is commended for ensuring low NRW below 20%. The overall the current NRW performance for Umbrella Authorities of water and sanitation is at 31% compared to 36% in FY2019/20. This shows a performance improvement by 5 percentage points 5%. Among Umbrella, the lowest NRW levels was recorded in Southwestern and Central with 29% and 32% respectively while the highest NRW was recorded in Northern and Eastern with 38% and 34% respectively. The Umbrellas are therefore encouraged to share good practices from KIS to further reduce NRW to Optimal level. The sparks in NRW as noted from the regulatory visits during certain periods is attributed to have aged pipes, lack bulk water meters and many others have faulty bulk and micro meters as well as data integrity issues. These greatly contributes to the continuous water losses reported.

7.1.3.4 Regulation Campaigns Conducted for Sanitation Standards (Regulatory tools and instruments)

Sanitation Service Assessment and Planning Tool for CWIS

Citywide Inclusive Sanitation Service Assessment and Planning Tool (CWIS SAP) tool through the Eastern and Southern Africa Regulators Association for Water and Sanitation. This was done with technical support from Anthena Infonomics and Agua consult funded by BMGF. The tool was piloted in collaboration with NWSC for sewered and Kampala Capital City Authority (KCCA) for non-sewered within the jurisdiction of Kampala Capital city Authority boundaries. The tool has helped KCCA to analyse the outcomes of different sanitation interventions or investments along the dimensions of equity, financial sustainability and safety. KCCA was able to evaluate a variety of options and prioritizing those that cost-effectively expand access to safely managed sanitation along the entire sanitation chain. It is therefore critical to have the SAP tool institutionalized to guide in analysis of outcomes of different sanitation interventions or investments along the dimensions of equity, financial sustainability and safety across the newly created cities and municipalities.

There are resource mobilization efforts to further strengthen urban sanitation regulation in the sector through proposal writing. The proposals include aspects of operationalization of the sanitation regulation framework across the different stakeholders, develop appropriate tools and instruments for sanitation regulation and support the implementation of developed operation and maintenance guidelines for faecal sludge treatment plants and monitoring compliance to set guidelines.

7.1.3.5 Guidelines for Standardization of Micro and Bulk Mechanical Cold Water Meters

Water meters constitute a significant input in the normal operations of water utilities. The meter bridges the gap between the demand for water (consumers) and the supply of the service (water utility). It is the sole determinant of the volume supplied to the consumer. To the utilities, it is the sole determinant of the bill that should be levied against the consumed volume. The challenge of Non-Revenue Water (commonly referred to as Unaccounted for Water) emanates in part from inaccurate meters that do not register the actual volumes supplied to an area (to establish a water balance), to the consumer (for proper billing) and subsequently leading to the efficient/effective management of available (often scarce) water resources.

This will ameliorate the existing meter management procedures for the Uganda market. Through an intensive consultative process, the technical guidelines for water meter management – informed by international standards and leading practices of Uganda water utilities was established.

The purpose of the metering guidelines is to ensure that suppliers deliver high quality water meters to the market. In turn, water utilities will be better equipped to procure the high-quality meters they require. More so, the guidelines will assist in selection (sizing), installation, calibration, servicing and replacement meters within the context of a wider asset management agenda. The guidelines are meant to form the basis upon which the Uganda Water Service Providers (UWSPs) can develop and customize their utility specific meter management policies and procedures.

It is important to bear in mind that the guidelines are important to all stakeholders, particularly the National Water and Sewerage Corporation and Umbrella Water Authorities (UWA). The Ugandan government through technical departments (UWSS, RWSS) in the Ministry of Water and Environment as well as the Uganda National Bureau of Standards (UNBS). This should serve

as a quality assurance to the consumers and the general public as to the specific intent to improve the reliability of mechanical water meters in use moving forward.

Water Utility Regulation Department is committed to consumer protection on quality and will continue providing support towards these and other noble initiatives aimed at increasing the effectiveness and efficiency of water, sewerage and sanitation service delivery in Uganda.

7.1.3.6 Guidelines for Drinking Water Pipes and Fittings

Pipe and joint failure (e.g., burst and leak) is one of the major causes of supply water loss in Uganda. The main causes of pipe failure include improper pipe, fittings and joint type; substandard pipe and fittings; poor installation and maintenance of pipes. The water loss due to the pipe and joint failure increases the overall energy consumption of the water distribution system. Minimizing water loss through an active leakage reduction program will reduce the waste of energy embedded in the lost water. Hence, installation of appropriate good quality pipe and fittings is very important to reduce the service downtime and water loss, as well as increase the energy use efficiency.

To address the NRW challenges through pipe and joint failures, technical guideline for drinking water pipes and fittings are being developed. The technical guideline comprises recommendations for the procurement process, the selection of water distribution pipes, the establishment of technical specifications, and the installation and maintenance of drinking water transmission and distribution pipes.

7.1.3.7 Water Quality Testing Kits for Drinking Water

One of the essential key performance indicators is water quality compliance. In order to ensures that Water Authorities adhere to sector standards of water supply service provision. Safe drinking water and hygienic toilets protect people from disease and enable societies to be more productive economically. However, the suitability of water for various uses depends on the biological, physico-chemical and radiological properties of water. Sustainable Development Goals (SDG 6) aims at ensuring availability and sustainable management of water and sanitation for all by 2030. This requires huge investment in infrastructure, provide sanitation facilities and encourage hygiene.

In order to achieve this target, active monitoring of the microbial water quality of drinking water through the enumeration of *Escherichia coli* in water samples is essential. Currently, the approved methods for the enumeration of *E. coli* in drinking water samples require the use of specialized equipment, including an electrically powered incubator, and entail complicated procedures that must be performed by trained personnel, which is a challenge to most water service providers in the sector. Furthermore, monitoring the microbial and physical water quality parameters for regulatory compliance is extremely ineffective.

To address these challenges, water quality testing kits were procured to support five umbrella water authorities of Central, Northern, South west, Eastern and Karamoja sub regions.

7.1.4 RURAL AND URBAN SANITATION

7.1.4.1 Introduction

Safe Sanitation and hygiene are not only essential for good health and wellbeing but also a key driver for economic development and social transformation of communities in both rural and urban areas. Over the years, the Government of Uganda together with development partners have invested in sanitation and hygiene improvement through infrastructural development and promotional interventions.

Although sanitation coverage has been improving over the years, the sub sector still struggles with enormous challenges, notable among which is the huge burden of improved sanitation facilities, which in addition to being unsustainable, do not offer the health benefit of safely separating the user of the facility from human waste. Failure to address this challenge especially in urban areas adversely affects the other components of the sanitation service chain, including emptying, transportation, final treatment and disposal of fecal waste.

COVID 19 has crippled the economy and led to budget cuts in the already poorly funded priorities like hygiene and sanitation sub sector making it difficult to implement planned activities aimed at sanitation and hygiene improvement.

The Improved Sanitation and Hygiene (ISH) financing strategy (2030) has been developed to guide the sanitation and hygiene promotion agenda in both urban and rural areas; and is hinged on the three pillars of Demand creation; Supply chain management; and Enabling Environment.

In order to operationalize this strategy, government has availed funds through the District Sanitation and Hygiene Conditional Grant (DSHCG) for promotion of sanitation and hygiene in rural communities and the District Water and Sanitation Conditional Development Grant for construction of public sanitation facilities. The subsector also leverages funding from WASH projects implemented by MWE at national level through centrally managed projects; at regional level mainly through the Water and Sanitation Development Facilities (WSDF); as well as district level mainly by Civil Society Organizations to carry out infrastructural and promotional activities in Urban and Rural areas. Development Partners like USAID-Uganda Sanitation for Health Activity (USHA) and UNICEF also undertake sanitation improvement interventions across many districts in Uganda.

7.1.4.2 Rural Sanitation initiatives during FY2020/21

This section highlights programs and projects implemented in rural areas with focus on achievements, challenges and issues that need to be addressed to improve services delivery.

Programs /Projects and Initiatives

Sanitation and Hygiene activities are implemented through conditional grants, centrally managed projects and also projects implemented by Development Partners including Civil Society Organizations. During FY 2020/21, the following achievements were registered under the various projects as highlighted below:

District Water and Sanitation Conditional Development Grant-DWSCDG

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

In line with the water source protection guidelines and the principle of water safety planning, districts use part of this grant to promote hygiene and sanitation and also conduct water quality testing in communities for both new and existing water sources.
In the FY 2020/21, an estimated UGX 3 Bn was spent on construction of sanitation and hygiene facilities in the District Local Governments. A total of 104 Public toilets were constructed in public places such as markets and trading centres. This translates into about 624 stances serving a total population of approximately 31,200 people.

District Sanitation and Hygiene Conditional Grant-DSHCG

The DSHCG has been in existence for the last 10 years with Government disbursing UGX 2Bn annually to all districts except the 44 districts benefitting from recently concluded Uganda Sanitation Fund project.

In FY 2020/21, a total of 101 districts benefitted from the DSHCG. At the inception of this fund, districts were receiving between UGX 21-23 million but with creation of new districts, this figure has continued to reduce with some districts receiving less than UGX 20 million shillings per year. This notwithstanding, remarkable achievements have been realised since the introduction of the grant.

Using this grant, an estimated 2020 villages were reached in FY 2020/21 using the Community Led Total Sanitation-CLTS and Home Improvement Campaigns-HIC approaches. Out of the 2020 villages reached 18.8 % (380 villages) became Open Defecation Free-ODF during the reporting period. The decline in the rate of achievement of ODF status compared to previous FY is mainly attributed to COVID 19 movement and crowd restrictions that could hampered movements of extension workers and also affected their interactions with communities.

National Hand Washing Initiative (NHWI)

The National Hand Washing Initiative (NHWI), currently hosted by the Ministry of Water and Environment was founded in 2006 by the National Sanitation Working Group (NSWG), to spearhead and define the National hand washing with soap agenda in Uganda including championing the National hand washing with soap campaign. The NHWI has membership from government ministries of Water and Environment; Health; Education and Sports; Development partners like UNICEF and Civil Society Organizations in WASH sub sector. Achievements of the NHWI during the reporting period included:

i. COVID 19 Response

Outreach to Vulnerable Populations in Kampala Metropolitan Area

To complement the COVID-19 response efforts, the NHWI with support from the Water Supply and Sanitation Collaborative Council (WSSCC) through the International Water and Sanitation Center-Uganda (IRC) conducted an outreach program for vulnerable populations within Kampala

Metropolitan area. These vulnerable populations included communities in unplanned settlements in Wakiso, high risk populations like health care workers and Police including traffic police in Kampala, and families living in police barracks around Kampala.

Sensitization meetings were conducted to highlight the importance of hand washing in the fight against COVID 19 among these vulnerable groups, Information, Education and Communication (IEC) materials such as stickers, posters and branded masks; and soap were distributed to them to facilitate hand washing.

Hand washing facilities were also distributed to selected police stations as well as health care facilities. A media campaign was conducted on radio, social media platforms and television and an estimated 2,000,000 people were reached with hand hygiene messages. Mirembe Zone in Mutundwe parish located in Makindye Ssabagabo Municipal Council and Naguru Police Barracks and Kibuli Police Barracks were targeted, reaching an estimated 100,000 people. Additional support to augment these efforts was received from UNILEVER Uganda and World Vision.

Figure 58: Left-Representative of IRC-Uganda handing over some of the HWWS promotional materials to the PS-MWE in presence of Chairperson- National Hand Washing Steering Committee R-Handwashing materials being handed over to Uganda Police in Naguru

Outreach to Vulnerable Communities in 17 border districts

Communities in 17 border districts were identified as high-risk populations and were considered vulnerable to COVID 19 transmission especially by the mobile population that lives in them and keeps moving across the respective borders. These districts included Maracha, Nebbi, Pakwach, Kitgum, Tororo, Busia, Manafwa, Mayuge, Kyotera, Kisoro, Kanungu, Kabale, Kabarole, Bundibugyo among others; to prevent the spread of Covid-19. Various items including hand washing facilities, liquid soap, branded stickers and posters were distributed in public places like, health centers, schools, and border points. A media campaign was also conducted in those districts with hand washing messages that had been translated in 11 different languages, reaching an estimated 5,000,000 people.

Figure 59: Facilities distributed to the border districts

ii. Commemoration of the Global Hand Washing Day (GHWD)

The NHWI with support from Development Partners organized and spearheaded the commemoration of the GHWD 2020 under the theme "Hand Hygiene for All". GHWD is a day dedicated to raising awareness globally on the importance of washing hands with soap.

In light of the pandemic, the day was worth celebrating as it helped raise the profile for hand hygiene as one of the standard operational procedures that is critical in the prevention of COVID 19. The event was both physical and virtual and attracted participation of about 300 online participants and an estimated 1,000,000 people were reached with hand hygiene messages using the different media channels that advertised the event and relayed hand hygiene messages.

Unicef interventions

UNICEF over the years has continued to be one the lead partners in supporting the sanitation subsector and during the period under review, the following achievements were made using UNICEF support:

The Local Governments of Karenga, Kamuli, Kamwenge, Adjumani, Kiryandongo and Iganga were supported to undertake sanitation demand creation activities aimed at achieving ODF status and increasing access to household basic sanitation and hygiene. A total of 494 villages and 148,200 persons were reached.

Additional Support from UNICEF was directed to Institutional Sanitation and Hygiene targetting mainly schools and health care facilities in the districts of Moyo, Adjumani, Arua, Kiryandongo, Isingiro, Moroto, Napak, Amudat, Nakapiripit, and Kotido. A total of 200 latrines were constructed in schools serving 40,000 pupils while 6 latrines in healthcare facilities of the districts of Yumbe and Arua serving 6,000 persons.

Uganda Sanitation for Health Activity

The Uganda Sanitation for Health Activity (USHA) is a 30 million USD project financed by the United States Agency for International Development (USAID) in Uganda with the goal of increasing access to improved and sustainable water, sanitation, and hygiene (WASH) services, ultimately leading to improved health and nutrition status in focus areas and population groups. The USHA project started in January 2018 and runs for a period of five years.

USHA's approach and activities align with the Government of Uganda's development priorities and focuses on achieving three interdependent Outputs:

i) Increased household access to sanitation and water services;
ii) Key hygiene behaviors at home, school, and health facilities adopted and expanded; and,
iii) Strengthened district water and sanitation governance for sustainable services.

Geographic Footprint

Table 66 presents the USHA districts by regional cluster. In addition, USHA provides support to Fecal Sludge Management (FSM) services in the Municipal Councils of Jinja, Njeru, Masaka and Gulu.[1]

Table 66: USHA Target Districts

No.	Central-West Cluster	Central-East Cluster	Northern Cluster
1	Bukomansimbi	Buikwe	Agago
2	Gomba	Buyende	Gulu
3	Kyotera	Jinja	Kitgum
4	Lwengo	Kaliro	Lamwo
5	Mpigi	Kayunga	Omoro
6	Sembabule	Luuka	Nwoya
7	Masaka[2]	Namutumba	Pader

7.1.4.3 Rural Sanitation and Hygiene

Working through 11 partner grantees (NGOs) operating in nearly 40 subcounties in 20 districts, USHA improved household and community sanitation using the Market Based Sanitation Implementation Approach (MBSIA) and Community Led Total Sanitation (CLTS) targeting over 1,097,855 people. The MBSIA delivery model has enabled over 30,000 households to invest in basic sanitation products.

During the financial year, over 203,000 people gained access to basic sanitation, 28,060 households moved from Open Ddefecation (OD) status to some constructing some form of sanitation facility, and 225 villages were attained ODF status. Handwashing with water and soap at household level for was achieved in 30,190 households across the 20 USHA districts of operation.

1 *Jinja and Masaka were designated City status as of July 2021.*

2 *In Masaka, USHA only supports Output 1 activities related to SATO sales and FSM.*

Fecal Sludge Management

A total of five Fecal Sludge Management Entrepreneurs (FSME) operating in Jinja, Masaka and Gulu were supported to expand their businesses and offer safely managed services; and increase their financial viability. Blended financing models that attracted a commercial bank to lend was introduced to three FSMEs.

Data on FSME operations including revenue achieved, prospective and served customers, direct costs is compiled and used to generate profit and loss statements for FSMEs based on actual financial performance. Mentoring and coaching sessions to address key areas of intervention needed to improve their business viability are conducted among these FSMEs.

USHA ocnducts quarterly regional performance review meetings with the FSMEs, Sales Agents and local governments to devise solutions to emerging enabling environment challenges, emptying market bottlenecks, and rewarding the best performing sales agents based on the number of emptying customers generated. Monthly data on pit/ septic tank emptying is consolidated and verified with phone calls to ascertain the satisfaction levels, and address any issues raised. This feedback is used to make improvements in the FSMEs operations for better service delivery.

USHA developed emptying promotional radio messages and conducted marketing campaigns for the FSMEs. In both CE & CW. The marketing campaign included radio adverts, talk shows, flyers and stickers. "CLEANPIT", a common brand name to be used to consolidate all the marketing activities being conducted on behalf of all the supported FSMEs, was developed and a logo designed and registered with the Uganda Registration Service Bureau. USHA is developing guidelines and regulations for the use of the brand by member FSMEs.

Support to District Local Governance

USHA supported and strengthened the District Water and Sanitation Coordination Committees (DWSCC) is 20 districts to perform their oversight and monitoring function better through developing field monitoring and reporting tools, meeting agenda and minute templates. Capacity building on sanitation and hygiene data management and analysis was conducted in the 20 project districts to improve the validity and reliability of the data.

Centrally managed projects

Centrally managed Water Supply and Sanitation Projects have a Sanitation and Hygiene component that targets both promotion and provision of improved sanitation and hygiene in the project area. During the reporting period, the following projects were implemented;

Kahama Water Supply system

Kahama II Water Supply and Sanitation project funded by the Government of Uganda is being constructed to provide safe water to two sub counties (Nyabushenyi and Nyabihoko) in Ntungamo District. The project has a hygiene and sanitation component whose overall goal is to increase access to and utilization of sanitation facilities and promote good hygiene practices so as to contribute to the reduction of morbidity and mortality rates due to sanitation related diseases. During the reporting period 2No. 6 stance institutional sanitation facilities with a menstrual hygiene room and an incinerator were constructed and will serve a total of 339 pupils in Ruhanga Primary School and 452 pupils in Katooma Primary School. A total of 1,075 households were reached with hygiene and sanitation messages.

Orom Water Supply and Sanitation System

The Ministry of Water and Environment with funding from African Development Bank is undertaking the construction of Orom Water Supply and Sanitation project. The project covers a total of 107 villages in Katwotwo-Lakwanya, Agoromin, Agoromin City, Kalabong, Pudo, Longor and Acholibur in the districts of Kitgum, Agago and Pader respectively.

In a bid to improve the hygiene and sanitation status of the communities within the supply area, 3No. 10 stance lined VIP latrines with menstrual hygiene room and incinerator are under construction at Orom primary school (978 pupils), Acholibur primary school (1470 pupils) and Longor primary school (1006 pupils). Home Improvement Campaigns were carried out to improve the hygiene and sanitation practices, reaching a total of 2,959 persons with key hygiene and sanitation messages.

Public Highway Sanitation Project-PHWSP

Open defecation is prevalent among travellers due to the limited number of public sanitation facilities on the different highways in the country. Ministry of Water and Environment in its efforts to address sanitation problems along the major highways in the country is constructing a Highway public sanitation and hygiene facility with a complex having provision for auxiliary services (restaurant, pharmacy, parking and a mini grocery) in the district of Kiruhura. By end of the reporting period, progress of physical works was estimated at 85%

Figure 60: Photos of Highway Public Sanitation and Hygiene facilities in Kirihura district

Case study of FINISH MODIAL: an innovative approach to accelerating access to basic sanitation

FINISH stands for: Financial Inclusion Improves Sanitation & Health and aims for sanitation for all through an integrated model that addresses both the demand and supply side of the sanitation challenge.

FINISH Mondial Uganda is being executed using the Diamond approach which brings together the key sanitation stakeholders: Clients who are mainly households who demand for sanitation services; Sanitation Businesses or entrepreneurs who provide quality and cost effective sanitation services and products; Financial Institutions who provide sanitation financing to both entrepreneurs and households; and Government which provides an enabling environment including coordination and regulation.

The DIAMOND APPROACH

In Uganda, the FINISH Mondial Programme is a strategic partnership between WASTE, AMREF Health Africa, Flying Doctors, and Aqua for All. In Uganda, the Programme is being implemented by AMREF Health Africa and Caritas Fort Portal – HEWASA with the former focusing on demand creation and Government Engagement while the latter focusing on Supply chain development.

The key objectives of the Programme are:

i. To foster Universal Access to safe and well managed Sanitation facilities
ii. To have Healthier and economically empowered communities.

achieve these objectives, the Programme works with a multi-stakeholder approach which involves the entire value chain. By mobilizing the supply side of sanitation while integrating financial resources into the value chain, the Programme raises awareness on and creates demand for sanitation services amongst end-users.

The Programme guarantees that people are aware of the need for a safe and durable toilet, and communicates that people who want to buy one can afford it, and that toilets can be built by local masons can build one.

FINISH Mondial started in Uganda in July 2018 in the Districts of Kabarole and Bunyangabu with the first 12 months seeing a realization 12,081 sanitation latrines with washable floors. The Programme has since scaled both geographically to cover the districts of Kamwenge and Kyenjojo and along the sanitation ladder to realize 9,191 safely managed sanitation systems during the period July 2019 to June 2020 and 8,630 during the period June 2020 to July 2021. Below is a summary of results achieved by FINISH Mondial Uganda from July 2018 to June 2021.

This program has continued to prove that market-based sanitation approaches are possible even in rural areas and have the ability to propel rural communities from a state of having unimproved toilets to improved toilets within the resources available at household level.

Table 67: Achievements of FINISH Mondial (2019 – 2021)

Key Performance indicators	Indicator	Numbers Achieved		
Description		**2019**	**2020**	**2021**
Demand for improved sanitation systems	# Demand created	21,453	15,991	18,223
Improved sanitation systems constructed	# Improved systems constructed	12,081	9,191	8,630
People Living Healthier Lives	# People Living Healthier Lives	60,405	45,955	43,150
Financial leverage from Fis	*WASH Loan Portfolio (EUR)*	1,816,150	1,478,650	1,594,500
Entrepreneurs trained	*# entrepreneurs trained*	*303*	*707*	*647*
Employment Generated	*# man hours Generated*	773,184	588,224	552,320

7.1.4.4 Urban Sanitation initiatives during FY2020/21

Access to Faecal Sludge Management Services

A nationwide sector assessment supported by World Bank Water and Sanitation Program (WSP) in 2014, identified fifty (50) potential clusters of small towns to be provided with shared FS treatment/disposal infrastructure to help improve faecal sludge (FS) service chain management across Uganda. To date, less than 40% of the number of clustered towns has been provided with the needed treatment facilities but without improved collection capacity. The Ministry is therefore directing its efforts towards improving the situation by providing additional treatment facilities and improving collection capacity to ensure universal access to all small towns' dwellers by 2030, in line with Government development aspirations and the Sustainable Development Goals (SDGs).

Construction of Faecal Sludge Management facilities and appropriate sewerage infrastructure in small towns

The Small Towns Water and Sanitation sub sector has constructed Faecal Sludge Management (FSM) in the small towns of Kamuli, Dzaipi, Nakasongola to completion and designed the FSM facilities in the towns of Wobulenzi, Kiira Municipality, Kigumba Town Council (TC), Kanungu, Kyazanga, Namutumba, Kapchorwa, Patongo, Moyo, Nebbi Nakapirpiirit, Buliisa. Delays in completion of the designs was caused by the COVID-19 pandemic which affected the recruited consultant to move on with the tasks during the lock down period.

In addition, the existing potential for reuse is not adequately explored to maximize the related economic benefits. Several initiatives on Faecal Sludge (FS) reuse exist, but are not coordinated to derive synergies and draw lessons to improve performance. Reuse benefits can contribute to part recovery of operation and maintenance costs, and creation of job opportunities to improve livelihoods, particularly for the urban poor. A systematic and coordinated assessment of FS reuse market potential, together with development of strategies for promotion, marketing and sales would provide the opportunity to maximize related economic benefits.

Table 68: Location, towns serves and status of design of Faecal Sludge Treatment Plants

Town/Proposed location of FSTP	Cluster Towns to be served	Region	Status
Wobulenzi	Wobulenzi, Luwero, Bombo, Semuto Zirobwe, Busiika, Bamunanika, Kiwoko	Central	Designs completed
Kiira Municipality	Kiira, Kasangatti, Namugongo, Seeta, Kyaliwajala		Completed
Kigumba TC	Kigumba, Bweyale, Kiryandongo, Katulikire		Completed
Kanungu	Kanungu, Kihiihi, Katete, Kambuga, Butogota	South West	Completed
Kyazanga	Kyazanga, Kinoni, Mbirizi Lyantonde		Completed
Namutumba	Namutumba, Kaliro, Bugiri, Idudi, Namungalwe	East	Completed
Kapchorwa	Kapchorwa, Sipi, Binyiny		On-going
Patongo	Kalongo, Pader, Patongo	North	On-going
Moyo	Moyo, Laropi, Lefori, Arra / Dufile		On-going
Nebbi	Nebbi, Paidha, Pakwach		On-going

To ensure sustainable delivery of infrastructure and services along the entire sanitation value chain (containment, collection, treatment and reuse), it is necessary that each link along the chain be developed based on appropriate business models, supported by relevant and effective regulation and institutions. Given a supportive environment, and based on experience in Kampala, this is likely to attract private sector participation and financing to accelerate delivery along the chain, once the business models are demonstrable and can result in achieving some margin of profit.

At the request of the Government of Uganda, the African Water Facility has provided funding support for consultancy services to undertake stakeholder consultations and prepare feasibility studies, detailed designs and investment plans for faecal sludge management in un-sewered urban centres in Uganda. The results of the studies and designs will inform stakeholders and development partners on the investments required, and will help mobilize resources to finance related infrastructure and services. The Towns under design are as Shown in the Table below;

Access to improved Sanitation Facilities

Construction of public toilets during the FY 2020/21 to improve access to improved sanitation and hygiene in the Towns is summarized as shown in the table below;

Table 69: Improving Access to Public Sanitation Facilities

Planned	Achieved	Implementing Agency	Remarks
05 gender segregated institutional lined VIP latrines in Kazo cluster, Karago TC, Lwemiyaga RGC, Bigando RGC, Nyakatonzi RGC	• Kazo cluster at design stage under WSSP III land is identified and in acquisition process. • Construction in Bigando and Nyakatonzi RGCs is complete WHILE in Lwemiyaga RGC construction is at 98% completion	WSDF – South West	All the institutional toilets are 05 stance each and are gender segregated Construction of institutional/public sanitary toilet facilities in Karago TC is planned for in phase 2
Develop 03 Town Sanitation Plans for Nyakashaka TC, Nabigasa TC and Kabu-ra-Mwizi TC	Town Sanitation Plans for Nyakashaka, Nabigasa and Kabura-Mwizi towns to be developed		Development of the Town Sanitation Plans scheduled for FY 2021/2022
Eight 8-stance water borne public toilets in the urban councils of Tirinyi, Luuka, Nakapipirit, Suan, Kibuku, Buwuni, Bulambuli and Kachumbala	1 public toilet in Bulangira completed	WSDF-East	All the institutional toilets are 8-stance each and are gender segregated.

Other Initiatives and projects to improve sanitation and hygiene

The Ministry of Water and Environment through WSDF South West and Central Umbrella of Water and Sanitation constructed Kasali FSTP to address the sanitation challenge of sewerage and it is currently managed by Central Umbrella of Water and Sanitation. The FSTP has been in operation since January 2019 to date and the facility serves Kyotera District and the nearby areas of Lyantonde, Rakai and Masaka Districts. Kasali FSTP receives atleast 10 trips per a month. Kyotera town being one of the beneficially district to desludge it's feacal waste to Kasali FSTP, the percentage of emptiable toilet facilities is still low (VIP toilets, lined pits, septic tanks) since the town is characterized with traditional pit latrines.

With the intense awareness creation on safely managed for the population served, there is has been a significant change in peoples' behaviour and this has greatly reduced on unsafe disposal of waste in the open drainage channels and the wetlands and communities have been informed that waste can be collected using cesspool emptier trucks since most of the building plans are only approved by the districts only if a structure to be erected has a lined VIP and a water borne toilet facility in place.

Kasali FSTP team have engaged Kyotera district sanitation committee, Health Inspectors and all the different sub counties and town councils, some community based organizations, development partners among others in the different meetings to ensure that faecal waste is safely managed and ensure that sanitation marketing done at different levels of community engagements. However, key issues tackled include how best they can improve water and sanitation issues in the district.

Different initiatives like marketing, Central umbrella for Water and Sanitation is working together with (USHA) Uganda sanitation for health Activity-Masaka office to market Kasali FSTP facility in areas with in Kyotera district and the surrounding areas so as to improve the sanitation status in Kyotera. The main objective is to create an environment free from feacal matter considering the

health and safety of feacal sludge entrepreneurs (FSMEs) and this is done through use of vouchers and stickers that are distributed throughout the communities.

Sales agents initiative under this, sales agents were selected from the existing VHTs and trained by USHA to do marketing and they are paid on commission basis. For every job they get they are entitled to 5% of the total pay for that particular job and they are motivated to market further and get clients.

In addition to sales agents Kasali FSTP operator works with blockers most especially people that do plumbing work and they rpovide leads at times and they are paid accordingly depending on the number of trips got from that particular client brought on board.

Liaising with health inspectors from sub counties and town councils that do regular inspection in people's homes, businesses and hotels there by identifying those in need of emptying sewage and compelling them to do so while giving those particular people our contacts so as to get the sewage emptying service.

Radio programmes and announcements. This was funded by USHA and through it people got to know about the facility some called for the service whereas others promised to call when their toilets are due for emptying.
Government initiative of construction of lined ventilated improved pit latrines in schools and health facilities has also helped in widening our customer base.

Most of it all Kasali FSTP has a Marketing Officer employed by Cuws that is also responsible for marketing and sensitizing the community about Kasali FSTP facility and benefits of emptying their toilets and also guides communities in constructing emptiable toilets.

The Kyotera Town Council Authorities has also ensured that they only approve plan having emptiable toilet facilities like septic tanks and this has greatly helped in increasing the number of emptiable toilet facilities since this was passed by Government of Uganda in 2020 Kasali FSTP expects to even perform better in the coming years.

Figure 61: Faecal Sludge treatment plant

Social behaviour change communication for construction and use of improved sanitation facilities in urban areas.

The communication for construction and use of improved sanitation facilities in urban areas was conducted across the Country by the WSDFs, Umbrellas of Water and Sanitation and the MWE Main stream project interventions. These were conducted through trainings, radio and TV talk shows, Sanitation mobilization campaigns, community mobilization and sensitization campaigns. The campaigns were conducted in 129No out of 218No. Rural growth centres indicating a performance of 59.2%. Urban centres targeted. The Covid-19 pandemic affected the physical trainings within communities since online option was not applicable in such cases.

7.1.4.5 Progress on Sanitation and Hygiene Indicators

Basic Sanitation

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

Access to basic sanitation in rural areas during the reporting period increased to 19.5% from 18% reported in the previous FY. This could be attributed to people who have upgraded their sanitation facilities from unimproved to improved, especially following initiatives like Market Based Sanitation that are targeting increasing access to basic sanitation. Whilst the basic sanitation coverage for urban areas was reported at 46.2% up from 44.8% reported in the FY 2019/20.

Sanitation Coverage (proportion of the population accessing any form of sanitation facility regardless of its quality) dropped from 78% in the Financial Year FY 2019/20 to 76.4% in the FY 2020/21 in the rural areas and increased from 89.1% to 89.7% in the urban areas. This implies that the proportion of the population practicing open defecation increased to 23.6% from 22%.

The drop-in coverage is attributed to flooding in the districts lying in the flood plain, slippage in the districts previously funded under the Uganda Sanitation Fund as well as COVID 19 movement restrictions that could have reduced the follow up visits by extension workers.

Safely Managed Sanitation

Safely managed sanitation is defined as the "percentage of the population using improved sanitation facilities not shared where excreta is safely disposed insitu or transported and treated off site" and computed as *{(A+B+C)/D}*100 A denoting total household population disposing safely insitu, B- total household population reported to have emptied and transported excreta by gulpers/cesspool emptier, C- total household population using sanitation facilities connected to a sewer system, and D- total household population of District i.e. RGCs and Sub-counties.*

The percentage of the national population having access to safely managed sanitation in rural areas was reported is 8.2 % up from 7% reported in the FY 2019/20. This could be attributed to the increase in access to faecal sludge management services which has been achieved through construction of new faecal sludge treatment plants across the country as well as provision of cesspool emptying trucks.

Percentage of population using safely managed sanitation in urban areas increased to 39.6% up from 38.9% which is attributed to the intensified sensitization and sanitation marketing strategies for emptying services available in the regions by Umbrellas of Water and Sanitation under Ministry of Water and Environment and other sector players/ partners hence raising public awareness.

Sector Indicator 3: Open Defecation

Open defecation is defined as "percentage of the population practicing open defecation" *and calculated as (H/I) *100 H denoting total number of people in households practicing open defecation, and I total household population in a District i.e., RGCs and Sub-counties.*

The population that practices open defecation was reported to be 23.6% up from 22% reported in the FY 2020/21 in rural areas while in urban areas, 10.3% percent practice open defecation. This means that an additional 657,627 people lost access to any form of sanitation and reverted to open defecation. This could be attributed to failure of people to upgrade from unimproved sanitation which is usually not sustainable and prone to damage by the effects of extreme weather like floods to more sustainable improved sanitation. When those unimproved sanitation facilities fill up or get damaged during flooding events, households are usually reluctant to construct new ones especially because of competing needs in the households.

Hand washing at house hold level

Hand washing is measured as "percentage of people with access to hand washing facilities" *and computed as (M/N)*100, M denoting total number of households with hand washing facilities, and N total number of households in the locality.*

Handing washing with soap registered a 6.7% increase, going to 44.7% from 38% reported the last FY 2020/21. The increase in coverage is attributed to the COVID-19 response messaging which has resulted to positive behaviour change amongst the population towards hand washing with soap. In urban areas, hand washing with soap dropped from 61.1% to 54.7% in the FY 2020/21 and this has been attributed to laxity of the population to provide handwashing facilities.

A trends analysis of sanitation and hygiene over a five-year period is provided in this section together with the performance of the different regions across the country.

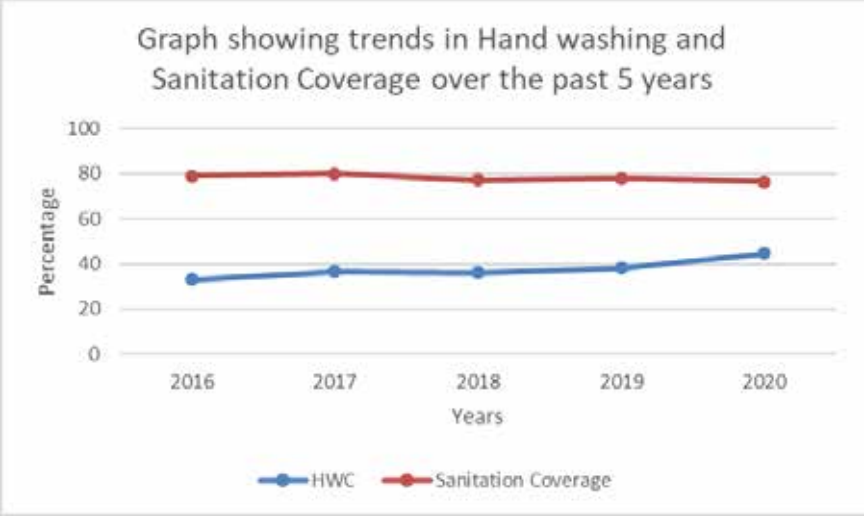


Figure 62: Trends of sanitation and handwashing coverage over the past five years

Sanitation coverage has generally stagnated over the last five years while the handwashing coverage has experienced a leap in the positive direction and this is mainly attributed to the COVID 19 prevention efforts. Greater and innovative efforts are needed to propel access to especially improved sanitation even higher as well as sustain the achievements gained in hand hygiene.

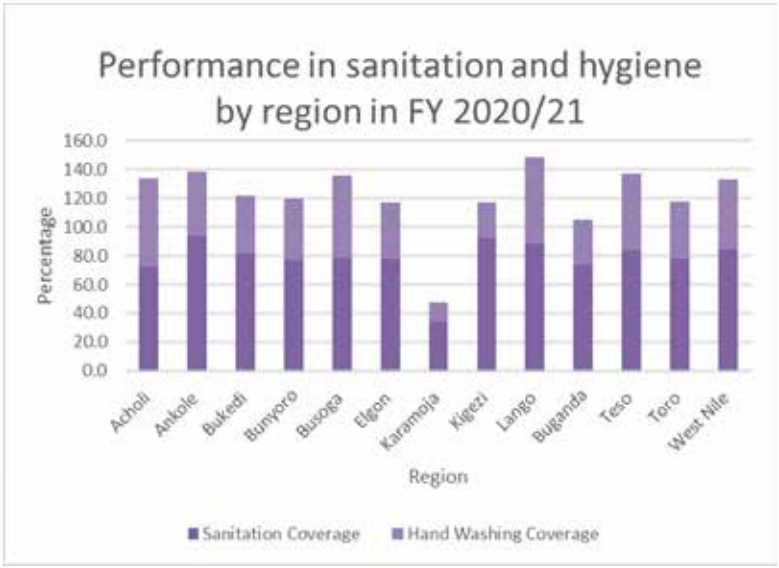


Figure 63: Rregional performance in Sanitation and Hand hygiene for the FY 2020/21

Nearly half of the regions (Elgon, Karamoja, Bukedi, Bunyoro and Toro) fall below the national average (44.7%) for hand washing coverage while only 2 regions of Acholi and Lango report hand washing coverage above the national average.

At least three quarters of the regions report sanitation coverages above the national average of 76.4% with Karamoja and Buganda registering the lowest sanitation coverages compared to the national average. This is mainly attributed to the largescale sanitation projects like USHA and USF that have been implemented in the regions of Teso, Lango, West Nile, Bukedi and parts of Busoga.

7.1.4.6 Key Emerging Issues

The following issues have been identified and need to be addressed if the country is to achieve universal access to safely managed sanitation and hygiene services.

i. Institutional Sanitation and Hygiene needs to be addressed urgently to create safe and hygienic spaces and leave no one behind in learning institutions, prisons and health care facilities.

ii. Menstrual Hygiene Management needs to be addressed if the needs of girls and women are going to be handled as per the SDG 6.2 requirements.

iii. Popularization of the measurement framework for sanitation and hygiene amongst national and local actors needs to be prioritized to create a common understanding of what is being measured and thereby inform sanitation and hygiene programming.

7.2 MWE CONTRIBUTION TO AGRO-INDUSTRIALISATION

7.2.1 WATER FOR PRODUCTION

7.2.1.1 Introduction

Water for Production (WfP) refers to development and utilization of water resources for productive use in crop irrigation, livestock, aquaculture, rural industries, energy 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 but there is a sharp increase in demand primarily due to climate change and degradation of natural resources. The current mandate for WfP facilities in Uganda is shared between MWE and other Ministries.

For water for Agricultural development, MWE is responsible for "off-farm" activities, while Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is responsible for "on-farm" activities. "Off-farm" refers to development of water sources and transmission (bulk transfer to farm gates) and "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.

The Ministry of Water and Environment through the Water for Production Department is one of the Implementing Agencies of the Agro-Industrialization Development Programme. This Programme contributes to the NDP III objective one which is; **"to enhance value addition in key growth opportunities".**

72.1.2 Water for Production Outcome Indicators

Cumulative Water for production storage capacity (Million cubic meters)

During the FY 2020/21, MWE developed infrastructure and services for bulk water storage and transfer among them were;

i. **Earth dams:** Tochi (4.8 Billion litres) in Oyam District, Ngenge (250 Million litres) in Kween District, Wadelai (8 Billion litres) in Nebbi District and Mubuku II (140 Million litres) in Kasese District. This has created a water storage capacity of 13.190 billion litres for multi-purpose use with main focus on irrigation development. MWE has completed feasibility studies and detailed design of Kyenshama earth dam in Mbarara District and Geregere earth dam in Agago District.

ii. **Valley tanks:** Twenty-eight communal valley tanks in 21 Districts of Nabilatuk, Kotido, Amudat, Kaabong, Karenga, Soroti, Butebo, Kapelebyong, Kumi, Bukedea, Kaabong, Kotido, Lyantonde, Bugiri, Luweero, Nakasongola, Omoro, Arua, Dokolo, Agago and Kayunga creating a water storage capacity of 517 million litres serving 69,763 livestock.

Construction of eight communal valley tanks was in advanced stages of completion in eight Districts of Nakapiripirt, Mbale, Tororo, Kiryandongo, Nwoya, Kibaale, Kiruhura, Isingiro and Sembabule. Thirty-five valley tanks were constructed on individual farms using the WfP construction equipment in nine Districts of Kiruhura, Mbarara, Kazo, Ntungamo, Gomba, Sembabule, Rakai, Lyantonde and Mubende creating a water storage capacity of 96 million litres serving 22,858 livestock.

As a result, the cumulative Water for Production storage increased from 42.025 Million cubic meters in FY 2019/20 to **52.165** Million cubic meters in the FY 2020/21**.** The target under NDP III for the FY 2020/21 is 54.32 Million cubic meters, this implies 96% of the planned target was achieved.

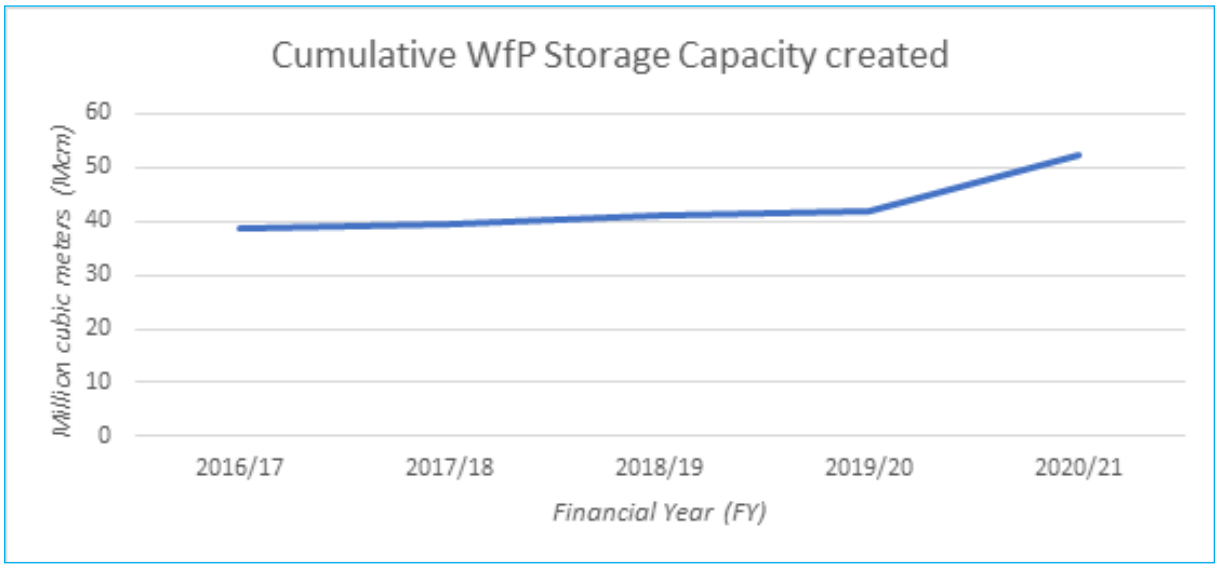


Figure 64: Trend in Cumulative WfP Storage Capacity created in the last 5 years

Area under formal irrigation (ha)

In order to address the challenges of climate change and food insecurity across the country, the Ministry of Water and Environment through the Water for production department has constructed to completion small and medium scale irrigation schemes across the country increasing on the total area under formal irrigation from **15,397 ha** in FY 2019/20 to **19,764 ha** in the FY 2020/21. Uganda's Irrigation potential stands at 3,030,000 hectares, however, the target under NDP III for the FY 2020/21 is 19,776 hectares, this implies 99% of the planned target was achieved. During the FY 2020/21, the Ministry completed the construction of the following schemes.

a) **Medium Scale Irrigation Schemes:** Six (6) medium scale Irrigation schemes of Ngenge (880ha), Rwengaaju (116ha), Tochi (500ha), Mubuku II (480ha) and Doho II (1,000ha) and Wadelai (1,000ha) in the Districts of Kween Kabarole, Oyam, Kasese, Butaleja and Pakwach respectively with a total of 3976 hectares. The main enterprises are rice and horticulture (onions, green pepper, tomatoes, watermelons and cabbages) with a total production yield of 11,750 tons of rice per season.

   Detailed designs are being undertaken for the following mega and large Irrigation schemes; Lopei (5,000 ha) in Napak, Namalu (2,200 ha) in Nakapiripirit, Unyama (2,000 ha) in Amuru and Gulu, Rwimi (2,000 ha) in Bunyangabu and Kasese, Amagoro (5,000 ha) in Tororo, Matanda (3,000 ha) in Kanungu, Enengo (2,500 ha) in Rukungiri and Kanungu, Imvipe (2,500 ha) in Arua, Nsonge (1,800 hectares) in Bunyangabu, Mpanga (1,500 hectares) in Kamwenge and Kyenjojo Districts, Nyamugasani (1,750 ha) in Kasese and Palyec (2,000 ha) in Nwoya.

b) **Small Scale Irrigation Schemes:** Forty eight (48) small scale Irrigation schemes in forty (40) Districts of Oyam (1), Omoro (2), Dokolo (1), Kitgum (1), Zombo (1), Nwoya (1), Agago (1), Kiryandongo (1) Luweero (1), Nakasongola (2) Nebbi (1), Pader (1), Hoima (1), Kibaale (1), Kalangala (1), Buvuma (1), Mpigi (1), Rakai (1), Kanungu (1), Rukungiri (3), Buhweju (1), Isingiro (1), Kasanda (2), Lwengo (1), Mbarara (2), Ntungamo (1), Kayunga (1), Kaberamaido (1), Serere (1), Napak (1), Bukedea (1), Busia (1), Mbale (2), Kapchorwa (2), Amuria (1), Budaka (1), Butebo (1), Kumi (1), Soroti (1) and Kapelebyong (1). This has increased the country's irrigable area by 965 acres benefitting 10,421 farmers directly and indirectly through provision of labor. The major crop enterprises are cabbages, Irish, tomatoes, apples, onions, pineapples, matooke, coffee, watermelons, green pepper, egg plants, vanilla, grapes, mangoes, coffee, tea and pumpkins.

Works are in advanced stages of completion for construction of 35 small scale Irrigation schemes in 31 Districts of Zombo, Oyam, Dokolo, Nwoya, Omoro, Agago, Nakasongola, Kiryandongo, Buhweju, Buvuma, Hoima, Ibanda, Isingiro, Kalangala, Kanungu, Kasanda, Kibaale, Kyankwanzi, Kyenjojo, Mbarara, Mpigi, Ntungamo, Rakai, Rukungiri, Soroti, Tororo, Namayingo, Sironko, Kapchorwa, Mayuge and Kayunga. Feasibility studies and designs of 43 small scale irrigation systems were completed.

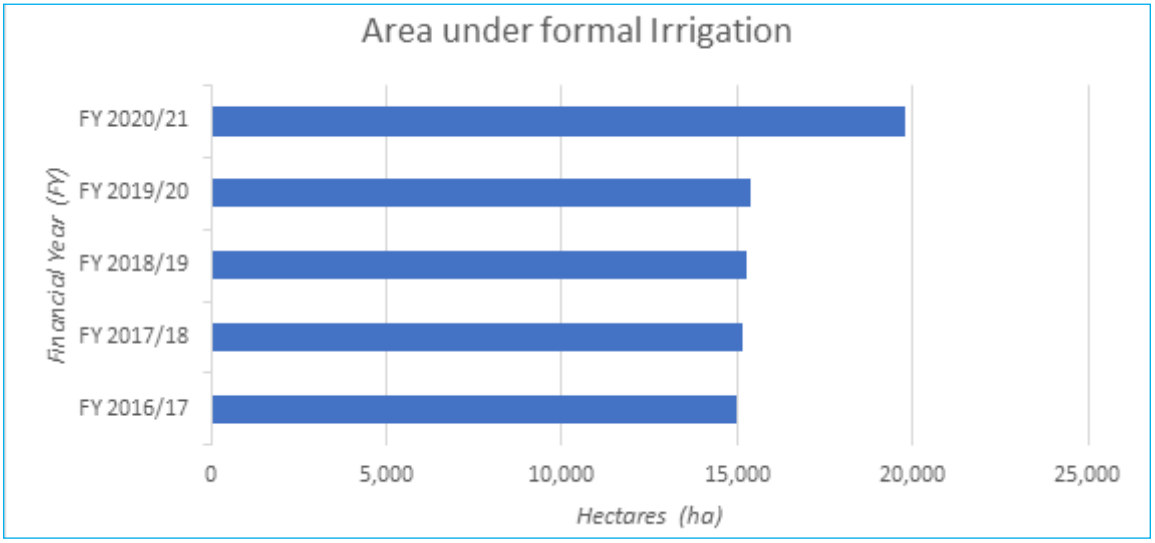


Figure 65: Trend in Area created under formal Irrigation in the last 5 years

% of water for production facilities that are functional at the time of spot-check

The functionality of Water for production facilities improved from **87.8%** in FY 2019/20 to **87.9%%** in F/Y 2020/21. At the time of spot check, **88.2%** of the Water for Production facilities had functional Management Systems in place. The target under NDP III for the FY 2020/21 is 87.7%, this implies 100% of the planned target was achieved and exceeded.

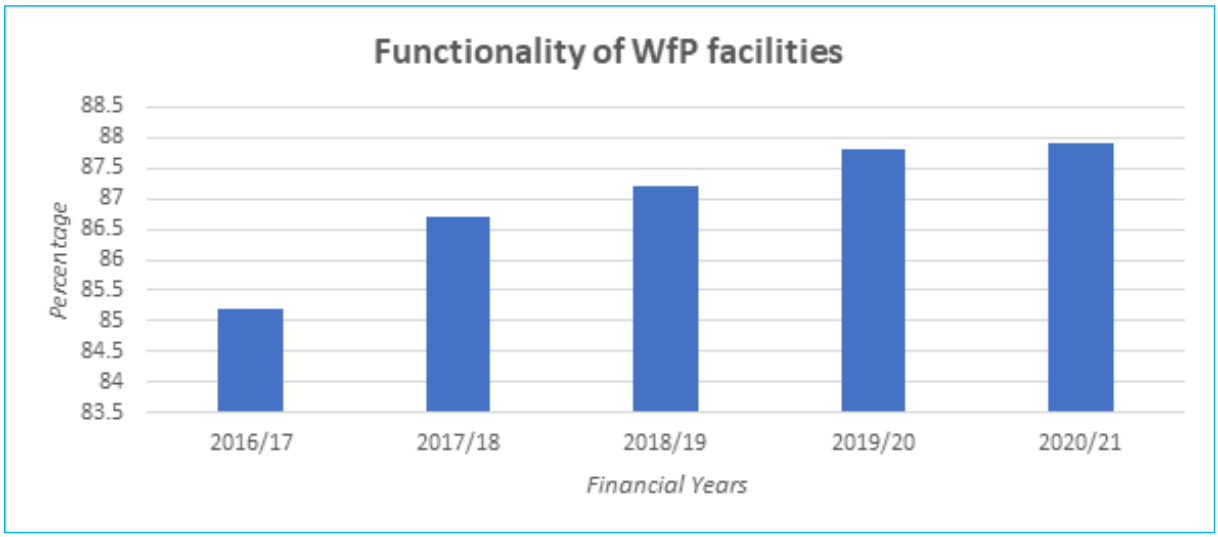


Figure 65: Trend in Functionality in the last 5 years

72.1.3 Water for Production Interventions

Completion of the irrigation schemes under construction/rehabilitation

Six Schemes of Doho Phase II, Mubuku Phase II, Wadelai, Tochi, Ngenge and Rwengaaju constructed to substantial completion in the Districts of Butaleja, Kasese, Pakwach, Oyam, Kween and Kabarole respectively. The schemes are still under defects liability period.

Water Management Structures were formed for all the Six Irrigation schemes for their sustainable management.

Figure 66: Intake chambers at Rwengaaju Irrigation scheme in Kabarole District

Figure 67: Water delivered on the farm through sprinkler at Rwengaaju Irrigation scheme in Kabarole District

Figure 68: Structures at Night storage reservoir 3 completed and under use at Ngenge Irrigation scheme in Kween District

Figure 69: Kabajiria Head Works completed and in use by the community at Ngenge Irrigation scheme in Kween District

Construction of new medium to large scale irrigation schemes

Detailed designs are still being undertaken for the following mega and large Irrigation schemes; Lopei (5,000 ha) in Napak, Namalu (2,200 ha) in Nakapiripirit, Unyama (2,000 ha) in Amuru and Gulu, Rwimi (2,000 ha) in Bunyangabu and Kasese, Amagoro (5,000 ha) in Tororo, Matanda (3,000 ha) in Kanungu, Enengo (2,500 ha) in Rukungiri and Kanungu, Imvipe (2,500 ha) in Arua, Nsonge (1,800 hectares) in Bunyangabu, Mpanga (1,500 hectares) in Kamwenge and Kyenjojo Districts, Nyamugasani (1,750 ha) in Kasese and Palyec (2,000 ha) in Nwoya. Construction commencement of new Irrigation schemes is pending design completion.

Rehabilitate and /or expansion of existing irrigation schemes

Rehabilitation works of Kiige, Odina, Ongom, Agwata and Atera irrigation schemes was planned to commence in the FY 2021/22.

Development of micro and small-scale irrigation systems for small holder farmers outside conventional irrigation schemes.

Constructed 48 small scale Irrigation schemes in 40 Districts of Oyam (1), Omoro (2), Dokolo (1), Kitgum (1), Zombo (1), Nwoya (1), Agago (1), Kiryandongo (1) Luweero (1), Nakasongola (2) Nebbi (1), Pader (1), Hoima (1), Kibaale (1), Kalangala (1), Buvuma (1), Mpigi (1), Rakai (1), Kanungu (1), Rukungiri (3), Buhweju (1), Isingiro (1), Kasanda (2), Lwengo (1), Mbarara (2), Ntungamo (1), Kayunga (1), Kaberamaido (1), Serere (1), Napak (1), Bukedea (1), Busia (1), Mbale (2), Kapchorwa (2), Amuria (1), Budaka (1), Butebo (1), Kumi (1), Soroti (1) and Kapelebyong (1).

Works are in advanced stages of completion for construction of 35 small scale Irrigation schemes in 31 Districts of Zombo, Oyam, Dokolo, Nwoya, Omoro, Agago, Nakasongola, Kiryandongo, Buhweju, Buvuma, Hoima, Ibanda, Isingiro, Kalangala, Kanungu, Kasanda, Kibaale, Kyankwanzi, Kyenjojo, Mbarara, Mpigi, Ntungamo, Rakai, Rukungiri, Soroti, Tororo, Namayingo, Sironko, Kapchorwa, Mayuge and Kayunga.

Figure 70:Harvested watermelons at Namutya Small Scale Irrigation Scheme in Kayunga District

Figure 71: Ogolo Small-scale Irrigation Scheme in Adjumani District

Development of infrastructure and services for bulk water storage and transfer

Twenty eight communal valley tanks in 21 Districts of Nabilatuk, Kotido, Amudat, Kaabong, Karenga, Soroti, Butebo, Kapelebyong, Kumi, Bukedea, Kaabong, Kotido, Lyantonde, Bugiri, Luweero, Nakasongola, Omoro, Arua, Dokolo, Agago and Kayunga creating a water storage capacity of 517 million litres serving 69,763 livestock.

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Thirty five valley tanks were constructed on individual farms using the WfP construction equipment in nine Districts of Kiruhura, Mbarara, Kazo, Ntungamo, Gomba, Sembabule, Rakai, Lyantonde and Mubende creating a water storage capacity of 96 million litres serving 22,858 livestock.
Construction is ongoing for the two individual Valley tanks in the Districts of Kasese (1) and Kazo (1).
The reduction was attributed to the outbreak of COVID 19 which came with a lot of restrictions and economic impact.

Increase capacity to provide water for livestock among farming communities

The Ministry has a total of 15 functional Sets of construction Equipment distributed in the regions of North, West, East, Central and Karamoja. To date, a total of 1,272 valley tanks have been constructed under this arrangement mainly on individual farms through Public Private Partnership Arrangement.

Promote the efficient use of water for agricultural production

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.

All the completed facilities have Water Management Structures were formed for all the completed facilities. This has contributed to efficient utilization of the created storage and sustainability of the facilities.

Complete the preparation of the National Irrigation Master Plan for Uganda

Process of procuring a consultant to undertake the assignment is ongoing (Evaluation of the technical proposals is ongoi.

CHAPTER 8

CONTRIBUTION OF CSOs/ NGOs TO NRECCLWM PROGRAMME

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CONTRIBUTION OF CSOs/NGOs TO NRECCLWM PROGRAMME

8.1 Environment and Natural Resources Civil Society Organisations (ENR-CSOs)

8.1.1 Introduction

For the FY 2020/21, 16 members of the Environment and Natural Resources (ENR) Civil Society Network provided information for this report, compared to the 22 that submitted last financial year. The reduction in reporting is partly attributed to the COVID-19 pandemic disruptions that have led to suspension of some of the projects, reduced funding opportunities due to change in priorities, while the lockdown presented implementation challenges due to limited movements and restricted gathering.

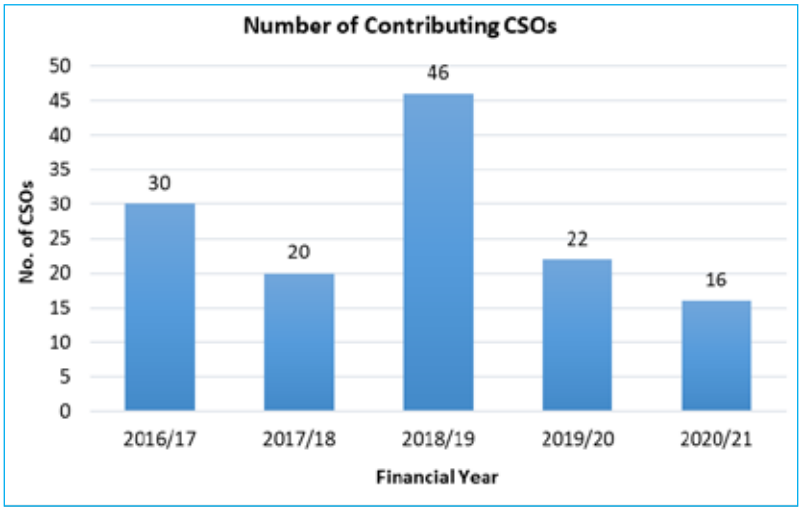


Figure 72: ENR CSOs reporting (n=16).

8.1.2 Financial contribution of ENR CSOs to the programme

ENR CSOs contributed USD 1,223,325 in implementing activities (**Figure 72**), in the thematic areas of forestry, environment, climate, governance, wetlands, water resources management and land administration. Cross cutting issues comprised of gender issues, HIV and COVID-19 pandemic. This contribution continues to decline from what was spent the previous financial year due to the impacts of the Pandemic and associated lockdown that hindered implementation of most of the planned activities. Development partners, too, adopted new funding decisions and new funding models in response to the global COVID-19 pandamic crisis.

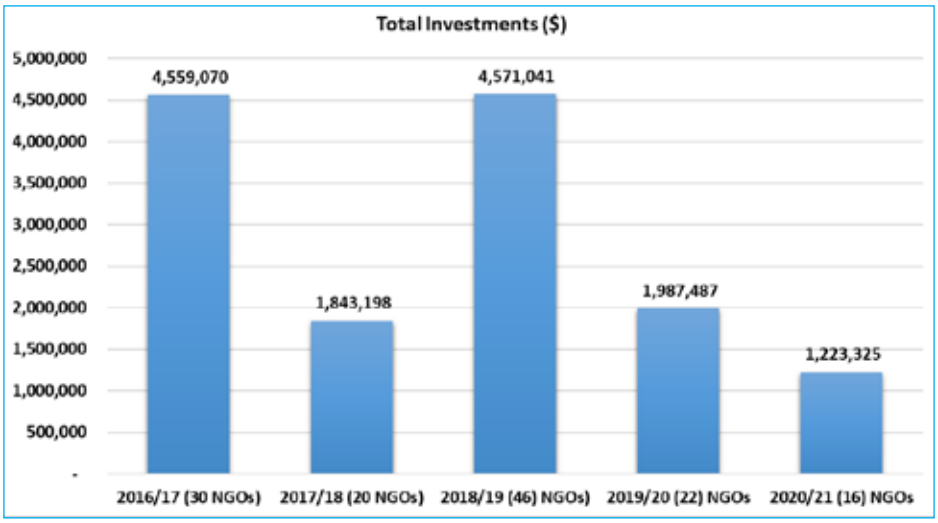


Figure 73: Investment made in the Financial Year.

Of the USD 1,223,325, 67% was spent on forestry, 6.8% environment, 1.2% wetlands, 19.1% weather, climate and climate change, 0.6% governance of environment and natural resources, 2.8% water resources management and 2.4% energy. **Table 70** presents details of the funds for each thematic area.

Table 70: ENR Sub sector investment

Thematic area	Amount (USD)	Percentage (%)
Forestry	821,079.3	67.1
Environment	83,078.4	6.8
Wetlands	14,700.0	1.2
Climate	233,549.7	19.1
Governance	7,514.1	0.6
Water management	34,457.8	2.8
Energy	28,945.9	2.4
	1,223,325.2	**100**

8.1.3 Strengthen conservation, restoration of forests, wetlands and water catchments and hilly and mountainous areas:

Tree growing initiatives

The ENR CSOs supported distribution and planting of over **825,640 assorted tree seedlings** including both exotic and indigenous thus contributing to restoration of over **743 hectares** of forest land in different parts of the country. In addition to the seedlings planted, the CSOs supported establishment of five tree nurseries in Rukiga, Lira, Alebtong, Agago and Kapelebyong districts in Aswa Catchment in northern Uganda. The nurseries produced seedlings that supported restoration of over 795 hectares of degraded land in catchments, protected areas and community land (on farms and public spaces).

Tree species promoted included agroforestry species, fruit trees and indigenous tree species. A survival rate of 63% was reported. In addition to the tree planting, the CSOs are promoting the

concept of Farmer Managed Natural Regeneration (FMNR), as a low-cost approach to regreening landscapes, improving food security and livelihoods, and building climate resilience. Nationwide ***regional trainings on FMNR and income generating enterprises were organized attracting 144 institutions and over 1500 households.***

Figure 74: The SUPREME Project (West Nile Refugee Response) trains actors on the Farmer Managed Natural Regeneration model. Photo credit: Supreme Project.

The CSOs supported restoration of Suru and Otumbari forest reserves and woodlands in the districts of Terego and Yumbe through reafforestation, Farmer Managed Natural Regeneration and training of multipliers of the models or strategies. In addition, the CSOs supported establishment and management of five micro-watershed management associations; and establishment and formalization of 63 Agro-Pastoral/ Farmer Field Schools in Nakapiripirit District.

The ENR CSOs supported the process of ***boundary reopening of two forest reserves in Buvuma District.*** In collaboration with Buvuma District Local Government, the CSOs supported reclamation of Nawaitale Local Forest Reserve and opened boundaries for Kakonwa Central Forest Reserve in preparation for restoration/natural regeneration. This was intended to protect the forest habitats for improved environment and ecosystem services. Using the research results produced by the CSOs to guide community based sustainable and inclusive landscape/landuse plans and management, the impacts of oil palm expansion on the two islands in the Kalangala landscape and in the new oil palm hubs were dealt with. Also, important to note is that the ENR CSOs simplified agroforestry farming models in oil palm growing by developing a farmer guide that allows farmers to demonstrate sustainable models of oil palm in oil palm growing hubs.

8.1.4 Restore the natural integrity of degraded wetlands to their ecological functionality;

Structured policy, lobbying and advocacy engagements

The ENR CSOs supported the Regulatory Impact Assessment process to facilitate recently finalized process of developing the Wetlands Policy and associated Bill; and supported the development of the principles to the Wetlands Bill. This was achieved through different stakeholder consultative workshops organized regionally including development of a Position Paper on the impacts of

COVID-19 pandemic and associated lockdowns on wetlands conservation. The CSOs were key in advocating for gender mainstreaming during the Wetlands Policy review process.

Capacity building and information dissemination

The CSOs ***strengthened capacity in Nature-based Solutions for over 99 community members in the areas of Kiwafu East, Lugonjo Upper and Lugonjo – Nakiwogo in Entebbe.*** The training was mainly on establishment of vegetable nurseries, planting vegetable seedlings, proper use of compost and plant based organic pesticides; and urban tree growing. This was intended to ease stress on Namiiro wetland and build community resilience to the rising water levels which happened during the COVID-19 Pandemic. In addition to the training in Nature-based Solutions (NbS), the CSOs trained 15 Community Based Monitors (11 males and 4 females) in social movement and community organizing. CSOs provided COVID-19 pandemic safety equipment to affected communities living close to Namiiro wetland to reduce pressure on this wetland and build their resilience to the impacts of rising water levels if there are advocacy results on gender mainstreaming include.

Eight trainings were organized for 870 community members in northern Uganda. The trainings were intended to build capacity of communities in catchment restoration and natural resource management, including in tree growing, nursery management and planning. At least 65% of the total community members trained were women and youth. In line with the same, CSOs facilitated the process of restoration of 34 hectares of degraded wetlands through participatory process and community led restoration in Opejal parish in Otuke district.

The CSOs utilized different media channels of communication to lobby, advocate and create awareness on key issues affecting sustainable management of the wetlands. ***14 radio talk shows and 12 media briefs were produced on protection and utilization of wetlands, and these reached over 10,000 people districts.***

8.1.5 Improve coordination, regulation and monitoring of environment management at both central and local government levels;

Structured policy, lobbying and advocacy engagements

The ENR CSOs organized and participated in strategic engagements with key policy and decision makers in the forestry sector on specific thematic issues. The CSOs engaged the Ministry of Finance, Planning and Economic Development (MFPED) on the ***development of procurement regulations.*** Members collaborated with the Forest Stewardship Council in the review/appraisal of the draft procurement regulations and identified gaps and recommendations that were packaged as position papers for consideration by the Ministry.

ENR CSOs engaged the Forest Sector Support Department under the Ministry of Water and Environment as part of the review process of the National Forestry Policy and Act (2003). Members ***provided technical inputs into the Regulatory Impact Assessment Report for the Policy and Act and the associated roadmap for the Forestry Policy Review processes.*** It is also important to note that the members have a representative on the National Task Force for the Forestry Policy review.

ENR CSOs conducted a ***Policy Audit of the National Forest and Tree Planting Act (2003) and Public Procurement and Disposal of Public Assets Act to identify gaps within these laws that breed ineffectiveness in forest product industrial development.*** As an outcome, a policy audit report with critical findings and targeted recommendations was generated. The findings were crystallized

and packaged into a CSO position paper that was validated and disseminated through round table discussions involving the National Forestry Authority, Uganda Wildlife Authority, the Public Procurement and Disposal of Public AssetsAuthority, Civil Society Organizations, Private Sector and the Media. Over 60 participants (41 men and 19 women) deliberated on the different issues of concern and provided key actions for future reference ahead of the forestry policy process. The audit recommended: i) harmonization and regular review of fees and taxes; ii) operationalization of Section 102 (4) of the National Forestry and Tree Planting Regulations, 2016, by appointing recognized timber graders; regulation of importation of forest products, limiting importation to only those that cannot be locally produced; and assigning a forest trade development to a specific institution with a fully-fledged institutional mandate to manage forest trade.

The ENR CSOs started ***the Save Bugoma Forest Campaign*** that targeted to save part of Bugoma Central Forest Reserve from the ongoing land use change to sugarcane production by Hoima Sugar Ltd. The CSOs have since implemented various activities/engagements including social media campaigns; engagements with various development partners; and have recently engaged the Speaker of Parliament to intervene. Since add who petitioned court losing the battle in court against Hoima Sugar Ltd, it has been noticed that the forest is fast disappearing with loss of chimpanzees, elephants and other animals that have died due to the changes in the land use in that part of the forest.

Banner of the Save Bugoma Forest Campaign.

Figure 75: One of the killed chimps in Bugoma Central Forest Reserve. Photo credit: Tessarin.

Capacity building and information dissemination

The ENR CSOs organized and participated in ***strategic engagements conducted between UWA, NFA and the Private Sector*** (Telecom companies i.e., Uganda Telecom, Africell and Airtel) aimed at ensuring that partnerships between telecom companies and MDAs are secured. Apparently, there are already pointers to actualise the work partnerships as expressed by the telecom company representatives. Various products upon which MDAs could ride in supporting law enforcement were shared and these include among others, Ring Back Tone (RBT) where a caller listens to a voice recording of any desired information about conservation, toll free services, SMS short-codes and data tracking services.

ENR CSOs strengthened capacity of 3,057 community members (i.e. 907 males and 2150 females) in natural resources management practices and catchment management. The communities were trained on tree planting practices of pitting and lining along riverbanks among other best practices. In addition, the CSOs supported development of two community-based integrated watershed management plans.

The ENR CSOs organized a Capacity Building E-workshop on Advocacy for forestry policies and legislation for ***143 CSOs, strengthened capacity for forestry reporting, data mobilization and publication on the Global Biodiversity Information Facility Portal. Trained over 135 farmers (39 males and 96 females) in tree planting*** and tree growing in different parts of the country; and produced a ***simplified guide on Good Agroforestry Practices*** (GAP).

ENR CSOs organized ten community dialogues at the lower local government levels on different forestry practices including agroforestry, agro ecological principles and ***supported development of over 11 Memoranda of Understanding (MoUs).*** One MoU was signed with the National Forestry Authority for the restoration and conservation of West Bugwe Central Forest Reserve and the rest were mainly between CSOs and Farmer Community Organizations/ Groups. To step up efforts in disseminating information in West Nile and the Karamoja regions, over 30 Talk Shows were conducted.

Up to 20 volunteers (lion queens and kings) underwent training in Human Wildlife Conflicts specifically targeting conflicts that arise from the carnivores.

Outcomes of the Policy Audit were publicized through a media campaign that was able to reach out to 11,320,376 people. This was done through mainstream media platforms including both print and electronic including a press conference, sponsored media articles in the new vision, daily monitor and Bukedde news monitors, TV shows on UBC television, Uganda Radio Network, Channel 44 and Record TV. These emphasized the need for institutionalizing forest trade within the existing legal frameworks. Over 80 English radio jingles were aired on Radio One calling upon Ministry of Water and environment and Public Procurement and Disposal of Public Assets Authority to consider the proposed recommendations.

8.1.6 Finalize the development of a national Green House Gas Inventory and its Monitoring, Reporting and Verification System (MRVS).

Structured policy, lobbying and advocacy engagements

The CSOs played a huge role in fast tracking the approval of the Climate Change Bill, now an Act. They ***convened stakeholder consultative workshops that were attended by 41 (27 males and 14 females) people representing CSOs, Private sector, academia and representatives of MWE/ CCD among others.*** The engagements noted the need to harmonize and ensure availability of the funds for implementation of climate actions as well as create a balance between climate

change mitigation and adaptation. In addition to these, the CSOs, convened high-level policy engagements on the national climate change legislation and this scrutinized the gains and losses of the draft national climate Bill at the time.

The CSOs reviewed the Climate Change Bill (2020) and ***prepared a memorandum of issues that was submitted to Parliament for consideration before approving the Bill. They also developed a communiqué on the draft National Climate Change Bill with a call to President to expedite the process of signing it into Law***. This was achieved through analytical studies and assessments of the initial public views on the draft National Climate Change Bill and an opinion poll which determined people's perceptions on Climate change in the different regions of the country. 305 participants (214 men and 86 women) were engaged in the assessments. The CSOs also participated in the climate discussions at the UN HLPF 2020 through the INFORSE Side Event & Exhibition; INFORSE at UNFCCC Community Dialogues 2020.

In collaboration with the National Planning Authority, the ***CSOs undertook an assessment on the extent of compliance of the National Budget to the third National Development Plan.*** This informed the final report of the climate change budget compliance assessment report for FY 2021/22. CSOs reviewed the National Budget Framework Paper for 2021/2022 and analyzed the extent of integration of climate change in the National Budget Framework Paper.

The ENR CSOs ***supported the process of organizing national stakeholder consultations to develop and or update the Nationally Determined Contributions (NDCs) for the next five years starting 2020.*** The CSOs developed a technical note on the integration of nature climate solutions in the next round of NDCs (2020-2025). The process engaged all categories of stakeholders including minority groups such as the Batwa and the Karamojong. The consultations happened together with a number of dialogues on climate resilience at both national and regional level. ***04 national dialogues were organized for 46 participants (28 men and 18 women) on issues of gender vulnerabilities, and climate change mainstreaming.*** The structured engagements were largely supported by policy briefing papers some of which communicated content on climate finance mobilization in Uganda, and enhancing community resilience focusing on key climate change priorities during and after COVID-19.

The CSOs participated in stakeholder consultations organized, coordinated and facilitated by the Ministry of Science, Technology and Innovation; and Uganda National Council of Science and Technology that have resulted into ***the Uganda Technology Needs Assessment (TNA) for climate change adaptation targeting Forestry, Agriculture, Water & Energy sectors.*** The TNA and Technology Action Plans (TAPs) were completed and these provide the priority technologies and actions plans for implementation to advance climate change adaptation in the priority sectors.

8.1.7 Scale up use of renewable energy through off-grid electrification and Liquefied Petroleum Gas

Capacity building and information dissemination

The ENR CSOs trained 100 households in making and using energy efficient and saving cooking stoves. A mapping strategy was used to identify three Village Savings and Loans Associations and twelve reliable village energy champions and these supported the installation of about 240 energy saving cooking stoves.

ENR CSOs were able to establish ten partnerships, organized two community energy awareness meetings in which over 76 participants (49 men and 27 women) were sensitized on 100% renewable energy transition for Uganda; and accountability mechanisms for energy coordination. In order to reach out to a wider audience, radio talkshows, exchange visits and position papers were developed and disseminated.

8.1.8 Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Capacity building and information dissemination

The ENR CSOs built capacity of over 592 stakeholders (424 men and 168 women) including: CSOs and CSO Networks, Private sector, selected MDAs and households, in different climate change thematic areas. The ENR CSOs were trained on:

i. How to use different tools for tracking climate adaptation and mitigation finance.
ii. Climate change national reporting obligations i.e., Biennial Update Report, Adaptation Communication, National Communication and Paris Agreement Transparency reporting.
iii. How to explore the inclusion of forestry related indicators in Uganda's NDC.
iv. Climate and Disaster Risk Screening.
v. NDC Transparency Check tool aimed at ensuring clarity, transparency and understanding of the NDC Process.
vi. Traditional and scientific early warning signals and dissemination of climate information.
vii. Shea value chain development to increase their income streams and resilience to climate change impacts through processing/sale of shea products (shea oil, shea fat, Vaseline). The CSOs established 2 shea production units (with capacity of 50L per day) in Otuke and Alebtong districts and these have scaled up cottage level commercial production of shea products with over 6,000 community members benefitting from this enterprise.

Media engagements

The ENR CSOs developed a number of information materials to share information and create awareness on climate change. These included among others: Four radio talk shows and four TV shows mainly on climate resilience; opinion articles on climate change integration in Local Government Planning, climate justice and the nexus between climate change and COVID-19 pandemic. Others include media supplements and IEC materials. Copies of the different materials were disseminated to over 400 people with a target to create more awareness about climate change.

8.1.9 Increase awareness on sustainable use and management of environment and natural resources

Capacity building and community engagement initiatives

The ENR CSOs ***strengthened capacity of over 62 CSOs across different advocacy engagement structures*** including members of the ENR-CSO Network, Renewable Energy CSO network, and Uganda Forest Working Group. These were trained in policy, lobbying and advocacy; budget tracking and monitoring. The knowledge and skills gained are used to influence decisions and or policy implementation as reflected in their ability to generate policy recommendations for the ongoing policy processes such as the forestry policy review among others. As result, 13 CSOs

and 10 District Local Governments participated in technical backstopping and monitoring the implementation of the CSO advocacy plans. In addition, 32 CSOs were trained in mainstreaming gender transformative approaches and humanitarian approaches in the interventions they implement.

The ENR CSOs have further ***trained 35 people (15 males and 20 females) from local institutions and advocacy groups in lobbying and advocacy under the Sustainable Water, Sanitation and Hygiene*** (SusWASH) project. Among the institutions engaged were three schools where 30 pupils were trained (13 boys and 17 girls) and engaged in WASH school writing competitions conducted.

The CSOs through the SusWASH Project ***supported five Kampala Capital City Authority schools to develop five WASH improvement plans; WASH school rules and regulations for the WASH school clubs; talking compounds and toilet walls for purposes of advancing awareness creation on water sanitation and hygiene (WASH) among pupils and students, and a Tenant-Landlord inventory template which shall be used by local leaders to track toilet coverage in communities.*** The project also provided cleaning and Fumigation equipment to community-based organizations (CBOs) in Kamwokya and Kansanga and developed capacity of group members on how best to use them and maintain them.

The ENR CSOs ***worked with over 80 cattle keepers in the four enclaves of Katwe, Hamukungu, Kasenyi and Katunguru B on the conservation of the threatened African Lion in Queen Elizabeth National Park.*** The conservation and awareness messages on importance of protecting lions by the communities in the enclaves were done through community radio programmes in the enclaves.

With emerging private sector engagement in development of agro-commodities in the country, for example oil palm in the island areas, the CSOs ***empowered communities of Kalangala, Buvuma, Buikwe, and Mayuge to be able to engage government and oil palm investors on rights-based advocacy through tailored trainings and information provision.*** This empowered communities and enhanced their ability to engage informatively on land rights and access benefits of the land. Further, awareness was created on the social and environmental impacts of oil palm growing through production and dissemination of policy briefs in different forums; organized a seminar on the impact of different large scale agro commodities (oil palm, sugar cane, tea, coffee) on the environment and community livelihoods.

Other interventions were around climate resilience in different parts of the country and these included promoting the use of improved energy efficient cooking stoves as a conservation action model to strengthen community resilience amidst fuel scarcity and looming effects of climate change, and awareness creation around waste management especially with growth and emergence of new cities in the country.

8.1.10 Build strategic partnerships with other players such as; private sector, cultural institutions, media and politicians

Structured policy, lobbying and advocacy engagements

The ENR CSOs actively participated in structured engagements with duty bearers, actors and stakeholders during the ***Annual Water and Environment Week, 2021.*** This engagement enabled participation of ***40 CSOs and actors*** undertaking interventions in the *Environment and Natural Resources, Climate Change, Lands and Water Management program*. The annual event provided a framework for conducting structured engagements with policy makers and duty bearers, during which alternatives issue-based policy recommendations were presented and discussed to generate responsive actions. Some of the structured engagements in this respect included: ***The National stakeholders dialogue on, 'Managing Water and Environmental Shocks;' and Interactive radio program on Water, Sanitation and Hygiene in Kampala City.***

The CSOs also participated in structured engagements with duty bearers, actors and stakeholders during the ***Annual Energy Week, 2020.*** This engagement enabled participation of ***30 CSOs and actors*** operating in the Renewable energy sub-sectors. The event also provided the framework for conducting structured engagements with policy makers and duty bearers, during which alternatives issue-based policy recommendations were presented and discussed to generate responsive actions. The structured engagements in this respect included a television which tv program on renewable energy access, implemented in collaboration with the Ministry of Energy and Mineral Development.

ENR CSOs actively participated in structured engagements during the ***Annual International Biodiversity Day (IDB, 2020).*** A media brief on the IBD was produced, widely shared on social media platforms and 80 people were reached. The CSOs also held ***a World Environment Day*** twitter storm with a primary hashtag: #Sols4Earth, on June 5, 2021 under the theme "Local Solutions 4 the Decade on Ecosystem Restoration in Uganda / East Africa", and ***more than 300 people were reached.*** In line with the same, the CSOs released a media statement titled: 'It is Time for Local Solutions to Re-establish Degraded Ecosystems in Uganda' and this reached about 80 people.

The ENR CSOs have supported ***development of five draft community Natural Resource Management bylaws*** for the districts of Lira, Agago, Alebtong and Kapelebyong. Through participatory and consultative processes, ***over 12,200 community members (3700 men and 8500 women)*** were engaged. The bylaws are under review by the sub county and district councils pending their approval by the district councils. The bylaws will guide the governance and management of natural resources by the communities themselves, given their role as the direct users and beneficiaries of the resources. In the same districts, the ENR CSOs facilitated the process of ***development of five Community Environment Action Plans (CEAPs), through 10 consultative meetings*** in 5 parishes of Omarimari (Alebtong district), Opejal (Otuke district), Apuce (Lira district), Taa (Agago district) and Angica (Kapelebyong district).

The CEAPS were signed and adopted by the respective District Local Governments as a restoration workplans for the communities. The CEAPS highlight the natural resource and socio-economic actions that the communities have agreed to implement in the next 5 years (2021-2025). In total, 5,617 people were engaged, of which 2,911 were women and 2,706 men. For sustainability of the initiatives, ***13 capacity building training sessions were held for 650 community members*** (150

men, 200 women, 300 youth) on gender roles in natural resource governance and management and implementation of natural resource bylaws. The trainings also provided opportunity for review of implementation of the current bylaws and identified specific challenges in natural resource governance, management and enforcement which will be incorporated in community action plans for implementation.

In addition to the engagements, the CSOs have packaged emerging issues and practical recommendations through policy briefs, position papers and other info briefs. ***11 information materials were produced*** including two policy briefs on renewable energy issues; one ENR-CSO consolidated Annual report 2019; one policy brief on Understanding budget allocation to the environment and natural resources and Agriculture sectors at the National and Local levels in Uganda and seven branded messages for COVID-19 social media campaign. 236,710 copies of the materials were printed and disseminated.

8.1.11 Undertake relevant applied research aligned to development needs and existing gaps

ENR CSOs have participated in executing the studies/ surveys and or publications as present in Table 71.

Table 71: ENR-CSOs studies conducted

Sub sector	Research study/ survey/ publication	Organization
Forestry		
1)	A Review of the guidelines for land allocation for private sector investment in tree planting within central forest reserves.	Environmental Alert
2)	Landuse plans for Buvuma main island, Buvuma District, Uganda. Parts I-IV. Tropenbos International, Wageningen, the Netherlands and Ecological Trends Alliance, Kampala, Uganda.	Ecological Trends Alliance
3)	Oil Palm Agroforestry: A guide for extensionists and farmers. Intercropping food, fuel and cash crops in and around oil palm plantations in Uganda. Tropenbos International, Wageningen, the Netherlands and Ecological Trends Alliance, Kampala, Uganda.	Ecological Trends Alliance
4)	Oil palm intercropping in Uganda – an assessment of farmer practices and potential for expansion.	Ecological Trends Alliance
5)	Fluctuating oil palm prices in Uganda: Impacts and risks involved.	Ecological Trends Alliance
6)	Oil palm intercropping in Uganda – an assessment of farmer practices and potential for expansion. Policy brief. Tropenbos International, Wageningen, the Netherlands and Ecological Trends Alliance, Kampala, Uganda	Ecological Trends Alliance
7)	Fluctuating oil palm prices in Uganda: impacts and risks involved. Policy brief. Tropenbos International, Wageningen, the Netherlands and Ecological Trends Alliance, Kampala Uganda.	Ecological Trends Alliance
8)	Baseline assessment done for West Bugwe central forest reserve in Busia District	ARocha Uganda
9)	Policy Audit of the National Forest and Tree Planting Act (2003) and Public Procurement and Disposal of Public Assets Act to identify gaps within these laws that breed ineffectiveness in forest product industrial development.	Worldwide Fund for Nature, Anti-Corruption Coalition Uganda, & Tree Talk Plus
10)	Study on forest valuation – the case of community forests in Uganda	Ecological Christian Organization and Tree Talk Plus
11)	Market Research for timber value and value chain	Fair ventures Uganda
Weather, Climate, and climate change		
1)	A study on tracking climate adaptation and mitigation financial flows from 2017-2020. The climate financial flows were estimated at USD 1.6 bn.	Environmental Management for Livelihood Improvement
2)	Documentation of the best climate resilient, nature conservation enterprises and climate smart agriculture practices	ACODE

Sub sector	Research study/ survey/ publication	Organization
Environment		
1)	A study to track trends in budget allocations within the Agric and Water and Environment sectors is still work in progress	Environmental Alert
2)	A study on institutional capacity needs assessment for the key actors in the banana value chain	Environmental Alert
3)	A study on energy scenario building	Ecological Christian Organization
4)	Undertook an Environmental and Social Screening within the refugee hosting communities in Kululu Sub County Yumbe district, West Nile region to identify preventive and mitigation strategies and recommend actions for implementation for any adverse impacts that is likely affect the targeted stakeholders' resilience to graduate from extreme poverty, including children's rights, resilience of natural habitats for sustainable livelihoods.	International Union for Conservation of Nature

Each of the studies, generated a wealth of information and alternative policy recommendations for consideration by the key duty bearers at the national and local levels – across sectors. Going forward, these will be key reference documents with the required content and evidence for reference while advancing structured engagements with the duty bearers targeted at influencing respective sector's policy formulation and implementation.

8.1.12 Cross-Cutting Issues

ENR CSOs developed robust gender and youth guidelines. Content was gathered through ten consultative meetings attended by over 1,200 stakeholders (963 men and 237 women) at the national and regional levels. The guidelines identified key barriers to gender and youth engagement including access and control of productive/economic assets and other natural resources, limiting knowledge, beliefs and perceptions of roles of women and youth in society, limited platforms for participation and decision making and constrained rights and opportunities in socio-economic development and natural resource use/management. The guidelines are intended to reduce inequalities for women and youth in institutional programming, build their capacity to engage in different activities, and sustainably use natural assets for production.

Five capacity building trainings were held for 2,100 youth and 750 women in northern Uganda districts of Lira, Agago, Alebtong and Kapelebyong. The trainings focused on roles of local communities in management, enforcement, and sustainable utilisation of natural resources within the catchment areas. The gender and youth engagement guidelines continue to be applied in the execution of field activities in both countries by ensuring inclusive participation among others capacity building activities and natural governance-related programme activities.

8.1.13 Emerging issues/Challenges and undertakings

Issue 1: **The COVID-19 Pandemic** and associated second total lockdown resulted in further reduction in institutional financial flows, largely because various running projects were suspended. Thus, operation of the ENR-CSO scaled down due to reduced funding. As a result, ENR CSOs had to downsize their staffing.

Recommendations

i. The ENR-CSOs should continuously pursue implementation of their COVID-19 business continuity plans towards recovery, but also for purposes of remaining relevant for effective service delivery based on their mandate, roles and responsibilities. However, these plans should be reviewed regularly in light of the prevailing situation in the operating environment.

ii. The Development Partners should collaborate and support the CSOs in the implementation of their business continuity plans. The Government of Uganda should consider the Environment and Natural Resources sector among the essential sectors during the period of COVID-19 total lock down so that the duty bearers (i.e., Ministries, Authorities, Departments and Local Governments) and the CSOs/Non-Government Organizations can deliver the required services and responsive actions during the period.

Issue 2: **Delays in re-alignment of the National Environment Management Policy (2017) with the National Environment Act, 2019 and associated operationalization of the National Environment Management Policy by the responsible institutions**. This implies that there are some aspects of environment management which are still guided by the old policy and legislation, thus missing out on the progressive policy commitments and strategies in the new environment management policy and law, which would advance sustainable environment and natural resources management. For instance, full operationalization of the National Environment Management Policy and the National Environment Act (2019) would equally enable full establishment of the National Environment Fund. This would certainly raise more funding to support investments in sustainable environment and natural resources management.

Recommendation

The MWE and NEMA should fast-track the re-alignment of the National Environment Management Policy (2017) with the National Environment Act, 2019 and associated full operationalization of the National Environment Act, 2019 and the National Environment Management Policy (2017) to guide sustainable management of the environment t and natural resources across the country.

Issue 3: **Weak inter-agency coordination**; this has led to weak enforcement and regulation of policies and regulatory frameworks that has escalated illegalities such as encroachment on natural resources.

Recommendation

Responsible MDAs within the Programme should fast track operationalization of the new programme approach within the NDP III that seeks to improve institutional coordination and collaboration.

Issue 4: **Insufficient financial resources allocation** which has been exacerbated by budget reallocations to finance the management of the COVID-19 pandemic as a public health issue. This is in addition to the reducing resource envelop from the development partners who have shifted priorities to other more urgent issues as a result of the Pandemic and this has made fundraising more complex. This limits responsible authorities from implementing existing policy frameworks thus poor extension service delivery, weak supervision, monitoring and enforcement.

Recommendation

MDAs within the Programme should step up efforts in resource mobilization through proposal developments. This however requires strengthening the fundraising capacity of both MDAs and CSOs in mobilizing resources for the sector.

Issue 5: There are currently **no climate change regulations, guidelines and standards** for implementation of the climate change policy and act.
There is need to fast track climate change budget tagging.

Recommendations

i. The Ministry of Finance, Planning and Economic Development should, through the National Planning Authority ensure that environment and climate change issues are integrated in national and district development plans.
ii. The Public Finance Management Act should be amended to provide for a certificate of climate change compliance to ensure that climate change activities are defined and allocated funds in all Ministries, Departments and Agency budgets
iii. The Ministry of Finance, Planning and Economic Development should scale-up fiscal incentives that promote investment in green growth initiatives such as the recently waived taxes on Liquefied Petroleum Gas (LPG).
iv. The Ministry of Education and Sports in collaboration with its counterparts of Gender, Labour and Social Development, Energy and Mineral Development and their development partners should put in place initiatives for skilling and training Ugandans in the use of new green technologies such as solar power, biogas, green insulation and the use of smart energy appliances, low-energy house and zero-energy building designs.

Issue 6: Selective carbon funding facility pegged on particular regions, especially the Albertine. Communities in central region where reforestation had been done have resorted to cutting down the trees due to lack of alternative income sources.

Recommendation

There is need to spread out carbon funding opportunities to other regions. Information of the opportunities to be disseminated widely for the forest communities.

The ENR CSO Network notes that some of the challenges presented previously still persist. For example:

i. Court rulings in favor of illegal actions against the provisions of the policy and legal provisions.
ii. Continued illegal land titling of protected areas for large investments in agro-commodities.
iii. Land tenure challenges that have led to investments in some of the protected areas e.g., development of petrol stations within the National Parks.
iv. Increasing influx of refugees greatly impacting on the environment and natural resources in the host communities. This is largely due to high demands for energy i.e., fuel/charcoal, fire wood; building materials; water.
v. Rapid urbanization through new emerging cities that have increased encroachment on natural resources, environmental degradation through increased pollution, among other issues.
vi. Delayed development of the overall National Adaptation Plan to guide climate interventions within the different sectors.

8.2 Uganda Water and Sanitation Network (UWASNET)

8.2.1 Reporting profile

Through the Uganda Water and Sanitation Network (UWASNET), 92 CSOs, representing 66% of the 139 registered members of UWASNET submitted reports for FY 2020/21. This is a slight increase from the 89 CSOs that reported for FY 2019/20, but it is still lower than the high of 127 recorded for FY 2018/19 as shown in Figure 1.

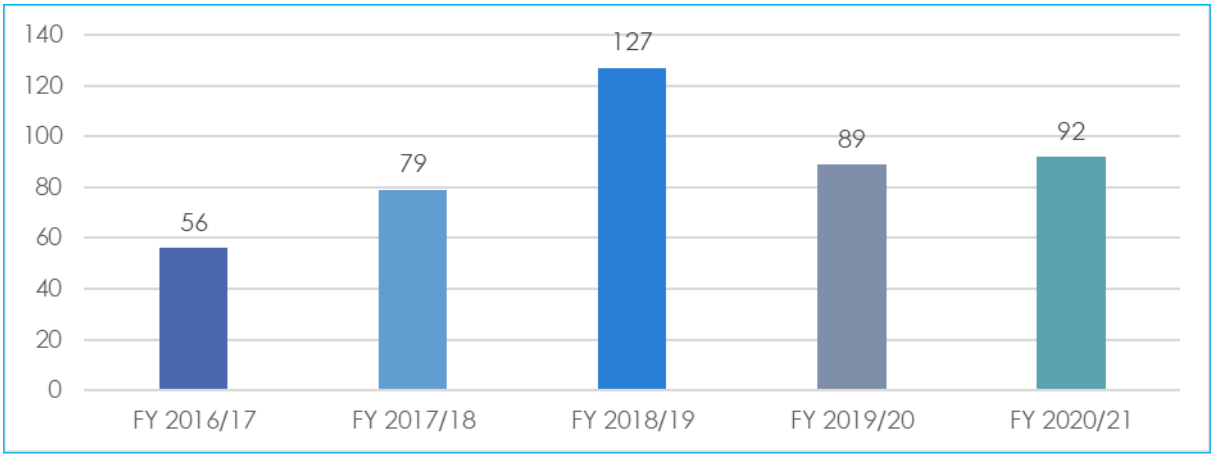


Figure 76: CSO reporting trend

Local/national NGO's lead the reporting, a accounting for 43% followed by international NGOs with 36% and others 21%. The 40 local/national NGOs represent only 36% of the 112 local/national NGO membership of UWASNET as shown in Table 72.

Table 72: Category of CSOs reporting

Category	Submissions	Total Members	Percent
CBO	10	29	**34%**
FBO	7	10	**70%**
International NGO	33	41	**80%**
Local/National NGO	40	112	**36%**
Private Sector	1	4	**25%**
Company limited by guarantee	1	1	**100%**
TOTAL	**92**	**197**	**47%**

Areas of intervention

FY 2020/21 is the first year of reporting under the Third National Development Plan (NDP III). NDP III uses a program-based approach to development. Interventions in WASH are covered under the three programs for Agro Industrialisation (AI), Human Capital Development (HCD), and Climate Change, Natural Resources, Environment, and Water Management (CCNREWM).

Figure 76 shows the number of CSOs reporting in the different areas of intervention, mapped to the NDP program areas. The HCD program attracted the most interventions led by Sanitation and Hygiene (56) followed by water supply (45) and capacity building (44). Water for Production (WfP) attracts the fewest CSOs (05).

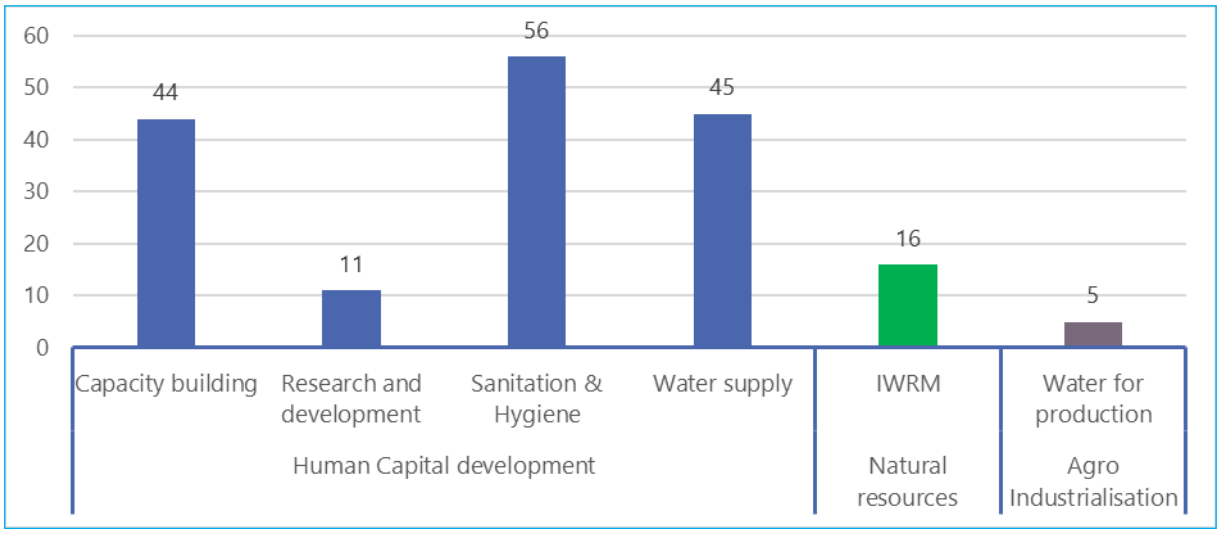


Figure 77: Number of CSOs reporting by NDP III program area

8.2.3 CSO presence/intervention by region

UWASNET members' activity is mapped regionally according to the 10 UWASNET regions. The south-western region attracted the most CSO intervention (25) while mid-central had the fewest (04). CSOs reported interventions in 126 districts out of 145 districts. A total of UGX 96 billion was invested in the water and sanitation subsector, an increase of UGX 20 billion, representing 28% growth in investment over the previous year.

8.2.4 Critical analysis of investment trends

The Strategic Sector Investment Plan (SSIP), from which the different program activities are derived, spelt out the annual sector financing requirement of UGX 748.6 billion for the period 2016 to 2020, with CSOs anticipated to contribute 37.44 billion per annum, equivalent to 5% of the sector financing requirement.

The SSIP also projected annual financing gaps of UGX 148.3 billion and UGX 226.7 billion for the periods 2016-20 and 2021-25, respectively. These financing gaps are a notable challenge to achievement of the sector needs. CSOs have made a significant contribution towards closing the financing gap, consistently investing more than the SSIP provided for NGO funding, as shown in Figure 78.

CSO investment follows a growth curve (save for the spike in FY2017/18 which was attributed to investment in trucking water to refugee communities). The FY2020/21 investment is UGX 96 billion equating to 256% of the anticipated annual investment by CSOs, and an increase of 28% from last year's UGX 75 billion. Despite CSOs outperforming the planned annual investment of UGX 37.44 billion for FY2020/21, they are still short of bridging the short term (2020-2025) financing gap of UGX 226.7 billion in the SSIP.

Figure 78: CSO investment in the water and sanitation sub-sector

Extracts from the NDP III HCD program action plan that accounts for 90% of the CSO investment, indicate a budget of UGX3,021.78 billion. The total CSO investment in water supply, sanitation, capacity development and research & Development during FY2020/21 was UGX 90.16 billion. This CSO investment is 3% of the PIAP planned investment. Table 73 shows the comparison of HCD PIAP investment requirement and actual by CSOs.

Table 73: Comparison of HCD PIAP investment requirement and Actual by CSOs for FY 2020/21

Budget Area	Budget (UGX Bn)
HCD PIAP extracted Budget	**3,021.78**
UWASNET Investment – Water	61.1
UWASNET Investment – Sanitation	25.31
UWASNET Investment – CB	3.75
UWASNET Investment – R&D	0.37
Total UWASNET HCD Investment	**90.16**
Percentage Contribution	**3.0%**

8.2.5 CSO Investment FY2020/21

Figure 79 on financing trends shows that UWASNET Members investment is largely towards the HCD program and that the growth is concentrated on the two thematic areas of water supply and sanitation which account for 90% of the total CSO investment. The remaining four thematic areas of IWRM, WfP, capacity building, and Research and Development (R&D) together saw a 39% drop in investment despite a 20% increase in funding for IWRM activities.

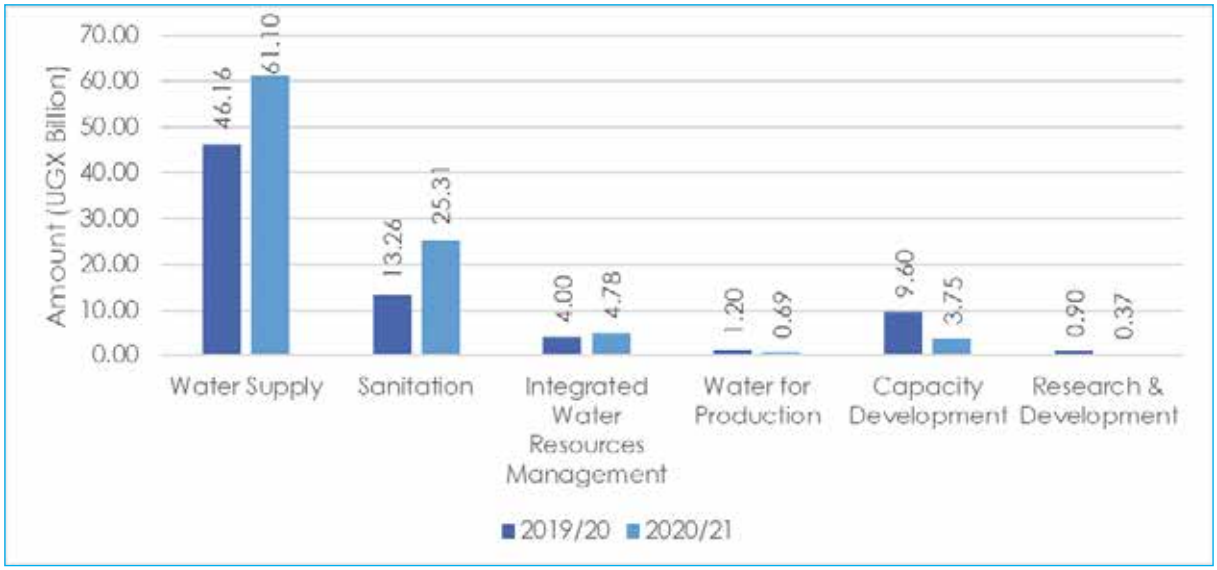


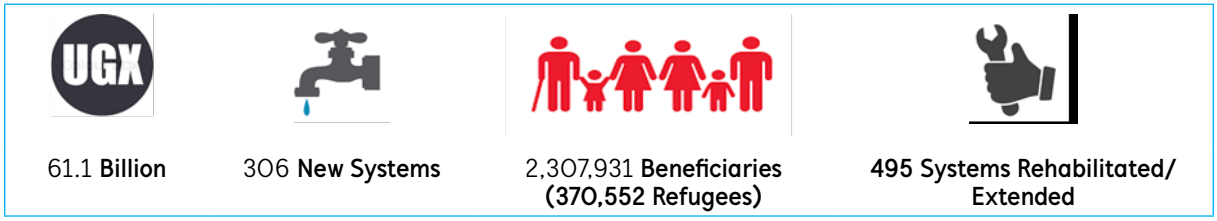
Figure 79: Investment by thematic area – FY 2019/20 vs FY 2020/21

8.2.6 CSO contribution to district local government budgets

CSOs are development partners to the district local government (DLG) in the districts of operation. Coordinated development planning requires integration of budgets of all development partners in the DLG budget. 62% (46) of the 74 CSOs with interventions during FY2020/21 reported a proportion of their budgets in the DLG budget. Overall, an average of 25% of the CSO budgets goes to the districts.

8.2 CSOs investment in the Human Capacity Development Programme

8.2.1 Access to rural water supply



45 CSOs invested a total of UGX 61.1 billion in financing water supply in FY 2020/21, an increase of by UGX 14.9 billion or 32% from FY 2019/20.

8.2.2 Access to safe and clean water sources in rural areas

CSOs investment in water supply contributed towards realization of increased access to inclusive safe water supply in rural areas improved access, through the respective Program Implementation Action Plan (PIAP) interventions as summarized in the Table 74. These investments also benefitted refugees and hosting districts.

Table 74: CSO Contribution to rural water Access

New Water Source	By CSOs	HCD target	CSO PIAP Contribution (%)
Piped Water System	24	20	120%
Point Water Source	270	3000	9%
Solar powered piped system	2	70	3%

CSO water supply performance exceeded PIAP targets for new piped water systems (24 vs 20), however, the true impact of this performance is lost in the lack of context for capacity of the piped water systems unlike the case of the point water sources. These systems were provided in the districts of Amuria (1), Bugiri (1), Buikwe (2), Bundibugyo (1), Gulu (2), Ibanda (2), Kakumiro (1), Kasese (4), Kikuube (1), Kween (1), Luuka (2), Mayuge (3), Namayingo (1), Oyam (1), and Rubanda (1). 12 of the piped water systems were reported by World Vision Uganda. 270 new point water sources including 88 boreholes, 24 springs, 85 wells plus 73 other uncategorized point water sources were provided, contributing to 4% of the PIAP target.

There is opportunity to further refine the reporting to capture the true picture of performance as we proceed within the NDP III framework. The Per-capita investment cost for borehole development of USD11.42[1] is comparable to the USD 11.58 reported in FY2019/20. Overall, the costs of borehole construction are within the range of UGX 23 to 27 million, with higher development costs noted in districts in Northern Uganda (Omoro, Pader and Oyam) and Mayuge.

People accessing safe and clean water sources in rural areas

The water supply interventions are reported to have reached to 2.3 million beneficiaries, of whom 55.6% were female and 16% refugees, as shown in Table 75. It is assumed that all the CSO water supply infrastructure was provided to rural communities, hence CSO performance equated to 37% of the FY 2020/21 SSIP target of 1,689,813 new people served.

Table 75: Access to Water supply in Rural areas

Indicator	Number of beneficiaries	Female beneficiaries	Refugee beneficiaries
Total	**2,307,931**	**1,284,169**	**370,552**

The Nkamiro Gravity Flow Scheme with 49 tap stands installed by Kigezi Diocese Water and Sanitation Program (KDWSP) and Nabiswera solar powered piped water system in Nakasongola district by World Vision are some of the cases where residents are now able to access the water right in their compounds thus achievement of the sustainable development goal (SDG) 6 targets a reality in rural communities.

1 *obtained from data on 40 boreholes*

Figure 80: Nakamiro gravity flow scheme

8.2.9 Villages with access to safe and clean water supply

The above-mentioned infrastructure and additional 12 institutional and communal rainwater harvesting (RWH) systems provided by CSOs during FY2020/21 is reported to have provided 11,157 villages with access to safe and clean water supply. Table 76 shows the comparison between the HCD PIAP target and the actual achievement by CSOs in FY 2020/21.

Table 76: Comparison of PIAP HCD target and actual by CSOs in FY 2020/21

PIAP action	Improved water point per village	RWH systems (School and Communal)
By CSOs	11,157	12
HCD target	3,880	10,000
CSO PIAP Contribution (%)	288%	0.10%

Figure 81: Well maintained borehole supported by a CSO

8.2.10 Functionality of rural water systems

CSOs rehabilitated 478 point-water sources and 119 piped water systems. 350 of the point water sources rehabilitations were of boreholes. Rehabilitations of piped water systems comprised of 17 rehabilitation 99 extensions. Table 77 shows CSOs contribution to functionality.

Table 77: CSO contribution to functionality of water systems

PIAP action	By CSOs	HCD target	CSO PIAP Contribution (%)
1. Rehabilitation of existing point water sources	478	3,880	12%
2. Rehabilitation, upgrade and expansion of existing Piped Water Systems	116	10	1160%

A 12% contribution to point water source rehabilitation was reported – these include 42 shallow wells. The 116 rehabilitations, upgrades and expansions of piped water systems are against a PIAP target of 10 resulting in performance of 1,160% above target. Again, the scale and definition of the PIAP indicators will require refinement to allow for proper comparison of the CSO contribution towards access especially through piped water systems.

8.2.11 Operation and Maintenance of water supply infrastructure

Maintenance is key to ensuring functionality and sustainability of investment in water supply infrastructure. Activities for maintenance included rehabilitation of 17 piped water systems and 478 point-water sources, a notable increase over the 209 interventions reported in FY 2019/20.

Management/ Operation of the systems is varied, as reported from data of 44 systems provided by CSOs this year, as detailed in Table 78. Majority of the systems invested in are managed by private operators and other community-based operators like CBOs, schools, local government, CSOs (KARUDEC, ACORD-U, Water Mission Uganda and Oxfam) and water boards.

Table 78: Summary of operators for piped water systems invested in by CSOs

System operator/ manager	National water (NWSC)	Umbrella	Private operator	Other	Total
No. of Systems	7	5	15	17	44

Category of Other operator	Community/ CBO	CSO	Local Government	School	Water board	Total
No. of Systems	4	5	4	2	2	17

The performance of the different operators is relatively good as detailed in Table 8, apart from Umbrellas that reportedly have low customer satisfaction levels, as reported for the Kyandengara water extension.

Table 79: Key performance indicators of operators for piped water systems invested in by CSOs

System manager	Number of systems	Average Days of full-time water supply in the year	Average Customer satisfaction index
National water (NWSC)	2	350	90.0
Other	9	329	84.6
Private operator	15	337	83.5
Umbrella	2	363	70.0
Grand Total	28	337	83.4

8.3 Access to inclusive sanitation and hygiene services in rural areas

25.31 Billion | **98,113 Households** | **98,174 Hand Washing Facilities** | **679,295 Beneficiaries**

56 CSOs invested UGX 25.31 billion to support 104 activities in sanitation and hygiene in FY2020/21. This, investment is almost twice that invested in FY2019/20 and is the highest recorded investment in sanitation and hygiene since FY2016/17. The investment increase may be attributed to CSO's sustained response to management of the COVID-19 pandemic, whose first line of defense is proper hygiene and sanitation.

8.3.1 Sanitation infrastructure

The distribution of interventions across beneficiary categories is shown in Table 9. Interventions are concentrated on households (98113 toilets), followed distantly by schools(52 toilets). Traditional latrines with slabs/sanplats latrines dominate the sanitation facilities provided (53%), followed by unlined VIP latrines (31%), then ecosan toilets (14%). It was reported in 88% of the interventions that the facilities had a functional and adequate hand washing facility. The CSO interventions were undertaken in 56 districts across the country, including majority in Kamwenge (09), Kabarole (05) and Yumbe (05). This is against a PIAP target of 298 villages/ districts and represents a 19% contribution – using districts as a unit of measure.

Table 80: Distribution of interventions and sanitation facilities constructed

Type of facility	Number of Toilet Facilities					Total No. of Toilets
	HC	HH	OI	PP	SCH	
Automatic flush/ Water borne toilets	1					**1**
Ecosan Toilet		13,863			3	**13,866**
Lined VIP latrines	1	911	1	2	47	**962**
Pour flush toilets		7				**7**
Traditional latrines with slabs/sanplats		52,688		2		**52,690**
Unlined VIP latrines		30,644			2	**30,646**
Grand Total	**2**	**98,113**	**1**	**4**	**52**	**98,172**

Several Ecosan toilets were reported at household in Kabarole and Kitagwenda districts and attributed to the sanitation marketing campaigns and access to sanitation financing through the WASH loan promoted by Caritas Fort Portal-HEWASA, Protos – Join for Water and Natural Resources Defense Initiatives.

8.3.2 Access to rural Sanitation (Coverage)

The investment in sanitation infrastructure benefited a total of 679,295 people, of whom 53% were female, as detailed in Table 81. These beneficiaries included 158,021 refugees.

Table 81: Sanitation beneficiaries – FY 2020/21

Toilet technological option	Reported Beneficiaries		
	Total	Female	Refugees
Automatic flush/ Water borne toilets	10,030	6,247	
Ecosan Toilet	84,368	69,306	
Lined VIP latrines	61,246	31,829	9,220
Pour flush toilets	42	27	
Traditional latrines with slabs/sanplats	364,736	170,010	42,208
Unlined VIP latrines	158,873	82,835	106,593
Total	**679,295**	**360,254**	**158,021**

Further contributions to unblocking the barriers in the WASH value chain include (i) latrine emptying provided by the AVSI Foundation Uganda emergency gulping service benefiting an additional 20,000 people in Kampala, (ii) Training on latrine construction by Raising The Village (RTV) and WaterAid (Uganda) in Kanungu and Kamwenge districts, which is expected to benefit an additional 134,198 people once the household latrines are constructed.

In recognition of the requirement for continuous community engagement for behaviour change, the "wheel of good practices model" that allows for inclusive sensitisation while limiting engagement fatigue is implemented by Jinja Area Communities Federation. The model utilises community structures like Village Health Teams (VHTs), to facilitate proper family caring practices including hygiene and sanitation and child management.

8.3.3 Fecal sludge management promotion

116,808
Hand Washing Facilities

1,010
Open Defecation Free (ODF) Villages

479,761
ODF Beneficiaries

Hygiene promotion was a key activity of the CSO COVID-19 response and continued efforts to contribute to desired improved sanitation levels in the country. 116,808 handwashing facilities (HWFs) were provided as part of the interventions, including at 115,103 household level, as detailed in Table 11 below.

Table 82: HWF and ODF villages achieved in FY 2020/21

Beneficiary category	No. of functional HWF		ODF road map implementation progress	
Health Centre	6		Parameter	Result
Household	115,103		Villages triggered for ODF	2,265
Other institution	10		Villages declared ODF	1,010
Public place	774		Population in Villages declared ODF	479,761
School	915		Females in Villages declared ODF	234,608
Grand Total	**116,808**		**Number of districts with interventions**	**62**

Hygiene and sanitation improvement campaigns undertaken towards creation of open defecation free (ODF) villages resulted in triggering in 2,265 villages in 62 districts by several CSOs including SNV, Raising the Village, SORUDA, AVSI Foundation Uganda, Christ the King Health Support Care Center for The Needy, Uganda Muslim Rural Development Association, Innovation Program for Community Transformation and Busoga Trust. 1,010 villages, with 479,761 residents, of whom 49% are female were declared ODF. Majority of the interventions were in Agago, Buikwe, Kanungu, Kamwenge and Kole districts with the leading CSOs by number of beneficiaries being OXFAM, Raising the Village, AMREF, Caritas Fort Portal, John Folley Well Works Africa, AVSI among others.

Different hygiene and sanitation promotion approaches were used including community led total sanitation (CLTS), home improvement campaigns (HIC), and sanitation marketing (SanMark), Participatory, Hygiene and Sanitation Transformation (PHAST), Follow up MANDONA, child to child approach, Community Service, Market Based Sanitation Implementation Approach (MBSIA), Coaching at household level, household clustering, Incentives in non-triggered blocks. The blue schools[2] concept implemented by ACORD – U is one child to child approach used. CLTS, HIC, sanmark, and the related MBSIA) reportedly contributed to majority of ODF villages.

The CSO promotion of private sector involvement in the emptying include the Agago Pit Emptiers association has contributed to improved faecal sludge management in Agago district- motivated by the business potential and income enhancement of individual members.

8.3.4 School Sanitation

The CSO contribution to improvement of sanitation in schools is summarized Table 83 below.

Table 83: CSO contribution to school sanitation

Number of stances provided for both boys and girls (shared)	58
Number of stances provided for persons with disabilities (PWDs)	52
Number of stances provided for girls	168
Number of stances provided for boys	34
Average Pupil stance ratio before intervention	116
Average Pupil stance ratio after the intervention	56

Generally, more provisions were made for girls as shown by the 168 toilet stances provided for girls only and 34 for boys only. Overall, the investments realized a significant reduction in average pupil stance ratio from 1:116 to 1:56. This performance is still below the national standard of 1:40,

2 *A blue school is a school where pupils get hands-on learning in WASH and environmental conservation*

a further analysis of the data as shown in Table 13 indicates a higher sanitation gap for boys only toilets (1:61). This is not withstanding the 61% improvement in the school status for boys before the CSO investments, compared to 53% for girls only toilets.

Table 84: Details of School sanitation indicators and MHM provisions

School sanitation indicators				School MHM provisions	
Gender targeted – provided toilet	Pupil : Stance Ratio			Provision	No. of CSOs
	Before	After		Separate Wash room	27
Girls Only	120	57		Emergency Sanitary towels	6
Boys Only	158	61		Incinerator	19
Boys and Girls	100	54		Water for washing	23

Menstrual hygiene management (MHM) is still high on the agenda of CSOs in the WASH sector for example Voluntary Action for Development (VAD) a key champion for MHM in schools. The previous reporting year highlighted the concept of inclusive schools, which have MHM as a core element. The investments made by CSOs in school sanitation included MHM provisions as detailed in Table 84.

8.3.5 Capacity Building

50 CSOs reported a total of 57 capacity building interventions mainly related to training (66%), as, detailed in Table 14. These interventions are frequently held as part of CSO investment in policy implementation including supporting (i) good governance and social accountability, (ii) proper community hygiene and maintenance of WASH infrastructure especially with key focus on Covid-19 response and (ii) gender equality and Equity Responsive Budgeting.

Table 85: Capacity building interventions

Area of Intervention	Number of CSOs	Number of Interventions	Number of Beneficiaries	Female Beneficiaries	Number practicing
Advocacy	7	7	14,283	10,799	13,910
Policy Influence	3	3	258	149	162
Sector Coordination	5	5	270	88	186
Training	31	37	234,500	136,566	161,462
Other	4	4	3754	2,097	2,331
Total	**50**	**56**	**253,065**	**149,699**	**178,051**
Percentage of beneficiaries				**59%**	**70%**

8.3.5.1 Stakeholders Engagement

Stakeholders engaged in the capacity development included community members, CSO staff, Local Government, MWE staff, refugees, religious leaders, school children, teachers, training and research institutions, among others.

8.3.5.2 Impact of capacity development

253,065 people were involved in the capacity building activities, 59% of whom were female. 70% of the participants are reported to be practicing the behavior change targeted by the capacity building. These behaviors include gender responsive water and sanitation committees, improved good agronomic practices and reduced open defecation. In addition, more evidenced based

reporting and planning by CSOs and DLG staff is noted; The International Water and sanitation Centre (IRC) reported that district and sub-counties are involved in town sanitation planning and have accordingly passed ordinances for sanitation improvement.

8.3.5.3 Inclusiveness and vulnerability

The NDP III seeks to reduce vulnerability and gender inequality along the lifecycle. CSOs continued to prioritize inclusiveness in the FY 2020/21 interventions. These interventions included but are not limited to inclusive infrastructure design, provision of access subsidies, menstrual hygiene management, and the above-mentioned capacity building activities. IRC International Water and sanitation Centre also supported districts on the use of evidence from the service level and marginalized study to inform WASH planning and prioritization, and emptying of latrines in slums by Alliance Water Solutions.

8.3.5.4 Inclusive infrastructure

CSOs provided water supply and sanitation facilities for the vulnerable and adopted inclusive designs. For example, World Vision provided for an access ramp and gender segregated toilets, and a seat for PWDs at the water sources accessibility for use by the elderly, and persons living with disabilities. Sanitation facilities constructed in schools and health care facilities included a separate stance for PWDs fitted with handrails, a seater and a ramp for easy access. Menstrual hygiene provisions at schools as enumerated in section 4.2.3 allowed for inclusion of the girl child in sanitation planning and management.

8.3.5.5 Financial support to the Vulnerable

In addition to facilities, CSOs provided unconditional support including cash distributions and access subsidies to the vulnerable. For example, Water for People Uganda identified the Vulnerable in Kabambiro village and provided 75 free connections to the Kabambiro water supply system in addition to toilet construction subsidies to vulnerable households in Kampala. Similarly, AMREF Health Africa in Uganda provided latrine construction subsidies to 105 Elderly, widows and child headed families to construct latrines

8.3.5.6 Training

Training and capacity building activities were conducted with inclusive aspects of gender, disability, and age. Topics covered hygiene and sanitation promotion campaigns, livelihood enhancement, menstrual health management among others. Training highlights include:

MHM – 500 adolescent girls and boys were trained for example by Youth Environment Service on reducing MHM stigma and establishing support structure in the community for MHM.

Livelihood restoration – 210 Women and the disabled were trained Rural Water Initiative for Climate Action Ltd on mushroom growing and rabbit rearing, set up of fruit and indigenous tree nurseries, local soil and water conservation technologies, and water harvesting technologies for mothers of children with disabilities

Management - Plan International reported training of 60,000 local actors on inclusive programs and meetings, administering the gender WASH monitoring tool, construction of gender friendly and inclusive WASH facilities, training of cultural and religious leaders as gender champions of change, collaborating with DPOs.

8.3.5.7 Participation in WASH

Activities for participation to drive inclusion ranged from advocacy, community meetings and participation in management, leadership and decision making. Topics covered dialogues on women's land rights, WASH practices, service delivery, and inclusion of women in leadership. The examples below highlight some cases.

Case 1 – Greater Rubaba development and planning association reported profiling of gender concerns, in particular women involvement in their programs; women headed families were priority beneficiaries for construction of latrines and in the selection of water user committees, women representation in management positions was encouraged, especially for the post of secretary, treasurer or vice chairperson. The organization also prioritized the elderly and disabled people in their activities.

Case 2 – As part of Voluntary Action for Development (VAD)'s water supply interventions Women and children participated in the water source siting and in elections for the WUCs. Their role as the main water collectors was profiled. Persons with Disabilty (PWDs) were also involved in the design and siting of water supply infrastructure to be provided.

Case 3 – the World Vision WASH programme conducted community training sessions ranging from CLTS, sanitation marketing and operation and maintenance of WASH facilities with meaningful participation of all categories of people including children, women and PWDs involved. In schools, boys and girls including those with disabilities were involved in school WASH clubs and trained on key WASH standards and operation and maintenance of WASH facilities in schools.

8.2.16 Research initiatives

11 CSOs reported 14 interventions in research and development as indicated in Table 86.

Table 86: Research and development themes

Theme	Subtheme	Number	Overview of topics
Water supply	Functionality of water supply systems	5	Feasibility/market survey for piped water supply (3) Improving functionality based on data driven decision making (1) Coordination of rural water supply interventions for sustainable and reliable services (1)
	Water coverage monitoring	1	Census of water supply facilities for better planning and execution
Sanitation and hygiene	Menstrual Hygiene Management	2	Knowledge and capacity for menstrual hygiene management (2)
	Innovative technologies	2	Development of improved capacity for local production of gulpers Implementation of CLTS (1)
	Feacal sludge management	3	Safety of use of ecosan toilet products for manure (1) Other (2)
	WASH in HCFs Assessment	1	Use of data driven decision making to address gaps in healthcare waste management

CSOs performed well in piloting new water supply, sanitation and environment protection technologies and innovations with three initiatives versus a target of two. This contribution to increasing the stock of appropriate technologies and innovations to improve sanitation as well as water management and development services was through (i) the Gulper 4 for latrine emptying by Water for People (ii) Participatory Assessment of Climate and Disaster Risks (PACDR) tool for assessment and planning community led restoration activities by KDWSP, and (iii) the Agro-Pastoral Field School (APFS) and watershed management approaches by International Institute of Rural reconstruction (IIRR).

There is opportunity for CSO to contribute to interventions that will (i) improve in establishing early warning systems for disaster preparedness including risk reduction and management of national and global health risks, (ii) enhance knowledge management and research in the areas of sector professionals adapting new technologies and innovations knowledge management and practical research studies conducted to improve Watsan service provision.

8.4 CSO INVESTMENT IN THE CLIMATE CHANGE, NATURAL RESOURCES, ENVIRONMENT, AND WATER MANAGEMENT PROGRAM

4.78 Billion	13 Catchments	70,619 Beneficiaries	478,285 Ha. under restoration

8.4.1 Investment in IWRM

The CCNREWM program supports the efficient and effective management and development of natural resources including water, while ensuring protection of environment. 16 CSOs reported interventions in Integrated Water Resources Management (IWRM), with investments totaling UGX 4.78 billion. This is 18.6% increase from UGX 4.03 billion in FY2019/20 and continues the upward trend in investment in IWRM since FY 2015/16.

8.4.2 Availability Of Adequate And Reliable Quality Fresh Water Resources For All Uses

8.4.2.1 Water resources management at catchment level

Catchments of intervention

Restoration, livelihood enhancement and other support activities were reported in 13 of the 23 catchments in Uganda, as listed in Table 16. All 13 catchments were reported to have catchment management plans (CMP), and all CSOs' interventions are aligned to the CMPs. However, two CSOs reported absence of a CMP for the catchment of their activities, which other CSOs had reported as available. It appears that not all CSOs are aware of the presence of CMPs, and more effort is required in wide dissemination of available CMPs.

Table 87: Catchment areas of IWRM activities

No.	Catchment of IWRM activities	No. of Interventions
1	Albert Nile	1
2	Aswa	2
3	Awoja	1
4	Kagera	1
5	Kyoga	1
6	Lake Albert	3
7	Lake George	3
8	Mpologoma	2
9	Okere	1
10	Okok	1
11	Rwizi	2
12	Victoria Nile	2
13	Victoria	2

The following section provides a narrative of the interventions in IWRM based on the information as captured in the current reporting format as opposed to being it mapped to the PIAP extracts. This approach is a stop gap measure to bridge the gap highlighted from the review of the extracts for the CCNREWM program which reveal a need to align the reporting format to the PIAP, going forward.

Accord (U), in line with the sector policy and guidelines on catchment-based water resources planning and management, facilitated communities to develop, disseminate and implement the catchment landscape management plan in sub-catchments of Kakondo, Ihoho, Kongoro and Nyakaikara that are part of the Rwizi catchment

Catchment Management Measures

During FY2020/21, CSOs participated in restoration and livelihood enhancement in key hotspots of riverbanks (9), followed by wetlands (5) and forests (5), and landing sites (2) as shown in Figure 5 Others included degraded croplands and water sheds.

Activities included training and mentoring; demonstration of practice; tree planting, establishment of nurseries and woodlots; formation of management structures; natural resource mapping; infrastructure provision; and others like advocacy, gully plugging and regeneration.

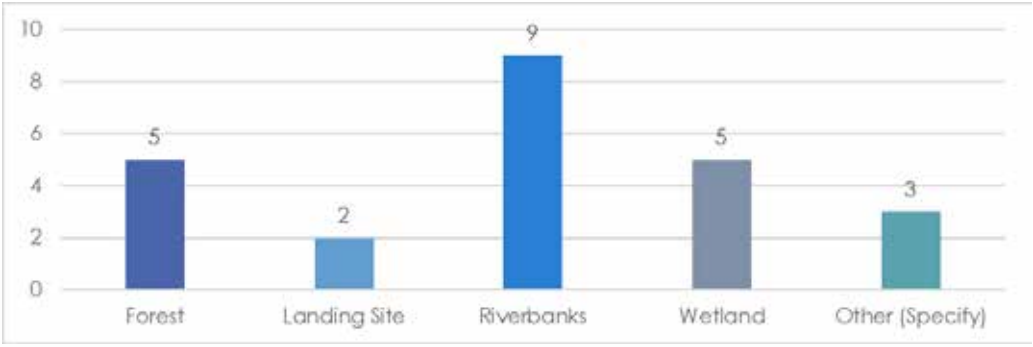


Figure 82: Hotspots for IWRM interventions

Sub-catchment Restoration

The interventions, by 31 CSOs were carried out across 26 districts[3] with a total area coverage of 478,285 hectares. The approaches used for the catchment restoration included community based participatory approach with awareness raising, advocacy, focus group discussions, stakeholder mobilization, livelihood support and demonstration of practices; supply of seedlings for tree planting and woodlot establishment; agro pastoral farmer field schools; watershed restoration and assisted natural regeneration.

Specific examples on the community based participatory approach included (i) use of the Participatory Assessment of Climate and Disaster Risks (PACDR) tool- tool for assessments and planning community led restoration activities, (ii) Kigezi Diocese Water and Sanitation Programme (KDWSP) supported communities with skills and none locally available materials and communities were structured under a community-based leadership for sustainability, and (iii) catchment management through strengthening community climate change resilient initiatives - IIRR established six parish-based demonstration and multiplication sites for appropriate climate smart and sustainable land management technology demonstration and multiplication sites. The anticipated benefits and impacts of restoration include:

i. Improved awareness of communities on ecosystem management like knowledge of buffer zones and NEMA guidelines. This is expected to contribute towards protection of fragile resources with community members taking stewardship of the environment and preventing activities like grazing and stone quarrying along the river banks.

ii. Restoration of fragile eco-systems including river banks, buffer zones and wetlands. This should result in increase in soil and water retention thereby reduced soil erosion, fewer landslides, and floods among others.

iii. Increased water recharge and retention for reuse hence increased ground water levels.

iv. Sustainable Land Management through adoption of local tree species under Assisted Natural Regeneration.

Livelihood enhancement

30 livelihood enhancement interventions benefiting 70,619 people, of whom 73% (51471) are female were undertaken in the sub-catchments of Romogi, Koichi, Arivu, Oluko, Lake Albert, Lake George, Mpanga, Mpologoma, Lokere, Ihoho, Kongoro, Nyakaikara, Kakondo-Kamukaki Kelim-Taboki, Maziba, Ruhezamyende, and nine others which were not listed.

The interventions included agro-forestry, briquette making, livestock faming, construction of energy saving cooking stoves, tree nurseries. CSOs employed several approaches to effect the livelihood enhancement including, savings and credit, cultural tourism, value addition to agricultural products, construction of rain water harvesting tanks, setting up back yard vegetables gardens, training and income generation through provision of conservation seed fund to groups, provision of tools and inputs as well as set up of demonstration farms for upscaling the tree planting initiatives. 22,993 people are reported to have adopted sustainable land use and/or smart agricultural practices.

3 *Agago, Amudat, Amuria, Buhweju, Bunyangabo, Butaleja, Kaabong, Kabale, Kabarole, Kamwenge, Karenga, Kasese, Kitagwenda , Kitgum, Kween, Manafwa, Mbale, Mbarara, Mpigi, Nakapiripirit, Namutumba, Napak, Ntoroko, Rwampara, Tororo, Yumbe*

8.4.3 Stakeholder engagement and management structure

Stakeholder engagement is key to buy in, implementation and adoption of catchment management activities. CSOs engaged stakeholders from Local Government, Religious Leaders, Political Leaders, Schools, staff of Water Management Zones Staff, and others (NEMA, local communities and their leaders, other CSOs working in the same sector, and catchment and sub-catchment management committees).

Management structures:

CSOs also invested in building management structures and planning tools for sustainable catchment management as detailed in Figure 83 below

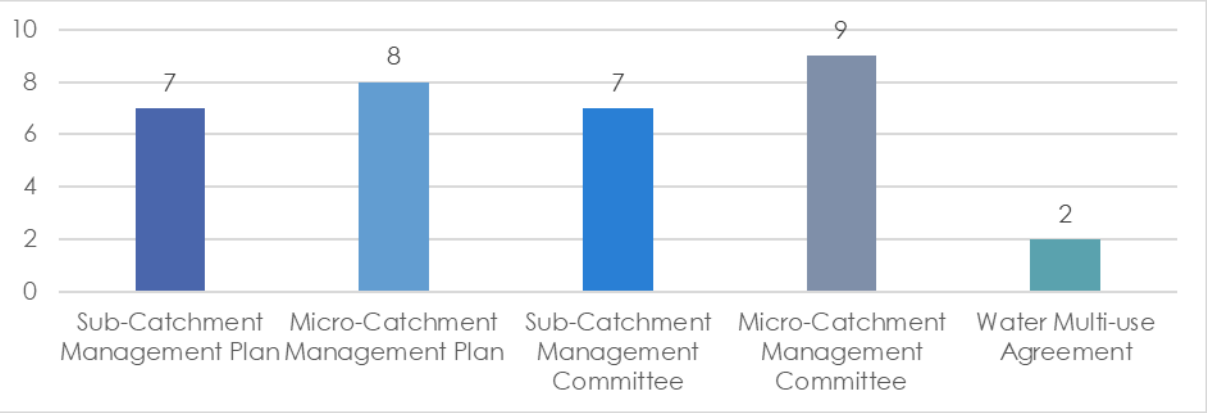


Figure 83: Management plans and structures for IWRM

8.4.4Water quality management

Water quality management is key to stewardship and sustainability of the provided water supply services. During the year, CSOs reported good compliance levels for the systems they were involved with, apart from those managed by NWSC. Table 88 shows water quality monitoring by CSOs.

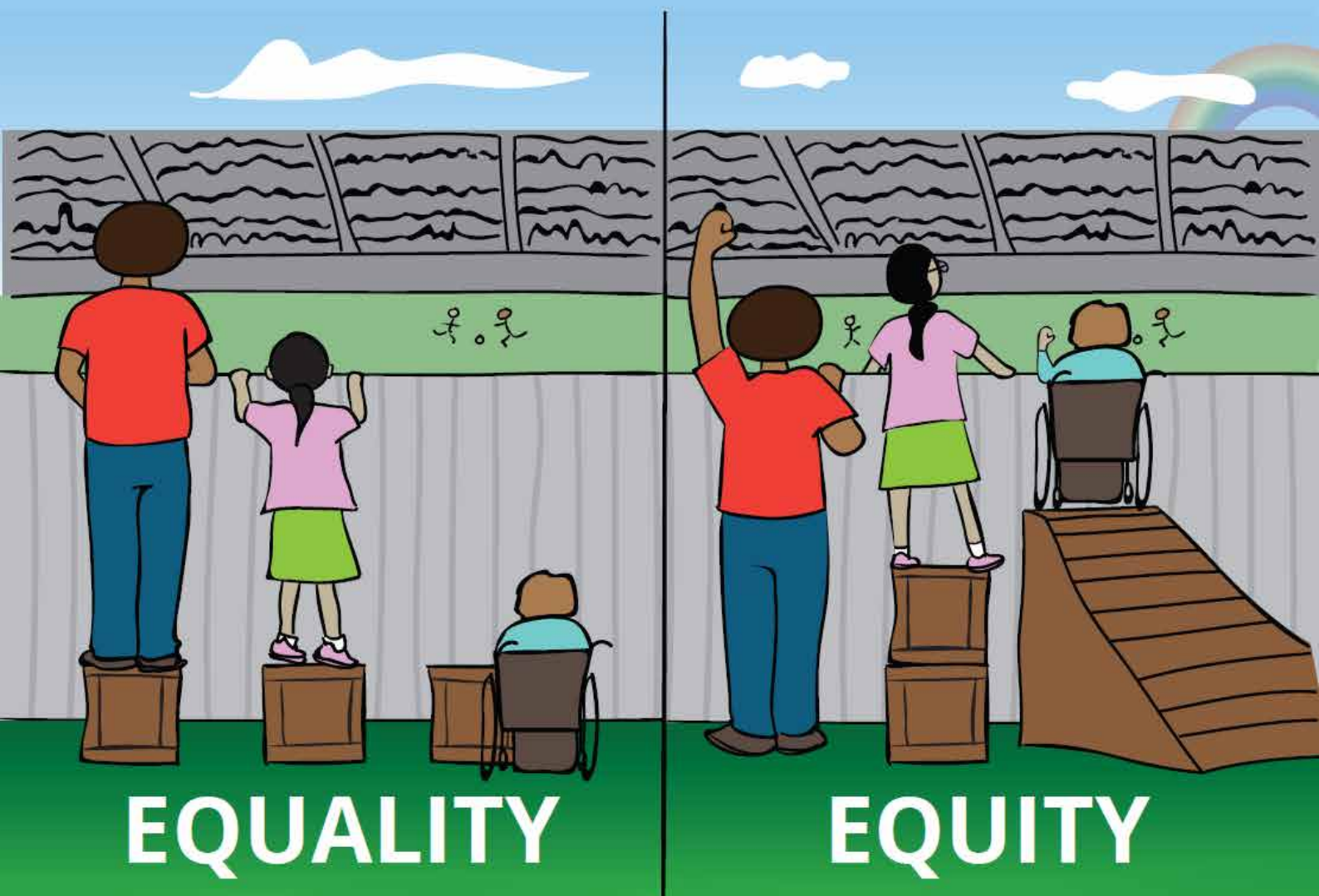
Table 88: Water Quality monitoring by CSOs

Scheme manager/ operator	Average of % compliance*	Number of samples tested for E-coli during the year	Tested samples complying with national E-coli standards
NWSC	100%	31	31
Other – CBO, School,	74%	1,113	480
Private operator	100%	10	10
Grand Total	**81%**	**1,519**	**521**

**Average % Compliance is based on individual CSO reported tests and compliance levels*

CHAPTER 9

CROSS CUTTING ISSUES



CHAPTER 9

CROSS CUTTING ISSUES

9.1 Introduction

Cross-cutting issues are matters that negatively affect the development outcomes if not considered during the development process. The cross-cutting issues considered under this chapter include, gender; HIV/AIDS; and Environmental and Social safeguards amongst others. The cross-cutting issues considered are indicated in the sections below.

9.2 Gender Equality and Women Empowerment

The Uganda Gender Policy (UGP), 1997 (Revised 2007), mandates all MDAs to promote gender equality and women empowerment while executing programmes and activities. The Ministry of Water and Environment (MWE) developed a Water and Sanitation Gender Strategy in 2003 (revised in 2010 and 2017) and an Environment and Natural Resources Gender Strategy in 2015 to guide Gender Equality and Women Empowerment (GEWE) efforts in the sector. The sections below indicate the status of GEWE initiatives in the sector.

9.3 Gender Indicators

9.3.1 Percentage of Water and Sanitation Committees (WSC) with at least one woman holding a key position

The performance indicator for gender mainstreaming in rural water interventions is "*Percentage of Water and Sanitation Committees (WSC) with at least one woman holding a key position*". Key positions on WSCs include Chairperson, Vice Chairperson, Secretary and Treasurer. Data from the MWE water supply database as of June 2021, indicates that 86% of WSCs have women holding key positions. This is the same percentage reported last year. The trend of women in key positions over the years is indicated in figure 85 below

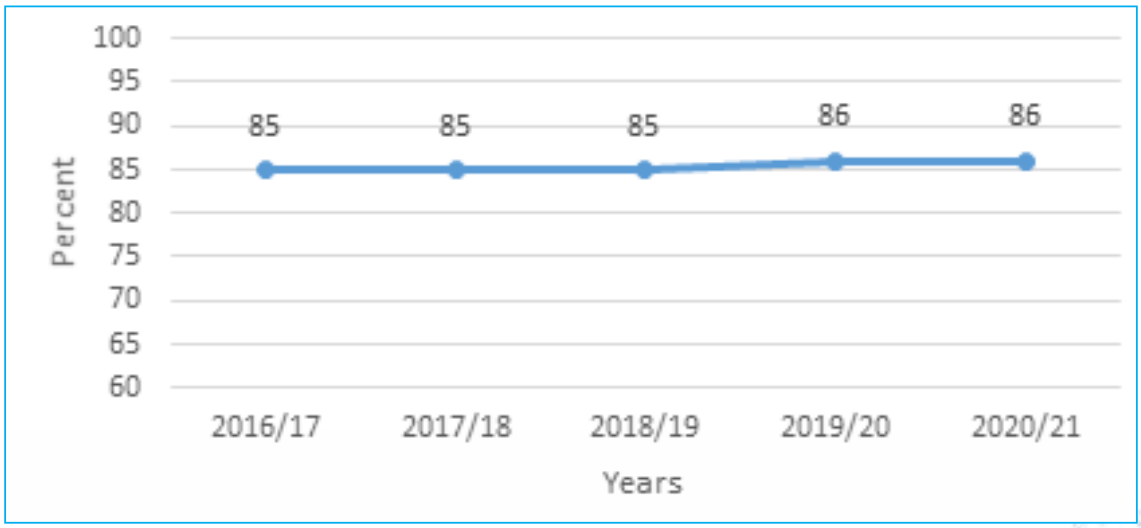


Figure 85: women in key positions

Catchment Management Committees for Water Resources

The Performance indicator for Gender mainstreaming on Catchment Management Committees (CMCs) and Sub Catchment Management Committees (SCMCs) is the Percentage of CMCs / SMCs with women holding key positions.

Data from 15 CMCs[1] from Aswa, Victoria, Albert and Kyoga and Upper Nile Water management zones, indicates that 80% (12) CMCs have women in key positions. This is a slight increment from 79% reported last year. The CMCs with no women holding key positions are located in Albert Water Management Zone (Muzizi, Nkusi and Semiliki).

Within CMCs a number of lower level Sub Catchment Management Committees (SCMCs) have been developed to operationalize the CMCs. Information from the management zones indicates that out of the 13[2] SCMCs formed, 100% have women occupying key positions.

9.3.3 Gender in staff Composition

The National Employment Policy for Uganda (2001), prescribes the collection and dissemination of improved data and statistics on the labour force, disaggregated by sub-sector, and the consideration of women and other disadvantaged groups for employment opportunities if wealth creation and poverty eradication are to be achieved.

Gender Staffing in MWE

MWE Permanent Staff: Data from the human resource division, under the Department of Finance and Administration, indicates that MWE has 361 permanent staff an increment from 347 staff reported last year. A gender analysis of MWE employees indicates that 36% (131) of staff are female and 64% (230) staff are male. This is the same gender composition that was reported last year.

The gender analysis of permanent staff composition for a period of 5 years (2017 to 2021) indicates that the number of female staff members has not significantly improved over the last five years and with the gender disparity between men and women stalling for the last three years

1 *Maziba, Rwizi, Katonga, Mpanga, Ruhezamyenda, Muziizi, Nkusi, Semuliki, Victoria Nile, Awoja, Mpologoma, Lokok, Lokere, Aswa, and Albert Nile.*

2 *Upper Maziba, Middle Maziba, Lower Maziba, Lake Bunyonyi, Kelim Taboki, Opeta Bisina, Lake Kochobo, Omanimani, Kapir-Kokorio, Nangolol Apolon, Aswa 1, Agago and Pager Matidi.*

The details are indicated in the figure 86.

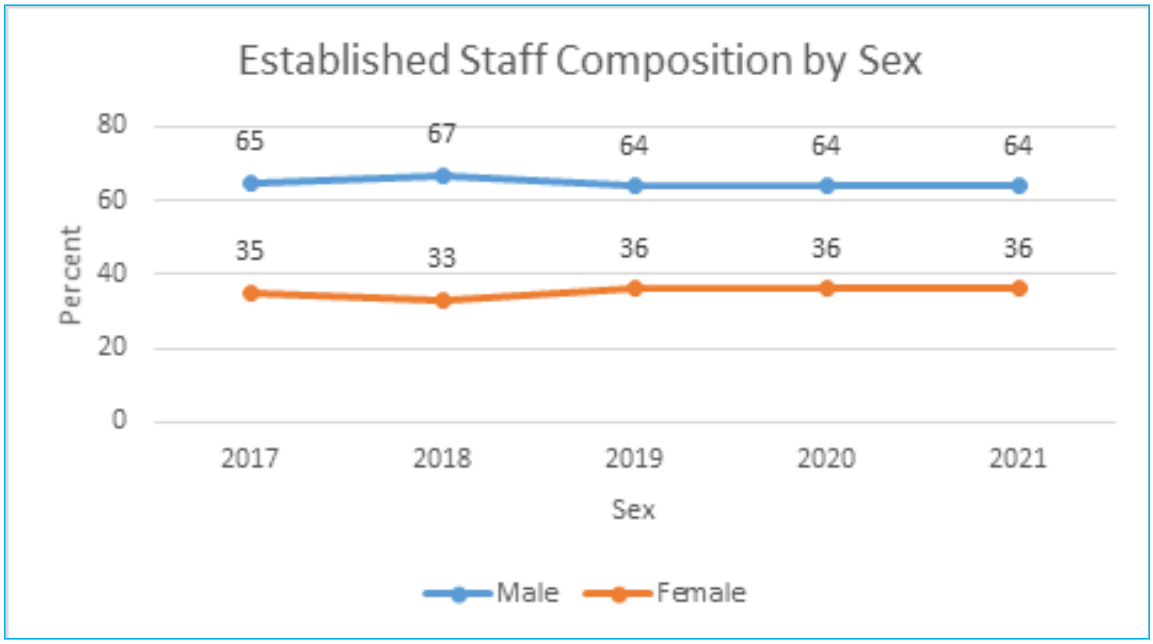


Figure 86: gender staffing over years

Gender by Management Position in MWE

Further analysis of staffing position by management position indicates that there are 44 staff members occupying senior management position[3] out of which only 18% are female. This is an improvement from 15% reported last year.

For the middle management level[4], the ministry has 114 staff members of which 26% are female and 74% male. The Percentage of female in this category has remained unchanged since last year.

The operational level[5] is well balanced with the number of female employees being equal to that of men. The gender analysis of the staffing by seniority is indicated in table 89.

Table 89: Gender analysis in MWE by seniority

Staff Level	Female		Male	
	No.	%	No.	%
Top Management	8	18%	36	82%
Middle level Management	30	26%	84	74%
Operational Level	50	50%	50	50%
Support Level	38	43%	51	57%
Total	**124**		**218**	

3 *Scale U1*
4 *Principal and Senior officers, scale U2 and U3*
5 *Officers in scale U4 and U5*

MWE Contract staff

Data from the Human Resource Department indicates that there are 827 staff employed under contract terms. The analysis of gender composition for contract staff indicates that 30% (251) of staff are female and 70% (576) are male. This indicates a 1% increment in the proportion of females from 29% reported in 2020.

The trend of contract staff composition according to sex, over the last three years indicates that the sector made 1 % progressive improvement in female composition for the last three years. The details are indicated in graph 87 below

Figure 87: Gender Composition for Contract staff over the years

District Water Office Staffing

The number of District Water officers occupying district offices remains low. Data from 135 Districts in Uganda indicates that only 4% of the districts have female District Water Officers. The districts with female Water officers are Lamwo, Butambala, Kamwenge, Katakwi and Kabale. This is an increment from 3% reported last year.

The data on MWE established staff, Contract and Local Government staffing, indicates that efforts to improve staff gender parity have not yielded much and therefore calls for proactive and transformative strategies within the MWE, Ministry of Public Service and the Local Governments if the gender disparities and glass ceiling are to be broken.

National Water and Sewerage Staffing Composition

NWSC has undertaken various efforts towards the inclusion of women, which has increased the number of female participants in the sector. The Corporation is an equal opportunities employer. For instance, there have been improvements in the number of women involved in decision making at the top management level, although ladies are still few in the field operations despite affirmative action by government to enhance involvement of women through education. Table 90 shows the gender composition in the Corporation.

Table 90: Status of Staff Composition 1999 - 2021

Indicator	2016/17	2017/18	2018/19	2019/20	2020/21
Total Number of Female Staff	943	2,385	2,578	1,256	1,365
Total Number of Staff	3,131	3,452	3,778	4,082	4,244
% of Female	30%	69%	68%	31%	32%

9.3.4 Gender and equity Responsive Planning and budgeting

Gender and Equity Responsive Planning and Budgeting in Uganda seeks to eliminate discrimination and inequalities against any individual or group of persons on the ground of sex, age, race, color, ethnic origin, tribe, birth, creed or religion, health status, social or economic standing, political opinion or disability, and take affirmative action in favor of groups marginalized for the purpose of redressing imbalances which exist against them (EOC Act, 2007).

Section 13 (15) g (i) and (ii) of the Public Finance Management Act, 2015 (as amended), mandates MDAs to specify measures taken to equalize opportunities for men, women, persons with disabilities and other marginalized groups under their respective Ministerial Policy Statements. Accordingly, this is one of the pre-conditions for the issuance of the certificate of compliance with gender and equity requirements by the Minister responsible for Finance Planning and Economic Development in consultation with the Equal Opportunities Commission.

In line with the above, the Equal Opportunities Commission (EoC) assessed sector Ministerial Policy Statements for FY 2021/22 for compliance with gender and equity responsiveness. A report[6] from EOC for 146 MDAs for FY 2020/21, indicates that the Ministry of Water and Environment and its Agencies (National Environment Management Authority, Uganda National Meteorological Authority and National Forestry Authority) scored 82%, 62%, 62% and 60% respectively. This was above the minimum score of 50%.

Table 91 shows that only the Ministry of Water and Environment registered an improvement in performance from 81% to 82% and while NEMA, UNMA and NFA registered a decline in performance. Out of the 146 MDAs assessed the Ministry of Water and Environment emerged the 4th best having scored 82%.

Table 91: Performance of MWE, NEMA, UNMA & NFA on Gender Equity Budgeting

SN	Vote	2017/18	2018/19	2019/20	2020/21	2021/22
1	**Ministry of Water and Environment**	51%	74%	77%	81.40%	82%
2	**National Environment Management Authority**	55%	64%	71%	66.10%	62%
3	**Uganda National Meteorological Authority**	50%	65%	53%	64.40%	62%
4	**National Forestry Authority**	70%	50%	65%	63.10%	60%

6 *Compliance of Vote Ministerial Policy Statements with Gender and Equity Requirements FY 2021/2022*

Emerging Issues on Gender and Equity Budgeting in the MPS highlighted by EoC Report

i. The Ministry of Water and Environment does not have any clear interventions (achieved and planned) that target persons with disabilities.

ii. In the medium-term plan, the Ministry highlights job creation for the youth in the wood-industry however, there are no planned interventions to implement this plan in the commitments.

iii. National Forestry Authority in its quarter four 2019/2020 highlighted Political interference into operations of the institution by local leaders and representatives at various levels that hinder lawful eviction of encroachers and demarcation of forest boundaries.

iv. NFA highlights distortions brought about by seasonal/climatic changes whereby the season-based nature of activities mean that some activities cannot be carried out.

v. The complex nature of contracted work for forest restoration involves mapping and inventory all of which are done by different departments. All these take long and that means completion reports take long to be processed for payment leading to unspent funds.

vi. The Vote MPS for NEMA, reflects inadequate capacity to prepare gender and equity responsive budget, hence the need to build capacity of the institution in preparing gender responsive MPS

9.3.5 Economic Empowerment and Initiatives to support the poor and disadvantaged

Article 32 (1) of the 1995 Constitution of the Republic Uganda provides that the State shall take affirmative action in favor of groups marginalized on the basis of gender, age, disability or any other reason created by history, tradition or custom, for the purpose of redressing imbalances which exist against them. Relatedly the Uganda Gender policy (2007) prescribes affirmative action measures in order to reduce historical and traditional imbalances within the community. During the reporting period, the Ministry undertook a number of economic empowerment initiatives to support the poor and disadvantaged groups under the following projects

Supporting Women and Youth Groups in production and Marketing of improved Cooking Stoves under EURECCCA Project

Under the "Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda'' (EURECCCA) Project the Ministry trained 6 community groups in Production, Business Planning and Marketing of improved cook stoves. This initiative was aimed at reducing the level of forest degradation in Maziba Catchment while boosting economic opportunities for the communities.

A total of 279 community members (233 women and 46 men), majority women benefited from this project. A total of 3,304 stoves were manufactured by the 6 groups. The details are as indicated in table 92 below

Table 92: Showing number of women trained per group, and the performance of each women group

SN	Group Name	District	Female	Male	Total	Numbers of cook stoves produced
1	Mukirwa women group	Rubanda	43	09	52	1,089
2	Kyabuhangwa Women Group	Rukiga	38	09	47	569
3	Kyafora Women Group	Ntungamo	06	02	08	364
4	Kyanamira (KWID) Kabale	Kabale	54	10	64	501
5	Rushebeya women Group	Ntungamo	38	01	39	369
6	Rwendahi Tweyambe women	Ntungamo	54	15	69	412
	Total		**233**	**46**	**279**	**3,304**

Establishment of a revolving fund for the benefit of the affected local communities in Maziba Catchment

In the bid to provide alternative livelihoods for communities living in the Maziba Catchment, the Ministry under the EURECCCA project has engaged 756 Households on alternative Income Generating Activities (IGAs). This is aimed at ensuring that communities abandon the degradation of wetlands, river banks, in exchange for alternative IGAs. The communities have been mobilised to select their preferred income generating activities and these activities shall be funded using the revolving fund model. It is envisaged that by the end of the project, three Water and Environment Cooperatives (WEC) shall be formed with each allocated up to a maximum of USD 25,000.

Economic Empowerment and Skill Development of Women/ Youth groups in establishment of Tree Nurseries

The Ministry with support from the African Development Bank has supported 10 women and youth groups in establishing tree nurseries. The purpose of this initiative is to create employment opportunities, boost income, improve health and hygiene in homesteads reduce cost of fuel and to contribute to mitigation efforts for human induced climate change. These activities have been completed in 11 districts as indicated in table 93.

Table 93: Women/youth Groups supported in Tree Nursery Establishment

	Name of Group	District	No. of Beneficiaries	No. of seedlings Produced
1	Bugobero women Ramba Nabi group	Manafwa	Total 39; (34 female and 5 males)	142,200
2	Kikunyu A Buggaga Magezi Women's Group	Butambala	Total 15 (5 males and 10 females)	100,286
3	Namasho Women group	Bududa	Total 15; (3 females and 12 females)	188,130
4	Cheripei Women and Tree Nursery Bed Group	Bukwo	Total 11; (4 males and 7 females)	243,340
5	Kasenyi Youth group	Bukedea	Total 30; (25 males and 5 females)	144,588
6	PIDA West Village Group	Agago	Total 36; (16 males and 20 females)	101,200
7	Kubbi Nursery bed group	Nebbi	Total 34; (25 males and 9 females)	533,528
8	Masyoro Group	Sheema	Total 40; (15 males and 25 females).	189,000
9	Igorora Nursery Bed Group	Ibanda	Total 10; (4 males, 6 females)	115,358
10	Karugutu Community Conservation Association	Ntoroko	Total 36; (16 males and 20 females)	113,381
				1,871,011

Support of Women and Youth Groups in Soap Makings, Manufacture of Briquettes and Energy Stoves

The MWE supported four women and youth groups in Wakiso and Kagadi Districts in establishing Sanitation and Environment related businesses including the manufacture of soap, Vaseline, briquettes and energy saving stoves. The details are indicated in table 73.

Table 73: Women and Youth Groups supported in business

SN	Name of Group	District	No. Supported
1	Muhororo Women Muslim Group	Kagadi	Total 65 (59 women and 6 men)
2	Abakaiso Integrated Farmers Development Foundation	Kagadi	Total 45 (25 women and 20 men)
3	Nabitalo Environment Protection Organization (NEPO)	Wakiso	Total 39; (18 males, 21 females)
4	St. Cecilia Choir.	Wakiso	Total 25; all female
	No of Women and Men Supported		**Total 109 (71 female and 38 male)**

Figure 88: Liquid Soap and Vaseline from St Cecilia Choir

9.3.6 Livelihood Empowerment initiatives by LEAF project

The Multinational Lakes Edward and Albert Integrated Fisheries and Water Resources Management (LEAF II) Project was designed to among others ensure that: Alternative Livelihoods are promoted for vulnerable communities within the Lakes Edward and Albert Basin. Through this project output:

i. 2,256 people have been trained in business skills and alternative livelihoods *(71% women; 2% PWDs & Youth)*.

ii. 288 people had taken up alternative livelihoods in the districts of Ntoroko and Kitagwenda *(58% women; 4% PWDs; 13% youth)*.

iii. Following the trainings, 55 women and youth groups were established to benefit from start-up enterprises as incubators for alternative livelihoods and diversification of welfare. The start-up enterprises launched are involved in: bar soap making, school board chalk making, baking cakes, tree nursery beds, fish ponds, among others.

iv. Village Savings and Loan Associations (VSLA) have been established by the Project in Ntoroko, Rukungiri and Pakwach. These village level revolving funds enable members to save and borrow at low interest rate.

Mrs. Kanaga Edith, a VSLA group member from Karugutu Town council in Ntoroko district reports that: "... before the project, I didn't have savings, but after saving with Karugutu United Women Development Association set up with assistance from the LEAF II Project, I got a loan of UGX 500,000=, bought five goats in 2019 and I now have 25 goats. I equally got another loan and went back to school to study a certificate midwifery and now I am employed at Karugutu Town council as a midwife".

Another beneficiary from Karugutu United Women Development Association also says she got a loan of UGX 1,000,000= from the group and started a produce store which has expanded. She goes on to say that she was able to buy one and half hectare piece of land at UGX 10,000,000= where she grows cocoa as a way of diversifying her income.

One output of the project is to ensure that *"fish quality and value addition is enhancedwithin the Lakes Edward and Albert Basin"*.

Through this project output: Efforts were made to reduce post-harvest losses and improve fish quality and value addition, where the project constructed and commissioned Mbegu landing site in Hoima District on L. Albert, whereas the functionality of the previously commissioned Rwenshama landing site in Rukungiri District on L. Edward, and Mahyoro landing site in Kitagwenda District on L. George were continuously accessed.

The landing sites recorded an increase in fish traded as a result of the improved facility *(Rwenshama by 40%, Mbegu by 20%, and Mahyoro by 35%)* led to higher incomes by the communities.

The facilities were constructed complete with:

a) *Modern fish landing and handling facilities*

b) *Modern fish smoking kilns and fish sun drying facilities*

c) *Feeder roads for connectivity to the landing sites*

c) Feeder roads for connectivity to the landing sites

Social-economic impacts of the LEAF II Project: There are major social-economic impacts which include household revenue improvement; maintaining of social cohesion; health improvement; increased proportion of households that are both food and nutritionally secure; and securing fisheries (through promotion of alternative livelihoods). The anticipated negative impacts such as conflicts related to inequitable access to the project resources, land tenure, conflicts between local communities, STD/HIV/AIDS proliferation, etc. are appropriately mitigated as proposed in the project ESMP through adoption of local frameworks for an inclusive and equitable access to the infrastructure and natural resources.

The project is also contributing to job creation for local communities in the Lakes' regions. The project has so far generated direct local employment opportunities to about 15,000 persons (43% women) through its interventions while another 67,000 persons (48% women) had other direct benefits such as access to appropriate and improved sanitation facilities, access to safe potable water, improved access roads etc.

The project is enhancing women's economic empowerment and increased the space for participation in decision making processes by women and people with disability (PWDs). The project ensured the inclusion of women in the Community-based Catchment Management Organizations, Catchment Management Committees, Landing site Management Committees, etc. Gender specific action plans were integrated within the 5 developed catchment management plans. The project also supported training of women, PWDs, youth in various technical skills (leadership, financial literacy, improved drying system, cage fishing, alternative livelihoods, etc.). Gender inequality was therefore reduced through the project interventions.

The alternative livelihoods support under the project areas targeted mainly the above category to enable greater inclusiveness. The construction of water points also enabled the residents in participating towns by reducing the physical and emotional threat of, and associated costs from impact of waterborne diseases. Women who commonly played key roles in water collection thus gained many benefits from reduction of labour burden, time, and costs related to water and sanitation services.

During beneficiary assessments conducted in the districts of Hoima, Kikuube, Ntoroko, Kasese, Kabarole and Rukungiri, it was confirmed that the project substantially contributed to reduction of 'gender based violence' due to reduced effort and time women spent fetching water.

The project also addressed disability inclusiveness by guaranteeing them services and benefits. *Ms. Godi Uwimana, an elderly PWD beneficiary from Rwenshama village in Rukungiri district reported that: "... before the project, I was unemployed and always stigmatized as disabled. I was also hopeless and unable to undertake any income generating activity. But when the project formed the Village Savings and Loans Association; trained us in resource mobilization, business management; and also motivated us that everyone can operate a business or income generating activity, I started saving and was able to start a small grocery shop with UGX 2,000,000= borrowed from the group. I've never been the same because I can now meet my personal needs and still continue to save weekly to expand and diversify my business".*

9.3.7 Pro- poor activities

MWE and NWSC recognize the fact that access to safe water is a human right, thus provision of at least the basic water services to all sections of the population is paramount. One of the ways MWE and NWSC reaches out to the poor living in urban areas is through the construction of Public Stand Pipes whose tariff is affordable.

During the period under review, a number of initiatives have been undertaken by the MWE to provide water to the poor as indicated in table 94 below.

Table 94: Public Kiosks Constructed

Town	Public water kiosks[7]
Buyamba	4
Kambuga	10
Lwemiyaga	13
Bigando	12
Nyakatonzi	10
Igorora	5
Kashaka-Bubaare-II	1
Kagadi	13
Moyo	15
Padibe	05
Total	**55**

93.8 HIV/ AIDS Mainstreaming

HIV/AIDS sensitization meetings

During this reporting period; ant-HIV/AIDs promotional campaigns in form of sensitization meetings with contractor's staff and the community were conducted in towns of Buyamba, Kambuga, Lwemiyaga, Bigando, Nyakatonzi, Igorora, Kashaka- Bubaare, Kagadi, Moyo and Padibe. The purpose of the sensitization meetings was to ensure that communities and workers on construction sites avoid getting infected with HIV/AIDS. Additionally, two drama shows with HIV/AIDS related prevention messages were staged in Lwemiyaga and Kifamba towns.

7 *Each Public Water Kiosk serves at-least 200 people.*

A review of District Reports indicates that the disricts of Kanungu, Bududa, Apac, Kalaki, Serere, Rukungiri, Bulambuli and Kitgum conducted sensitization activities to create awareness on how to avoid HIV/AIDS and other Sexually Transmitted infections and how to seek for care/ support once infected or affected.. The engagements included advocacy meetings at district and sub county levels; training of Water and Sanitation Committee and training of Hand pump Mechanics.

Voluntary Counseling and Testing

The Ministry through the Water and Sanitation Development Facility- North undertook Voluntary Counseling and Testing (VCT) for 252 community members including 123 females and 129 males. The VCT was carried out in the towns of Moyo and Padibe. The community members tested were all HIV, negative.

Condom Distribution

In a bid to prevent HIV and other Sexually Transmitted Infections within the communities, a total of 11,520 pieces (2cartons) of male condoms were distributed to the towns of Padibe and Moyo. Condom distribution was also undertaken by District Water Offices of Bududa, Apac and Kanungu. Condoms were distributed during meetings, and also placed in condom dispensers located in washrooms. The aforementioned districts obtained condoms by linking up with various NGOs such as Regional Health Integration to Enhance Services (RHITES) and The AIDS Support Organization (TASO).

Commemoration of Memorial Days

MWE Headquarters organized World AIDS 2020 and International Candle Light Memorial Day for staff during which guest speaker's sensitized about 250 staff about the latest information about HIV and AIDS. Both events were attended physically and virtually due the COVID 19 pandemic. Programme specific HIV IEC materials were distributed at both functions. Some selected staff attended the National event organized by Uganda AIDS Commission at Office of the President Conference Hall.

9.3.9 Environmental and Social Safeguards

The national policy direction is that all development projects which may pose negative impacts to the environment and the society have modalities for addressing or mitigating them. In order to minimize Environmental and Social Risks and improve overall project performance, the MWE, is making effort aimed at ensuring that safeguard aspects are systematically and consistently considered from concept design, bidding, contracting and implementation of projects. For FY 2020/21 a number of activities were undertaken as presented below:

Grievance Redress Management Guidelines

The Ministry developed Grievance Management Guidelines (GMG), for purposes of ensuring consistent, formal and effective institutionalized framework for easy submission of grievances as well as speedy and equitable resolution of grievances from stakeholders during project implementation. The GMGs will help ensure;

a. Systematic receipt of grievances from affected communities and allow for pre-emptive engagements at an earliest opportunity.
b. Provide impartial, equitable, appropriate, transparent, and consistent responses to complainants.

c. Ensure fair, timely and equitable responses to complaints regarding compensation for loss of properties of local residents and other affected parties.
d. To promote easy access to grievance redress by vulnerable groups including women, children, people with disabilities among others

Capacity building initiatives in Environmental and Social Safeguards

In a bid to strengthen MWE capacity in undertaking Environmental and Social Safeguards (ESS) related activities, the African Development Bank, held a two-day virtual training for 8 MWE staff and other MDAs on the 24th and 25th of September 2020. The training covered: Overview of Country Policy and Legal Framework requirements for ESS Safeguards compliance; Presentation of contents of Borrower periodic environmental and social implementation report; Quarterly reporting requirements/contents; Incident Reporting and root cause analysis; Case Study on Occupational Health and Safety (OHS) implementation on projects, Fatalities and identification of causal factors and responsibilities; and Challenges of E&S Implementation and oversight.

9.3.10 Challenges for mainstreaming cross- cutting issues

i. The Covid-19 pandemic has affected the implementation of community related activities including; community engagement activities; economic empowerment activities and environmental and social related activities given that social interactions activities were greatly affected by Covid-19 social distance requirements.
ii. Limited capacity for staff to undertake environmental and social safeguards activities throughout the development cycle of infrastructural related projects.
iii. The lack of sector specific gender and equity compact, to guide economists and planners in planning and budgeting.
iv. Limited data on vulnerable and marginalized groups including elderly, youth, disabled, children and youth, who are usually most affected by inadequate service provision.
v. Limited funding to support Gender, HIV/AIDS mainstreaming and Environmental and social Safeguards related activities.

CHAPTER 10

CHALLENGES, CONCLUSIONS AND RECOMMENDATION

10.1 Challenges

During the FY 2020/21, the key challenges were as follows:

1. **COVID-19 pandemic** was a major challenge because of the lockdown of the country which restricted movement and gatherings, and reallocation of funds to fight the pandemic. As a result, activities/works were disrupted and could not be completed as scheduled.

2. **Underfunding** remains a major challenge; the budget allocation in the MTEF is far below the projected funding to achieve the outcomes and implement the interventions as outlined in NDP3 and PIAP. The reallocation of budgeted funds to fight COVID-19 pandemic has exacerbated the problem.

3. **Understaffing** in the implementing MDAs and Local Governments is a challenge. The staff recruitment envisaged in NDP3 has not taken place because of the ongoing restructuring of Government. Some of the staff in position have inadequate skills and tools to efficiently perform their duties.

4. **Lack of data** to track some of the indicators especially on climate change and environment. Some of the indicators require expensive studies and specialized tools to collect the required data.

5. **Vandalism of monitoring equipment** especially for water resources monitoring and weather stations. This has rendered a lot of equipment non-operational and increased the cost of repairs and maintenance. Change of landlords is posing a big challenge because new landlords want the facilities relocated from their land.

6. **Issuance of land titles in forest reserves and wetlands** is a big challenge undermining the restoration of the degraded forests and wetlands. This has resulted in protracted costly ligation with encroachers thereby affecting the achievement of the targets.

7. **Increasing occurrence of disasters** across the country is major challenge amidst the limited resources. As a result, OPM is constrained to effectively response to disasters.

10.2 Conclusion

The Goal of this Programme is to stop and reverse the degradation of Water Resources, Environment, Natural Resources as well as the effects of Climate Change on economic growth and livelihood security. During the FY 2020/21, substantial progress was made to reverse the degradation of Water Resources, Environment, Natural Resources and effects of Climate Change. Compliance with water abstraction and wastewater discharge improved compared to the FY 2019/20.

Water quality improved especially drinking water though challenges remain with water bodies like Lake Victoria because of increasing pollution.

Interventions were implemented to restore the forests and wetlands including planting trees, demarcation of forests and wetlands and eviction of encroachers. Many forests and wetlands are regenerating. However, more resources are required in terms of enforcement and cancelling land titles in forest reserves and wetlands if the NDP3 targets of increasing forest and wetlands cover are to be achieved.

Titled land increased through issuance of land titles especially to customery land owners and women to enhance the secure of their tenure. However, more resources in terms of staffing and funding are needed if the NDP3 target of titled land is to be achieved. Disatsters that occurred were responded to by OPM albeit limited resources. More sources are required to effectively respond to the increasing disasters.

The Programme leadership is greatful to the Government of Uganda and Development Partners for the continued support to programme activities. Notwithstanding the challenges posed by COVID-19 pandemic and underfunding, substantial progress was made towards the achievement of outcome targets and implementation of interventions.

This being the first year of implementing the programme approach, there was a lot learning and mindset change from the sector wide approach to the programme approach. We believe that in FY 2020/21 the foundation of implementing the programme approach was laid and the performance in the coming years will be better.

10.3 Recommendation

1. **Funding:** Government and Development Partners should consider increasing the resources to the programme because it has significant impact on the country's economy, livelihood security and climate change. The NDP3 targets will not be realised with the current funding levels.

2. **Staffing:** Ministry of Public Service should expedite the restructuring of Government to enable recruitment of the required staff envisaged in NDP3. Without adequate staffing levels, it is unlikely that some of the interventions in NDP3 will be implemented.
3. **Security of monitoring equipment:** Local leaders and community members need to sensitized on the importance of this equipment. There is also need to hire local persons to safe guard this equipment.

4. **Data:** There is need for funding, expertise and tools for tracking some of the programme outcome indicators. The current funding is not sufficient to carry out the relevant studies on green house emissions, climate change vulnerability, air quality etc.

5. **Land titles in forest wetland reserves:** Ministry of Lands, Housing and Urban Development should expedite cancelling of all illegal land titles in forest reserves and wetlands.

6. **Funding for disasters:** MoFPED should provide funding for disaster response as provided for in Section 26 (1) -(6) of the Public Finance Management Act, 2015 which established the Contingency Fund whereby 15% of the fund is supposed to be used to finance response to natural disasters.

ANNEXES

ANNEXES FOR PPR 2021

Annex 1: Program Description

The Water, Environment and Natural Resources and Climate Change Management Programme is concerned with sound management and sustainable utilization of water, environment and natural resources management, and mitigation of impact of climate change for socio-economic development of Uganda. The Programme, therefore, is central to realization of the NDP III goal of increased household incomes and improved quality of life of the population, set under the theme ***"Sustainable Industrialization for Inclusive-growth, Employment and Wealth Creation".***

The Third National Development Plan (NDPIII) whose goal is to increase household income and improve the quality of life of Ugandans has adopted a programme approach to planning, budgeting, implementation and reporting. This entails programme and performance-based budgeting to address the persistent implementation challenges resulting from uncoordinated planning, weak harmonization, limited sequencing of programmes and poor linkages between outcomes and outputs experienced in the past NDPs.

Overall, eighteen (18) National Programmes have been identified and approved with well-articulated results, objectives and interventions towards achieving the NDP III goal. These are:

S/N	Programme	Chair
1.	Agro-Industrialization	MAAIF
2.	Mineral Development	MEMD
3.	Private Sector Development	MoFPED
4.	Digital Transformation	MoICT&NG
5.	Human Capital Development	MoES
6.	Sustainable Development of Petroleum	MEMD
7.	Manufacturing	MoTIC
8.	Tourism Development	MoTWA
9.	Natural Resources, Environment, Climate Change, Land and Water Management	MoWE
10.	Sustainable Energy Development	MEMD
11.	Integrated Transport and Services	MoWT
12.	Sustainable Urbanisation and Housing	MoLHUD
13.	Technology Transfer and Development	MoSTI
14.	Regional Balanced Development	MoLG
15.	Community Mobilization & Mindset Change	MoGLSD
16.	Public Service Transformation	MoPS
17.	Governance and Security	OP
18.	Development Plan Implementation	MoFPED

The programme approach is meant to enable formulation of national priority development objectives and to realize these objectives through corresponding national programmes formulated

and implemented in a coherent, coordinated and participatory manner to ensure sustainability. The programme approach to planning aims to:

i. Focus implementation of the NDPIII programmes on delivery of common results;
ii. Strengthen alignment of planning and budgeting frameworks to provide a logical framework for anchoring the Program-Based Budgeting System (PBS);
iii. Enhance synergies across Ministries, Agencies and Local Governments (MALGs) and other actors to reduce a 'silo' approach to implementation; and,
iv. Provide a coordinated framework for implementation, monitoring and reporting for improving delivery of results.

Implementation of the Programme Approach is designed to address the criticism that Government MALGs work in 'silos' as it provides a framework for inter and intra-Ministerial coordination.

Leadership Structure

Office of the Prime Minister

Overall, the OPM is the leader of Government Business and the overall coordinator for implementation of Government Policies across Ministries, Departments and other Public Institutions, is critical in coordinating the implementation of the 18 NDPIII Programmes.

The roles and responsibilities of OPM are outline below:

The Rt. Honorable Prime Minister will be the overall political programme implementation coordinator. He will be responsible for the following:

i. Steer policy and strategic engagements with all Ministers in charge of implementing particular programmes interventions for the NDPIII results;
ii. Hold Ministers accountable to deliver results; and,
iii. Report to the President on progress of Programme Implementation.

Programme Political Leader(s) – Cabinet Minister of the Lead Ministry

The Minister of Water and Environment is the lead minister for the programme and provides policy guidance and jointly with the Minister for Lands to hold the technical leadership accountable for implementation of the programme.

Programme Technical Leader(s)

The Permanent Secretary of the Ministry of Water and Environment is the designated technical leader and coordinator for the implementation of the programme bringing together all the several state and non-state actors in the programme and steers and chairs the Programme Working Group.

Programme Working Group (PWG)

PWG is the policy working organ, within the overall NDP programme approach, in which Government (*all MDAs under the Programme*) and other stakeholders come together to function, discuss and agree on:

i. Inter and intra agency planning;
ii. Priority interventions and Resource allocation;
iii. Delivery of services; and,
iv. Joint monitoring & evaluation of multi-agency activities.

Vote(S)

Under this programme, there are several institutions (Ministries, Departments, Agencies and Local Governments) which form the basis of the annual budget and appropriations made by Parliament, and the source of accountability, these are;

Vote	Abbreviation	Name
003	OPM	Office of the Prime Minister
012	MLHUD	Mistry of Lands Housing and Urban Development
019	MWE	Ministry of Water and Environment
122	KCCA	Kampala Capital City Authority
150	NEMA	National Environmental Management Authority
156	ULC	Uganda Land Commission
157	NFA	National Forestry Authority
302	UNMA	Uganda National Meteorological Authority
501-850	LGs	Local Governments

Sub-Programmes

These are a group of related interventions/ outputs contributing to Programme Outcomes at various MDA levels. Sub-Programmes, just like Programmes, should be results based. They are derived from the core functions of the agencies and in line with the NDPIII Programmes.

Directorates/Departments

These are administrative units within the institutions that implement activities of the programme.

Projects

These represent a set of activities that primarily involve capital purchases and can be financed by the Government of Uganda and/or Development Partners to facilitate the MDAs to achieve specific. Under the Programme Planning Approach, projects will report to the relevant Departments. It should be noted that some projects cut across programmes as they contribute to more than one Programme. However, the responsibility of these projects will be the respective departments, hence the entire project should be budgeted for under the department. Where a project is multi-sectoral with various components being implemented by respective MDA's, these components should be reflected under the respective responsible departments as projects.

Programme Working Group Secretariat

The Secretariat of the Programme is housed at the Policy and Planning Department of the Ministry of Water and Environment as the leading Ministry in the Programme. The Commissioner Policy and Planning Department is the Secretary to the PWG and responsible for the day to day running of the Programme Secretariat.

Scope of Work of the PWG

The Programme Working Group is the functional organ through which the technical programme leaders undertake coordination of the implementation of Programme interventions at (i) Planning; (ii) Budgeting; and, (iii) Reporting, levels.

i. Program Planning

The lead Ministry is responsible for implementation of the Programme. Through the Program Working Group (PWG) coordinated by secretariat under the Planning Department, all stakeholders are convened to set the priorities for implementation, identify the key policy and project requirements, identify key implementation bottlenecks to be resolved, among others. The priorities for the subsequent financial year are set in line with the Budget Process Calendar. The priorities identified must be in line aligned to the NDPIII. The timelines for implementation of the alignment of the Budget to the NDPIII Programme Approach.

The agreed outputs and priorities are then translated into annual programme action plans for each implementing entity. The action plans are submitted annually to the Ministry of Finance, Planning and Economic Development and Office of the Prime Minister for approval.

ii. Budgeting

As a lead vote, the ministry is responsible for coordination and development an annual Programme Budget Framework Paper (PBFP). This is done in consultation with all relevant stakeholders of the programme and entails consolidation of the BFPs of each vote that contribute to that Particular Programme. The process is guided and overseen by the PWG to ensure that the final budget estimates are intended to finance the agreed priorities and actions of the program approved by the Programme Working Group (PWG).

iii. Performance Monitoring and Reporting

The lead Ministry consolidates, based on submissions from votes and agencies, the quarterly and annual programme reports on the progress of the results of the programme and submits to the OPM, both semi-annual and annual stage as well as Ministry of Finance.

iv. Specific Tasks of the PWG

a) Ensures broad stakeholder consultation in discussing key issues and harmonize Government and stakeholder positions;

b) Formulates Programme Implementation Plans in line with the National Development Plan and the Manifesto of the ruling government;

c) Joint clearance of projects for inclusion in the Public Investment Plan, a requirement by the Development Committee;

d) Ensures Implementation of Program Based Budgeting (PBB) for proper alignment to the NDPIII;

e) Coordinating inter-ministerial and agency budget allocations in a consultative way ensuring transparency and accountability.

f) Ensuring that consultations are carried out between line ministries, and external and internal stakeholders on matters related to the programme;

g) Examines and review of programme related policies and plans, reviewing past performance, emerging policy issues and future spending pressures;

h) Identifying key outputs and programme performance targets both annually and in the medium term;

i) Undertaking monitoring and assessment of programme interventions; and,

j) Preparing semi-annual and annual programme reviews and reports.

Outputs

Overall, the PWG is responsible for preparation of the following outputs:

i. Programme Implementation Action Plan (periodic),
ii. Annual Programme Budget Framework Papers (PBFPs),
iii. Quarterly, Semi-Annual and Annual Programme performance reports (APRs)
iv. The medium-term budget strategy documents.
v. Project approvals for submission to the Development Committee in MFPED

Mode of Operations

The PWG conducts its business through meetings, consultancies, sub-programme groups (SPGs), committees and special task forces.

The following sub-programme groups were established under the PWG to enhance effective monitoring and steering of programme:

i. Water, Sanitation Management and Development sub-programme
ii. Climate Change, Environment and Natural Resources sub-programme
iii. Lands sub-programme

Each of the above sub-programme groups (SPGs) constitutes relevant committees and prepare meetings at least quarterly but where need arises more frequent meetings are arranged.

Membership to the PWG

1. Permanent Secretary Ministry of Water and Environment – Chairperson
2. Permanent Secretary Ministry of Lands Housing and Urban development – Alternate Chairperson
3. Co-Chairs (lead DPs representing WSS, ENR and Lands)
4. Director DWD
5. Director DWRM
6. Director DEA
7. Secretary Uganda Land Commission
8. ED-NEMA
9. ED-NFA
10. ED UNMA
11. MD-NWSC
12. Member MFPED
13. Member OPM
14. Member NPA
15. Member OP
16. Member EoC
17. Members representing CSOs
18. Respective Commissioners
19. Commissioner Policy and Planning – MWE (Secretary)

Annex 2: Access to Safe Water Supply – Rural and Urban June 2021

	District	Access		
		Rural	Urban	Total
1	Abim	76%	89%	78%
2	Adjumani	94%	95%	94%
3	Agago	95%	95%	95%
4	Alebtong	94%	95%	94%
5	Amolatar	90%	77%	88%
6	Amudat	47%	73%	50%
7	Amuria	74%	63%	74%
8	Amuru	88%	70%	87%
9	Apac	74%	70%	73%
10	Arua	75%	85%	76%
11	Budaka	82%	74%	81%
12	Bududa	70%	47%	70%
13	Bugiri	69%	95%	70%
14	Bugweri	65%	95%	67%
15	Buhweju	60%	95%	62%
16	Buikwe	79%	18%	60%
17	Bukedea	69%	59%	68%
18	Bukomansimbi	85%	95%	86%
19	Bukwo	79%	67%	78%
20	Bulambuli	75%	36%	72%
21	Buliisa	68%	94%	70%
22	Bundibugyo	59%	77%	63%
23	Bunyangabu	75%	72%	74%
24	Bushenyi	93%	58%	85%
25	Busia	77%	66%	75%
26	Butaleja	62%	60%	62%
27	Butambala	95%	95%	95%
28	Butebo	68%	0%	68%
29	Buvuma	31%	82%	37%
30	Buyende	37%	53%	38%
31	Dokolo	92%	75%	90%
32	Gomba	86%	95%	87%
33	Gulu	93%	61%	76%
34	Hoima	72%	25%	55%
35	Ibanda	58%	37%	50%
36	Iganga	68%	84%	71%
37	Isingiro	45%	40%	44%
38	Jinja	77%	49%	67%
39	Kaabong	86%	95%	87%

	District	Access		
		Rural	Urban	Total
40	Kabale	91%	80%	88%
41	Kabarole	78%	82%	79%
42	Kaberamaido	80%	28%	78%
43	Kagadi	59%	84%	62%
44	Kakumiro	34%	28%	33%
45	Kalaki	78%	0%	78%
46	Kalangala	62%	95%	65%
47	Kaliro	50%	42%	50%
48	Kalungu	94%	95%	94%
49	Kampala	0%	83%	83%
50	Kamuli	77%	82%	78%
51	Kamwenge	73%	95%	75%
52	Kanungu	90%	89%	90%
53	Kapchorwa	76%	95%	78%
54	Kapelebyong	88%	0%	88%
55	Kasanda	37%	0%	37%
56	Kasese	59%	64%	61%
57	Katakwi	91%	95%	91%
58	Kayunga	69%	95%	71%
59	Kazo	36%	30%	35%
60	Kibaale	66%	95%	67%
61	Kiboga	85%	46%	75%
62	Kibuku	70%	42%	68%
63	Kikuube	56%	49%	56%
64	Kiruhura	49%	53%	49%
65	Kiryandongo	76%	49%	70%
66	Kisoro	42%	56%	43%
67	Kitagwenda	87%	0%	87%
68	Kitgum	95%	95%	95%
69	Koboko	81%	89%	82%
70	Kole	75%	95%	75%
71	Kotido	78%	95%	80%
72	Kumi	79%	45%	74%
73	Kwania	76%	81%	76%
74	Kween	82%	95%	83%
75	Kyankwanzi	61%	50%	59%
76	Kyegegwa	31%	45%	32%
77	Kyenjojo	64%	90%	68%
78	Kyotera	63%	56%	62%

	District	Access		
		Rural	Urban	Total
79	Lamwo	95%	95%	95%
80	Lira	95%	85%	92%
81	Luuka	80%	43%	78%
82	Luwero	70%	64%	69%
83	Lwengo	75%	46%	71%
84	Lyantonde	43%	74%	48%
85	Madi Okollo	72%	0%	72%
86	Manafwa	72%	93%	75%
87	Maracha	88%	95%	88%
88	Masaka	78%	53%	69%
89	Masindi	94%	24%	71%
90	Mayuge	54%	48%	54%
91	Mbale	64%	81%	69%
92	Mbarara	70%	33%	49%
93	Mitooma	92%	95%	92%
94	Mityana	79%	70%	77%
95	Moroto	80%	78%	79%
96	Moyo	95%	95%	95%
97	Mpigi	83%	59%	78%
98	Mubende	38%	0%	34%
99	Mukono	67%	78%	70%
100	Nabilatuk	55%	0%	55%
101	Nakapiripirit	57%	95%	59%
102	Nakaseke	82%	84%	83%
103	Nakasongola	78%	95%	81%
104	Namayingo	61%	57%	61%
105	Namisindwa	69%	51%	68%
106	Namutumba	61%	33%	59%
107	Napak	81%	56%	81%
108	Nebbi	73%	95%	73%
109	Ngora	87%	81%	86%
110	Ntoroko	88%	85%	87%
111	Ntungamo	80%	60%	77%
112	Nwoya	65%	34%	62%
113	Obongi	95%	0%	95%
114	Omoro	91%	95%	91%
115	Otuke	93%	95%	93%
116	Oyam	71%	45%	70%
117	Pader	95%	95%	95%
118	Pakwach	55%	18%	48%
119	Pallisa	65%	55%	63%

	District	Access		
		Rural	Urban	Total
120	Rakai	36%	36%	36%
121	Rubanda	73%	89%	75%
122	Rubirizi	68%	34%	64%
123	Rukiga	95%	95%	95%
124	Rukungiri	92%	35%	86%
125	Rwampara	88%	0%	88%
126	Serere	79%	84%	79%
127	Sheema	83%	80%	82%
128	Sironko	83%	55%	79%
129	Soroti	88%	23%	77%
130	Ssembabule	38%	41%	38%
131	Tororo	60%	64%	61%
132	Wakiso	43%	28%	37%
133	Yumbe	48%	57%	48%
134	Zombo	86%	74%	84%
	National Level	**68%**	**61%**	**67%**

Annex 3: Functionality of Rural and Urban water facilities – June 2021

	District	Functionality		
		Rural	Urban	WfP
1	Abim	75%	82%	0%
2	Adjumani	87%	83%	100%
3	Agago	77%	75%	86%
4	Alebtong	70%	80%	83%
5	Amolatar	77%	87%	36%
6	Amudat	76%	84%	0%
7	Amuria	93%	100%	71%
8	Amuru	75%	76%	0%
9	Apac	75%	81%	60%
10	Arua	84%	0%	100%
11	Budaka	95%	80%	100%
12	Bududa	91%	71%	100%
13	Bugiri	94%	100%	0%
14	Bugweri	96%	100%	0%
15	Buhweju	95%	97%	100%
16	Buikwe	99%	100%	0%
17	Bukedea	85%	92%	0%
18	Bukomansimbi	87%	92%	83%
19	Bukwo	73%	42%	0%
20	Bulambuli	97%	67%	0%
21	Buliisa	72%	98%	0%
22	Bundibugyo	62%	84%	0%
23	Bunyangabu	89%	86%	0%
24	Bushenyi	77%	74%	80%
25	Busia	94%	76%	100%
26	Butaleja	91%	90%	0%
27	Butambala	79%	76%	100%
28	Butebo	93%	0%	0%
29	Buvuma	87%	96%	0%
30	Buyende	92%	95%	69%
31	Dokolo	86%	96%	0%
32	Gomba	62%	79%	96%
33	Gulu	78%	100%	0%
34	Hoima	84%	85%	0%
35	Ibanda	74%	88%	0%
36	Iganga	98%	0%	0%
37	Isingiro	97%	97%	90%
38	Jinja	87%	84%	0%
39	Kaabong	83%	59%	80%

	District	Functionality		
		Rural	Urban	WfP
40	Kabale	90%	93%	100%
41	Kabarole	82%	83%	0%
42	Kaberamaido	84%	100%	100%
43	Kagadi	70%	61%	0%
44	Kakumiro	81%	86%	0%
45	Kalaki	93%	0%	100%
46	Kalangala	90%	95%	0%
47	Kaliro	95%	100%	0%
48	Kalungu	82%	86%	100%
49	Kampala	0%	0%	0%
50	Kamuli	89%	87%	100%
51	Kamwenge	86%	95%	100%
52	Kanungu	93%	83%	40%
53	Kapchorwa	92%	86%	0%
54	Kapelebyong	97%	0%	33%
55	Kasanda	84%	0%	93%
56	Kasese	79%	89%	100%
57	Katakwi	93%	96%	91%
58	Kayunga	87%	87%	70%
59	Kazo	89%	86%	90%
60	Kibaale	85%	52%	0%
61	Kiboga	75%	89%	100%
62	Kibuku	91%	91%	100%
63	Kikuube	93%	100%	0%
64	Kiruhura	86%	96%	94%
65	Kiryandongo	86%	81%	95%
66	Kisoro	93%	100%	100%
67	Kitagwenda	98%	0%	0%
68	Kitgum	60%	74%	63%
69	Koboko	89%	92%	0%
70	Kole	81%	80%	67%
71	Kotido	74%	77%	84%
72	Kumi	87%	89%	75%
73	Kwania	73%	83%	20%
74	Kween	93%	88%	0%
75	Kyankwanzi	86%	96%	98%
76	Kyegegwa	74%	56%	50%
77	Kyenjojo	76%	80%	0%
78	Kyotera	67%	68%	100%

	District	Functionality		
		Rural	Urban	WfP
79	Lamwo	79%	84%	40%
80	Lira	87%	0%	20%
81	Luuka	96%	94%	50%
82	Luwero	86%	96%	95%
83	Lwengo	79%	78%	75%
84	Lyantonde	94%	100%	64%
85	Madi Okollo	81%	0%	80%
86	Manafwa	94%	97%	100%
87	Maracha	66%	71%	0%
88	Masaka	81%	100%	100%
89	Masindi	86%	93%	83%
90	Mayuge	94%	98%	0%
91	Mbale	87%	90%	0%
92	Mbarara	94%	95%	88%
93	Mitooma	83%	83%	75%
94	Mityana	68%	78%	50%
95	Moroto	82%	75%	45%
96	Moyo	88%	71%	0%
97	Mpigi	72%	81%	0%
98	Mubende	93%	0%	100%
99	Mukono	87%	93%	100%
100	Nabilatuk	65%	0%	100%
101	Nakapiripirit	81%	67%	70%
102	Nakaseke	75%	88%	96%
103	Nakasongola	93%	96%	94%
104	Namayingo	83%	59%	100%
105	Namisindwa	98%	100%	0%
106	Namutumba	88%	90%	0%
107	Napak	84%	100%	83%
108	Nebbi	78%	91%	0%
109	Ngora	93%	80%	60%
110	Ntoroko	74%	70%	0%
111	Ntungamo	83%	86%	80%
112	Nwoya	78%	62%	0%
113	Obongi	72%	0%	0%
114	Omoro	43%	31%	0%
115	Otuke	69%	65%	100%
116	Oyam	82%	79%	0%
117	Pader	78%	92%	100%
118	Pakwach	73%	61%	75%
119	Pallisa	97%	88%	100%
120	Rakai	82%	0%	75%
121	Rubanda	95%	71%	25%
122	Rubirizi	95%	96%	0%
123	Rukiga	67%	88%	0%
124	Rukungiri	86%	92%	100%
125	Rwampara	97%	0%	33%
126	Serere	94%	92%	100%
127	Sheema	87%	84%	0%
128	Sironko	90%	91%	50%
129	Soroti	85%	0%	60%
130	Ssembabule	85%	94%	86%
131	Tororo	87%	100%	100%
132	Wakiso	84%	76%	100%
133	Yumbe	96%	98%	0%
134	Zombo	75%	87%	100%
	National Level	85%	85%	83%

Annex 4: Equity, Gender and Management – June 2021

	District	Equity Rural	Manage-ment	Gender
1	Abim	160	79%	94%
2	Adjumani	44	96%	97%
3	Agago	16	99%	100%
4	Alebtong	27	95%	86%
5	Amolatar	32	90%	99%
6	Amudat	42	83%	82%
7	Amuria	48	70%	85%
8	Amuru	48	82%	81%
9	Apac	29	92%	80%
10	Arua	72	95%	78%
11	Budaka	52	86%	84%
12	Bududa	81	99%	100%
13	Bugiri	103	94%	95%
14	Bugweri	97	100%	90%
15	Buhweju	61	89%	92%
16	Buikwe	68	88%	48%
17	Bukedea	59	98%	88%
18	Bukomansimbi	8	87%	63%
19	Bukwo	68	72%	86%
20	Bulambuli	83	90%	98%
21	Buliisa	131	90%	91%
22	Bundibugyo	89	79%	52%
23	Bunyangabu	45	65%	77%
24	Bushenyi	48	88%	85%
25	Busia	49	81%	84%
26	Butaleja	41	95%	89%
27	Butambala	26	79%	87%
28	Butebo	68	72%	86%
29	Buvuma	1,051	93%	96%
30	Buyende	135	96%	90%
31	Dokolo	40	81%	97%
32	Gomba	51	97%	85%
33	Gulu	35	80%	75%
34	Hoima	152	96%	95%
35	Ibanda	360	92%	90%
36	Iganga	47	97%	95%
37	Isingiro	73	86%	81%
38	Jinja	188	88%	92%
39	Kaabong	95	94%	95%

	District	Equity Rural	Manage-ment	Gender
40	Kabale	54	99%	96%
41	Kabarole	99	70%	70%
42	Kaberamaido	35	98%	98%
43	Kagadi	456	97%	75%
44	Kakumiro	473	98%	90%
45	Kalaki	46	99%	96%
46	Kalangala	64	65%	86%
47	Kaliro	314	97%	90%
48	Kalungu	19	92%	97%
49	Kampala	0	0%	0%
50	Kamuli	78	92%	89%
51	Kamwenge	62	88%	92%
52	Kanungu	65	90%	71%
53	Kapchorwa	73	98%	100%
54	Kapelebyong	33	84%	85%
55	Kasanda	498	85%	57%
56	Kasese	146	93%	98%
57	Katakwi	33	92%	83%
58	Kayunga	71	90%	81%
59	Kazo	146	81%	94%
60	Kibaale	117	74%	86%
61	Kiboga	65	92%	93%
62	Kibuku	93	94%	92%
63	Kikuube	227	99%	98%
64	Kiruhura	36	91%	77%
65	Kiryandongo	96	87%	74%
66	Kisoro	152	97%	95%
67	Kitagwenda	73	91%	89%
68	Kitgum	12	93%	97%
69	Koboko	58	66%	76%
70	Kole	66	96%	97%
71	Kotido	155	88%	97%
72	Kumi	45	99%	88%
73	Kwania	50	92%	74%
74	Kween	72	85%	91%
75	Kyankwanzi	452	88%	84%
76	Kyegegwa	183	92%	96%
77	Kyenjojo	171	75%	73%
78	Kyotera	95	78%	66%

	District	Equity	Manage-ment	Gender
		Rural		
79	Lamwo	26	95%	92%
80	Lira	17	95%	90%
81	Luuka	76	81%	80%
82	Luwero	83	89%	74%
83	Lwengo	52	90%	77%
84	Lyantonde	43	91%	37%
85	Madi Okollo	1,152	83%	91%
86	Manafwa	107	91%	93%
87	Maracha	33	92%	94%
88	Masaka	61	77%	58%
89	Masindi	27	87%	85%
90	Mayuge	178	97%	69%
91	Mbale	138	90%	88%
92	Mbarara	14	98%	98%
93	Mitooma	35	92%	93%
94	Mityana	103	69%	81%
95	Moroto	107	66%	92%
96	Moyo	18	94%	90%
97	Mpigi	67	94%	86%
98	Mubende	285	83%	79%
99	Mukono	310	94%	80%
100	Nabilatuk	179	89%	93%
101	Nakapiripirit	100	96%	91%
102	Nakaseke	100	97%	84%
103	Nakasongola	90	97%	95%
104	Namayingo	334	89%	81%
105	Namisindwa	84	96%	69%
106	Namutumba	141	99%	85%
107	Napak	80	98%	100%
108	Nebbi	77	92%	92%
109	Ngora	38	99%	98%
110	Ntoroko	75	52%	75%
111	Ntungamo	83	77%	81%
112	Nwoya	100	92%	74%
113	Obongi	52	96%	93%
114	Omoro	20	72%	90%
115	Otuke	35	76%	68%
116	Oyam	80	98%	100%
117	Pader	30	92%	98%
118	Pakwach	26	96%	98%
119	Pallisa	96	83%	88%
120	Rakai	70	82%	77%
121	Rubanda	33	75%	71%
122	Rubirizi	46	89%	92%
123	Rukiga	28	88%	83%
124	Rukungiri	22	89%	90%
125	Rwampara	28	96%	92%
126	Serere	37	98%	98%
127	Sheema	78	95%	97%
128	Sironko	48	97%	96%
129	Soroti	35	89%	88%
130	Ssembabule	68	75%	92%
131	Tororo	89	83%	87%
132	Wakiso	244	91%	68%
133	Yumbe	82	98%	89%
134	Zombo	57	78%	75%
	National Level	**118**	**90%**	**86%**

Annex 5 Villages with Safe Water Source – June 2021

	District	Village with a source	
		Total	%
1	Abim	148	48%
2	Adjumani	192	92%
3	Agago	607	65%
4	Alebtong	483	78%
5	Amolatar	314	72%
6	Amudat	100	59%
7	Amuria	170	42%
8	Amuru	67	100%
9	Apac	289	85%
10	Arua	830	76%
11	Budaka	234	87%
12	Bududa	450	47%
13	Bugiri	347	88%
14	Bugweri	127	95%
15	Buhweju	177	78%
16	Buikwe	351	72%
17	Bukedea	146	94%
18	Bukomansimbi	227	89%
19	Bukwo	283	54%
20	Bulambuli	456	38%
21	Buliisa	89	68%
22	Bundibugyo	339	55%
23	Bunyangabu	204	80%
24	Bushenyi	359	63%
25	Busia	466	86%
26	Butaleja	312	74%
27	Butambala	131	82%
28	Butebo	184	77%
29	Buvuma	70	36%
30	Buyende	300	85%
31	Dokolo	353	76%
32	Gomba	221	82%
33	Gulu	84	60%
34	Hoima	116	34%
35	Ibanda	212	33%
36	Iganga	185	80%
37	Isingiro	520	68%
38	Jinja	268	64%
39	Kaabong	280	54%

	District	Village with a source	
		Total	%
41	Kabarole	323	65%
42	Kaberamaido	184	79%
43	Kagadi	479	67%
44	Kakumiro	136	33%
45	Kalaki	173	79%
46	Kalangala	79	77%
47	Kaliro	271	88%
48	Kalungu	251	89%
49	Kampala	0	0%
50	Kamuli	613	88%
51	Kamwenge	285	77%
52	Kanungu	438	85%
53	Kapchorwa	291	43%
54	Kapelebyong	65	27%
55	Kasanda	205	36%
56	Kasese	505	67%
57	Katakwi	295	86%
58	Kayunga	337	87%
59	Kazo	207	66%
60	Kibaale	157	61%
61	Kiboga	176	73%
62	Kibuku	199	81%
63	Kikuube	162	63%
64	Kiruhura	204	77%
65	Kiryandongo	216	91%
66	Kisoro	306	77%
67	Kitagwenda	221	87%
68	Kitgum	438	81%
69	Koboko	326	83%
70	Kole	370	65%
71	Kotido	173	86%
72	Kumi	110	65%
73	Kwania	314	79%
74	Kween	257	52%
75	Kyankwanzi	236	68%
76	Kyegegwa	254	55%
77	Kyenjojo	493	75%
78	Kyotera	168	79%
79	Lamwo	321	84%

	District	Village with a source	
		Total	%
81	Luuka	201	74%
82	Luwero	429	72%
83	Lwengo	312	68%
84	Lyantonde	159	72%
85	Madi Okollo	202	71%
86	Manafwa	300	49%
87	Maracha	346	84%
88	Masaka	258	72%
89	Masindi	234	74%
90	Mayuge	395	80%
91	Mbale	502	52%
92	Mbarara	318	60%
93	Mitooma	449	81%
94	Mityana	412	64%
95	Moroto	110	71%
96	Moyo	146	91%
97	Mpigi	279	75%
98	Mubende	177	30%
99	Mukono	458	73%
100	Nabilatuk	46	84%
101	Nakapiripirit	84	68%
102	Nakaseke	274	74%
103	Nakasongola	264	83%
104	Namayingo	213	77%
105	Namisindwa	386	47%
106	Namutumba	265	73%
107	Napak	190	76%
108	Nebbi	380	72%
109	Ngora	130	94%
110	Ntoroko	110	53%
111	Ntungamo	740	75%
112	Nwoya	61	85%
113	Obongi	62	90%
114	Omoro	147	98%
115	Otuke	281	61%
116	Oyam	596	61%
117	Pader	495	78%
118	Pakwach	192	54%
119	Pallisa	284	81%
120	Rakai	398	73%
121	Rubanda	290	63%
123	Rukiga	241	82%
124	Rukungiri	655	79%
125	Rwampara	225	93%
126	Serere	230	93%
127	Sheema	224	39%
128	Sironko	597	45%
129	Soroti	292	72%
130	Ssembabule	307	71%
131	Tororo	618	74%
132	Wakiso	575	79%
133	Yumbe	520	77%
134	Zombo	538	90%
Total		38,809	67%

Annex 6: Functionality of Water Sources by Technology – June 2021

	District	Point Water Sources															Piped Water Systems			
		Protected springs			Shallow wells			Deep boreholes			Rainwater harvesting tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	NWSC
		F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot				
1	Abim	11	1	12	20	8	28	300	90	390	13	13	26	8	0	8	517	511	9	No
2	Adjumani	32	9	41	63	11	74	666	66	732	19	28	47	66	12	78	1,364	25	45	No
3	Agago	7	13	20	128	38	166	868	125	993	17	95	112	25	48	73	0	0	0	No
4	Alebtong	303	71	374	150	113	263	314	100	414	21	19	40	10	27	37	0	0	0	No
5	Amolatar	1	4	5	4	7	11	455	87	542	7	28	35	4	2	6	30	4	1	No
6	Amudat	1	1	2	8	1	9	163	49	212	0	0	0	8	1	9	13	0	4	No
7	Amuria	10	11	21	56	22	78	445	3	448	0	2	2	0	0	0	0	0	0	Yes
8	Amuru	123	10	133	40	42	82	410	112	522	11	11	22	3	25	28	0	0	0	No
9	Apac	9	2	11	34	33	67	393	58	451	56	59	115	8	1	9	0	0	0	Yes
10	Arua	881	166	1,047	88	42	130	807	53	860	52	65	117	39	37	76	7	0	1	Yes
11	Budaka	156	3	159	11	7	18	525	18	543	2	17	19	5	4	9	286	19	13	Yes
12	Bududa	581	16	597	3	1	4	15	5	20	50	3	53	330	83	413	4	0	1	No
13	Bugiri	197	16	213	152	14	166	744	24	768	126	14	140	40	3	43	784	32	109	Yes
14	Bugweri	39	2	41	106	0	106	268	8	276	6	9	15	111	0	111	753	5	12	No
15	Buhweju	283	8	291	26	3	29	1	0	1	42	3	45	159	14	173	0	0	0	No
16	Buikwe	886	1	887	190	7	197	233	12	245	74	1	75	146	0	146	320	3	13	Yes
17	Bukedea	224	13	237	102	47	149	230	29	259	6	11	17	12	1	13	350	7	19	No
18	Bukomansimbi	133	25	158	235	59	294	84	21	105	276	5	281	134	9	143	493	6	15	No
19	Bukwo	83	39	122	16	3	19	2	1	3	15	7	22	387	151	538	0	0	0	No
20	Bulambuli	316	8	324	62	9	71	123	3	126	19	0	19	317	26	343	0	0	0	No
21	Buliisa	27	10	37	70	39	109	114	48	162	9	7	16	114	12	126	45	3	11	No
22	Bundibugyo	198	58	256	1	0	1	8	4	12	31	13	44	546	281	827	438	50	60	No
23	Bunyangabu	205	14	219	148	22	170	20	12	32	47	14	61	290	39	329	0	0	0	No
24	Bushenyi	623	210	833	122	38	160	20	10	30	56	13	69	210	42	252	36	62	0	Yes
25	Busia	228	19	247	95	8	103	564	32	596	36	10	46	51	9	60	1,490	102	87	Yes
26	Butaleja	3	1	4	32	9	41	527	47	574	15	0	15	0	1	1	307	6	12	Yes

	District	Point Water Sources															Piped Water Systems			
		Protected springs			Shallow wells			Deep boreholes			Rainwater harvesting tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	NWSC
		F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot				
27	Butambala	227	33	260	155	85	240	60	22	82	45	5	50	43	2	45	178	13	3	No
28	Butebo	171	9	180	13	7	20	245	16	261	8	3	11	0	0	0	0	0	0	No
29	Buvuma	26	1	27	48	7	55	40	10	50	17	3	20	25	0	25	216	3	12	No
30	Buyende	0	0	0	5	1	6	471	39	510	24	4	28	10	0	10	4	0	0	No
31	Dokolo	166	24	190	165	48	213	338	11	349	23	19	42	9	6	15	124	289	10	No
32	Gomba	98	27	125	224	187	411	169	67	236	83	21	104	26	25	51	5	44	10	No
33	Gulu	67	20	87	62	22	84	336	70	406	22	18	40	1	8	9	0	0	0	Yes
34	Hoima	360	2	362	198	98	296	237	24	261	28	41	69	37	0	37	49	17	7	Yes
35	Ibanda	147	36	183	136	27	163	35	10	45	51	4	55	298	107	405	1,712	197	80	Yes
36	Iganga	122	1	123	199	3	202	465	4	469	37	7	44	19	0	19	12	0	3	Yes
37	Isingiro	69	4	73	206	29	235	146	56	202	3,551	30	3,581	550	27	577	464	10	70	No
38	Jinja	337	11	348	317	68	385	372	61	433	41	13	54	8	5	13	3,870	1,012	1,054	Yes
39	Kaabong	3	0	3	28	13	41	497	114	611	2	0	2	9	0	9	1	0	0	No
40	Kabale	582	36	618	4	0	4	15	3	18	205	13	218	982	139	1,121	130	12	7	Yes
41	Kabarole	237	69	306	404	93	497	27	8	35	91	15	106	171	22	193	1,220	17	96	Yes
42	Kaberamaido	12	2	14	50	23	73	232	28	260	11	7	18	0	0	0	0	0	0	Yes
43	Kagadi	350	126	476	321	156	477	154	65	219	66	80	146	17	3	20	0	0	0	No
44	Kakumiro	118	20	138	177	26	203	177	44	221	37	31	68	0	0	0	0	0	0	No
45	Kalaki	23	3	26	17	5	22	290	17	307	11	3	14	8	0	8	20	2	1	Yes
46	Kalangala	26	0	26	50	20	70	1	1	2	121	6	127	98	3	101	286	6	31	No
47	Kaliro	1	1	2	33	1	34	509	16	525	10	10	20	1	0	1	414	69	0	Yes
48	Kalungu	88	50	138	378	75	453	94	34	128	132	6	138	144	5	149	1,132	123	37	Yes
49	Kampala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Yes
50	Kamuli	19	2	21	427	68	495	838	72	910	36	24	60	26	9	35	2,237	62	107	Yes
51	Kamwenge	214	72	286	303	71	374	115	20	135	103	16	119	638	15	653	592	0	10	Yes
52	Kanungu	1,001	59	1,060	45	8	53	31	32	63	103	15	118	562	61	623	234	40	23	Yes
53	Kapchorwa	325	1	326	0	0	0	1	1	2	7	6	13	269	51	320	504	121	72	No
54	Kapelebyong	0	0	0	10	9	19	294	2	296	1	0	1	4	0	4	0	0	0	No

	District	Point Water Sources															Piped Water Systems			
		Protected springs			Shallow wells			Deep boreholes			Rainwater harvesting tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	NWSC
		F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot				
55	Kasanda	19	21	40	165	44	209	143	10	153	57	10	67	69	4	73	27	0	2	Yes
56	Kasese	642	120	762	57	9	66	57	25	82	75	27	102	1,903	402	2,305	1,356	4	93	Yes
57	Katakwi	2	0	2	65	4	69	523	34	557	12	10	22	50	0	50	212	37	30	No
58	Kayunga	73	7	80	227	53	280	511	63	574	34	5	39	81	11	92	1,223	46	88	No
59	Kazo	4	0	4	97	30	127	83	34	117	581	30	611	0	0	0	0	0	0	Yes
60	Kibaale	146	43	189	197	44	241	73	8	81	71	14	85	28	0	28	496	31	74	No
61	Kiboga	66	28	94	88	73	161	125	27	152	111	11	122	114	10	124	112	10	11	No
62	Kibuku	41	1	42	30	7	37	426	28	454	8	7	15	5	6	11	795	330	34	No
63	Kikuube	313	0	313	260	6	266	169	49	218	54	3	57	15	0	15	0	0	0	No
64	Kiruhura	0	1	1	42	23	65	137	54	191	657	54	711	150	5	155	224	159	68	Yes
65	Kiryandongo	15	6	21	235	57	292	378	36	414	3	6	9	7	0	7	1,096	24	28	Yes
66	Kisoro	427	64	491	0	0	0	1	1	2	441	12	453	296	13	309	1,324	742	81	Yes
67	Kitagwenda	238	2	240	302	3	305	20	0	20	63	0	63	350	18	368	0	0	7	No
68	Kitgum	4	0	4	14	11	25	761	295	1,056	56	221	277	6	4	10	511	168	244	Yes
69	Koboko	218	33	251	90	14	104	304	28	332	9	4	13	33	2	35	198	9	5	No
70	Kole	176	43	219	209	25	234	300	39	339	17	54	71	12	8	20	8	1	2	No
71	Kotido	0	0	0	1	1	2	361	157	518	34	4	38	74	4	78	397	9	29	No
72	Kumi	197	1	198	133	42	175	351	47	398	28	16	44	12	1	13	430	90	52	No
73	Kwania	18	8	26	88	36	124	352	68	420	15	61	76	10	1	11	292	0	9	Yes
74	Kween	262	13	275	2	0	2	56	10	66	12	1	13	144	14	158	10	4	5	Yes
75	Kyankwanzi	22	1	23	139	33	172	285	21	306	86	28	114	66	0	66	359	0	0	No
76	Kyegegwa	49	25	74	171	42	213	94	43	137	24	47	71	64	0	64	56	0	0	No
77	Kyenjojo	421	88	509	495	166	661	140	77	217	94	25	119	100	31	131	319	422	30	No
78	Kyotera	54	13	67	100	71	171	73	49	122	111	36	147	14	1	15	1,290	73	101	Yes
79	Lamwo	25	0	25	9	5	14	733	180	913	6	17	23	2	2	4	32	0	2	No
80	Lira	538	67	605	433	69	502	430	50	480	40	30	70	21	10	31	10	0	1	Yes
81	Luuka	125	4	129	192	11	203	421	17	438	12	1	13	7	0	7	7	0	0	No
82	Luwero	15	1	16	384	80	464	578	47	625	91	33	124	53	3	56	2,503	145	157	Yes

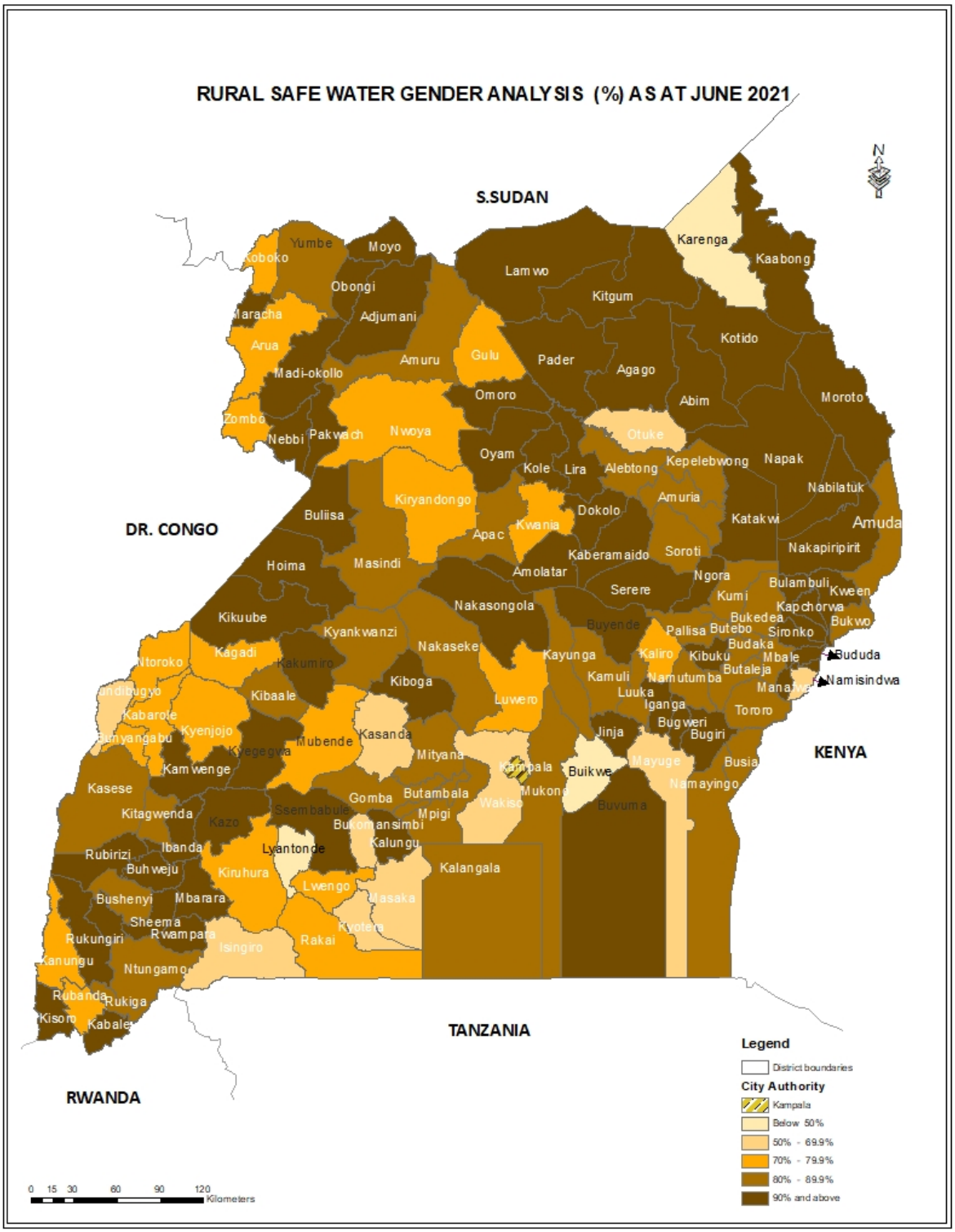
241

	District	Point Water Sources															Piped Water Systems			
		Protected springs			Shallow wells			Deep boreholes			Rainwater harvesting tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	NWSC
		F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot				
83	Lwengo	64	45	109	283	163	446	149	81	230	631	8	639	29	4	33	915	9	29	No
84	Lyantonde	0	0	0	21	5	26	80	27	107	468	6	474	30	0	30	0	0	0	Yes
85	Madi Okollo	9	0	9	12	6	18	282	63	345	37	9	46	8	1	9	0	0	0	No
86	Manafwa	318	6	324	5	0	5	216	21	237	32	3	35	52	4	56	0	0	0	No
87	Maracha	223	196	419	64	13	77	228	46	274	20	45	65	67	9	76	251	1	26	No
88	Masaka	116	16	132	304	109	413	57	11	68	104	4	108	3	0	3	0	0	0	Yes
89	Masindi	436	17	453	494	78	572	214	71	285	70	12	82	18	2	20	14	466	12	Yes
90	Mayuge	272	7	279	316	35	351	448	31	479	11	0	11	60	0	60	53	0	3	Yes
91	Mbale	584	34	618	38	7	45	295	45	340	33	10	43	400	101	501	0	0	0	Yes
92	Mbarara	136	27	163	59	19	78	131	33	164	1,925	19	1,944	223	54	277	8	0	0	Yes
93	Mitooma	736	191	927	113	13	126	3	17	20	76	9	85	279	12	291	49	11	10	Yes
94	Mityana	87	31	118	214	259	473	298	100	398	412	56	468	169	31	200	2,136	0	84	Yes
95	Moroto	2	1	3	2	0	2	317	69	386	3	6	9	0	0	0	0	0	0	No
96	Moyo	22	12	34	22	5	27	305	33	338	48	12	60	141	23	164	666	88	38	No
97	Mpigi	256	17	273	349	195	544	66	44	110	70	27	97	25	2	27	1,190	483	148	Yes
98	Mubende	36	5	41	228	24	252	223	9	232	58	1	59	9	1	10	245	0	0	Yes
99	Mukono	593	57	650	247	55	302	365	54	419	158	14	172	99	39	138	290	339	22	Yes
100	Nabilatuk	0	0	0	2	10	12	95	42	137	7	4	11	20	10	30	5	0	14	No
101	Nakapiripirit	5	4	9	19	3	22	143	36	179	8	3	11	51	13	64	0	0	0	No
102	Nakaseke	9	1	10	238	99	337	332	76	408	154	36	190	66	1	67	324	10	16	Yes
103	Nakasongola	1	0	1	41	12	53	472	24	496	153	12	165	449	19	468	599	32	31	No
104	Namayingo	24	12	36	114	46	160	288	31	319	81	32	113	19	2	21	192	0	8	No
105	Namisindwa	529	4	533	12	0	12	87	7	94	36	3	39	117	3	120	676	16	32	No
106	Namutumba	63	0	63	98	11	109	403	67	470	18	3	21	2	0	2	342	642	29	No
107	Napak	6	0	6	1	0	1	411	80	491	36	6	42	16	0	16	13	0	4	Yes
108	Nebbi	126	61	187	39	20	59	486	97	583	41	18	59	45	0	45	3	0	0	Yes
109	Ngora	6	1	7	147	7	154	275	15	290	12	12	24	14	9	23	285	13	52	No
110	Ntoroko	67	21	88	83	40	123	60	26	86	15	14	29	109	22	131	0	0	0	No

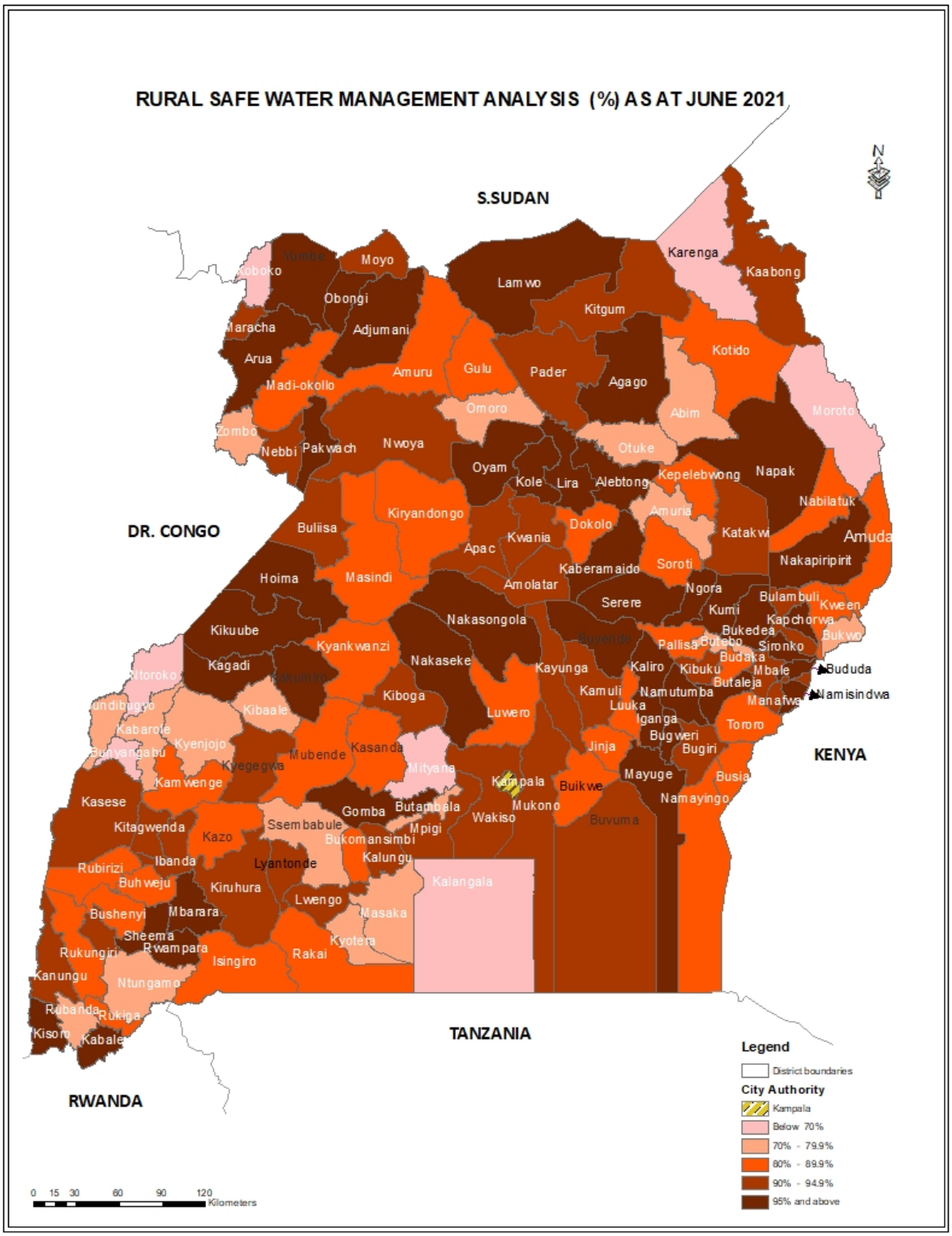
	District	Point Water Sources															Piped Water Systems			
		Protected springs			Shallow wells			Deep boreholes			Rainwater harvesting tanks			PSP/ Kiosk, Tap stands			YT	HH	IC	NWSC
		F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot	F	NF	Tot				
111	Ntungamo	766	83	849	375	95	470	159	115	274	112	23	135	439	55	494	550	30	63	Yes
112	Nwoya	71	9	80	19	26	45	338	72	410	8	11	19	8	11	19	0	0	0	No
113	Obongi	0	0	0	2	3	5	132	67	199	24	3	27	36	1	37	0	0	0	No
114	Omoro	10	98	108	5	83	88	276	196	472	2	39	41	1	6	7	0	0	0	No
115	Otuke	6	30	36	8	58	66	329	55	384	0	19	19	16	3	19	0	0	0	No
116	Oyam	190	40	230	281	76	357	499	60	559	3	37	40	11	2	13	134	0	0	No
117	Pader	22	2	24	30	20	50	891	182	1,073	12	42	54	33	8	41	0	0	0	Yes
118	Pakwach	0	1	1	12	26	38	127	46	173	41	7	48	21	0	21	897	0	38	No
119	Pallisa	115	8	123	50	12	62	458	3	461	9	0	9	20	6	26	0	0	0	No
120	Rakai	27	4	31	161	99	260	120	70	190	907	95	1,002	22	12	34	381	7	69	Yes
121	Rubanda	523	20	543	1	0	1	18	10	28	344	15	359	231	59	290	40	6	3	No
122	Rubirizi	174	11	185	61	8	69	6	0	6	218	4	222	247	10	257	490	43	64	Yes
123	Rukiga	201	12	213	1	2	3	23	32	55	45	8	53	345	206	551	0	0	0	No
124	Rukungiri	1,181	141	1,322	62	21	83	36	28	64	289	42	331	440	64	504	828	157	96	Yes
125	Rwampara	318	17	335	7	6	13	8	9	17	960	13	973	606	16	622	0	0	0	No
126	Serere	30	5	35	255	25	280	642	20	662	18	9	27	2	0	2	467	21	59	No
127	Sheema	303	81	384	134	26	160	22	16	38	136	5	141	536	62	598	606	0	84	Yes
128	Sironko	496	16	512	12	7	19	88	14	102	28	5	33	471	85	556	1,499	42	76	Yes
129	Soroti	71	31	102	134	34	168	589	65	654	57	21	78	34	1	35	55	5	37	Yes
130	Ssembabule	0	0	0	74	91	165	145	36	181	655	13	668	20	3	23	276	6	16	No
131	Tororo	230	5	235	37	3	40	729	125	854	52	13	65	3	1	4	273	11	39	Yes
132	Wakiso	901	90	991	1,043	422	1,465	334	55	389	516	48	564	759	118	877	839	59	51	Yes
133	Yumbe	36	3	39	113	10	123	863	3	866	4	22	26	29	0	29	450	17	39	No
134	Zombo	832	170	1,002	23	16	39	134	43	177	28	16	44	52	74	126	0	0	0	Yes

243

Annex 7: Map of WUCs with Women in Key Positions – June 2021



Annex 8: Map of Safe Water Sources with WUCs – June 2021



Annex 9.1: NWSC Operational Areas as of June 2021

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
KAMPALA METRO-POL-ITAN REGION	1	Kampala Water	Kampala City	1
			Mukono Municipality	2
			Kira Municipality	3
			Nansana TC	4
			Wakiso TC,Buloba	5
			Kakiri	6
CENTRAL REGION	1	Entebbe	Entebbe	7
			Kajjansi	8
	2	Jinja	Jinja	9
			Njeru	10
			Buwenge	11
			Kagoma	12
	3	Lugazi	Lugazi	13
			Nkonkonjeru	14
			Buikwe	15
			Najjembe	16
	4	Iganga	Iganga	17
			Mayuge	18
			Kaliro	19
			Naluwerere	20
			Busembatya	21
			Luuka	22
			Buwuni	23
	5	Bugiri	Bugiri	24
	6	Mityana	Mityana	25
	7	Masaka	Masaka	26
			Kalungu	27
			Mukungwe	28
			Lukaya	29
			Bukakata	30
			Suunga	31
	8	Sembabule	Sembabule	32
			Lutuuku	33
			Kyambi	34
			Mabirizi	35
			Mateete	36
			Mitete	37
			Ntuusi	38
			Lwebitakuli	39
			Lugushuru	40

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
	9	Mpigi	Buwama	41
			Mpigi	42
			Kayabwe	43
			Gombe	44
			Kyabadaza	45
	10	Luweero	Luweero	46
			Wobulenzi	47
			Bombo	48
			Zirobwe	49
			Semuto	50
			Nakaseke	51
			Bukomero	52
	11	Nakasongola	Nakasongola	53
	12	Kapeeka	Kapeeka	54
	13	Mubende	Mubende	55
			Kiganda	56
	14	Kigumba	Kigumba	57
	15	Bweyale	Bweyale	58
			Kiryandongo	59
	16	Kamuli	Kamuli	60
			Kisozi	61
			Mbulamuti	62
	17	Kyotera	Kyotera	63
			Kalisizo	64
			Sanje	65
			Kakuuto	66
			Rakai	67
			Mutukula	68
NORTHERN REGION	1	Apac	Apac	69
			Aduku	70
			Ibuje	71
			Kayei Landing Site	72
	2	Arua	Arua	73
			Wandi	74
			Omugo	75
			Kubala	76
			Okpkotani	77
	3	Gulu	Gulu	78
			Unyama	79
			Anaka	80
	4	Lira	Lira	81
			Amach	82
			Dokolo	83
	5	Kitgum	Kitgum	84

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
EASTERN REGION	6	Pader	Pader	85
			Pajule	86
			Patongo	87
			Kalongo	88
	7	Nebbi	Nebbi	89
			Paidha	90
			Nyapea	91
			Okollo	92
	8	Pakwach	Pakwach	93
	9	Adjumani	Adjumani	94
	10	Koboko	Koboko	95
			Yumbe	96
	11	Moyo	Moyo	97
	1	Mbale	Mbale	98
			Budadiri	99
			Sironko	100
			Butebo	101
			Bukedea	102
			Kachumbala	103
	2	Tororo	Tororo	104
			Malaaba	105
			Nagongera	106
			Bubuto SC	107
			Bunanbwana SC	108
			Sisuni SC	109
			Butiru TB	110
			Manafwa	111
			Lirima	112
			Lwakhakha	113
			Bumbo SC	114
			Buwoni SC	115
			Kwapa SC	116
			Mella SC	117
			Busia	118
			Magare	119
	3	Soroti	Soroti	120
			Osukuru SC	121
			Kaberamaido	122
			Atiriri	123
			Kalaki	124
			Otuboi	125
			Amuria	126
			Serere	127
	4	Kumi	Pallisa	128
			Ngora	129
			Kumi	130

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
WEST & SOUTH WESTERN REGION	5	Kapchorwa	Kapchorwa	131
			sipi	132
	6	Moroto	Matany	133
			Moroto	134
			Kangole	135
	7	Kotido	Kotido	136
			Kaabong	137
	1	Hoima	Hoima	138
			Bukwiri	139
			Banda	140
			Kasambya	141
			Misango	142
	2	Kyankwanzi	Kyankwanzi	143
	3	Bushenyi	Bushenyi	144
			Ishaka	145
			Itendero	146
			Ryeru	147
			Magambo	148
			Kyabugimbi	149
			Irembezi	150
			Katerera	151
			Kashenshero	152
			Mitooma	153
			Kyangyenyi	154
			Rutookye	155
			Kabira	156
			Buhweju/Nsiika	157
			Mayanga-Omuribiri	158
			Kanyabwanga-Omukabanda	159
			Bitereko-Iraramira	160
			Kati-Rwempungu	161
			Kisiizi-Kengyera	162
	4	Sheema	sheema/shuku	163
			Kabwohe	164
			Kitagata	165
			Bugongi	166
	5	Rubirizi	Rubirizi	167
	6	Kisoro	Kisoro	168

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
	7	Mbarara	Mbarara	169
			Kinoni	170
			Rubindi	171
			Bwizibwera	172
			Kashaka	173
			Biharwe	174
			Kaberebere	175
			Nyeihanga	176
			Kagongi	177
	8	Fort Portal	Fort Portal	178
			Kichwamba	179
			Kibiito	180
			Rubona	181
			Katebwa	182
			Kicucu	183
			Kiko	184
			Kasunga-nyanja	185
			Kabale-Kabarole	186
			Kyenjojo	187
			Mugusu	188
			Kijura	189
	9	Kasese	Kasese	190
			Hima	191
			Rugendabara	192
			Rwimi	193
	10	Masindi	Masindi	194
	11	Kabale	Kabale	195
			Muhanga	196
			Kamwezi	197
	12	Rukungiri	Rukungiri	198
			Kebisoni	199
			Buyanja	200
			Nyakagyeme-Rw-erere	201
	13	Kanungu	Kanungu	202
			Kihihi	203
			Kambuga	204
			Butogota	205
			Kanyampanga	206
			Kanyantorogo	207
			Nyamirama	208
			Kateete	209
			Nyakinoni	210
			Nyanga	211
			Kirima	212

REGION	Administrative Area		Town/ Urban Centers	No. of Towns
	14	Ibanda	Ibanda	213
			Rwenkobwa	214
	15	Kam-wenge	Kamwenge	215
			Ishongorero	216
			Bisozi	217
			Kahunge	218
			Bigodi	219
			Katalyeba	220
			Kabuga	221
			Rukooko	222
	16	Lyan-tonde	Lyantonde	223
			Kasagama	224
			Kaliro	225
			Kinoni	226
			Katovu	227
			Kinuka	228
	17	Ntun-gamo	Ntungamo	229
			Omungyenyi	230
			Rubare	231
			Kagarama	232
			Rwentobo	233
			Rweshemeire	234
			Kyempene-Ruga-rama	235
			Nyabihoko	236
			Nyamunuka	237
			Itojo	238
			Kiziba	239
	18	Rushere	Rushere	240
			Kiruhura	241
			Kazo	242
			Sanga	243
			Kanyareru	244
			Kikatsi	245
	19	Mpondwe	Mpondwe -Lhubirha	246
			Katwe	247
			Harukungu	248
	20	Ruha-ma-Kitwe	Ruhama	249
			Kitwe	250
			Kikagati	251
			Mirama Hills	252
			Rukoni	253
	21	Lwengo Area	Lwengo	254
			Kyazanga	255
			Kinoni -Lwengo	256
	22	Ntoroko	Ntoroko	257
			Rwebisengo-Kanara	258

Annex 9.2: Water Production (m3) and Capacity Utilization (%) as at 30th June 2021

Area	Practical Capacity m^3/day	Total Water Produced m^3	Average Production m^3/day	Capacity Utilization (%)
Kampala Metropolitan	**278,500**	**88,013,881**	**241,134**	**94%**
Central Region				
Jinja	22,410	7,337,522	20,103	98%
Entebbe/Kajansi	28,460	8,301,177	22,743	87%
Masaka	9,220	2,296,649	6,292	74%
Mubende	2,850	625,984	1,715	66%
Lugazi	2,170	477,295	1,308	66%
Luweero	8,736	926,939	2,540	32%
Mityana	4,800	868,878	2,380	54%
Kigumba	983	154,563	423	47%
Bweyale/Kiryandongo	1,114	219,724	602	59%
Kyotera	3,021	588,781	1,613	58%
Iganga	1,296	177,665	487	41%
Bugiri	1,128	96,697	265	26%
Kamuli/Mbulamuti	1,370	206,723	566	45%
Mpigi	2,860	433,523	1,188	45%
Sembabule	1,624	271,214	743	50%
Kapeeka	2,966	521,713	1,429	53%
Sub Total	**95,008**	**23,505,048**	**64,397**	**74%**
Eastern & Northern Region				
Tororo	15,948	1,478,853	4,052	28%
Mbale	17,801	2,544,092	6,970	43%
Soroti	6,348	1,938,009	5,310	91%
Lira	8,944	2,269,080	6,217	76%
Gulu	8,520	1,839,239	5,039	64%
Arua	6,192	1,737,112	4,759	84%
Pader	2,440	261,073	715	32%
Nebbi/Paidha	4,622	623,976	1,710	40%
Kitgum	3,554	362,936	994	30%
Apac/Aduku	2,874	220,714	605	23%
Moroto	1,056	291,206	798	82%
Adjumani	2,819	339,042	929	36%
Kapchorwa	5,410	360,921	989	20%
Kumi	10,500	412,547	1,130	12%
Kotido	803	135,778	372	50%
Moyo	1,130	204,220	560	54%
Koboko	1,182	320,958	879	81%
Pakwach	1,167	254,867	698	65%
Sub Total	**101,310**	**15,594,623**	**42,725**	**46%**
Western & Southwestern				
Mbarara	16,000	5,276,333	14,456	98%

Area	Practical Capacity m^3/day	Total Water Produced m^3	Average Production m^3/ day	Capacity Utilization (%)
Bushenyi/ Ishaka	5,970	1,354,965	3,712	68%
FortPortal	9,280	1,531,078	4,195	49%
Kasese	4,100	1,540,861	4,222	112%
Hoima	3,000	775,828	2,126	77%
Kyankwanzi	109	35,141	96	96%
Masindi	4,000	991,004	2,715	74%
Kabale	9,200	697,860	1,912	23%
Kisoro	4,580	449,803	1,232	29%
Rukungiri	989	241,057	660	73%
Ibanda	1,770	415,130	1,137	70%
Kamwenge	2,616	501,188	1,373	57%
Kanungu	2,490	410,978	1,126	49%
Lyantonde	2,800	692,263	1,897	74%
Rushere	1,503	231,140	633	46%
Ntungamo	2,120	460,910	1,263	65%
Mpondwe	2,544	449,315	1,231	53%
Ruhama	1,250	167,791	460	40%
Lwengo	1,010	287,423	787	85%
Rubirizi	968	326,945	896	101%
Ntoroko	3,600	154,692	424	13%
Subtotal	**79,899**	**16,991,705**	**46,553**	**63%**
Total	**554,716**	**144,105,256**	**394,809**	**78%**

Annex 9.3: Status of Household Connections as at 31st June 2021

Area	New Household Connections	Total No. of House-hold connections	Active Household connections	Inactive Household Connections
Kampala Metropolitan	21,622	303,676	274,050	29,626
Central Region				
Jinja	1,618	26,973	21,989	4,984
Entebbe/Kajansi	2,442	33,398	29,473	3,925
Masaka	841	16,322	14,670	1,652
Mubende	258	4,548	3,961	587
Lugazi	262	3,870	3,509	361
Luweero	1,035	8,675	7,950	725
Mityana	484	5,048	4,522	526
Kigumba	109	1,483	1,192	291
Bweyale/Kiryandongo	219	1,516	1,392	124
Kyotera	351	4,778	4,267	511
Iganga	592	8,529	6,769	1,760
Bugiri	94	1,365	1,043	322
Kamuli/Mbulimuti	176	2,642	2,254	388
Mpigi	475	4,169	3,810	359
Sembabule	230	1,648	1,597	51
Kapeeka	2,087	2,087	2,014	73
Sub Total	**9,203**	**127,051**	**110,412**	**16,639**
Eastern & Northern Region				
Tororo	504	13,368	10,486	2,882
Mbale	980	17,232	12,915	4,317
Soroti	407	6,715	5,102	1,613
Lira	834	11,856	9,529	2,327
Gulu	768	7,693	6,919	774
Arua	451	7,784	5,829	1,955
Pader	76	2,457	2,013	444
Nebbi/Paidha	1,320	3,923	3,456	467
Kitgum	301	3,400	2,985	415
Apac/Aduku	59	1,947	1,810	137
Moroto	73	827	650	177
Adjumani	247	2,693	2,220	473
Kapchorwa	227	1,992	1,796	196
Kumi	224	2,524	2,339	185
Kotido	45	750	543	207
Moyo	703	1,989	1,802	187
Koboko	144	1,725	1,499	226
Pakwach	1,576	1,576	1,184	392
Sub Total	**5,291**	**90,451**	**73,077**	**17,374**
Western & Southwestern				

Area	New Household Connections	Total No. of House-hold connections	Active Household connections	Inactive Household Connections
Kampala Metropolitan	21,622	303,676	274,050	29,626
Mbarara	2394	24,735	23,717	1,018
Bushenyi/ Ishaka	2394	9,593	9,330	263
FortPortal	1001	11,311	10,481	830
Kasese	423	8,790	7,477	1,313
Hoima	201	4,684	3,869	815
Kyankwanzi	34	96	93	3
Masindi	197	5,120	4,491	629
Kabale	293	6,547	5,591	956
Kisoro	213	3,526	3,196	330
Rukungiri	206	3,466	3,168	298
Ibanda	329	4,470	3,872	598
Kamwenge	577	3,200	3,119	81
Kanungu	278	3,942	3,506	436
Lyantonde	-60	2,190	1,970	220
Rushere	138	1,677	1,647	30
Ntungamo	370	3,777	3,367	410
Mpondwe	179	3,341	2,701	640
Ruhama	162	1,521	1,288	233
Lwengo	376	2,105	1,798	307
Rubirizi	1355	1,355	1,216	139
Ntoroko	610	610	495	115
Subtotal	**6882**	**106,056**	**96,392**	**9,664**
TOTAL	**42,998**	**627,234**	**553,931**	**73,303**

Annex 9.4: Status of Pro-Poor Connections as at 30th June 2021

Area	New PSPs	Active PSPs	Inactive PSPs	Total PSPs
Kampala Metropolitan	**1643**	**4,480**	**2,433**	**6,913**
Central Region				
Jinja	104	1,122	69	1,191
Entebbe/Kajansi	17	408	19	427
Masaka	45	403	16	419
Mubende	32	229	9	238
Lugazi	29	197	10	207
Luweero	24	261	9	270
Mityana	24	326	0	326
Kigumba	3	81	2	83
Bweyale/Kiryandongo	13	217	8	225
Kyotera	13	205	12	217
Iganga	53	497	31	528
Bugiri	5	57	11	68
Kamuli/Mbulamuti	22	184	10	194
Mpigi	17	236	4	240
Sembabule	21	106	0	106
Kapeeka	24	107	1	108
Sub Total	**446**	**4636**	**211**	**4,847**
Eastern & Northern Region				
Tororo	142	1,044	254	1,298
Mbale	40	633	113	746
Soroti	30	372	84	456
Lira	21	632	119	751
Gulu	17	162	22	184
Arua	33	280	49	329
Pader	16	125	13	138
Nebbi/Paidha	28	353	4	357
Kitgum	10	102	5	107
Apac/Aduku	23	237	6	243
Moroto	12	71	33	104
Adjumani	16	83	7	90
Kapchorwa	22	83	4	87
Kumi	11	86	8	94
Kotido	3	49	13	62
Moyo	13	81	11	92
Koboko	6	128	2	130
Pakwach	16	118	3	121

Area	New PSPs	Active PSPs	Inactive PSPs	Total PSPs
Kampala Metropolitan	**1643**	**4,480**	**2,433**	**6,913**
Sub Total	**459**	**4639**	**750**	**5389**
Western & Southwestern Region				
Mbarara	59	649	36	685
Bushenyi/ Ishaka	501	1,123	11	1134
FortPortal	61	653	60	713
Kasese	25	329	30	359
Hoima	12	142	15	157
Kyankwanzi	9	23	0	23
Masindi	17	273	16	289
Kabale	74	386	54	440
Kisoro	54	207	7	214
Rukungiri	10	345	20	365
Ibanda	34	194	7	201
Kamwenge	63	540	22	562
Kanungu	90	807	61	868
Lyantonde	38	252	9	261
Rushere	27	166	1	167
Ntungamo	19	259	30	289
Mpondwe	16	265	7	272
Ruhama	48	219	12	231
Lwengo	15	181	6	187
Rubirizi	21	211	24	235
Ntoroko	52	62	4	66
Subtotal	**1,245**	**7,286**	**432**	**7,718**
Total	**3,793**	**21,041**	**3,826**	**24,867**

Annex 9.5: Status of Sewer Connections as at 30th June 2021

Area	New Connections	Active Connections	Inactive Connections	Total Connections
Kampala Metropolitan	178	10,957	1,027	11,984
Central Region				
Jinja	11	3,931	538	4,469
Entebbe/Kajansi	5	440	29	469
Masaka	1	352	101	453
Mubende	0	0	0	0
Lugazi	0	0	0	0
Luweero	0	0	0	0
Mityana	0	0	0	0
Kigumba	0	0	0	0
Bweyale/Kiryandongo	0	0	0	0
Kyotera	0	0	0	0
Iganga	3	159	38	197
Bugiri	0	0	0	0
Kamuli/Mbulamuti	0	0	0	0
Mpigi	0	0	0	0
Sembabule	0	0	0	0
Kapeeka	0	0		0
Sub Total	**20**	**4882**	**706**	**5,588**
Eastern & Northern Region				
Tororo	1	407	116	523
Mbale	4	2,279	356	2,635
Soroti	1	407	121	528
Lira	0	393	109	502
Gulu	2	758	51	809
Arua	1	191	26	217
Pader	0	0	0	0
Nebbi/Paidha	0	0	0	0
Kitgum	0	0	0	0
Apac/Aduku	0	0	0	0
Moroto	0	0	0	0
Adjumani	2	0	0	0
Kapchorwa	0	0	0	0
Kumi	0	0	0	0
Kotido	0	0	0	0
Moyo	0	0	0	0
Koboko	0	0	0	0
Pakwach	0	0	0	0

Area	New Connections	Active Connections	Inactive Connections	Total Connections
Kampala Metropolitan	178	10,957	1,027	11,984
Sub Total	**11**	**4,435**	**779**	**5,214**
Western & Southwestern Region				
Mbarara	0	742	96	838
Bushenyi/ Ishaka	0	0	0	0
FortPortal	1	205	24	229
Kasese	0	0	0	0
Hoima	0	73	32	105
Kyankwanzi	1	0	0	0
Masindi	0	218	26	244
Kabale	5	663	145	808
Kisoro	0	157	13	170
Rukungiri	0	0	0	0
Ibanda	0	0	0	0
Kamwenge	0	0	0	0
Kanungu	0	0	0	0
Lyantonde	0	0	0	0
Rushere	0	0	0	0
Ntungamo	0	0	0	0
Mpondwe	0	0	0	0
Ruhama	0	0	0	0
Lwengo	0	0	0	0
Rubirizi	0	0	0	0
Ntoroko	0	0	0	0
Subtotal	**7**	**2,058**	**336**	**2,394**
Total	**216**	**22,332**	**2,848**	**25,180**

Annex9.6: Status of Mains Extensions (Km) as at 30th June 2021

Area	Water Mains (Km)		Sewer Mains (Km)	
	New Extensions	Total Pipe Network	New Extensions	Total Pipe Network
Kampala Metropolitan	21.4	3669.0	2.6	289.7
Central Region				
Jinja	4.0	805.0	1.4	89.1
Entebbe/Kajansi	0.0	478.0	0.0	63.3
Masaka	60.2	436.1	0.0	26.4
Mubende	10.6	267.8	0.0	0.0
Lugazi	0.7	197.4	0.0	0.0
Luweero	20.0	793.4	0.0	0.0
Mityana	1.0	251.5	0.0	0.0
Kigumba	24.0	224.7	0.0	0.0
Bweyale/Kiryandongo	0.0	183.1	0.0	0.0
Kyotera	0.0	218.1	0.0	0.0
Iganga	2.0	344.0	0.0	6.1
Bugiri	0.1	87.4	0.0	0.0
Kamuli/Mbulamuti	1.0	146.5	0.0	0.0
Mpigi	2.5	219.5	0.0	0.0
Sembabule	0.5	322.0	0.0	0.0
Kapeeka	0.0	125.0	0.0	0.0
Sub Total	126.6	5099.4	1.4	184.9
Eastern & Northern Region				
Tororo	0.0	650.0	12.9	31.4
Mbale	9.3	667.4	0.3	36.6
Soroti	9.8	434.2	0.0	25.1
Lira	11.0	315.8	0.4	23.3
Gulu	5.0	271.4	0.0	17.6
Arua	21.0	496.4	1.0	29.4
Pader	13.0	257.0	0.0	0.0
Nebbi/Paidha	4.3	97.8	0.0	0.0
Kitgum	7.4	134.8	0.0	0.0
Apac/Aduku	13.4	152.5	0.0	0.0
Moroto	4.0	96.9	0.0	0.0
Adjumani	0.0	138.4	0.0	0.0
Kapchorwa	3.0	132.2	0.0	0.0
Kumi	2.0	270.1	0.0	0.0
Kotido	6.1	77.6	0.0	0.0
Moyo	0.0	79.5	0.0	0.0
Koboko	0.0	111.0	0.0	0.0
Pakwach	0.0	186.4	0.0	0.0
Sub Total	109.4	4569.2	14.6	163.4

Area	Water Mains (Km)		Sewer Mains (Km)	
	New Extensions	Total Pipe Network	New Extensions	Total Pipe Network
Kampala Metropolitan	21.4	3669.0	2.6	289.7
Western & Southwestern Region				
Mbarara	0.0	783.0	0.0	34.0
Bushenyi/ Ishaka	17.0	799.7	0.0	0.0
FortPortal	16.2	564.2	0.0	2.1
Kasese	3.0	326.5	0.0	0.0
Hoima	4.1	253.1	0.0	4.6
Kyankwanzi	0.0	21.0	0.0	0.0
Masindi	6.2	323.1	4.0	14.2
Kabale	15.7	351.1	0.0	17.8
Kisoro	41.2	291.8	0.0	4.5
Rukungiri	1.0	342.2	0.0	0.0
Ibanda	18.4	280.1	0.0	0.0
Kamwenge	36.8	470.5	0.0	0.0
Kanungu	0.4	486.9	0.0	0.0
Lyantonde	0.8	336.4	0.0	0.0
Rushere	0.0	388.7	0.0	0.0
Ntungamo	5.4	356.0	0.0	0.0
Mpondwe	5.0	144.4	0.0	0.0
Ruhama	5.3	260.3	0.0	0.0
Lwengo	7.1	217.1	0.0	0.0
Rubirizi	2.6	95.2	0.0	0.0
Ntoroko	0.0	65.9	0.0	0.0
Subtotal	**186.2**	**7157.1**	**4.0**	**77.2**
Total	**443.5**	**20,494.7**	**22.6**	**715.1**

Annex 9.7: Number of Staff as at 30th June 2021

Area	Male	Female	Total Staff	% Female	Water Connections	Staff Productivity
Head Office	333	234	567	41%		
Kampala Metropolitan	1030	497	1527	33%	364,886	4
Central Region						
Jinja	89	44	133	33%	33,160	4
Entebbe/Kajansi	79	57	136	42%	40,967	3
Masaka	61	25	86	29%	19,804	4
Mubende	18	13	31	42%	6,089	5
Lugazi	13	13	26	50%	4,796	5
Luweero	36	16	52	31%	10,809	5
Mityana	20	8	28	29%	6,499	4
Kigumba	12	7	19	37%	2,026	9
Bweyale/Kiryandongo	16	1	17	6%	2,218	8
Kyotera	25	16	41	39%	6,002	7
Iganga	24	20	44	45%	10,105	4
Bugiri	7	4	11	36%	1,654	7
Kamuli/Mbulamuti	14	5	19	26%	3,329	6
Mpigi	20	13	33	39%	5,198	6
Sembabule	14	4	18	22%	2,055	9
Kapeeka	16	8	24	33%	2,687	9
Sub-Total	**464**	**254**	**718**	**35%**	**157,398**	5
Eastern & Northern Region						
Tororo	60	22	82	27%	17,703	5
Mbale	88	36	124	29%	20,652	6
Soroti	41	16	57	28%	10,339	6
Lira	56	12	68	18%	15,182	4
Gulu	54	18	72	25%	10,315	7
Arua	41	11	52	21%	10,175	5
Pader	26	5	31	16%	3,433	9
Nebbi/Paidha	19	7	26	27%	5,285	5
Kitgum	14	6	20	30%	4,546	4
Apac/Aduku	21	4	25	16%	2,605	10
Moroto	13	3	16	19%	1,392	11
Adjumani	8	3	11	27%	3,213	3
Kapchorwa	17	3	20	15%	2,331	9
Kumi	22	7	29	24%	3,148	9
Kotido	12	1	13	8%	1,049	12
Moyo	10	1	11	9%	2,248	5
Koboko	13	4	17	24%	2,211	8
Pakwach	11	2	13	15%	1,965	7
Sub-Total	**526**	**161**	**687**	**23%**	**117,792**	6

Area	Male	Female	Total Staff	% Female	Water Connections	Staff Productivity
Western & Southwestern Region						
Mbarara	106	50	156	32%	29,931	5
Bushenyi/ Ishaka	46	22	68	32%	12,669	5
FortPortal	45	15	60	25%	14,703	4
Kasese	35	13	48	27%	10,777	4
Hoima	17	8	25	32%	6,391	4
Kyankwanzi	5	0	5	0%	137	36
Masindi	23	7	30	23%	6,705	4
Kabale	35	7	42	17%	8,260	5
Kisoro	20	3	23	13%	4,560	5
Rukungiri	19	10	29	34%	4,222	7
Ibanda	11	8	19	42%	5,570	3
Kamwenge	20	9	29	31%	4,473	6
Kanungu	20	7	27	26%	5,271	5
Lyantonde	19	7	26	27%	2,892	9
Rushere	14	15	29	52%	2,469	12
Ntungamo	21	10	31	32%	4,797	6
Mpondwe	18	7	25	28%	4,205	6
Ruhama	16	5	21	24%	2,151	10
Lwengo	15	8	23	35%	2,950	8
Rubirizi	12	4	16	25%	1,846	9
Ntoroko	9	4	13	31%	739	18
Subtotal	**526**	**219**	**745**	**29%**	**135,718**	5
TOTAL	**2,879**	**1,365**	**4,244**	**32%**	**775,794**	5

Annex 10: Annual Performance of Umbrella Authority of Water and Sanitation

Performance of Northern Umbrella Authority of Water and Sanitation (FY 2019/20 – FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	800	978	122	900	722	80
Non-Revenue Water (%)	35	43	82	33	33	100
Metering Ratio (%)	100	100	100	100	100	100
Continuity of supply/ Functionality (Hrs/Day)	12	21	179	14	19	136
Water quality Compliance (%)	70	82	117	75	90	120
Technical Sustainability						
Backstopping Support (%)	80	40	50	90	70	78
Commercial						
Active Connections (No.)	6,052	8,101	134	6,952	9,482	136
Water sales growth (m^3)	311,410	487,120	156	313,010	405,041	129
Collection efficiency (%)	70	81	116	80	91	113
Financial Viability						
Operating cost coverage ratio (%)	60	115	192	70	81	115
Budget for investments (%)	0				0	
Pro-Poor						
Pro-Poor Connections Growth (%)	50	206	312	50	215	430
Customer Satisfaction						
Customer Satisfaction (%)	80	0	0	80	0	0

Performance of South-Western Umbrella Authority of Water and Sanitation (FY 2019/20 - FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	5,000	2,567	51	6,000	2,118	35
Non-Revenue Water (%)	35	29	120	32	27	120
Metering Ratio (%)	95	96	101	100	99	102
Continuity of supply/ Functionality (Hrs/Day)	15	14	91	15	15	99
Water quality Compliance (%)	80	89	111	90	87	97
Technical Sustainability						
Backstopping Support (%)	20	-		20		
Commercial						
Active Connections (No.)	8,800	4,482	51	14,800	6,624	45
Water sales Growth (m^3)	250,000	337,134	135	300,000	385,669	128
Collection efficiency (%)	80	77	96	85	93	109
Financial Viability						
Operating cost coverage ratio (%)	90	67	74	105	67	64
Budget for investments (%)	-					
Pro-Poor						
Pro-Poor Connections Growth (No.)	250	106	42	300	35	12
Customer Satisfaction						
Customer Satisfaction (%)	80	-	-	85	-	-

Performance of Mid-Western Umbrella Authority of Water and Sanitation (FY 2019/20 – FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	9,000	2,238	25	12,000	1,245	10
Non-Revenue Water (%)	20	38	54	17	31	55
Metering Ratio (%)	85	90	105	90	85	94
Continuity of supply/ Functionality (Hrs/Day)	15	-	-	17	19	112
Water quality Compliance (%)	85	80	94	90	82	91
Technical Sustainability						
Backstopping Support (%)	33	8	24	26	10	38
Commercial						
Active Connections (No.)	17,105	10,915	63	26,195	12,087	46
Water sales Growth (m3/qtr)	1,224,800	228,548	19	1,959,696	720,063	37
Collection efficiency (%)	80	67	83	85	60	71
Financial Viability						
Operating cost coverage ratio (%)	120	90	75	150	87	58
Budget for investments (%)	20	-	-	-	-	
Pro-Poor						
Pro-Poor Connections Growth (No.)	100			175	104	59
Customer Satisfaction						
Customer Satisfaction (%)	75			85		-

Performance of Central Umbrella Authority of Water and Sanitation (FY 2019/20 – FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	1,000	1,041	104	1,200	1,203	100
Non-Revenue Water (%)	30	32		28	33	117
Metering Ratio (%)	90	92	102	95	93	98
Continuity of supply/Functionality (Hrs/Day)	12	22	181	15	22	145
Water quality Compliance (%)	85	96	113	90	95	105
Technical Sustainability						
Backstopping Support (%)	40	100	250	60	33	54
Commercial						
Active Connections (No.)	18,200	14,781	81	20,000	18,898	94
Water sales Growth (m3/qtr)	580,000	1,173,066	202	600,000	1,211,568	202
Collection efficiency (%)	90	94	104	95	86	91
Financial Viability						
Operating cost coverage ratio (%)	90	96	107	102	163	160
Budget for investments (%)				2	-	_
Pro-Poor					-	
Pro-Poor Connections Growth (No.)	150	85	57	200	39	19
Customer Satisfaction					-	
Customer Satisfaction (%)	82	79	97	85	-	_

Performance of Karamoja Umbrella Authority of Water and Sanitation (FY 2019/20 – FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	800	370	46	900	279	31
Non-Revenue Water (%)	30	38	79	28	28	102
Metering Ratio (%)	92	99	108	94	99	105
Continuity of supply/Functionality (Hrs/Day)	9	9	94	11	9	82
Water quality Compliance (%)	90	82	91	92	89	97
Technical Sustainability						
Backstopping Support (%)	80	27	34	85	65	76
Commercial						
Active Connections (No.)	2,635	1,922	73	3,535	2,205	62
Water sales Growth (m3/qtr)	233,385	130,606	56	313,009	148,258	47
Collection efficiency (%)	70	68	97	75	79	105
Financial Viability						
Operating cost coverage ratio (%)	80	73	91	92	127	138
Budget for investments (%)	-	-		-	22	
Pro-Poor						
Pro-Poor Connections Growth (No.)	20	1	5	40	-	-
Customer Satisfaction						
Customer Satisfaction (%)	75	73	97	80	-	

Performance of Eastern Umbrella Authority of Water and Sanitation (FY 2019/20 – FY 2020/21)

Key Performance Indicators	FY 2019/20			FY 2020/21		
	Target	Achieved	Level Achieved (%)	Target	Achieved	Level Achieved (%)
Technical						
New Connections (No.)	1000	447	45	1200	1659	138
Non-Revenue Water (%)	38	36	106	35	36	97
Metering Ratio (%)	80	93	116	90	96	106
Continuity of supply/ Functionality (Hrs/Day)	10	8	80	12	-	
Water quality Compliance (%)	82	66	80	85	93	109
Technical Sustainability						
Backstopping Support (%)	50	5.3	11	45	56	125
Commercial						
Active Connections (No.)	10800	10956	101	11300	13156	116
Water sales Growth (m3/qtr)	36733	509835	1388	40000	576591	1441
Collection efficiency (%)	80	82	103	85	104	122
Financial Viability						
Operating cost coverage ratio (%)	90	112	124	102	135	132
Budget for investments (%)	0	0		25	0	0
Pro-Poor						
Pro-Poor Connections Growth (No.)	30	20	67	40	0	0
Customer Satisfaction						
Customer Satisfaction (%)	75	0	0	85	-	

Annex 11: Detailed Performance of the WfP Department in the F/Y 2020/21

Output/ Intervention	Action	Target	Achieved	Comment/Explanation
Completion of the irrigation schemes under construction/rehabilitation				
Doho Phase II, Mubuku Phase II, Wadelai, Tochi, Ngenge, Rwengaaju and Olweny completed	Complete defect liability period	6	6	Six (06) Schemes of Doho Phase II, Mubuku Phase II, Wadelai, Tochi, Ngenge and Rwengaaju are still under defects liability.
	Complete construction of Doho Phase II, Mubuku Phase II, Wadelai, Tochi, Ngenge, Rwengaaju, Olweny and Agoro irrigation schemes		7	All the Seven (7) schemes of Doho Phase II, Mubuku Phase II, Wadelai, Tochi, Ngenge, Rwengaaju and Olweny were completed as planned.
Construction of new medium to large scale irrigation schemes.				
Acomai, Atari, Amagoro, Nabigaga, Rwimi, Nyimur, Musambya, Kibimba, Kabuyanda, Matanda/ Enengo, Igogero, Angololo, Kagera, Namatala, Namalu, Sipi, Unyama, Lumbuye, Nyabanja, Palyec, Purongo, Lopei and Imvepi irrigation schemes constructed.	Construct 23 new irrigation schemes	-	-	Construction commencement of new Irrigation schemes is pending design completion.
	Complete feasibility studies/ Preliminary designs for new irrigation schemes	11	0	Detailed designs are still being undertaken for the following mega and large Irrigation schemes; Lopei (5,000 ha) in Napak, Namalu (2,200 ha) in Nakapiripirit, Unyama (2,000 ha) in Amuru and Gulu, Rwimi (2,000 ha) in Bunyangabu and Kasese, Amagoro (5,000 ha) in Tororo, Matanda (3,000 ha) in Kanungu, Enengo (2,500 ha) in Rukungiri and Kanungu, Imvipe (2,500 ha) in Arua, Nsonge (1,800 hectares) in Bunyangabu, Mpanga (1,500 hectares) in Kamwenge and Kyenjojo Districts, Nyamugasani (1,750 ha) in Kasese and Palyec (2,000 ha) in Nwoya.
	Complete detailed designs for new irrigation schemes	1	1	Completed detailed design for Kabuyanda Irrigation Scheme in Isingiro District.
	Establish O&M and institutional management structures	-	-	Establishment of Institutional management structures is pending construction commencement.
Rehabilitate and /or expand existing irrigation schemes				
Establish and support sustainable management institutions for effective utilization of the Irrigation schemes	Establish O&M and institutional management structures	6	6	Established O&M Institutional Management Structures for Six (06) Irrigation Schemes of Wadelai, Ngenge, Tochi, Mubuku II, Doho II and Olweny in the Districts of Pakwach, Kween, Oyam, Kasese and Butaleja respectively.
Development of micro and small-scale irrigation systems for small holder farmers outside conventional irrigation schemes.				

Output/ Intervention	Action	Target	Achieved	Comment/Explanation
Completion of the irrigation schemes under construction/rehabilitation				
Solar powered water supply and small-scale irrigation systems developed.	Construct small scale solar powered water supply irrigation systems	50	48	Constructed forty eight (48) small scale Irrigation schemes in forty (40) Districts of Oyam (1), Omoro (2), Dokolo (1), Kitgum (1), Zombo (1), Nwoya (1), Agago (1), Kiryandongo (1) Luweero (1), Nakasongola (2) Nebbi (1), Pader (1), Hoima (1), Kibaale (1), Kalangala (1), Buvuma (1), Mpigi (1), Rakai (1), Kanungu (1), Rukungiri (3), Buhweju (1), Isingiro (1), Kasanda (2), Lwengo (1), Mbarara (2), Ntungamo (1), Kayunga (1), Kaberamaido (1), Serere (1), Napak (1), Bukedea (1), Busia (1), Mbale (2), Kapchorwa (2), Amuria (1), Budaka (1), Butebo (1), Kumi (1), Soroti (1) and Kapelebyong (1). Works are in advanced stages of completion for construction of thirty five (35) small scale Irrigation schemes in 31 Districts of Zombo, Oyam, Dokolo, Nwoya, Omoro, Agago, Nakasongola, Kiryandongo, Buhweju, Buvuma, Hoima, Ibanda, Isingiro, Kalangala, Kanungu, Kasanda, Kibaale, Kyankwanzi, Kyenjojo, Mbarara, Mpigi, Ntungamo, Rakai, Rukungiri, Soroti, Tororo, Namayingo, Sironko, Kapchorwa, Mayuge and Kayunga.
Establish sustainable management institutions for effective utilization of the Irrigation schemes	Establish O&M and institutional management structures for solar powered small scale irrigation systems	50	48	Irrigation and Water Management Associations were established for the completed forty eight (48) Small scale solar powered irrigation schemes.
Develop infrastructure and services for bulk water storage and transfer including water abstraction systems, transmission mains, water pumping systems, storage tanks, water distribution networks				
Construction of new multi-purpose water development schemes of; Kyenshama Geregere, Ojama Makokwa, Kyahi, Kakingole, Kokonyuko, Korisae Lothar, Girik, Komothing, Achorichori, Katabok, Kulodwongo, Katabok, Kaputh, Longore, Naoyamuwe, and Kokyeyo. Lemsui, Nakonyen and Nangololapolon	Develop feasibility studies/ Preliminary designs	14	0	Feasibility studies and preliminary designs of fourteen (14) multipurpose earth dams and watering facilities in Karamoja Sub-region is in the final stages.
	Prepare detailed design of dams	4	3	Completed feasibility studies and detailed design of three (3) earth dams and Water facilities of Geregere, Kyenshama and Rushozi in Agago and Mbarara Districts respectively. Detailed designs for Kyahi, Makokwa and Ojama Earth Dams in the districts of Gomba and Serere respectively is in the final stages of completion.
	Construct 23 dams	-	-	Construction of earth dams and watering facilities awaits design completions.

Output/ Intervention	Action	Target	Achieved	Comment/Explanation
Completion of the irrigation schemes under construction/rehabilitation				
Dams and Valley tanks for livestock watering constructed	Equipment for construction of Valley tanks for livestock watering procured	2	2	Two (02) Sets of construction equipment units were procured and delivered as planned.
	Community valley tanks for livestock watering constructed	50	28	Twenty eight (28) communal valley tanks constructed in twenty one (21) Districts of Nabilatuk, Kotido, Amudat, Kaabong, Karenga, Soroti, Butebo, Kapelebyong, Kumi, Bukedea, Kaabong, Kotido, Lyantonde, Bugiri, Luweero, Nakasongola, Omoro, Arua, Dokolo, Agago and Kayunga creating a water storage capacity of 517 million litres serving 69,763 livestock. Construction of eight (8) communal valley tanks was in advanced stages of completion in eight (08) Districts of Mbale, Tororo, Kiryandongo, Nwoya, Kibaale, Kiruhura, Isingiro and Sembabule.
	Individual valley tanks for livestock watering constructed	100	35	Thirty five (35) valley tanks constructed on individual farms in nine (09) Districts of Kiruhura, Mbarara, Kazo, Ntungamo, Gomba, Sembabule, Rakai, Lyantonde and Mubende. Construction is ongoing for the two (02) individual Valley tanks in the Districts of Kasese (1) and Kazo (1). The reduction was attributed to the outbreak of Covid 19 which came with a lot of restrictions and economic impact.
Establishment of management structures for multi-purpose bulk water schemes	Establish management of structures for multi-purpose bulk water schemes	2	0	Establishment of management structures for multi-purpose bulk water schemes is pending construction commencement.
Water facilities for industrial, tourism and other commercial uses developed	Construct water facilities for industrial, tourism and other commercial uses	5	1	One (1) Valley tank constructed in Etanyai-Kanyikwar in Kapedo Sub- County of Karenga District in Karamoja Sub-region.
Complete the preparation of the National Irrigation Master Plan for Uganda				
National Irrigation Master Plan finalized	Finalize the preparation of National Irrigation Master Plan	1	0	Process of procuring a consultant to undertake the assignment is ongoing (Evaluation of the technical proposals is ongoing). Progress derailed by the COVID 19 restrictions.
Water for Production Design manual completed	Finalize the preparation of Water for Production Design Manual	1	1	Preparation of design manual for Water for Production infrastructure is at 50% progress (Comments on the draft design manual were submitted to the Consultant for incorporation). Progress derailed by the COVID 19 restrictions. The International experts were unable to fly into the Country for field activities.

Annexes 12: ENR-CSOs contributing to the Report

Name of the Institution	Physical/Contact Address
1. Anti-Corruption Coalition Uganda	P.O BOX 34238, Kampala Uganda Vubyarenge Road Plot 9B Ntinda +256414535659; info@accu.or.ug; www.accu.or.ug
2. Advocates Coalition for Development and Environment	P.O BOX 29836 PLOT 96, KANJOKYA STREET, KAMWOKYA Tel: 0312812150 Email: acode@acode-u.org Website: www.acode-u.org
3. Association of Uganda Professional Women in Agriculture and Environment	AUPWAE, P.O BOX 34192, Kampala. Rm 11, Namirembe Guest House.TEL: +256 (0) 392 898597 Email: aupwae2010@gmail.com WEBSITE: www.aupwae.net
4. Conservation and development Agency	Dr. Henry Bwambale Rd, Kisanga Ward, Kasese Tel: +256772936270 Email: codea.uganda@gmail.com/ jonankom@codeauganda.org Website: www.codeauganda.org
5. Ecological Christian Organization	P.O BOX 34485, Kampala Uganda Plot 2140 Old Kira Road Bukoto, Kampala Tel: +256414535212; Email: eco@ecouganda.org/ed@ecouganda.org, Website: www.ecouganda.org
6. Ecological Trends Alliance	29940, Kampala, Uganda. Plot 23, JOFRA House, Kiswa, Bugolobi. Tel: +256 414 666 776; E: office@ecotrendsalliance.org www.ecotrendsalliance.org
7. Environmental Alert	P.O BOX 11259 PLOT 475/523 SONKO LANE KABALAGALA Tel: 0414510215; Email: ed@envalert.org, envalert@envalert.org www.envalert.org
8. Environmental Management for Livelihood Improvement Bwaise Facility	Plot 1725, Block 203, Bwaise Nabweru Road P.O. Box 3430 Kampala
9. Fair ventures Worldwide	Physical address: Office FC 5, Crown House, Plot 4A: Kampala Road Tel: 0773595644; Email: jamesthembo2012@gmail.com
10. International Union for Conservation of Nature	Plot 39, Babiiha Avenue, P.O. Box 10950, Kampala. Tel. +256-414-233738/344508
11. Kabarole NGOs/CBOs Association	P.O Box 958 Fort portal; Maguru Mucwa Fort Portal municipality Tel: 0752842173; Email: kacbongo@yahoo.co.uk
12. Meaningful Empowerment for Change and Poverty Alleviation	Muntu Investment Building,2nd floor, Rm 37, Plot 7, Ojwina Rd, Lira Municipality P.O BOX 777, Lira, Uganda. Tel: +256777111999 Email: mecpauganda@yahoo.com WEBSITE: www.mecpauganda.org
13. Training, Education & Empowerment for Neighborhood Sustainability	Physical address: Kawaala Email: richardhamba@teensug.org; hambarichard@gmail.com Mob: (256)702675138
14. Tree Talk Plus	Head office: Plot 842 Lugolobi Close, Sempagala Zone-Buye, Ntinda-Kampala. P.O Box 31833, Clock Tower - Kampala, Uganda. Direct line: +256 392 177 128; Email: info@treetalkplus.org Website: www.treetalkplus.org
15. Uganda Coalition for Sustainable Development	P.O BOX 27551 Kabalagala-Nsambya Kampala, Uganda TEL: +256 414 269461 Email: ugandacoalition@infocom.co.ug Website: www.ugandacoalition.or.ug
16. Uganda Wildlife Society	P.O. Box 7422, Kampala, Uganda; Plot 1521 Mawanda Road Kamwokya Tel: 0414530891; Email: uws@uws.or.ug; Website: www.uws.or.ug

Annex 13: UWASNET Members who submitted reports for FY2020/21

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Action African Help Uganda	International NGO	No Intervention	No Intervention
Action Against Hunger (AAH)	International NGO	South-Western	Sanitation & Hygiene
Adventist Development and Relief Agency (ADRA)	International NGO	South-Western	Water supply
Advocates For Water and Environment Conservation (AWEC)	Local NGO	South-Western	Sanitation & Hygiene Water supply
Africa Community Technical Service (ACTS)	International NGO	South-Western	Capacity building Sanitation & Hygiene Water supply
African Evangelistic Enterprise (AEE)	International NGO	Busoga Central West-Nile	Sanitation & Hygiene
Agency for Co-operation in Research and Development -Uganda (ACORD)	Local NGO	Lango-Acholi South-Western West-Nile	Capacity building Integrated water resources management Sanitation & Hygiene Water for production Water supply
Alliance Water Solutions	Private Sector	Busoga Central	Sanitation & Hygiene
Abanya-Rwenzori Mountaineering Association	Local NGO	Rwenzori	Capacity building Integrated water resources management Sanitation & Hygiene Water supply
Amref Health Africa in Uganda	International NGO	Lango-Acholi	Capacity building Sanitation & Hygiene
Appropriate Revival Initiative for Strategic Empowerment	Local NGO	South-Western	Capacity building
Arua District NGO Network	Local NGO	No Intervention	No Intervention
Association of Uganda Professional Women in Agriculture and Environment (AUPWAE)	Local NGO	No Intervention	No Intervention
AVSI Foundation Uganda	International NGO	South-Western	Capacity building Sanitation & Hygiene
Bulambuli Initiative for Sustainable Rural Development	Local NGO	No Intervention	No Intervention
Busoga Trust	Local NGO	Busoga	Sanitation & Hygiene Water supply
Busoga Volunteers for Community Development	CBO	Busoga	Water supply
Butakoola Village Association for Development (BUVAD)	CBO	Busoga	Capacity building
Caritas Arua	FBO	West-Nile	Integrated water resources management
Caritas Fort Portal-HEWASA	FBO	Lango-Acholi Rwenzori	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water for production Water supply
Caritas Kasese	FBO	No Intervention	No Intervention
Caritas Moroto Diocese	Company limited by Guarantee	Karamoja	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water for production Water supply

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Child Care And Youth Empowerement Foundation (CCAYEF)	Local NGO	Central	Sanitation & Hygiene
Christ The King Health Support Care Center For The Needy	Local NGO	Busoga	Capacity building Sanitation & Hygiene
Church of Uganda Teso Dioceses planning and Development Office (COU-TEDDO)	FBO	Teso	Capacity building
Community Empowerment and Rehabilitation Initiative for Development	Local NGO	No Intervention	No Intervention
Community Health Empowerment Development and Relief Agency	CBO	No Intervention	No Intervention
Compassion International Uganda	International NGO	Busoga Central Karamoja Lango-Acholi Mid-Central Mid-Eastern Rwenzori South-Western Teso West-Nile	Sanitation & Hygiene Water supply
Diocesan Development Services-North Karamoja	Local NGO	No Intervention	No Intervention
Divine Agency for Integrated Development	Local NGO	Lango-Acholi Teso	Integrated water resources management Sanitation & Hygiene Water supply
Engineers Without Borders-USA	International NGO	Busoga Lango-Acholi Mid-Eastern Rwenzori South-Western West-Nile	Capacity building Water supply
Environmental Alert	Local NGO	No Intervention	No Intervention
Evidence Action	International NGO	Busoga Mid-Eastern	Capacity building Water supply
Fields of Life	International NGO	Busoga Central Karamoja Teso	Capacity building Research and development Sanitation & Hygiene Water supply
GLOBAL AIM	Local NGO	West-Nile	Sanitation & Hygiene
Global Forum for Development (GLOFORD-Uganda)	Local NGO	Lango-Acholi	Capacity building
GOAL International	International NGO	Busoga	Sanitation & Hygiene Water supply
Greater Rubaba Development And Planning Association	CBO	Rwenzori	Integrated water resources management Sanitation & Hygiene Water supply
Hope After Rape	Local NGO	Teso	Capacity building Sanitation & Hygiene
Innovation Program for Community Transformation	Local NGO	Busoga South-Western	Sanitation & Hygiene Water supply
International Aid Services (IAS)	International NGO	South-Western	Capacity building Sanitation & Hygiene

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
International Institute of Rural Reconstruction (IIRR)	International NGO	Karamoja Lango-Acholi South-Western	Capacity building Integrated water resources management
International Lifeline Fund	International NGO	Lango-Acholi	Sanitation & Hygiene Water supply
IRC International Water and sanitation Centre	International NGO	Rwenzori	Capacity building Sanitation & Hygiene Water supply
Jinja Area Communities Federation	Local NGO	Busoga	Capacity building Sanitation & Hygiene
John Foley Well Works Africa	CBO	Lango-Acholi	Capacity building Sanitation & Hygiene Water supply
Kagando Rural Development Centre	FBO	Rwenzori	Sanitation & Hygiene Water supply
Karamoja Peace and Development Agency	Local NGO	No Intervention	No Intervention
Katosi Women Development Trust (KWDT)	Local NGO	Mid-Central	Capacity building Sanitation & Hygiene Water supply
Kibuuku Rural Development Initiative	Local NGO	No Intervention	No Intervention
Kigezi Diocese Water and Sanitation Programme	FBO	South-Western	Capacity building Integrated water resources management Sanitation & Hygiene Water supply
Knowledge Research and Resource Center	CBO	No Intervention	No Intervention
Lifewater International	International NGO	Busoga South-Western	Water supply
Link to Progress	International NGO	Lango-Acholi	Capacity building Sanitation & Hygiene Water supply
Living Water international	International NGO	Busoga South-Western	Water supply
Lutheran World Federation	International NGO	Lango-Acholi South-Western West-Nile	Sanitation & Hygiene Water supply
Malteser International	International NGO	Rwenzori South-Western West-Nile	Capacity building Sanitation & Hygiene Water supply
Mission 4 Water	Local NGO	Central South-Western	Water supply
Multi Community Development Initiative	Local NGO	No Intervention	No Intervention
National Association for Women's Action in Development	Local NGO	Lango-Acholi South-Western	Capacity building
Natural Resources Defense Initiatives	Local NGO	Rwenzori	Integrated water resources management Sanitation & Hygiene
Network for Water and Sanitation Uganda (NETWAS)	Local NGO	Lango-Acholi	Capacity building Research and development
Ngenge Development Foundation	CBO	Mid-Eastern	Capacity building Integrated water resources management
OXFAM International	International NGO	South-Western West-Nile	Sanitation & Hygiene Water supply

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Plan International	International NGO	Busoga Central Lango-Acholi Mid-Eastern	Capacity building Sanitation & Hygiene Water supply
Protos - Join For Water	International NGO	Rwenzori	Integrated water resources management Sanitation & Hygiene Water supply
Raising The Village	International NGO	Rwenzori South-Western	Capacity building Sanitation & Hygiene Water supply
Rakai counsellor's association	Local NGO	No Intervention	No Intervention
RCA- The Association of Rwenzori Community	Local NGO	Rwenzori	Capacity building Integrated water resources management Sanitation & Hygiene
Rukungiri Women Integrated Development Foundation-RWIDF	Local NGO	South-Western	Sanitation & Hygiene Water supply
Rural Water Initiative for Climate Action Ltd	CBO	Central	Integrated water resources management Sanitation & Hygiene
Save the children	International NGO	Central Karamoja Lango-Acholi Rwenzori South-Western West-Nile	Capacity building Sanitation & Hygiene Water supply
SNV Netherlands Development Organization	International NGO	Lango-Acholi Mid-Eastern Teso	Capacity building Research and development Sanitation & Hygiene Water supply
SORUDA	Local NGO	Karamoja Lango-Acholi Teso	Capacity building Sanitation & Hygiene
St Monica women's group	CBO	No Intervention	No Intervention
Sure Integrated Development Organisation	Local NGO	No Intervention	No Intervention
Temele Development Organization	Local NGO	Karamoja Mid-Eastern Teso	Capacity building Sanitation & Hygiene
The Water Trust	International NGO	Central	Capacity building Research and development Sanitation & Hygiene Water supply
Uganda Environmental Education Foundation	Local NGO	No Intervention	No Intervention
Uganda Health Marketing Group (UHMG)	Local NGO	Busoga Central Karamoja Mid-Eastern Teso	Water for production
Uganda Muslim Rural Development Association (UMURDA)	FBO	Mid-Eastern	Capacity building Sanitation & Hygiene Water for production
Uganda Rain water association	Local NGO	No Intervention	No Intervention
Uganda Red Cross Society	Local NGO	West-Nile	Sanitation & Hygiene
Voluntary Action for Development (VAD)	Local NGO	Central Karamoja	Capacity building Sanitation & Hygiene Water supply
Water Access Consulting	CBO	Lango-Acholi	Capacity building Research and development Sanitation & Hygiene Water supply

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Water for People Uganda	International NGO	Busoga Central Rwenzori	Integrated water resources management Research and development Sanitation & Hygiene Water supply
Water Mission Uganda	International NGO	Busoga West-Nile	Sanitation & Hygiene Water supply
WaterAid Uganda	International NGO	Central Mid-Eastern South-Western	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water supply
Wells of Life	International NGO	Central Mid-Central	Capacity building Research and development Sanitation & Hygiene Water supply
WHAVE Solutions Ltd	Local NGO	Busoga Central Karamoja Teso	Capacity building Research and development Water supply
World Vision Uganda	International NGO	Busoga Central Karamoja Lango-Acholi Mid-Central Mid-Eastern Rwenzori South-Western Teso West-Nile	Capacity building Sanitation & Hygiene Water supply
Youth Environment Service (YES Busia)	Local NGO	Mid-Eastern	Capacity building Sanitation & Hygiene

ANNEX 14: CSOs that submitted reports

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Action African Help Uganda	International NGO	No Intervention	No Intervention
Action Against Hunger (AAH)	International NGO	South-Western	Sanitation & Hygiene
Adventist Development and Relief Agency (ADRA)	International NGO	South-Western	Water supply
Advocates For Water and Environment Conservation (AWEC)	Local NGO	South-Western	Sanitation & Hygiene Water supply
Africa Community Technical Service (ACTS)	International NGO	South-Western	Capacity building Sanitation & Hygiene Water supply
African Evangelistic Enterprise (AEE)	International NGO	Busoga Central West-Nile	Sanitation & Hygiene
Agency for Co-operation in Research and Development -Uganda (ACORD)	Local NGO	Lango-Acholi South-Western West-Nile	Capacity building Integrated water resources management Sanitation & Hygiene Water for production Water supply
Alliance Water Solutions	Private Sector	Busoga Central	Sanitation & Hygiene
Abanya-Rwenzori Mountaineering Association	Local NGO	Rwenzori	Capacity building Integrated water resources management Sanitation & Hygiene Water supply
Amref Health Africa in Uganda	International NGO	Lango-Acholi	Capacity building Sanitation & Hygiene
Appropriate Revival Initiative for Strategic Empowerment	Local NGO	South-Western	Capacity building
Arua District NGO Network	Local NGO	No Intervention	No Intervention
Association of Uganda Professional Women in Agriculture and Environment (AUPWAE)	Local NGO	No Intervention	No Intervention
AVSI Foundation Uganda	International NGO	South-Western	Capacity building Sanitation & Hygiene
Bulambuli Initiative for Sustainable Rural Development	Local NGO	No Intervention	No Intervention
Busoga Trust	Local NGO	Busoga	Sanitation & Hygiene Water supply
Busoga Volunteers for Community Development	CBO	Busoga	Water supply
Butakoola Village Association for Development (BUVAD)	CBO	Busoga	Capacity building
Caritas Arua	FBO	West-Nile	Integrated water resources management
Caritas Fort Portal-HEWASA	FBO	Lango-Acholi Rwenzori	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water for production Water supply
Caritas Kasese	FBO	No Intervention	No Intervention
Caritas Moroto Diocese	Company limited by Guarantee	Karamoja	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water for production Water supply

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Child Care And Youth Empowerement Foundation (CCAYEF)	Local NGO	Central	Sanitation & Hygiene
Christ The King Health Support Care Center For The Needy	Local NGO	Busoga	Capacity building Sanitation & Hygiene
Church of Uganda Teso Dioceses planning and Development Office (COU-TEDDO)	FBO	Teso	Capacity building
Community Empowerment and Rehabilitation Initiative for Development	Local NGO	No Intervention	No Intervention
Community Health Empowerment Development and Relief Agency	CBO	No Intervention	No Intervention
Compassion International Uganda	International NGO	Busoga Central Karamoja Lango-Acholi Mid-Central Mid-Eastern Rwenzori South-Western Teso West-Nile	Sanitation & Hygiene Water supply
Diocesan Development Services-North Karamoja	Local NGO	No Intervention	No Intervention
Divine Agency for Integrated Development	Local NGO	Lango-Acholi Teso	Integrated water resources management Sanitation & Hygiene Water supply
Engineers Without Borders-USA	International NGO	Busoga Lango-Acholi Mid-Eastern Rwenzori South-Western West-Nile	Capacity building Water supply
Environmental Alert	Local NGO	No Intervention	No Intervention
Evidence Action	International NGO	Busoga Mid-Eastern	Capacity building Water supply
Fields of Life	International NGO	Busoga Central Karamoja Teso	Capacity building Research and development Sanitation & Hygiene Water supply
GLOBAL AIM	Local NGO	West-Nile	Sanitation & Hygiene
Global Forum for Development (GLOFORD-Uganda)	Local NGO	Lango-Acholi	Capacity building
GOAL International	International NGO	Busoga	Sanitation & Hygiene Water supply
Greater Rubaba Development And Planning Association	CBO	Rwenzori	Integrated water resources management Sanitation & Hygiene Water supply
Hope After Rape	Local NGO	Teso	Capacity building Sanitation & Hygiene
Innovation Program for Community Transformation	Local NGO	Busoga South-Western	Sanitation & Hygiene Water supply
International Aid Services (IAS)	International NGO	South-Western	Capacity building Sanitation & Hygiene
International Institute of Rural Reconstruction (IIRR)	International NGO	Karamoja Lango-Acholi South-Western	Capacity building Integrated water resources management
International Lifeline Fund	International NGO	Lango-Acholi	Sanitation & Hygiene Water supply
IRC International Water and sanitation Centre	International NGO	Rwenzori	Capacity building Sanitation & Hygiene Water supply
Jinja Area Communities Federation	Local NGO	Busoga	Capacity building Sanitation & Hygiene

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
John Foley Well Works Africa	CBO	Lango-Acholi	Capacity building Sanitation & Hygiene Water supply
Kagando Rural Development Centre	FBO	Rwenzori	Sanitation & Hygiene Water supply
Karamoja Peace and Development Agency	Local NGO	No Intervention	No Intervention
Katosi Women Development Trust (KWDT)	Local NGO	Mid-Central	Capacity building Sanitation & Hygiene Water supply
Kibuuku Rural Development Initiative	Local NGO	No Intervention	No Intervention
Kigezi Diocese Water and Sanitation Programme	FBO	South-Western	Capacity building Integrated water resources management Sanitation & Hygiene Water supply
Knowledge Research and Resource Center	CBO	No Intervention	No Intervention
Lifewater International	International NGO	Busoga South-Western	Water supply
Link to Progress	International NGO	Lango-Acholi	Capacity building Sanitation & Hygiene Water supply
Living Water international	International NGO	Busoga South-Western	Water supply
Lutheran World Federation	International NGO	Lango-Acholi South-Western West-Nile	Sanitation & Hygiene Water supply
Malteser International	International NGO	Rwenzori South-Western West-Nile	Capacity building Sanitation & Hygiene Water supply
Mission 4 Water	Local NGO	Central South-Western	Water supply
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Natural Resources Defense Initiatives	Local NGO	Rwenzori	Integrated water resources management Sanitation & Hygiene
Network for Water and Sanitation Uganda (NETWAS)	Local NGO	Lango-Acholi	Capacity building Research and development
Ngenge Development Foundation	CBO	Mid-Eastern	Capacity building Integrated water resources management
OXFAM International	International NGO	South-Western West-Nile	Sanitation & Hygiene Water supply
Plan International	International NGO	Busoga Central Lango-Acholi Mid-Eastern	Capacity building Sanitation & Hygiene Water supply
Protos - Join For Water	International NGO	Rwenzori	Integrated water resources management Sanitation & Hygiene Water supply
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Rakai counsellor's association	Local NGO	No Intervention	No Intervention
RCA- The Association of Rwenzori Community	Local NGO	Rwenzori	Capacity building Integrated water resources management Sanitation & Hygiene
Rukungiri Women Integrated Development Foundation-RWIDF	Local NGO	South-Western	Sanitation & Hygiene Water supply
Rural Water Initiative for Climate Action Ltd	CBO	Central	Integrated water resources management Sanitation & Hygiene

Organization name	Category	Regions of Operation – FY20/21	Intervention areas during the financial year
Save the children	International NGO	Central Karamoja Lango-Acholi Rwenzori South-Western West-Nile	Capacity building Sanitation & Hygiene Water supply
SNV Netherlands Development Organization	International NGO	Lango-Acholi Mid-Eastern Teso	Capacity building Research and development Sanitation & Hygiene Water supply
SORUDA	Local NGO	Karamoja Lango-Acholi Teso	Capacity building Sanitation & Hygiene
St Monica women's group	CBO	No Intervention	No Intervention
Sure Integrated Development Organisation	Local NGO	No Intervention	No Intervention
Temele Development Organization	Local NGO	Karamoja Mid-Eastern Teso	Capacity building Sanitation & Hygiene
The Water Trust	International NGO	Central	Capacity building Research and development Sanitation & Hygiene Water supply
Uganda Environmental Education Foundation	Local NGO	No Intervention	No Intervention
Uganda Health Marketing Group (UHMG)	Local NGO	Busoga Central Karamoja Mid-Eastern Teso	Water for production
Uganda Muslim Rural Development Association (UMURDA)	FBO	Mid-Eastern	Capacity building Sanitation & Hygiene Water for production
Uganda Rain water association	Local NGO	No Intervention	No Intervention
Uganda Red Cross Society	Local NGO	West-Nile	Sanitation & Hygiene
Voluntary Action for Development (VAD)	Local NGO	Central Karamoja	Capacity building Sanitation & Hygiene Water supply
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Water Mission Uganda	International NGO	Busoga West-Nile	Sanitation & Hygiene Water supply
WaterAid Uganda	International NGO	Central Mid-Eastern South-Western	Capacity building Integrated water resources management Research and development Sanitation & Hygiene Water supply
Wells of Life	International NGO	Central Mid-Central	Capacity building Research and development Sanitation & Hygiene Water supply
WHAVE Solutions Ltd	Local NGO	Busoga Central Karamoja Teso	Capacity building Research and development Water supply
World Vision Uganda	International NGO	Busoga Central Karamoja Lango-Acholi Mid-Central Mid-Eastern Rwenzori South-Western Teso West-Nile	Capacity building Sanitation & Hygiene Water supply
Youth Environment Service (YES Busia)	Local NGO	Mid-Eastern	Capacity building Sanitation & Hygiene

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