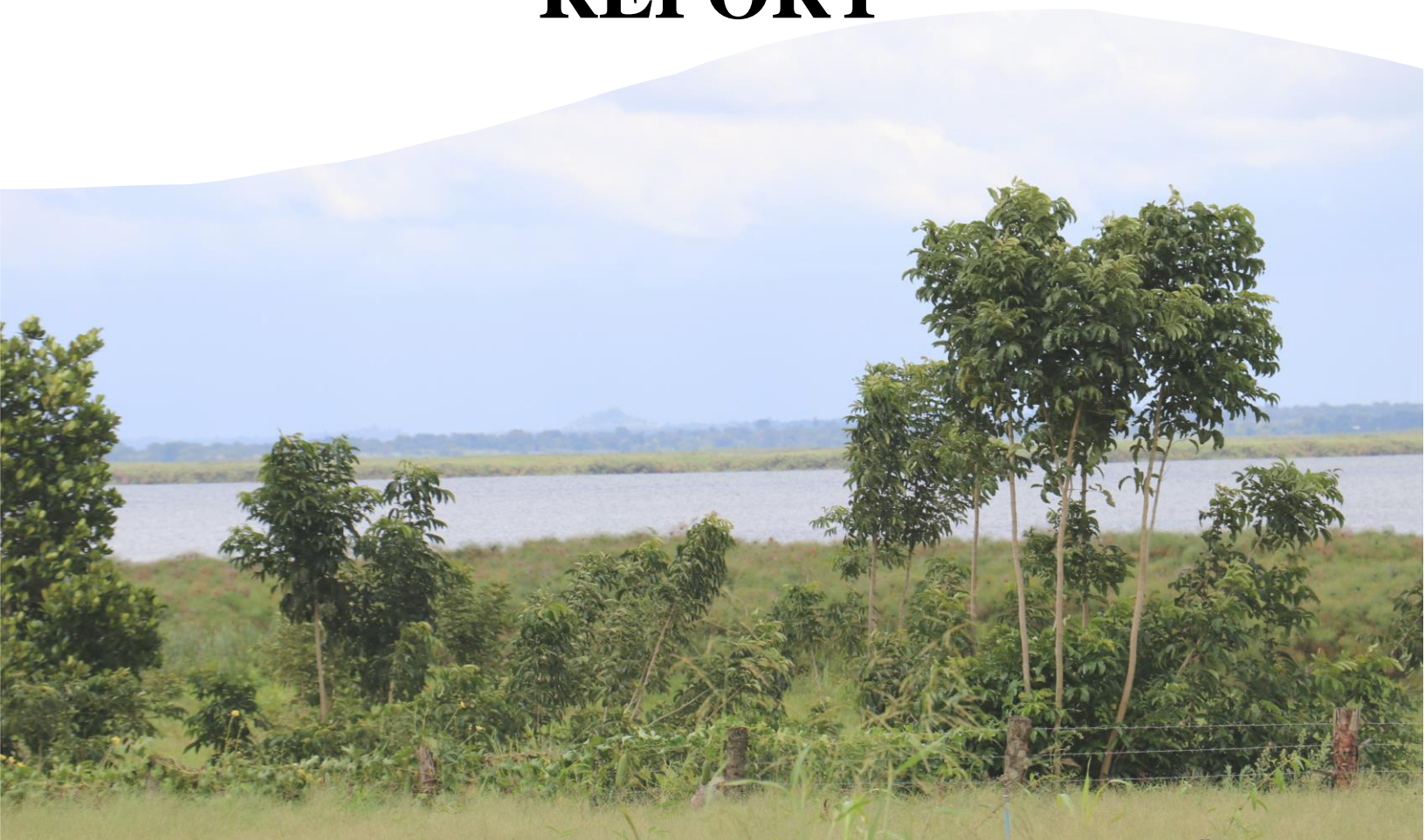




THE UGANDA WATER AND ENVIRONMENT WEEK 2021

REPORT



The Water Resources Institute (WRI), which is part of the Ministry of Water and Environment (MWE) was established as part of implementation of the Water Sector Reforms and is intended to bridge the gap between theory and practice. It aims to profile the central position of water and environment resources in national development with a vision of ensuring that Uganda's water and environment resources are utilized optimally. Its core business is to be a Centre of Excellence that provides cutting edge applied research and training; delivers continuous professional skills development across all levels in water and environment resources management and development, and serves as a neutral place for dialogue and outreach.

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EXECUTIVE SUMMARY

The Ministry of Water and Environment (MWE) through the Water Resources Institute (WRI) held the fourth Uganda Water and Environment Week (UWEWK) 2021 from **Sunday 21st March to Friday 26th March 2021**. UWEWK is a weeklong event that is organized annually. The overall theme of UWEWK 2021 was Water and Environment Security for Socio-Economic Transformation of Uganda and was guided by four sub themes. These were: *Valuing Water and Environment resources; Water and environment in a creative economy; Dealing with water and environment shocks; and Ensuring water and environment security for sustainable urban growth.*

The event was organised as hybrid with (physical and virtual) participation. It started with a three hour live televised event that included a formal opening ceremony, key note address and dialogue on Sunday March 21, 2021 from 2:00 pm to 5:00 pm on Uganda Broadcasting Cooperation (UBC) and Next Media Broadcasting service (NBS). The opening ceremony was followed by a key note presentation and a dialogue on both Uganda Broadcasting Corporation (UBC) and NBS TVs. The key note presentation and a dialogue focused on the overall theme for the UWEWK -*Water and Environment Security for Socio-Economic Transformation of Uganda* and the annual commemoration of three important International Days: International Day of Forests (March 21st), World Water Day (March 22nd) and World Meteorological Day (March 23rd). Four Thematic dialogues aligned to each of the sub-themes of UWEWK 2021 were held through zoom from 22nd - 26th March 2021. The dialogues were preceded by a key note presentation on each of the sub-themes of UWEWK 2021. Twenty seven parallel sessions were held in form of: side events, virtual field visits, paper presentation and applied trainings. UWEWK 2021 wrap and closing ceremony was held on Friday March 26, 2021 from 2 to 4pm. The session summarized key issues that came out of the 5 dialogues, the key messages as well as plans for implementing the recommended actions. The session formally closed UWEWK 2021 and launched preparations for UWEWK2022.

The UWEWK2021 was very successful. It attracted a total of 2827 participants (2277 online and 550 physical) who attended the week's event. In addition, 65 paper presentations categorized as policy, practice and science on the four sub-themes were presented. Four applied trainings focusing on the four sub-themes were successfully held. Additionally, nine side-events the 3rd Career Talk for Young Water and Environment Professionals, a Youth Debate and six virtual field visits were held. Prior to the main UWEWK2021 event, pre-event activities that included the Walk for Water, Environment, Climate and public health, the flip flopi expedition, forest dialogue, publicity and media campaign, regional activities were all held in March between 9th and 20th March 2021. The overall key outcomes and recommendations from UWEWK2021 have been organized in key thematic areas and shared with lead agencies and partners to implement as actions going forward.

ABBREVIATIONS

ACODE	Advocates Coalition for Development and Environment
CMPs	Catchment management Plans
COU	Church of Uganda
CFR	Central Forest Reserve
COVID19	Corona Virus 2019
DEA	Directorate for Environment Affairs
DHO	District Health officer
DLC	District Local Government
HON.	Honourable Member of Parliament
HQs	Head Quarters
GIZ	German International Development Agency
MPIFA	Mpigi Farmers Association
MDAs	Ministries, Departments and Agencies
MWE	Ministry of Water and Environment
NBS	Next Broadcasting services
NDP3	National Development Plan III
NPA	National Planning Authority
NOC	National Organizing Committee
NWSC	National Water and Sewerage Corporation
ODF	Open Defecation Free
PPP	Private-Public Partnerships
SDGs	Sustainable Development Goals
SOPs	Standard Operating Procedures
SW	South West
TASO	The AIDS Support Organization
TBG	Tooro Botanical Gardens
TOC	Technical Organizing Committee
TSUs	Technical Service Units
UBC	Uganda Broadcasting Corporation
UBS	Uganda Bureau of Services
UPDF	Uganda People Defence Forces
UMA	Uganda Manufacturers Association
UN	United Nations
UWA	Uganda Walkers Association
UWA	Uganda Wildlife Association
UWEWK	Uganda Water and Environment Week
UWS	Umbrella of Water and Sanitation
WiP	Water for Production
WMZ	Water Management Zones
WRI	Water Resources Institute
WRPRD	Water Resources Planning and Regulation Department
WSDF	Water and Sanitation Development Facility

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1.0 INTRODUCTION

This report presents the deliberations and proceeding of the 4th Uganda Water & Environment Week 2021 (UWEWK21) celebrations that was held from 6th to 26th March 2021. It was organized by the Ministry of Water and Environment through the Water Resources Institute, with support of partners and sponsors.

1.1 Background

The Ministry of Water and Environment (MWE) through the Water Resources Institute (WRI) held the fourth Uganda Water and Environment Week (UWEWK) from **Sunday 21st March to Friday 26th March 2021**. UWEWK is a weeklong event that is organized annually. Since its inception in 2018, the event seeks to contribute towards the attainment of Sustainable Socio-economic Transformation and achieving Ugandan National Development Plan and vision 2040. It provides an interface between sector actors and other stakeholders for knowledge exchange, dialoguing, learning for improvement of Uganda's water and environment resources. This year UWEWK explored the role water and environment resources will be play in:

- i. Increasing investment in value addition to environment and natural resources products and services,
- ii. Promoting natural resource accounting, to improve the national income measurement,
- iii. Promoting research, innovation and adoption of green appropriate technology to foster sustainable use and management of water and environment resources and
- iv. Reducing human and economic loss from natural hazards and disasters

The overall theme of UWEWK 2021 was “[Water and Environment security for socio-economic transformation of Uganda](#)” and was guided by four sub themes:

a) **Valuing Water and Environment resources**

This sub-theme focused on sustainable use and value addition to water resources, forests, wetland, rangelands and other natural resources for increased incomes and employment. It will highlight the importance of raising awareness on the value of water, environment and natural resources in transforming the socio-economic status of Ugandan population and improve livelihood. Furthermore, it looked into ensuring coordinated and sustainable national infrastructure projects considering that Uganda's economy relies almost entirely on the stock of water, environmental and natural resources to produce goods and deliver services.

b) **Water and environment in a creative economy**

Creative economy also known as knowledge and innovation economy is an evolving concept which builds on the interplay between human creativity and ideas, intellectual property, knowledge and technology. Essentially it is the knowledge-based economic activities upon which the 'creative industries' are based. This sub-theme focused on innovative solutions for more efficient and productive development and management of water, environment and natural resources for sustainable socio-economic transformation of Ugandan population to the mid-class citizens. The sub-theme also concentrated on increasing investment in value addition to environment and natural resources products and services, promoting natural resource accounting to improve the national income measurement and marketing of the products using creative economy approach.

c) **Dealing with water and environment shocks**

This sub-theme discussed how societies should manage and develop their water and environment resources to address risks associated with climate change at the same time improving people's livelihood. The sub-theme also explored the role of research, innovation and adoption of green appropriate technology to foster sustainable use and management of water and environment resources and reduce human and economic loss from natural hazards and disasters.

d) **Ensuring water and environment security for sustainable urban growth**

This sub-theme concentrated on innovation within the urban setting including appropriate technologies in terms of: i) environmental concerns (air pollution, water and soil contamination); ii) poverty reduction and employment generation; iii) economic sustainability (cost benefit, short to long term) and iv) environmental sustainability (resource savings and reclamation, reduction in greenhouse gases (GHG) emissions) among others.

1.2 UWEWK2021 Goals and Objectives:

The overall goal of UWEWK 2021 was improved understanding of the centrality and value of water and environment resources for transforming Ugandan's economy and improved livelihood. It specifically focused on:

- a. Highlight value of water and environment resources for socio-economic transformation of Uganda.
- b. Deliberate on the role of water and environment resources in maintaining security, peace, public health and sustainable urban growth and improved livelihoods.

1.3 UWEWK2021: Physical and Virtual Event

Recognizing the need to meet the standard operating procedures to prevent the spread of COVID 19, the event was organised as hybrid with a mix of physical and virtual participation. It started with a three hour live televised event that included a formal opening ceremony, key note address and dialogue on Sunday March 21, 2021 from 2:00 pm to 5:00 pm on Uganda Broadcasting Cooperation (UBC) and Next Media Broadcasting service (NBS):

- The opening ceremony in MWE Auditorium involved a few speeches delivered within 45 minutes by high level officials from MWE, other partners and a guest of honour.
- The Guest of Honour was the Prime Minister of Uganda.
- Opening ceremony was followed by a key note presentation and a dialogue on both Uganda Broadcasting Corporation (UBC) and NBS TVs.
- The key note presentation and a dialogue focused on the overall theme for the UWEWK -***Water and Environment Security for Socio-Economic Transformation of Uganda.***
- The annual commemoration of three important International Days: International Day of Forests (March 21st), World Water Day (March 22nd) and World Meteorological Day (March 23rd) on 21st March 2021.
- **Four Thematic dialogues aligned to each of the sub-themes of UWEWK 2021** were held through zoom from 22nd - 25th March 2021. The dialogues were preceded by a key note presentation on each of the sub-themes of UWEWK 2021.
- UWEWK wrap and Closing ceremony - This session was held on Friday March 26, 2021 from 2 to 4pm. The session summarized key issues that came out of the week's events, the key messages as well

as plans for implementing the recommended actions. The session formally close UWEWK 2021 and launched preparations for UWEWK2022.

2.0 PRE-EVENT UWEWK2021 ACTIVITIES,

Several pre-event activities were done as a prelude to the main UWEWK weeklong event and it was meant to provide, create awareness and generate public interest in the main event. It also did create a platform for most people outside the main event venue and location to get involved. UWEWK2021 pre-events were held in March and these included:

2.1 Regional Activities

The Ministry of Water and Environment de-concentrated structures which comprises of Water and Sanitation Development Facility (WSDF), Water for Production Regional Centre (WfP), Umbrella of Water and Sanitation Organization, Regional Centre 4 (formerly TSUs), the Directorate for Environment Affairs Regional Offices and Water Management Zones (WMZ) representing various directorates and departments under the ministry, planned and held UWEWK regional activities. The main purpose of the regional UWEWK activities was to widen the scope and impact of UWEWK (reaching those that may not make it for the national event)

The UWEWK regional activities included, but not limited to, raising awareness and sensitization campaigns, stakeholder engagement activities on issues of water and environment (cultural leaders, local government, communities) and school events such plays, exhibitions, clean up exercises, environment restoration activities (such as planting of bamboo and trees along river banks and degraded forests) and walk for water and environment, climate change and public health, and clean up exercises, etc.

2.1.1 Northern Regional UWEWK2021

The Northern Regional Entities of the Ministry of Water and Environment in partnership with key stakeholders organized a regional Water and Environment Week from **15th – 19th March 2021** in Lango Region based in Lira City. This regional event focused on promotion of efforts towards restoration, preservation, sustainable utilization and sound management of water and environment resources in the region.



The celebrations to mark event were open to the public, Water Sanitation & Hygiene, and Environment sector players in the Region. The team was led by Regional Ministry deconcentrated structures (Upper Nile Water Management Zone, Water and Sanitation Development Facility North, Water For Production Regional Centre North, Wetlands department North, Forestry department North, Umbrella of Water and Sanitation North, NEMA) Lira City Council, Lira District Local Government and key partners including Church of Uganda Lango Diocese, CARE International, MECPA, IUCN, Link to Progress (LTP), SNV, ASCEND- MOH (Vector control Division NTD Desk) and the general public.

Activities

Sno.	Activity	Leading Partners	Date	Location
1	Radio talk Show	MWE/IUCN	15 th March 2021	Unity Fm
2	Launch of Tree planting and Restoration activities	WfPRC-North/DEA/NFA/Lango	16 th March 2021	Olweny irrigation

		Diocese		Scheme Block G
3	Community Dialogue on Environment Conservation	UNWMZ/IUCN/Lira DLG	17 th March 2021	Orwit Community
4	Radio talk Show	UNWMZ/CARE	17 th /03/2021	Unity FM
4	Market Clean Up	WSDF North, UWS North, Lira City Council,	18 th March 2021	Lira main Market
5	Tree planting along streets and in Schools	Lira City Council, MECPA	19 th /03/2021	Lira central college School
6	Stake Holder Meeting	CARE International, MWE regional Office, NWSC, Lira City Development forum	19 th /03/2021	City Council Hall
7	Exist Meeting among partners for lessons	Organizing committee	19 th /03/2021	UNWMZ Board room
8	Radio talk Show	Lira City Council, ASCEND, IUCN		Q Fm

A radio talk show on Unity FM where MWE team and partners gave the general overview of the UWEWK and highlighted the week's daily events to the general public specifically highlighting the link between water and the environment and why the agent need to protect and use them wisely. The talk shows were hosted by radio presenters that were well informed about water and environment issues keeping the listeners interested as observed through the call back questions relating to the topical issues under discussion. Panelist included members from the Lira City Council Authority, MWE, Partners in the Water and Environment sector (IUCN, ASCEND, MECPA, CARE, Link to Progress) Ministry of Health Vector control Division, Lira District local Governments and private sector. Overall, the radio talk shows mobilized communities to participate in the UWEWK activities on top of creating massive awareness on water and environment sector. Among the key issues raised during the call backs was the Sustainable use of water and environment resources to address the recent shortage experienced around Lira City with the linked health challenges.

Key outputs

Restoration at olweny irrigation scheme



Photo 1 Pitting Demonstration on planting processes

- Community Engagement on Environment Conservation- Orit parish
- Lira City Central Market Cleaning Up Exercise
- Greening exercise of Lira city
-

Exhibition and public dialogue

Recommendations

1. Keep the momentum built burning by delivering on the key commitments like Greening the Town once the rains begin, follow up the Bishop for the regional tree planting Launch and develop a strategy for tree growing after planting mainly along streets.
2. Next Year 2022 regional UWEWK conducting the ASWA walk should be prioritized and develop clear terms and roles in time for full partner participation. In the next event there is need to involve more partners in time and also involve the Aswa catchment management committee members and the Micro catchment members for a meaningful engagement.
3. Collaboration between MWE, MoH and MAAIF should be strengthened in the next event because water and environmental issues are highly cross cutting in these sectors.

2.1.2 South Western Regional UWEWK2021

The regional activities attracted 130 participants representing a wide range of stakeholders ranging from: Public and Private Sector Institutions; Civil Society Organizations; Ministry of Water and Environment staff; Mbarara City Council Officers; Mbarara Local Government; Uganda Police and Uganda Peoples Defence Forces (Army) Personnel; Rwizi Catchment Management Committee; and local communities.

The pre-event activities that were done in the region included;

- Publicity campaigns on electronic media, social media platforms and promotional materials.
- Radio or TV talk shows on Water and Environment issues
- Clean up exercises aimed at restoration and management of River Rwizi were done
- Development of modals illustrating urban farming as an alternative income generating material IGAs.
- River Rwizi Dialogue on its protection and management from the emerging water threats such as plastics, water hyacinth among others

The regional events resulted in the following outcomes

Public knowledge on the value water and environmental resources for transforming Ugandan's economy and improved livelihood was increased through:

- Innovations, technologies and developments in the water and environment for sustainable economic growth and improved livelihood were showcased;
- Platforms for exchange of ideas for long term partnerships and networks established including the follow up actions plan for post event activities;
- Beverage producers, medical practitioners, waste handlers identified and assigned responsibilities of waste management so that it does not reach the river.

At the end of the activities it become care that:

- More public private partnerships that can support the IWRM activities to be established
- Planning, budgeting and allocation of funds for pre-event regional activities to be given a priority.
- Always start resource mobilizations six months prior to the annual events. To do this notification messages should be sent out to partners early enough for preparation

It recommended widening the scope of participants and activities done by engaging schools, Academic institutions, and Faith based organizations (church), Banks, Insurance and telecommunication companies.

2.1.3 Central Regional UWEWK2021

The Ministry of Water and Environment regional office for central Uganda based in Wakiso participated in commemorating UWEWK21 event. A committee comprising of 8 staff nominated from the different structures and/or sub sectors spearheaded the preparatory processes. The activities implemented in the region included:

- A site pre visit was made to Namutya Small Scale Irrigation Scheme, Kasana RC Primary School grounds and Bugadu Primary School by the MWE and Kayunga Local Government District teams
- Preparation and distribution of IEC materials including Posters, banners, and flyers was done.
- DJ mentions /Radio Jingles were aired from 12th March and run throughout the commemoration week.
- Clean up drives for Kayunga District was done at Bugadu Primary School
- Promotional Cesspool Emptying at 5 identified public toilet sites conducted. The chosen sites included: Kayunga TC Police Barracks, Busaana Market, Busaana Senior Secondary School, Kangulumila Health Center IV and Namagabi Mosque.
- Sensitization through exhibitions and radio talk shows. In addition, poems and skits and drama were arranged with selected primary schools. Skits and drama with support from the Sanitation grant of Kayunga District and schools were done. Radio talk-shows were done on Sauti FM, Kayunga and CBS Radio.
- Tree planting initiatives at the venue for memorial planting as well as micro scale tree planting at the Water for production facility i.e. Namutya Small Scale Irrigation Scheme and Bugadu Primary School was done.

2.1.4 [Albert Regional UWEWK2021](#)

Albert regional entities including the Rural Water and Sanitation Growth Centre 6, Albert Water Management Zone, LEAF II Project, and Mid-Western Umbrella, of the Ministry of Water and Environment organized the third Regional Uganda Water and Environment Week in Mpanga and Nyamwamba catchments from 15th to 19th March 2021. The Regional event aimed at creating awareness about UWEWK 2021 and commemoration of the annual three important international days: World Forest Day (March 21st), World Water Day (March 22nd), and World Metrological Day (March 23rd).

A series of activities that spanned from Monday (15th March 2021) to Friday (19th March 2021) included: a football match between Mugusu and Kasenda sub-counties; home improvement sanitation campaigns; awareness campaign in schools; clean up exercises, radio talk shows, welcoming the walkers into the region; launching of diver technologies in groundwater monitoring and automated rain gauge station in Rushango catchment; planting and promoting bamboo growth in the Rwenzori region.

A precursor event through sports, a football match between Mugusu and Kasenda Sub-counties was organised on the 14th March 2021. The match was organized in liaison with the Kabarole District Local Government and support from the partners (NRDI and CARITAS-HEWASA). The purpose of the football match was to amplify the awareness on sanitation improvement in the Sub-counties of Mugusu and Kasende.

Working in collaboration with different partners, the region mobilized resources and implemented a number of activities during the week-long event. Key to promotion of awareness were the walk for environment, clean-up of Kasese and Fort portal Municipalities, dialogue with the Kasese district, NGO's and local players, involvement of school children in both debate and tree planting exercise.

The wrap up for the 371km walk from MWE headquarters to Nyamwamba catchment that was held in Kasese district as part of Albert Region celebration of UWEWK2021 attracted participation from various stakeholders within the district. More details in section 2.1.6. It is therefore recommended that for

In conclusion, the experience with the regional events beams hope for stronger future collaboration with the partners (NGO's, CBO's, & CSO's), local governments and communities. The success, rides on the

contribution of all staff of the MWE regional office, partners and the MWE-NOC through the Assistant Commissioner, WMZ.

It was recommended that:

- The district teams together with the MWE regional office should in future invest more effort in publicizing UWEWK regional activities through local radio stations to enhance public participation.
- Activities of restoring river Nyamwamba banks should continue to consolidate efforts that have been kick started during the UWEWK 2021 regional celebrations.
- Follow up should be done to make sure that the activities undertaken during the UWEWK21 bring about lasting changes and also verify their adoption rate in the communities.
- Future events and the event activities and awareness campaign publications should also be published in the local languages of the districts where they are expected to take place/be held so that local communities are involved as this will make the planned restoration activities concrete and their adoption easy and rampant.

2.1.5 The Walk for Water, Environment, Climate Change and Public Health

The Ministry of Water and Environment (MWE), in partnership with Walkers Association of Uganda (WAU) and within the framework of UWEWK planned and carried out a 371km walk for Water, Environment, Climate Change and Public Health from Ministry of Water and Environment offices in Luzira, Kampala to River Nyamwamba Catchment in Kasese district from 9th to 19th March 2021. The route traversed the districts of Kampala, Mityana, Mubende, Kyegegwa, Kyenjojo, Kabarole, Bunyangabo to River Nyamwamba Catchment area in Kasese district.

Objectives of the Walk

The goal of the walk was aligned to the UWEWK2021 theme, “*ensuring water and environment security for socio-economic transformation of Uganda*” and the aim to raise awareness on the role of water and environment resources in reducing human and economic loss from natural hazards and disasters, peace and security, public health and fostering socio-economic transformation and improved livelihoods. Specifically, the walk highlighted the impacts of forests and wetland degradation, pollution and over exploitation of water resources on the sustainable socio-economic development as well as the improvement of the livelihoods of people.

The specific objectives of the walk were:

- To raise awareness about the UWEWK 2021 and the relevance of its theme and subthemes to the people of Uganda;
- To demonstrate the pivotal role of water and environment resources in achievement of social economic transformation of the country;
- To enlist the support of District Local Governments, schools, business community, cultural and religious institutions and the general public in regard to sustainable utilisation of water and environment resources;
- To demonstrate the inextricable link between water and environment resources including forestry resources and climate change mitigation and adaptation in achievement of NDPIII targets; and
- To demonstrate the importance of forests, trees and the water bodies in the mitigation of climate change effects including floods.

- To promote proper sanitation and hygiene among communities in the wake of COVID19 through promotion of effective hand washing and other relevant SOPs



Figure 1: The walkers being flagged off by the Minister of Water and Environment at MWE headquarters, 9th March 2021

The Walkers Team

The walkers' team from the association comprised the foot walkers, medical doctors, publicity and support team. The team was joined by staff from the Ministry of Water and Environment (MWE), Global Consulting Services and the media houses, who trailed and participated in walking throughout the trek.

Key highlights of the activities along the route.

Dates and Stopovers	Activities
Day 1, 9th March Lubigi Wetland, Wakiso district.	After the walkers were flagged off by the Minister of Water and Environment, Hon. Sam Cheptoris, the walkers footed for approximately 20kilometers from the head office of MWE to Lubigi Wetland, Wakiso district. At Lubigi wetland, there is a washing bay, a lorry pack, market and temporary constructions and all activities have heavily encroached on the wetland. According to the DWO, out of 996 hectares, over 200 hectares have been encroached on. The community was told about the benefits of protecting the wetland and were called upon to cooperate in the process of restoration of the wetland. Present also were representation from the MWE, representation from Buganda Kingdom and people from within the community (taxi operators, food vendors, roadside sellers, nursery bed attenders). Ceremonial tree planting activities were carried out.
Lwamunda Central Forest Reserve, Mpigi District.	The second stop over was at Lwamunda Central Forest Reserve, Mpigi district, approximately 20kilometers from Lubigi. Here, the forest reserve has been encroached on by the community members seeking firewood, charcoal and farm lands. The community was sensitized about the dangers of destroying forest reserves and the efforts done to restore these forest reserves. Other activities included ceremonial tree planting in the degraded section. Present were: Representative from the MWE, DFO, Senior Forestry Marketing Officer, LC5, LC1 and the general community.
Day 2: 10 March Kiyinda Market, Mityana district.	The walkers started their journey of the second day of the walk from the offices of the National Forestry Authority, Mpigi district up to Kiyinda Mityana Market, covering approximately 40km. The main issues affecting the area was identified as increased volumes of waste being generated, hence un healthy environment. However, due to the COVID-19 containment measures, the local leadership avoided activities which would converge many people. As such, ceremonial tree planting was done at 3 spots along one of the main streets. The Deputy Town Clerk identified and assigned shop owners to take up the responsibility of ensuring that the planted tree seedlings grow by watering them. Bodaboda riders and shop retailers within the vicinity were among the onlookers.

Day 3, 11th March	The journey from Mityana to the next stopover in Mubende was the longest stretch of all the other trips, covering up to 90 kilometers. However, there were no activities scheduled for the third day. The walkers covered approximately 72km up to Kyenda, Mubende district.
Day 4, 12 March Kyampisi central forest reserve, Mubende district	<p>On the 4th day, the walkers covered over 20kilometers from Kyenda to Kyampisi central forest reserve, Mubende district where the district had organized an awareness raising activity.</p> <p>Like most forests in Uganda, Kyampisi CFR has been encroached by communities and this has interfered with the forest species structure, diversity, and most importantly it has affected the potential of the forest to provide the much-needed forestry goods and service to the population. Present were the RDC, the LC5, DFO, staff of Mityana Local government offices, representatives from INBAR and the community. Speaking to the community, both the RDC and the LC5 affirmed to the importance of conserving the environment and highlighted the contribution of wild life to forest ecosystems. The community was sensitized on how to live in harmony with wild life. Some of the community members showed interest in acquiring bamboo for planting in the communities.</p> <p>The walkers then proceeded from Kyampisi CFR for approximately 20kilometers to Nabingoola, Kyegegwa district.</p>
Day 5, 13th March Rwensambya Central Forest Reserve, Kyegegwa district.	<p>From Nabingoola, the walkers trekked for about 26kilometers to the first stop at Rwensambya Central Forest Reserve. The main concerns of Kyegegwa district include: Water crisis with no piped water, the only natural forest within the district (Rwensambya CFR) has all its trees cut down and poor garbage management in Kyegegwa.</p> <p>Kyegegwa was also where the walkers spent the weekend, which was packed with activities.</p> <p>At Rwensambya CFR, there were consultation exercises between the leadership of Kyegegwa and the communities concerning the local challenges and possible solutions, sensitization on mixed farming of trees and food crops and the best crops to plant in between the trees. The community and invited guests were involved in mass tree planting of indigenous species of trees. Over 100 tree seedlings were planted.</p>
Kyegegwa town council	<p>It took the walkers approximately 10km to walk from Rwensambya to Kyegegwa town council. At Kyegegwa town, the walkers and local leaders were involved in cleaning of Kyegegwa town along the main road and market area. Exhibitions of wildlife preservations and awareness on environmental conservation were held on the community open grounds.</p> <p>The Lead walker, Mr. Geoffrey Ayeni later joined a radio talk show on BRITOP fm, to create awareness about environmental challenges and mitigation measures to the community.</p> <p>The first day of day 1 at Kyegegwa had the following guests present at both functions: RDC, MP elect –Kyegegwa, Woman MP elect - Kyegegwa, Chairman LC5, District Natural Resource Officer, Representative from CAO, Other staff from the Mityana local government, Representatives from the DISO and/or police, Partners - UWEC, UN and People from the community</p>
Day 6, 14th March Local church, Kyegegwa district.	<p>Day 6 was the second day at Kyegegwa. Being a Sunday, the walkers attended a local church service in one of the villages. The choice of church was inspired by the fact that the church had its roof blown off by the wind because of its location at the top of the hill whose surrounding had all its trees cut off.</p> <p>The congregation led by the priest, the MP-elect, the woman MP elect and the walkers planted trees around the church. Additional over 200 tree seedlings were given to the</p>

	<p>congregation to go and plant in their homes.</p> <p>Other activity that took place while at the church was a fundraising exercise towards replacement of the church roofing and completing the rest of the building.</p>
Day 7, 15th March Matiri trading center, Kyenjojo district.	<p>On their way to Kyenjojo, the walkers made a brief stopover at Matiri trading center where they were joined by the community and had a ceremonial tree-planting activity. They were later joined by a group of four young men to participate in the foot-walking exercise, with the hope of reaching Kasese.</p>
Umbrella of water and sanitation offices, Kyenjojo.	<p>Approximately 55km were covered from Kyegegwa to the next stop over at the Kyenjojo offices of Umbrella for water and sanitation. Poor garbage collection and management which in turn pollutes the water resources in place and water crisis were identified as the main challenges facing the district.</p> <p>The walkers and the local leadership were involved in garbage collection around the Central Business Division, through the main street and highway to the local government offices where ceremonial tree planting took place. The event was concluded by remarks from the CAO, RDC, and Manager - Umbrella for Water and sanitation and Lead walker.</p>
Day 8, 16th March River Mpanga bridge, Fortportal	<p>From Kyenjojo to Fort Portal, a distance of over 50km was covered. Like Kyenjojo and Kyegegwa, Kabarole is equally water stressed, is faced with poor garbage collection and management and there has been encroachment on river Mpanga.</p> <p>In Kabarole district, the first phase of the activities was done on arrival while the second phase was done the following day during the water celebrations by the Ministry of Water and Environment regional office.</p> <p>On arrival, an awareness match along the main street, led by the band was done as a way of creating awareness about the UWEWK2021. The walkers later joined an ongoing school debate where students from 6 schools were debating on the topic “water, environment, climate change and public health”. The lead walker, Mr. Ayeni was later invited to award certificates of excellence to selected outstanding students involved in environmental protection.</p> <p>Other activities for the day included participation in a press conference organized by the Tooro Kingdom, ceremonial tree planting around the parliament of Tooro kingdom and a Dinner organized by the Regional offices of The Ministry of Water and Environment. Present in these events were: RDC, the Prime Minister of Tooro Kingdom, the Minister of tourism - Tooro kingdom, the Minister of lands - Tooro kingdom, the management of regional offices - ministry of Water and Environment, the staff of regional offices - ministry of Water and Environment, educators/teachers, the press /media representatives, students and the communities (vendors, bodaboda riders and other business men/women)</p>
Day 9, 17th March	<p>The second day of the activities started at 8am up to 1pm. The day started by cleaning of the Mpanga Market area, Mpanga river surroundings around the market area and part of the town. Demonstration of how the water quality mobile laboratory functions took place at the market. There was sensitization of the community on the importance of cleanliness of the market and river Mpanga and conservation of the environment</p> <p>The Right Rev. Bishop of Fort Portal Diocese Robert Muhirwa Akiiki was the guest of honor and chief cleaner. Other delegates present included: Political commissar Lt Col Steven Tayebwa, LCV, OC Prisons, chairperson of the market, UPDF leaders, UPDF staff, Uganda police, prisons staff, students and the community (Market vendors, Bodaboda business men & women, passers – by). Also present were representation from: Caritas, Tooro botanic, CARE, IRC, Amref, AAID, HEWAS, Albertine, the media and the Walkers Association of Uganda among others.</p>

Bunyangabu Local Government, Bunyangabo district.	From Mpanga, it took the walkers 16km to their next destination which was Bunyangabo local government offices. Here, according to the CAO, the area suffers from floods and landslides. Ceremonial tree planting was done at the local government office premises by the CAO, representative from the water department, representative from the forestry department, the lead walker and the only lady foot walker in the team.
Day 10, 18th March Hima Town council, Kasese	<p>The journey from Bunyangabo took approximately 28km to Hima town council. Destruction of the wetland around Hima town council and Water crisis were identified as the major challenges facing Hima town council.</p> <p>An awareness match from the Hima town council through the highway to the wetland was done. This was followed by planting of the Bamboo grass by the walkers, the community and staff of the local government in efforts to restore the wetland.</p> <p>Present during these activities were: The mayor of Hima, the town clerk, representatives from the wetlands department, the media and the walkers</p>
Day 11, 19th March. Kasese local district offices	<p>An approximate distance of 20km was covered from Hima town council to Kasese local district offices.</p> <p>The CAO welcomed the walkers to Kasese district and appreciated their effort in contributing to creating awareness about climate change. He also thanked the team for choosing Kasese as the main district as it is facing challenges which need solutions. The local leadership had organized a band for an awareness match around Kasese town.</p>
River Nyamwamba, Kasese district.	<p>The band, the walkers, the local leaders of the district and the community joined the awareness match of about 3km from the district to river Nyamwamba where there was mass planting of bamboo grass along the banks of river Nyamwamba.</p> <p>Over 200 bamboo grass seedlings were planted at the time.</p>
Final Stop: Mayor's garden, Kasese	<p>The awareness match then continued for approximately 3km from river Nyamwamba to the Mayor's garden where the main closing event took place. Flash floods of River Nyamwamba, causing mass destruction of property, water crisis and other environmental hazards are among the main challenges the district is battling.</p> <p>The activities in Kasese district included: Planting of the Bamboo grass in on the banks of river Nyamwamba Awareness walk from the Kasese district offices through town to the Mayor's garden Inspection of the exhibitions by invited guests Poems from schools Songs from schools Dialogue on water resources mgt (press, Caritas Kasese, IRC,) Speech from the CAO Speech from the RDC Presentation by the prime Minister of Rwenzuru kingdom Entertainment from umbrella of water, western</p> <p>At the closing event, in attendance were: LC1, RDC, Deputy RDC, the mayor, DISO, CAO, team from MWE, team from international water and sanitation, team from the district, Kilembe investments, 7 schools, assistant commissioner, prime minister of Rwenzuru Kingdom, walkers, educators, the community, water for people, umbrella for water, representative of the commissioner for water and environment, western region and assistant commissioner directorate of water among others.</p>



Figure 2: Plate 1&2: Walkers trekking the journey to River Nyamwamba Catchment, Plate 3: One of the stopover with awareness raising of the state of public health with respect to COVID-19

The walk was concluded by a grand celebration which brought together students from both secondary and primary schools, the community, kingdom leaders, politicians and many others at the Mayor's garden, Kasese district.

2.1.6 FlipFlopi Lake Victoria Expedition

Flipflopi, the world's first sailing boat made from 100% recycled plastic, joined forces with the UN Environment Programme's Clean Seas Campaign to embark on an expedition by sailing around Africa's largest freshwater, Lake Victoria. The voyage sought to send an urgent message to the East Africa community on the need to end the unnecessary single-use plastic scourge that is threatening the region. Since Lake Victoria supports 40 million East Africans, through food supply and livelihoods, symbolises the catastrophic effects of human activities and climate change, among other issues, resulting in significant water pollution which threatens the health and livelihoods of communities. The Flipflopi showcased alternative uses of plastic waste and the possibilities of circular economy approaches. Over a three-week period, Flipflopi sailed from Kisumu, Kenya to several locations in Uganda and Tanzania, raising awareness and inspiring communities to adopt circular-waste solutions to beat plastic pollution (UNEP).

The Flipflopi local events in Uganda

In Jinja, the source of the Nile, the Busoga kingdom rules, key stakeholders were brought together to focus attention not only on the issue of plastic choking the lake and Nile Basin, but on what can be achieved through bringing in circular business models to communities. Notable moments here included huge turnout by local change makers and the young scouts on a plastic pollution protest and a circular economy market.

On beautiful Bugola Island, a small fishing community sitting in the middle of a protected area, a practical recycling workshops demonstrating how they could make valuable things from the trash washing up daily on their island was done. The community was shown how to make Eco bricks that can be used to build houses, and fabric from the simple act of ironing plastic bags. Without waste management systems, demonstrating that plastic has a second life to community members is one small step on the road to positive engagement with the issue.

In Kampala, the capital city of Uganda, the most ambitious programme of events to date on Flipflopi expeditions was run. Several events were held. At highly polluted Ggaba beach highlighted ongoing efforts including meeting local artists like Navio, Sandra Suubi and Arinaitwe Peter, each making social impact through their art. The urgent need for and power of 'activism' to engage young people was recognised. A network of activated change-makers who will be sure to make inroads was created.



Figure 3: Plate 1: Children displaying stopping single use campaign placards; plate 2: showing some products from recycled plastics

Kampala the seat of the Buganda Kingdom, high level support and engagement at the main Kampala event from the Queen of the Buganda Kingdom herself, the Nnabagereka, as well as the Ugandan, UK and French governments and the United Nations pledging their support and signing the petition calling for an end to unnecessary single-use plastic in the East African community. With the Queen's continual involvement in the campaign, it is hoped some bigger policy changes could soon be on the horizon.

In suburban Entebbe, recognizing the key to engagement is through bringing solutions, a colourful event that centred on an eco-market, plastic boat building competitions and flipflop presentations to inspire the next generation were held.



Figure 4: Plate1: The Nnabagereka of Buganda Kingdom inspecting the FlipFlop dhow at Munyonyo Pier Plate 2: The FlipFlop Dhow sailing through the waters of Lake Victoria Plate in March 2021

Going forward

Flipflop expeditions are really giant campaigns to bring people together that have the power to affect long lasting change. There is need to keep the momentum going: to continue to lobby policy-makers to follow through on their commitments, to continue to support artists and musicians to engage the next generation, and to bring the innovative practice of recycled plastic boat building into communities.

2.1.7 Forest Dialogue

On 21st March, since 2012, the world celebrates the International Day of Forests (IDF). This global celebration of forests provides a platform to raise awareness about the importance of all types of woodlands and trees and to celebrate how they sustain and protect us. Every year on International Day of Forests, countries are encouraged to undertake local, national, and international efforts to organize activities involving forests and trees. The global theme for the International Day of Forests 2021 was “Forest Restoration: A path to recovery and wellbeing” in commemoration of this day a high-level dialogue was organized by the Food and Agriculture Organization of the United Nations (FAO) and the Ministry of Water and Environment. The event aimed at calling for action to address issues related to deforestation, forest restoration, and environmental degradation. It took place on Thursday 18 March 2021 at Kampala Serena Hotel. The following recommendation were made:

- Build and strengthen partnerships for forest conservation
- Review food production systems to curb the forest cover loss arising out of commercial farming
- Put in place a clear monitoring system for tracking forest restoration efforts of government and other actors
- Support government in tracking and monitoring the interventions towards the Bonn challenge target
- Make continuous research to strengthen the information base of government
- Building capacity for monitoring, tracking and jointly corporate with partners in supporting decision making.

2.1.8 Buganda Kingdom mini open day exhibition at Bulange, Mengo

As part of UWEWK 2021, Buganda Kingdom organised an open day mini exhibition on the 12th March 2021 at Bulange Garden in Bulange Mengo, Kampala. The focus was to bring communities and local leaders to one table to discuss and share best practices in reducing plastic waste, keep and conserve water but also promote conservation traditional best practices that make Buganda’s identity. The key issues highlighted during the event included alternative building, climate smart agriculture, proper waste management, artisan recycling and alternatives, conservation and heritage as well as green energy.



Figure 5: Ministry of Water and Environment staff and Buganda Kingdom Officials during the exhibition

2.1.9 Running out of Trees campaign

The Ministry of Water and Environment in collaboration with Uganda Breweries Limited organised the 2021 edition of the Running Out Of Trees (ROOTs), an annual event which involves a series of activities aimed at restoring Uganda's diminishing tree cover. In a span of one year, 40 million trees will be planted. During this launch, the Speaker of Parliament of Uganda Hon. Rebecca Kadaga implored everyone to walk the talk when it comes to preserving and protecting the environment. She called on leaders to lead by example and ensure that environmental degradation stops. The campaign is supported by ROOTs a mobile app to raise awareness and mobilize funds needed to procure, plant and maintain the 40 million trees across the country. Members of the public contribute UGX 1,500 via the mobile phone app. This cost caters for seedling, facilitating the planting exercise, manning the tree until it is at a stage where it can survive on its own and for paying tree adoption, the company that is responsible for continuous monitoring and evaluation of this process. The campaign is a 5-year project with the aim of working together to fast track National Forest Restoration Goals and Commitments which includes a plan to restore 2.5 million hectares of degraded landscapes by 2030.

3.0 MAIN EVENT ACTIVITIES, UWEWK 2021

This section presents the main event and celebrations of UWEWK2021 which was held both online (virtual meetings) with the main physical event taking place within the Ministry of Water and Environment Headquarters, Luzira and National Water Training Center. It covers the activities from the opening ceremony (Sunday 21st March) to the closing ceremony (Friday 26th March). At a glance, it included six keynote addresses, six dialogues, 65 paper presentations categorized as practice, policy, science inclined to the theme and/or sub-themes, five applied trainings, four virtual field visits based on the theme and sub-themes and nine side-events.

3.1 Formal Opening Ceremony

The opening ceremony was held in the auditorium of the Ministry of Water and Environment headquarters on Sunday March 21st 2021 from 2:00 pm - 5:00 pm and was telecast live on both Uganda Broadcasting Corporation (UBC) and NBS television stations. The Chairperson National Organizing Committee remarks were preceded by a video clip highlighting the events of the previous UWEWKs and flowing into the overall theme of the 4th UWEWK2021. This was followed by remarks on the international days (World Water Day, World Forest Day and World Meteorological Day) celebrations given by Ms. Rosa Malango, the United Nations Resident Coordinator, Uganda, this was followed by opening remarks by the Minister for Water and Environment presented on his behalf by Dr. Florence Grace Adongo the Director Water Resources Management Ministry of water and Environment. The event was formally opened by the Guest of Honour, the Minister of Water and Environment on behalf of the Prime Minister of Uganda, Rt. Hon. Ruhakana Rugunda. Besides the live telecast the event was live streamed on various social media and virtual meeting platforms like Facebook, and Zoom etc. This was then followed by the keynote address on the overall theme of the 4th UWEWK2021.

3.1.1 Keynote address on the overall theme for the UWEWK 2021

The Keynote address presentation on the overall theme was made by Prof. Ken Strzepek from Industrial Research Institute, Massachusetts Institute of Technology (MIT) in United States of America. He highlighted the role of water and environment security plays in Uganda's social economic transformation.

Summary Outcomes, Key Messages and Recommendations from the Key Note Address

The key goal of NDP3 is to increase the average Ugandan Household incomes and equally improve the quality of life of the citizens. The catalyst for this is through industrialisation. Successful industrialisation of the economy is a path to generate income however it is a threat to the environment. Up to 3.5% decrease in GDP is due to poor water management and pollution.

GDP increase by 9% can be realised through increasing investments in water and environmental resources.

Uganda should do things differently;

1) Investments

- All ministries should work together to put together investments in water and environment. Uganda needs to take a different path, allocate budgets for investments in water resources management and development, use creative innovations and technology in water supply and build smart cities.
- Smart water infrastructure is needed to address natural disasters and use smart systems in managing environmental resources.

2) Managing shocks

- GDP is produced by two factors that is capital and land. Capital includes infrastructure which is threatened by environmental shocks. Encouraging Nature based solutions towards flood control is critical. Enhanced flood control can bring about 190bn dollars to GDP for Uganda.
- Increased investment in the Kampala metropolitan Flood control Program will lead to 4.2% increase in the country's GDP in 20years.
- Investment in water security and controlling disasters like floods is key in increasing national GDP.

Take home messages

- Environmental sustainability is a requirement, not an option. We have to move to things like industrialisation if we want to make Uganda grow but doing it sustainably.
- Resources are needed to invest in developing water and environmental resources.
- Limited available resources should be used sustainably.
- Proper coordination and planning.
- Use evidence based decision making supported by data.
- Communicate research findings to policy makers in a simple language that can easily be understood

3.1.2 Dialogue on the overall theme for the UWEWK 2021

A dialogue focusing on the overall theme for the UWEWK 2021 ***“Water and Environment security for socio-economic transformation of Uganda”*** was held. The panellists included: Ms. Elsie G. Attafuah- UNDP Resident Representative for Uganda, Dr. Florence Grace Adongo - Director, Directorate of Water Resources Management Ministry of Water and Environment; Mr. Ramathan Ggoobi - Lecturer, Makerere University Business School; Hon. Mariam Mayanja Nkalubo - Minister of Lands and Environment, Buganda Kingdom; Prof Alex Ariho - Director General, Excel Hort Consult Agribusiness Incubator; and Ms Blick Carol Gloria- National Coordinator, Youth Go Green. This was moderated by Mr. Charles Odongtho of UBC and Ms. Josephine Karungi a Media consultant.

Summary Outcomes, Key Messages and Recommendations from the Dialogue

- Uganda's development is nature based, 68% of Ugandans depend on agriculture and are seeking development that eliminates poverty. Water is connected to various sectors like agriculture and energy. These two rely on water and environment resources. Tourism exists because of water. The country's development agenda largely lies on water resources.
- The trade-offs between environment and development have to be managed. Though the trade-offs can't be now, as the plan to do so takes shape, there is need to make sure that the future is greener.
- Consider other services water and environment resources provide like clean water and treating waste as part of advocating for their protection and funding.
- Look at innovative funding like engaging the private sector and creating tax incentives and dis incentives
- Policy shifts: we need to look at how other sectors consider environmental management issues in their practices
- Smart planning for the newly created cities should be coordinated with many stakeholders

especially taking natural resource governance as central to the growth of these cities. Also offer incentives for the cities and actors who take actions regarding to environmental management like tree planting.

- Invest and provide incentives and to use technology in managing natural resources.
- Establish a monitoring system to have good data and information for evidence-based decisions. To fully understand the contribution of water and environment resources
- Shocks are linked to environmental degradation and thus better management of environment will increase resilience to shocks
- Two out of every three jobs in the world depend on water and environment resources it should be prioritised in development, however, it is quite difficult to attract more funding to water and environment sector whose deliverables are not tangible compared to roads in ministry of works and the hydropower dams in energy. Most of the initiatives of the sector are not linked with clear funding mechanisms, effective communication on the contributions of the sector to the economy is needed
- Come up with new skills for the youth through Water and Environment resources incubation. We must invest in sustainability of our environment through giving skills and opportunities to our population. Thus business incubator for water and Environment is key for Environment sustainability.
- Coordinated approaches and harmonization of strategies in different sectors is needed and Create Platforms that brings all people together during planning
- Support skill and talent development in regards to innovations for protecting the environment.
- Implement polluter pays principle and ensuring of environment standards in all projects
- Engage cultural and religious institution in behaviour change campaigns to create better stewardship for water and environment resources

3.2 Monday-Day Two: valuing water and environment security for socio-economic transformation of Uganda

Day two had one session in the morning on Sub-theme 1: valuing water and environment security for socio-economic transformation of Uganda and panel discussion on the same; while the afternoon had four parallel sessions of: paper presentations, Virtual field visit WASH in the refugee context- Delivering services beyond humanitarian response- Australian Development Agency; Applied training: Natural Resources Based Business and Entrepreneurship; Climate Smart Aquaculture by Makerere University; and a side event Green Climate Fund Wetlands Project – United Nations Development Program (UNDP). The moderator was by Ms. Sophie Kutegeka Country Director International Union for Conservation of Nature (IUCN). All the sessions were relayed to the participants via zoom and with limited physical participation.

3.2.1 Dialogue on Water and Environment Security for inclusive- growth

Starting the day was a dialogue#1 on the sub-theme- valuing water and environment security for socio-economic transformation of Uganda. The keynote presentation was done by Dr. Oliver Greenfield, Global Convener- Green Economic Coalition, UK. This was followed by a panel discussion involving a number of panellists that included: Mr. Ronald Kagwa- Manager, NPA; Dr Arthur Bainomugisha- ED ACODE; Mr. Cornelius Kazoora- Consultant; Mr. Dean Muruven - Global Freshwater Practice Lead - WWF International;

Dr Florence Adongo - Director, DWRM - This culminated into an online/virtual-discussion and feedback from the public on the sub-theme.

3.2.2 Session 1: Valuing Water and Environment resources for socio-economic transformation

Paper presentations on policy, practice & science on the day's sub-theme of valuing water and environment security for socio-economic transformation. This was then followed up by a planetary discussion on the same sub-theme. A total of 12 paper presentations were made by different sector stakeholders during the parallel session held on March 22nd, 2021 from 2pm – 5pm. The different papers presented are shown in the annex.

3.2.3 Session 2: Applied training: Natural Resources Based Business and Entrepreneurship: Climate Smart Aquaculture

Applied training: Natural Resources Based Business and Entrepreneurship; Climate Smart Aquaculture facilitated by Makerere University. During the training participants learnt about opportunities from aquaculture, understanding aquaculture, understanding aquaculture business, appreciating aquaculture, challenges in aquaculture, aquaculture in wetlands, and aquaculture on a dry land. It was noted that Africa needs to double effort to match the global fish demand. Currently Africa contributes 13.3% to the Global fish capture, East Africa contributes 2.5% to global aquaculture. The target is to get 30.3% from East Africa, and 18.5% from Uganda in particular to match the market demand. Climate change is a major reason for the dwindling fish and aquatic production in the country. Thus farmers need to adopt temperature tolerant fish species to favourably compete in fish production. Also they need to embrace Aquaponics –the growth of plants and fish at the same time. This strategy works in a way that the waste from aquaculture is used up by the plants in form of nitrogen and phosphorus and vice versa.

3.2.4 Session 3: Virtual Field visit: WASH in the Refugee Context – Delivering services beyond humanitarian response

The Austria Development Agency (ADA) organized a session on the 2nd day of UWEWK 2021 under the title, WASH in the Refugee Context – Delivering services beyond humanitarian response. During the session, a video documentary was aired showing the impacts made through the European Union Trust Fund (EU-TF) WASH project which aims at providing sustainable water and improve environmental conditions for refugees and host communities by setting durable solutions to the water and sanitation needs. The project is implemented by the Austrian Development Agency (ADA) in collaboration with the Ministry of Water and Environment's Water and Sanitation Development Facility- North located in Lira. The project had a budget of Euros 4,900,000 and covered eight refugee settlements and their host communities in the five districts of Adjumani, Madi-Okollo, Yumbe, Terego and Kiryandongo. The session also included a panel discussion which included panellists from AFD, GIZ, Northern Umbrella Water and Sanitation, NWSC, UNHCR, World Bank and WSDF who shared what they were contributing to within the project and the milestones reached.

3.2.5 Session 4: Side Event Public Private Partnership Approach for accelerating access to Water and Sanitation in Uganda

This side event was proposed by national Water and Sewerage cooperation though it did not take place. Future date will be communicated for this session.

3.2.6 **Session 5: Side Event: Harnessing Resilient Ecosystems; Green Climate Fund Wetlands Project**

This side event was organised by UNDP. It presented a platform for sharing knowledge on the significance of wetland restoration based experiences under the Green Climate Fund Wetlands Project. It showed that Government of Uganda designed a wetland restoration project under the presidential initiative implemented by Ministry of Water and Environment, Ministry of Agriculture, Animal husbandry and Fisheries (MAAIF) AND Uganda National Development Program. The Building resilient communities, wetlands ecosystems and associated catchment projects has demonstrated that the sustainable use of wetlands lays a strong foundation for ensuring water and environment security. A video was played showing outcomes from the project which is implemented in 12 districts in Eastern Uganda and 24 districts in Western Uganda and it focuses on restoration of degraded wetlands, supporting target communities to reduce the risks of climate change on agricultural-based-livelihoods, providing weather and climate information and empowering communities in risk reduction and preparedness to climate-related disasters. This project that started in 2017 and is planned to end in 2025 with a total of 800,000 target primary beneficiaries in and around wetlands and 3,946,366 secondary beneficiaries. It covers a total land area of 13,000sqkms with a budget under the Green Climate Change of US\$ 44,262,000.

3.2.7 **Summary outcomes, key messages and recommendations from the session**

Summary Outcomes, Key Messages and Recommendations from the Sessions
Uganda has been known to rely on rivers for survival and need to know how many water users rely on rivers for survival. In addition, we need to encourage farmers restore natural system.
Pay or have incentives for farmers to plant trees and conserve environment because trees keep rivers flowing and sustain the river discharge
60% of the rainfall Uganda receives is by global circulation while 40% is contributed by other ecosystem or our natural capital. It is therefore key to implement our green development strategy to increase our contribution of our ecosystems to rainfall formation
Social- economic transformation requires proper management of both social and natural (environment) capital with resilient infrastructure. This can lead Uganda into middle income country and achieve her development plan
Dependency on water and environmental resources has to be integrated in our national planning. This is key in harnessing water and environment resources.
Our security as a country depends on how we manage our natural resources for the present and the future generations. It is important to note that budget allocation is apolitical tool and as sector we need to position ourselves well to lobby for more resources.
Strengthen enforcement of our laws and standards is still required and politics should be removed in protecting our environment since its destructions affects all of us.
Score card should be applied to motivate and challenges sectors and districts in regards to conserving water and environment resources.
Strengthen water institute support research component to justify for funding in the sector
Building resilient refugee communities and engaging various stakeholders is key in transforming refugee communities
Beyond the different levels of value chain, a lot of different people can get in the natural resource business related to aquaculture
Climate change is modifying the productivity of freshwater aquaculture species. This has impacts on the sustainability of aquaculture and on the sustainable livelihoods of the communities that depend on it

Climate information should be localized (specific weather conditions and local language) to address the local needs

Indigenous knowledge on weather and climate should be integrated with scientific forecasts in order to improve the uptake of climate information

3.3 Tuesday-Day 3: Water and Environment in a Creative Economy

The day had one session in the morning which was dialogue and panel discussion on sub-theme #2 on: Water and Environment in a Creative Economy. In the afternoon, there were five parallel sessions of Paper presentations; Applied Training, virtual field visit and side events.

3.3.1 Dialogue on Water and Environment in a Creative Economy

The day started with a single morning session on the dialogue: Water and Environment in a Creative Economy. This started with a Key Note Presentation: "Water and Environment in a Creative Economy" by the Key Note Speaker: Dr Nagaraja Rao Harsh, Global Lead – Disruptive Technology, World Bank, USA. Thereafter was the panel discussion by: Dr. Stuart Worsley - Green Economy Coalition, Countries Programme Director; Dr Daisy Owomugasho - Country Director, Hunger Project; Mr. Gideon Badagawa- ED Private Sector Foundation; Mr. Peter Kuria- Director Innovations and Business Incubation, Mr. David Duli-Country Director, WWF Uganda Country Office The panel, plenary, discussion and feedback were moderated by Ms. Jane Nabunnya Mulumba Country Director IRC.

3.3.2 Session 6: Water and Environment in a Creative Economy Paper Presentation

Policy, practice and scientific paper presentations were made by different sector stakeholders during the parallel session held on March 23rd, 2021 from 2pm – 5pm under the title, Water and environment in a creative economy. This was also followed up by a planetary discussion on the same sub-theme. See annex for details.

3.3.3 Session 7: Applied Training: Natural Capital Accounting in Uganda: Introduction for Decision Makers

Applied training on Natural Capital Accounting (NCA) in Uganda as an introduction for Decision Makers by the Ministry of Water and Environment Department of Environment Affairs was conducted. It focused on data, requirements for NCA and shared experience on how to improve NCA to influence policy, manage natural resources and show contribution to GDP (Gross Domestic Product). It was highlighted that NCA takes into consideration environmental resources benefits and stocks. NCA is justified by the fact that natural resources are key in production process and also provide ecosystem services. Therefore nature provides almost everything for economic growth

3.3.4 Session 8: Side Event: Addressing Climate Change impacts and their causes towards sustainable water and environment resources management and use

UWASNET organized a regional learning and sharing regional meeting on Climate Change under the theme, 'Addressing Climate Change impacts and their causes towards sustainable water and environment resources management and use; case studies from Kenya, Tanzania and Uganda'. The meeting aimed at facilitating deliberations on Climate Change and inform CSOs' participation in the Africa Climate Change Week planned for September 2021. It attracted over fifty participants. This meeting was

organized in partnership with Ministry of Water and Environment's Climate Change Department, CIDI, KEWASNET, Global Water Partnership Eastern Africa (GWPEA) and the Zambia NGO WASH Forum shared case studies on Climate Change mitigation and adaptation.

The keynote address highlighted progress and risks related to climate change. Pointing out three major areas of intervention for sustainable impacts on climate change programmes namely; promoting partnerships that ensure access climate finance, Integrated Water Resources Management (IWRM), providing knowledge tools for a sustainable natural resources management and promoting transboundary cooperation and gender transformation approaches and implementation of presidential directives e.g., in Uganda -not to degrade wetlands. Key to note were:

- Fresh waters are at risk from changes in land use, over abstraction of ground water, diversion of rivers and lakes and increased pollution.
- Climate Change risks affect women and girls' livelihoods as households are rampantly affected by floods. There agricultural sector is affected by drought which poses difficulties for local people.
- Different climate change policies that provide institutional and legal frameworks for climate change mitigation and adaption exist in Uganda though not adequately implemented

Therefore there is need to fast track supportive policies and regulatory frameworks that protect the environment from degradation. This requires both public and private investments in climate smart research, data and technologies.

3.3.5 Session 9: Virtual Field visits: Rain Water harvesting from rock outcrops and Bamboo utilization, possibilities and potential to improve livelihood, to restore land and mitigate climate change

RAIN (a brand of Aidenvironment), is implementing the 'rock catchment' initiative to improve the availability of drinking water for communities in Agago District in northern Uganda. It showcased One of the pioneer project is the Akwang rock catchment in Paimor Sub county. The rocky soils in the district make it difficult for the communities to access groundwater where boreholes can be sunk. Under this initiative, run-off water from the surface of a rock outcrop is channeled through gutters to a ferrocement tank (100,000 liters). Before it reaches the tank, the water is passed through a filtration chamber filled with sand and stones of varying sizes. From the tank, the water is piped to tap stands where it is made available to the community.

Presentation about bamboo utilization during the same session, noted that there is a growing need for bamboo in the country. "There is market for bamboo products with over 10000 uses utilized locally.

3.3.6 Session 10: Side Event: The value of safe water supply in healthcare facilities for socio-economic transformation

The side event profiled the silent issues on the socio-economic value of safe water supply, sanitation and hygiene in healthcare facilities. It was jointly convened by IRC Uganda and WaterAid Uganda, The attention was placed on WASH in Health Care Facilities looking at lessons from practice, research and recommendations for policy action. This event led to increased appreciation of the value of WASH services in Health Care Facilities as a key contributing factor for Sustainable Social Economic

Transformation, dialogue to generate quick wins for WASH improvement and strategic policy guidance from both Ministry of Health and Ministry of Water and Environment. Three presentations during the event were made: Preliminary assessment report of the status of Water, Sanitation and Hygiene (WASH) in healthcare facilities in the selected border districts- COVID-19 national response by MoH; IRC Uganda's support to Kabarole district towards improvement of WASH in HCFs; and Transforming health systems: the vital role of water, sanitation and hygiene.

3.3.7 Summary outcomes, key messages and recommendations from the session

Summary Outcomes, Key Messages and Recommendations from the Sessions
Disruptive technology involves use of green energy, sensor/IoT e.g. for soil moisture, printed infrastructure, apps, e-services and learning, etc. and all this could change development when used
Need to shift from a linear economy to a circular economy.
Stakeholder can key roles in the creative economy: CSO's can interface with communities, raise awareness and catalyse actions needed to utilise natural resources with new technology.; development partners can provide knowledge and financing in the creative economy
We should not wait to innovate. There is need to look at adaptable technologies that have the potential to transform communities but also easy to scale up
Multi-stakeholder engagement is key in green and creative economy.
Savings groups are effective last-mile solutions, easily pooling money and increasing willingness to pay for water
The CECF is a sustainable approach that can be scaled up and embedded into government, CSO and private sector programming to catalase restoration at scale.
Water works is viable and scalable with appropriate economic incentives, continuous community engagements, and responsible and reliable professional service provision.
There's still some gaps in data required for natural capital accounting which is an economic evaluation tool that simulates what the actual contribution of the environmental resources to the economy over a period of time
There is need to develop economic accounts at program level to be used for budgeting in annual work plans
The effective components of improving WASH in healthcare facilities are; research to inform effective practice, linking with health priorities, strong monitoring mechanism, citizen led accountability, adequate well-trained human resources and leader policies and standards

3.4 Wednesday -Day 4: Managing Water and Environmental Shocks

Day 4 of UWEWK2021 started with a single session in the morning focusing in subtheme #3. It involved a key note presentation, dialogue and panel discussion on: managing water and environment shocks. The afternoon had five parallel sessions on: Paper Presentations, Career Talk for Young Professionals; Applied Training on IWRM- a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction in Uganda –IIRR; Side Event: Climate Change Financing in Uganda-CSBAG and Official launch of the Natural Resources Stewardship Programme GIZ .

3.4.1 Dialogue#3: Managing Water and Environment Shocks.

The day started with Dialogue #3 on managing water and environment shocks. There was a Key Note Presentations by Dr. Musonda Mumba - Director, UNDP Rome Centre for Sustainable Development, Italy. This was followed up by a panel discussion on the same by: Dr Radhika Murti -Director, Global Ecosystems Management -IUCN; Dr Emmanuel Zziwa - FAO; Mr. James Collins Dombo -Ag. PS, OPM; Dr. Joshua Zake - Executive Director, Environment Alert; Dr Charles Wana Etyem - Warner Consultants; Mr. Collins Oloya - Director, DEA. The panel and plenary including the discussion and feedback was moderated by Dr. Patrick Musinguzi-Makrere University.

The keynote address highlighted the critical need to strengthen systems and leadership that curb deforestation and environmental degradation. “Deforestation and clearing of forests has brought diseases much closer to people because we have destroyed the homes of the animals, birds and primates. We have to be accountable for what we have done”. It was noted that 2021 has been declared as the UN decade of ecosystem restoration and that everyone has a role to play in conserving and restoring the environment. It was also noted that future predictions indicate pandemics will become the new normal

3.4.2 Session 11: Managing water and environment shocks - Policy, Practice & Scientific Papers Presentation;

One of the three parallel sessions in the afternoon was a Paper Presentations on Policy, Practice & Science around the sub-theme of the day. This was later followed up by a plenary discussion on the same. A total of 16 paper presentations, were made by different sector stakeholders during this parallel session. Key messages from the session are contained herein under section while some of the details are contained in the annex. The session was moderated by Dr Lawrence Orikiriza

3.4.3 Sessions 12: Career Talk for young professionals,

This was one of the three parallel sessions on the day and it was a career talk on harnessing the potential of youth in transforming the sector. Its aim was to give young professionals an opportunity to share challenges /barriers, their contribution towards improvement in the sector and learn about potential career opportunities in water and environment sector. It focused on harnessing the possibilities of youth for the transformation of the water, sanitation and environment sector. It was conducted online with a few participants present at National Water and Sewerage Corporation International Resource Centre (IREC). The session was moderated by Fiona Kayitesi and Brownie Ebal. The President of the Young Water Professionals Chapter. It noted that the youth need to bring in their different capacities, commitments and efforts and transform the water and sanitation sector.

3.4.4 Session 13: Applied Training: IWRM- a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction in Uganda – IIRR

The training was organized by International Institute for Rural Reconstruction (IIRR). It focused on building capacity of stakeholders in the water and related sectors to increase knowledge and on practical skills in mainstreaming linkages in climate change, Ecological Disaster Risk Reduction and Integrated Water Resources Management in projects/programs within a river basin/catchment management framework

3.4.5 Session 14: Side Event: Climate Change Financing in Uganda-CSBAG

The focus of the event was to identify what needs to be done to improve climate change financing since climate change is no longer an environmental issue but rather a global development and economic phenomena and concern that has to be dealt with. a number of recommendations as regards to climate change actions were made: earmark petroleum revenue to finance climate change interventions; Make it compulsory for sectors to

have a Certificate of Compliance (CoC) to Climate Change before receiving money from Government; Develop desirable climate finance accountability; and MoFPED to expedite finance budget tagging processes and update the national planning guidelines at sector levels.

3.4.6 **Session 15: Side Event: Official launch of the GIZ Natural Resources Stewardship Programme (NatuReS)**

During this sessions the Natural Resources Stewardship Program (NatuReS) was launched. The programme is being implemented by the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH with funding from the German Federal Ministry for Economic Cooperation and Development (BMZ), the European Union (EU) and FCDO. It is supported by partners that include: Ministry of Water and Environment; National Environment Management Authority; Kampala Capital City Authority; Gulu City Council; National Planning Authority; National Water and Sewerage Corporation in association with Uganda Manufacturers Association; Uganda Water and Juice Manufacturers Association; Private Sector Companies and Civil Society Organizations among others.

The program will embed lessons, enable sharing experiences, and give technical advice on natural resource stewardship. It will create and/or safeguard 20,000 jobs and secure investments of EUR 50 million by improving the management of natural resources. It will emphasize the stewardship approach to solve resource shortages and destruction of ecosystems increase social and economic risks.

Summary Outcomes, Key Messages and Recommendations from the Deliberations:
Meteorological information should be shared to the communities consistently so that they can act accordingly.
Kingdoms still use the indigenous knowledge which is helpful in determining climate change and incorporating this knowledge with the modelling knowledge can be key and helpful
System thinking and system leadership requires recognizing that all systems are connected. Therefore as we enter into green recovery and the UN decade, everyone has a role to play in making a change for the future we want.
Development of early warning systems which improve data process and gathering needs to be used as a basis for decision making.
Humans need water and environment to survive but water and environment do not need us to survive” it is thus our role to protect the environment.
If as Uganda we had focused on the prevention of the disasters by the different responsible sectors, then we wouldn’t be experiencing these shocks.
Some shocks and hazards are natural occurrences therefore, we have to plan well and devise mitigation measures.
There are very limited resources put to manage the water and environmental shocks in the government’s budget allocation to the sectors responsible for managing these shocks, hence adequate resources need to be put into these sectors and the government needs to prioritize these sectors that manage the environmental shocks
Unless we are able to reach the communities, majority of which are misusing the environment,

then it will be difficult to manage the shocks.

We need to establish a one stop centre to collect information and then come up with an integrated information system where all the information from the different sectors can be integrated and then disseminated to the different stakeholders

Operationalize the Polluter Pay Principle that is under the Environmental Act of 1995.

Recently it's estimated that the government will need US\$ 3-6 million annually to deal with climate change effects whereas inaction will cost 20 times more

3.5 Thursday Subtheme IV:-WATER AND ENVIRONMENT SECURITY FOR SMART URBAN GROWTH

Day 5 of UWEWK2021 started with a single session in the morning focusing on subtheme #4. It involved a key note presentation, dialogue and panel discussion on: water and environment security for smart urban growth. The afternoon had six parallel sessions on: Paper presentations; two applied training: (i) The Shit Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation service; (ii) Introduction to GIS Asset Mapping and Surveying 3 Side Events; (i) Trans boundary water cooperation focus on River Nile; (ii) Delivering Bonn Challenge Pledges in a way that benefits people and biodiversity and (iii) Official Launch of the WRI mentorship program for young and early career professionals in water and environment Sector.

3.5.1 Dialogue#3: Managing Water and Environment Shocks.

The day started with Dialogue #4 water and environment security for smart urban growth. There was a Key Note Presentations by Dr. Graham Alabaster, Head-UN Habitat Geneva. This was followed up by a panel discussion on the same. The panellist included: Eng. Amanyo- Deputy managing Director NWSC; Mr. Edward Kiwanuka- Town Clerk, Gulu City; Mr. Fridtjof Behnsen- Head of GIZ NatuReS, Tanzania; Ms. Dorcas Okalany- PS, Min of Lands; Ms. Chikondi Chabvuta - Regional Advocacy Adviser, CARE South Africa, and Ms. Jane Sembuche Mselle -Country Director, Water Aid Uganda. The panel and plenary including the discussion and feedback was moderated by Ms. Cate Zziwa Nimanya, Country Director Water for People.

The keynote address and panellists agreed that sustainable development cannot be achieved without significantly transforming the way cities are built and managed. The keynote address pointed out that Sub-Saharan Africa's large proportion of the urban population reside in slums, adding that two thirds of the population live in low income areas. Furthermore, the challenges facing urban growth are poor quality urbanization, extreme climate events, water stress, water scarcity, pollution and poor standards of sanitation and solid waste management. A new paradigm is proposed for low cost urban supply and sanitation where provision of water supply and sanitation in urban areas and large villages should be to groups of households and not to individual households these groups of households would form water and sanitation cooperatives. The key takeaway messages are summarized below...

3.5.2 Session 16: Water and Environment Security for inclusive-growth - Policy, Practice & Scientific Papers Presentation

A total of 14 policy, practice and scientific paper presentations, were made by different sector stakeholders during the parallel session held under the title, 'Water and environment security for inclusive growth details of these papers are in annex ...

3.5.3 Session 17: Applied Training: The Shit Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation service

The training on the Shit Flow Diagram (SFDs) and City Service Delivery Assessment (CSDA) tools for enhancing sanitation service delivery: an underlying stepping stone for sustainable urban growth was facilitated by Water for People and GIZ. Participants were trained to be able to apply the tools on a programme identifying data requirements for the development of SFDs and CSDAs, understanding the screen and how to enter data for the production of SFD and interpreting the SFD and CSDA. Participants were able to understand the importance of identifying policy and institutional frame conditions for service delivery, and how to start using the tools to develop an SFD and CSDA and learn from different authorities in Uganda on how the tools have applied to advocate for safely managed sanitation services.

3.5.4 Session 18 Side Event: Transboundary water cooperation focus on River Nile

This was hatched during the UWEWK 2021 parallel session on Transboundary Water Cooperation with a focus on River Nile. All countries where the River Nile passes are supposed to agree on the prevention, control and reduction transboundary impact as they use transboundary waters in a reasonable and equitable way. There is an agreement that has been so far signed by four of the six countries in East Africa. It was emphasized that there is need for transboundary countries on River Nile to cooperate. The UNECE (United Nations Economic Commission for Europe) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the Water Convention) promotes cooperation on transboundary surface and ground waters and strengthens their protection and sustainable management.

3.5.5 Session 19: Side Event: Delivering Bonn Challenge Pledges in a way that benefits people and biodiversity

This session explored Delivering Bonn Challenges pledges in a way that benefits people and biodiversity: the Ugandan model. It all started in 2015 UN conference in climate change where the President committed 2.5 million hectares of land to be restored by the Bonn challenge. The restoration efforts are ongoing of the 2.5mHa, 2mHa is degraded land and 0.5mHa is agricultural land. It was also important to focus on farm lands as well. A vision of restoration was added into Uganda 2040 vision and also integrated with in the NDP III targets. The target in NDP III is that reforestation programmes increase from 12.4% to 15% not forgetting they were only 9% in 1990. The Uganda model demonstrates that both biodiversity and livelihood benefits are possible and there is need to work with partners to shift the focus from non-native species and restore degraded areas using native tree species

3.5.6 Session 20: Applied Training: Introduction to GIS Asset Mapping and Surveying

Engineers without Borders USA and Women in GIS (WiGIS) Uganda held an applied training on introducing to GIS asset mapping and surveying.

3.5.7 Session 21 Side Event: Official Launch of the WRI mentorship program for young and early career professionals in water and environment Sector

As part of the UWEWK 2021, the Water Resources Institute (WRI) Mentorship Program for young and early career professionals in water and environment sector was launched. The launch was held at the Ministry of Water and Environment Auditorium at the Head Offices in Luzira. It was officiated by Ms. Jane Sembuche Mselle, the Country Director, WaterAid Uganda. The WRI-MENTORSHIP program is a career-development fellowship that seeks to mentor the women, young and mid-career professionals in water and environmental related fields of practice. A keynote presentation on Mentorship was delivered by Ms. Joyce Nakalema, Chief Human Resource Officer, Uganda Electricity Generation Company Limited, who said Mentorship was not a cost, but is meant to propel the organisation. It was noted that accelerated mentorship programme tracks what

is going on, provides an opportunity for growth, and brings together mentors, sponsors and peer networks, self-reflection and thus acceleration in growth. It was recommended mentorship to be for every organisation because it helps in Risk management, increases creativity, innovation, faster problem solving and better decision-making.

Summary Outcomes, Key Messages and Recommendations
Urban inequality in access to improved drinking water decreases dramatically when quantity, cost and time it takes to fetch water are taken into consideration
Community-based infrastructure-led planning is key from initial stages till the final stages of planning and development of urban cities
A new paradigm is proposed for low-cost urban water supply and sanitation, as follows: water supply and sanitation provision in urban areas and large villages should be to groups of households, not to individual households
For waste treatment, you have to get enough space for treatment. Recommended use of waste stabilization ponds because they are Simple to operate, robust, reflect current practices etc.
Understanding urban inequities is key to plan for improved WASH services, building on infrastructure-led slum upgrading.
The Lake Victoria water and sanitation Programme shows one way to ensure sustainable finance, reducing borrowing and moving from poorly functioning utilities to world class service levels, as has happened here in Uganda and neighbouring countries.
A great opportunity exists to completely rethink sanitation provision provided a flexible upgradable system with good cost recovery and good prospects for nature-based solutions and reuse
WASH education on proper and safe use of the toilets connected to the simplified sewerage system is vital to avoid system failure due to blockages, clogging and overflows.
We can't develop without stakeholders we must empower dwellers to participate in the developing the cities, support them economically and organise them in the groups.
Interventions are going to improve the livelihood of slum dwellers
Creative smart technology and early warning systems on solid waste management should be looked at
New innovations and efforts are still needed to support new cities in efficient use of water, control pollution and generate even power from waste. This will in conserving our water and environment resources.

3.6 Friday-Day 6: Concluding sessions and closing of the conference

The final day had three parallel sessions in the morning and a closing ceremony in the afternoon. The first morning session were Youth Debate; : UMA, MWE and GIZ and Virtual Field Visit: Enhancing Resilience of Communities to Climate Change Through Catchment Based Integrated Management of Water And Related Resources in Uganda – EURECCA and Pit emptying using the gulper technology; Makindye Division and Lubigi treatment plant.

3.6.1 **Session 22: Youth Debate**

Youth Go Green organized a National Youth Debate as part of Uganda with the theme Water and Environment Resources: Backbone for Youth employment and wealth creation. The debate took place at National Water and Sewerage Corporation offices and over 80 participants from different parts of the country attended. The debate underscored the role of young people in protecting and improving Water and Environment resources. The debate mainly focused on utilization of natural resources for sustainability, economic growth and livelihood security. The debate had three judges; Canary Mugume, Lucy Mega Munduru and Hillary Baine.

3.6.2 **Session 23: Physical field Visit: Pit emptying using the gulper technology; Makindye Division and Lubigi treatment plant - Water for people**

The virtual field visit about pit emptying using the gulper technology was presented by Water for People. It is known that 60% of the population in Kampala is in informal settlements and are not connected to sewerage lines hence depend on pit latrines. The municipal sanitation utility is only responsible for the sewer connections and does not provide any emptying or construction services for pit latrines. Without collection and treatment services, households often open their latrines during the rainy season to flush out untreated waste. The result is a polluted and deadly urban ecosystem. Three cholera outbreaks from 1997 to 2015 were directly linked to poor sanitary conditions. Consequently, Water for People research arm developed the Gulper 4 Technology. It is a portable vacuum pump that empties sludge from latrines into drums. The drums can then be safely transferred to larger tankers for disposal at treatment plants. This field visit showed how the Gulper is helpful because it can get to unplanned, less accessible areas that standard waste collection methods, like vacuum trucks, cannot reach.

3.6.3 **Session 27: Virtual Field Visit: Enhancing Resilience of Communities to Climate Change Through Catchment Based Integrated Management of Water And Related Resources in Uganda.**

The virtual field visit to the Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda (EURECCA) project was conducted. The Government of Uganda through the Ministry of Water and Environment and through the Directorate of Water Resources Management received funding from Adaptation Fund and Sahara and Sahel Observatory to implement the EURECCA project, in the Catchments of Awoja, Aswa and Maziba respectively. The overall goal of the project is to increase the resilience of communities to the risk of floods and landslides in Maziba, Aswa and Awoja Catchments through promoting catchment based integrated, equitable and sustainable management of water and related resources. The project showcased that climate change often manifests through too much water, causing floods, too little water causing drought and landslides and related challenges. Thus this project tried to help the people who are impacted by climate change to be able to live with the challenges climate change brings. Therefore under the project, 9 tree nurseries have been set up in the catchment areas to enable the communities' access good quality seedlings so that the degraded land is restored through afforestation. 18 women groups have been supported with skills and knowledge in cook stove production, marketing and business management, using clay, grass and water. It has also restored river banks of a number of highly degraded rivers. Communities along river banks are mobilized in cooperatives and assisted to access and plan tree seedlings along river

3.6.4 **UWEWK2021 wrap up and closing ceremony**

The fourth edition of the Uganda Water and Environment week ended on Friday March 26th, 2021. The week-long event attracted 2837 participants who participated virtually via Zoom and at the venue. It started at 2:00 pm to 4:00 pm. This two-hour event was both a face-to-face and an online/live TV-broadcast (UBC and NBS-

TV; ZOOM). It consisted of a panel discussion on the main summary & key messages from UWEWK2021. At 2pm, there was a 5-minute video showing the highlights from the previous days, followed by a presentation and panel discussion on the key summary messages from UWEWK2021. Finally, there were remarks by Dr. Florence Adongo, the Director, Directorate of Water Resources Management (DWRM) and Chair of the National Organising Committee (NOC); Mr. Alfred Okot Okidi, the Permanent Secretary, Ministry of Water and Environment on behalf of the Minister for Water and Environment and was closed by Hon Kibbule the state minister for Water and Environment. Herein are the details:

Speaking during the closing ceremony, Mr. Alfred Okot Okidi, the Permanent Secretary, Ministry of Water and Environment emphasized the need for partnerships to advance the goals of the sector noting that 85% of jobs globally depend on water directly and indirectly.

3.6.5 Summary of Uganda Water Environment Week 202

Speaking on behalf of the National Organizing Committee (NOC), Dr. Callist Tindimugaya, the Commissioner, Water Resources Planning and Regulation Department highlighted that the UWEWK attracted forty keynote speakers and panellists, sixty-five scientific, policy and practice paper presentations, applied trainings, side events, project launches, women and youth mentorship programs, career talks, youth debates and virtual field visits. Presented the key outcomes of UWEWK 2021 which are contained herein.

3.6.6 Panel Discussion on UWEWK2021 Key Messages

A panel discussion was held on the key emerging issues from the conference with the panellist drawn from a wide spectrum of eminent persons who included: Ms. Nadia Cannata, the Head of Section, Sustainable Development, European Union; Dr. Alexander Danilenko- Sr. Water and Sanitation Specialist, World Bank; Ms. Emma Mugisha, represented the Chief Executive Officer, Stanbic bank; Mr. Julius Mukunda – Executive Director CSBAG; Eng. Joseph Eyatu- Director-DWD. The key messages from this discussion were captured and incorporated to form part of the key outcomes, messages and recommendations from UWEWK2021. Some of the key messages by the panellists were:

- Establish an inventory of water users to track water usage so that it is not wasted.
- Invest in irrigation to increase food production. Currently Uganda irrigates only 18,000 hectares yet we have potential to irrigate three million hectares
- Prioritize the sector. Covid-19 was a blessing in disguise. It taught us that indeed charity begins from home. Uganda has money. We simply need to prioritize and put money where it is supposed to be.
- Sustainable financing for the water and environment sector should be taxed on private sector that contribute to environmental degradation.
- People and environment are inseparable. Uganda has an environment strategy, the best you can find and it has such a rich bio diversity that the potential of promoting them exists.
- Stanbic Bank's partnership with KCCA and Coca Cola collects used plastic bottles and the bank is supporting tree planting in schools as examples of actions from the private sector.

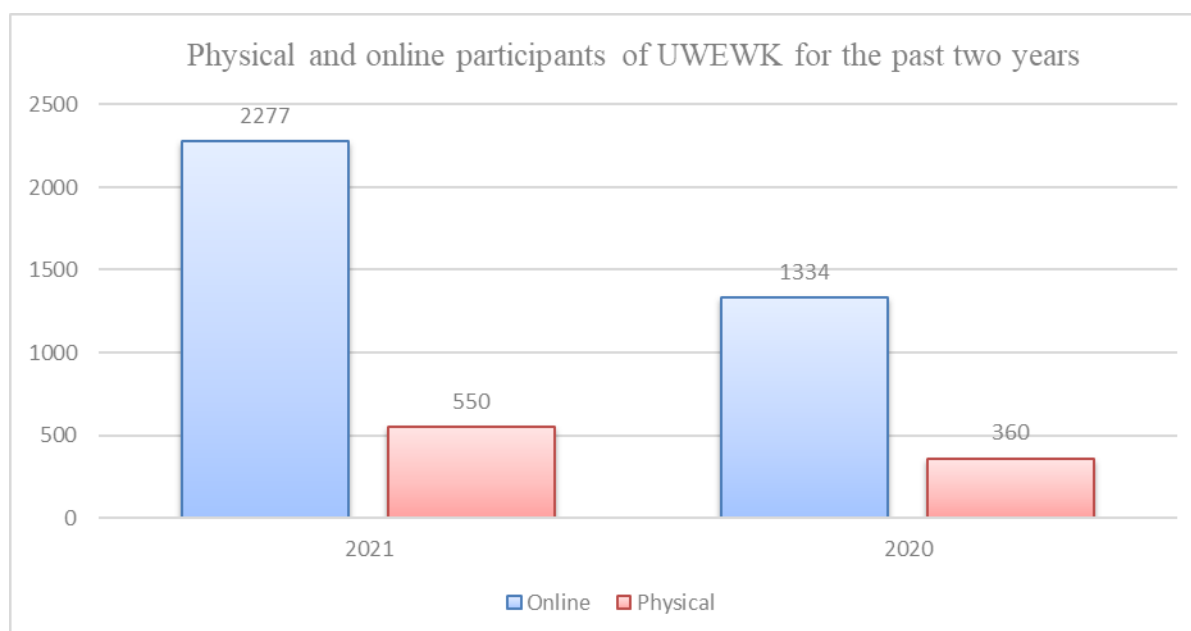
3.6.7 Closing Speech by the Guest of Honour

The guest of honour delegated the state minister for water Hon. Ronald Kibuule to represent him. The other key messages from his speech were captured and incorporated as part of the key outcomes, messages and

recommendations. Hon. Kibuule assured the audience of MWE's commitment towards the implementation of recommendations put forward and officially closed UWEWK 2021

3.6.8 PARTICIPANTS FOR UWEWK2021

The UWEWK2021 had an attendance of 2827 participants (2277 online and 550 physically) from a wide range of water and environment stakeholders. These participated in the various six day events of the week. These included policy makers, technical specialists, academics, public and private sector institutions, civil society organizations, non-governmental organizations and consumers. The participants were provided with an opportunity to exchange views and experiences; dialogue and networking; fostering new thinking; and benchmarking on best practices in the water and environment sector. The level of participation is graphically presented below and show an increase of participation in the event over the past periods.



4 CONCLUSIONS AND RECOMMENDATIONS

The UWEWK2021 was very successful. There was a total of 2827 participants (2277 online and 550 physically) who attended the week's event. In addition, there were 65 paper presentations categorized as policy, practice and science on the different sub-themes; this was from a total of 83 abstracts that were received. There were also four successful applied trainings focusing on the four sub-themes. Additionally, nine side-events of the 3rd Career Talk for Young Water and Environment Professionals, Youth Debate and six virtual field visits. Prior to this main UWEWK2021 event, pre-event activities that included the Walk for Water, Environment, Climate and public health, the flip flopi expedition, forest dialogue, publicity and media campaign, regional activities were all done in March between 9th and 26th March 2021. The overall the key outcomes and recommendations from UWEWK2021 are presented below.

4.5.1. High Level Summary from UWEWK2021 on how the Water and Environment Sectors should interact with other sectors:

The outcomes from the theme and sub themes of the Uganda Water and Environment Week 2021 arranged in thematic areas and shared as follows:

Thematic area	The outcome and recommendation.
Technology and Scientific Innovations	<ul style="list-style-type: none"> Disruptive technology (digitalization, internet, drones, e-services, social media, etc.) should be adopted for managing water and environment resources with clear incentives for research, development and adaptation. This shall optimize resource utilization and efficiency while scaling up application. Data sourcing and repository- improve data collection, synthesis and use to guide interventions that enhance water and environment security To harness latest advances in adoptable technologies and smart precision innovations that preserve resources and enhance management efficiency
Capacity Development and Empowerment	<ul style="list-style-type: none"> Empower the communities especially the youth and women with skills, knowledge and tools to sustainably preserve water and environment resources while creating jobs and employment Raise awareness among the communities and to build their capacities to balance development and conserving of water and environment resources With water and environment shocks on the rise, absorptive, adaptive and transformative resilience capacities should be promoted
Urban growth and industrialization	<ul style="list-style-type: none"> Early and advance planning for urban growth and industrialization to ensure availability of water resources and minimize comprising on water and environment security should be done Develop and implement a green development strategy to safeguard ecosystems through a green economy, industrialization and cities
Research and Development	<ul style="list-style-type: none"> Strengthen Institutions and Institutes- promote use of research to guide interventions for water and environment security Value of the available stock of water and environment resources and their contribution to social and economic transformation of Uganda should be determined to guide the planning and lobbying for additional resources A national audit system and scorecard should be developed and continually presented to motivate conservation and utilization of water and environment resources

Financing of Water and environment management and development	<ul style="list-style-type: none"> • The political and decision makers should be made to understand the role of water and environment in maintaining peace and security, and therefore use it as a political tool in budget allocation • Need for a special fund/budget allocation for protecting water sources and environment, to enable achievement of the NDP III and SDG goals • Increase investments in water and environmental resources • Increased investment in flood control in Kampala metropolitan can lead to 4.2% increase in the country's GDP in 20 years while for the country in general, enhanced flood control can bring about 190bn dollars to GDP
Cross-cutting areas	<ul style="list-style-type: none"> • Partnership- Strengthen partnerships in advancing global/regional agenda and related policies and strategies in water and environment security • System integration - integrate and coordinate stakeholders, sectors, resources, systems and programs to have holistic approach to ensuring water and environment security • Shift from a linear economy to a circular and creative economy through implementing the existing enabling policies and strategies

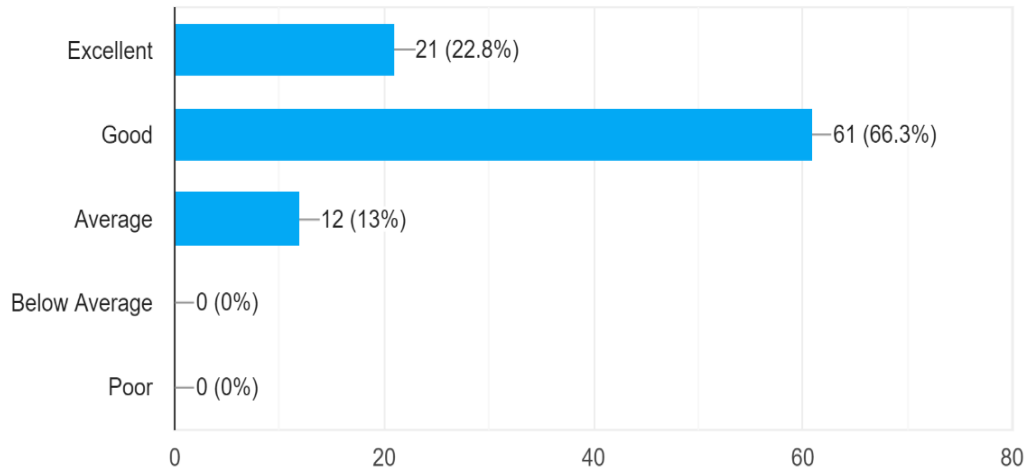
4.5.2. Post UWEWK2021 Activities

Post UWEWK2021 Activities and next steps.
The thematic outcomes will be deliberated upon based on teams to take forward the recommendations and make concrete actions.
The post event documentation includes drafting the proceedings reports, final book of abstract and journal on water and environment resources.
The journal development team has been developed and the process for its development ongoing

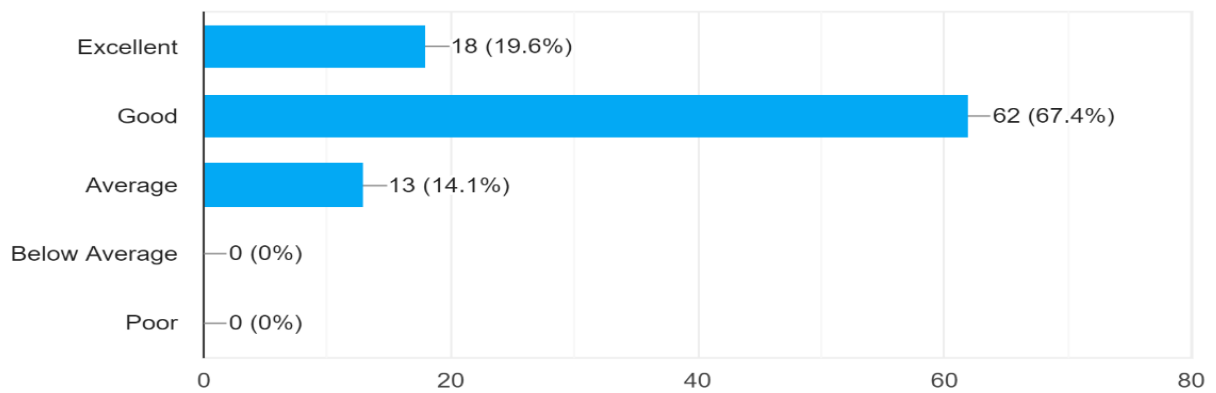
APPENDIX A:

A.1 UWEWK2021 Attendance Analysis and Participants Feedback

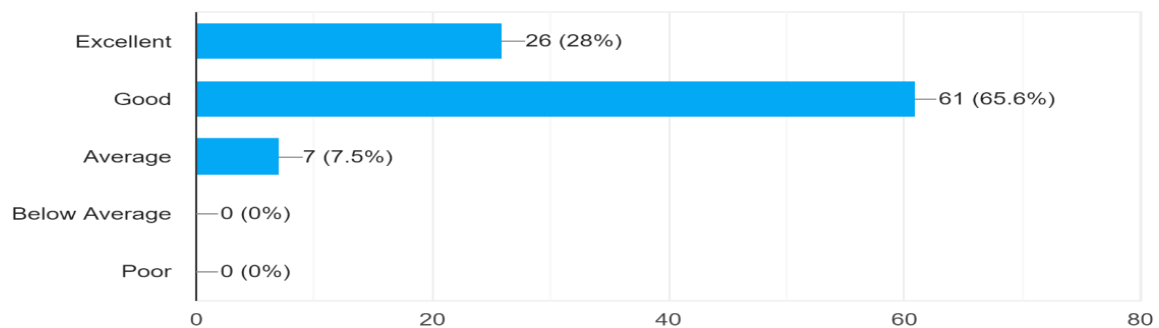
Key note presentation meeting participant expectation



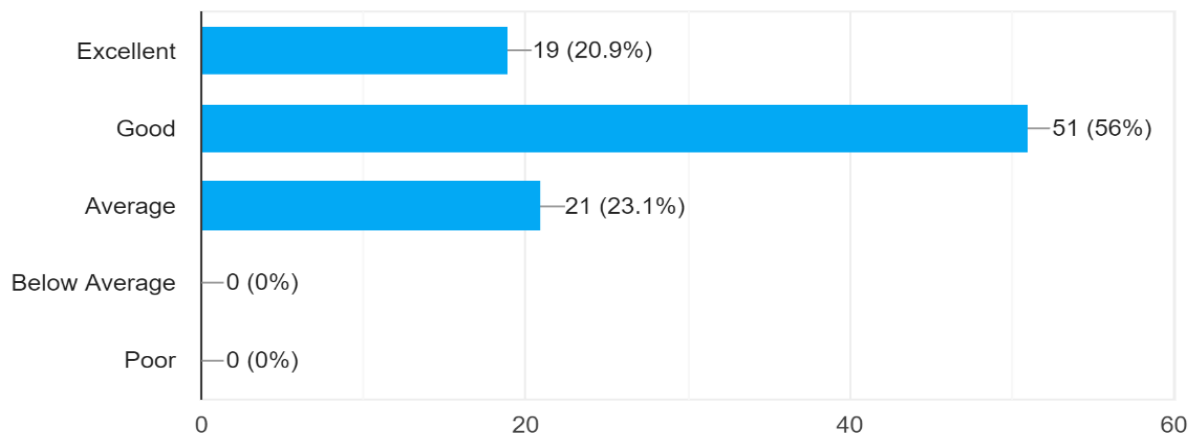
Rating for Applied Trainings



Rating for Paper Presentation



Rating for Virtual field Visit



Participant Feedback

- Next time there is need to involve university students
- UWEWK should be sustained by innovating new ideas and engaging stakeholders to support the event.
- There is need to award participants with some recognition such as a merit certificate of participation.
- Time during the different sessions was a limiting factor
- All events were relevant, making it had to choose which one to attend.
- There is need to prepare a data base about all the attendees and their field of researches to start working together through collaborative research projects
- I would be happy if this kind of training is done annually because it was really nice and resourceful as far as my career is concerned.
- Presentations were very okay, although advertisement for the events was lacking
- The first presentation by Siragi was well researched in that it brought out all areas needed for address
- There is need to inform all the attendees about the new opportunities for funds for collaborative research projects concerning with wastewater treatment and its safe reuse

A.2 National Organizing Committee Members

Name	Organisation	Name	Organisation
Dr Florence Grace Adongo	Ministry of Water and Environment	Namuyiga Winnie	Ministry of Water and Environment
Ms Flavia Waduwa	Ministry of Water and Environment	Gerald Babi	Ministry of Water and Environment
Dr. Nicholas Kiggundu	Makerere University	Maimunah Kasujja	Ministry of Water and Environment
Rosemirta Birungi	AFID	Rachel Atuhairwe	Ministry of Water and Environment
Eng. Daniel Opwanya	PVT	Joshua Mugabi Nyombi	Ministry of Water and Environment
Jane Nabuunya Mulumba	IRC	Rehema Aanyu	Ministry of Water and Environment
Joseph Epitu	Ministry of Water and Environment	Nancy Nahabbo	Ministry of Water and Environment
Eng. Sonko Kiwanuka	WSS Services	Ms. Mary Namukose	GIZ-Uganda
Dr Yazdi Bamutaze	Makerere University	Mujjuzi Azizi	Buganda Kingdom
Dr. Ronald Semyalo	Makerere University	Nanyonjo Proscovia	Buganda Kingdom
Dr Lawrence Orikiriza	Makerere University	Vikman	CARE
Dr. Patrick Musinguzi	Makerere University	Cotilda Nakyeeyune	IRC
Spera Atuhairwe	Life Water International	Florence Anobe	GLOBAL CONSULTS
Edwin Muhumuza	Youth Go Green	Edwin Cole	INBAR
John Okiira	ACODE	Kintu Simon Peter	NFA
Faith Kanyago	UMI	Odeke John Micheal	AYICC
Cate Zziwa Nimanya	WATER FOR PEOPLE	Juliet Grace Luwedde	Ministry of Water and Environment
Sophie Kutegeka	IUCN	Semampuka Micheal	FLIPFLOPI
Ms Grace Katuramu	DDCL E	Ssuna Oscar Walugembe	BUSITEMA UNIVERSITY
Gwendolyn Kyoburungi	Ministry of Water and Environment	Tayebwa Rodgers	IUCN
Solomon Kyeyune	Ministry of Water and Environment	Harriet Drani	CSBAG
Stacey Natukunda	Ministry of Water and Environment	Juliet Akello	CSBAG
Francis Xavier Kizito	Ministry of Water and Environment	Mitchell Ainebyoona	Ministry of Water and Environment
Atwiine Mathew Kariisa	Ministry of Water and Environment	Florence Nayiga	Ministry of Water and Environment
Orijabo Albert	Ministry of Water and Environment	Namara Doreen	Environment Alert
Waiswa Nelson	Ministry of Water and Environment	Zake Joshua	Ministry of Water and Environment
Irene Kambedha	Ministry of Water and Environment	Ronald Nyakana	UWASNET
Nathan Mununuzi	Ministry of Water and Environment	Caroline Namale	FLIPFLOP
Geoffrey Ayeni	Ministry of Water and Environment	Victor Béguerie	Formulations Technologies Inc
William Mawenu	Ministry of Water and Environment	Rtn Moses Musiitwa	FAO
		Anita Tibasaaga	

	Environment		
Dr Acan Santa Grace-Walkers	Ministry of Water and Environment	Peter Mugagga	Buganda Kingdom
Steven Ogwette	Ministry of Water and Environment	Kasule Ali	Buganda Kingdom
Queen Catherine Kirabo	Ministry of Water and Environment	Dr Callist Tindimugaya	Ministry of Water and Environment
Zoe Pacciani	Engineers without borders	Ms Carol Kagaba	Ministry of Water and Environment
Ritah Kyategeka	WWF		

Ephrance Nakiyingi –Environment Alert
 Dipesh –FlipFlopi
 Bainemirembe Lillian -MWE
 Edwin Cole –Global Consulting
 Sophie Luwano –MWE
 Akampurira Susan –MWE
 Waiswa Nelson –MWE
 Juliet Grace Luwedde –AYICC
 Pamela Musiimenta –MWE
 Brenda Trust –MWE
 Bryan Toshi –Global Consulting
 Nanseko Kevin –UBA
 Tayebwa Rodgers –UCU
 Christopher Kanyesigye –NWSC
 Lucky Brian -FRA

Table 1: Technical Organizing Committee and their Roles

No.	Date	Activity	Names
1		UWEWK2021 overall	Dr. Callist Tindimugaya
2	Sunday 21 st March 2021	Opening ceremony and dialogue on Water and Environment security for socio-economic transformation of Uganda (UBC and NBS TVs)	Solomon Kyeyune , Jane Nabunnya, Mary Namukose, Irene Kambedha, Simon Okiria, Faith Kanyago and Brian Wamboka.
		Managing Protocol (invited guests)	Annet Nantongo; Nelson Waiswa and Eng. Chris Tumusiime
3	Monday 22 nd March 2021	Dialogue on VALUING WATER AND ENVIRONMENT RESOURCES FOR SOCIO-ECONOMIC TRANSFORMATION OF UGANDA (zoom)	Rosemirta Birungi , Sonko Kiwanuka, Albert Orijabo, Sophie Kutegeka
		Session 1: Valuing Water and Environment resources for socio-economic transformation- Policy, Practice & Scientific Papers Presentation	Dr Nicholas Kigundu , Spera Atuhairwe, Eng. Felix Twinomucunguzi
		Session 2: Applied training: Natural Resources Based Business and Entrepreneurship: Climate Smart Aquaculture (Dr. Ronald Semyalo MUK)	Dr. Ronald Semyalo MUK ; Michael Sempuka
		Session 3: WASH in the Refugee Context – Delivering services beyond humanitarian response Austria Development Agency	Lilian Daphine Lunyolo ; Nelson Wasswa and Mary Namukose
		Session 4: Side Event PPP Approach for accelerating access to Water and Sanitation in Uganda: National Water and Sewerage Cooperation	Joseph Epitu ; Engineers without Borders USA
		Session 5: Side Event: Green Climate Fund Wetlands Project - UNDP	Jimmy Toko ; Willam Maweno
4	Tuesday 23 rd March 2021	Dialogue on WATER AND ENVIRONMENT IN A CREATIVE ECONOMY (zoom)	Jane Nabunya ; Chris Tumusiime, Annette Nantongo
		Session 6: Water and Environment in a Creative Economy - Policy, Practice & Scientific Papers Presentation	Rosemirta Birungi , Pamela Nyamutooka, Simon Etimu
		Session 7: Applied Train: Natural Capital Accounting in Uganda: Introduction for Decision Makers, DEA	Carol Kagaba and Nathan Munuzi DEA
		Session 8: Side Event: Addressing Climate Change impacts and their causes towards sustainable water and environment resources management and use UWASNET	Rehema UWASNET
		Session 9: Virtual Field visits: Rain Water harvesting from rock outcrops- Akwang Rock catchment. Aid Environment; Virtual Field Visit: Demonstrates how bamboo is being utilized globally and locally and the possibilities and potential of bamboo to improve livelihood, to restore land and mitigate climate change - INBAR	John Nyakana ; Evelyne Busingye Aid Environment & Simon Peter Kintu INBAR; Irene Kambedha
		Session 10: Side Event: The value of safe water supply in healthcare facilities for social-economic transformation. IRC	Florence Anobe , Wilbrod Turimaso, Ronald Nyakana
	Wednesday 24 th March 2021	Dialogue on Managing Water and Environmental Shocks (zoom)	Grace Wako Katuramu , Brian Lucky, John Okiria Stephen Ogwete,
		Session 11: Managing Water and Environmental Shocks - Policy, Practice & Scientific Papers Presentation	Dr Lawrence Oriikiriza , Faith Kanyago, William Mawenu
		Session 12: Career Talk for young professionals	Mary Namukose innocent Twesigye
		Session 13: Applied Training: IWRM- a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction in	Pamela Nyamutoka , Ronald Nyakana, Robert Kalisa

		Uganda: IIRR	
		Session 14: Side Event: Climate Change Financing in Uganda: Civil Society Budget Advocacy Group	CSBAG Ronald Mugobera, Natif Bob
		Session 15: Side Event: Official launch of the GIZ programme Natural Resources Stewardship Programme (NatuReS)-GIZ	Alisa Knoll and Elena Barth; Anthelem Iragena
	Thursday 25th March 2021	Dialogue on Water and Environment Security for smart urban growth (Zoom)	Cate Ziwa Nimanya , Grace Wako Katuramu; John Okiria
		Session 16: Water and Environment Security for inclusive-growth - Policy, Practice & Scientific Papers Presentation - Part II, refer to annex	Dr Nicholas Kigundu , Anthelem Iragena
		Session 17 : Applied Training: The Shit Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation service	Joseph Eritu ; Engineers without Borders USA
		Session 18: Side Event: Transboundary water cooperation focus on River Nile: Transboundary Department MWE	Sowed Sewagudde (Transboundary Department MWE)-GIZ-NBI; Pamela Agaba (Transboundary Department MWE)
		Session 19: Side Event: Delivering Bonn Challenge Pledges in a way that benefits people and biodiversity: The Ugandan model - IUCN	Sophie Kutegeka IUCN Julius Mafumbo
		Session 21: Side Event: Official Launch of the WRI mentorship program for young and early career professionals in water and environment Sector	Gwendolyn Kyoburungi ; Solomon Kyeyune (WRI)
	Friday 26th March 2021	Session 22: Youth Dialogue: Youth Go Green	Edwin Muhumuza Youth Go green, Zainab NWSC, Queen Kirabo
		Session 23: Physical field Visit: Pit emptying using the gulper technology; Makindye Division and Lubigi treatment plant. Water for people	Brenda Achiro ; Martha Naigaga
		Session 24 Managing Water and Environmental Shocks - Policy, Practice & Scientific Papers Presentation, refer to annex	RoseMirta Birungi; Stacey Natukunda, Joshua Nyombi
		Session 25 Valuing Water and Environment resources for socio-economic transformation - Policy, Practice & Scientific Papers Presentation, refer to annex	Dr Patrick Musinguzi, Sempa Michael, Stacey Natukunda
		Session 26: Breakfast Meeting : UMA, MWE and GIZ- Protea Hotel	Peter Masaaba - GIZ NatuReS, Simon Etimu
		Session 27: Virtual Field Visit: Enhancing Resilience of Communities to Climate Change Through Catchment Based Integrated Management of Water And Related Resources in Uganda - EURECCA	Nelson Waisswa , Nantongo Annet
		UWEWK wrap and Closing ceremony (UBC and NBS TVs)	Daniel Opwonya , Solomon Kyeyune, Dr. Nicholas Kiggundu, Margaret Mwebesa

Table 2: UWEWK2021 Rapporteurs List

Name	Email:
Trust Brenda	trustbrendaa@gmail.com
Arinaitwe Emmanuel	emmakimosho@gmail.com
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Joan Nakajigo	joannakajigo@gmail.com
Sande Elison Oundo	sandeelison23@gmail.com
Nakabuye Rose Nkugwa	nkugwarose@gmail.com
Phillip Mwesigwa	phijosh@gmail.com

Table 3: National Organizing Committee and its subcommittee Roles for UWEWK2021

	Committee	Key Roles
1	National Organising Committee (NOC)	<ul style="list-style-type: none"> • Oversee the preparation, implementation and reporting on UWEWK 2021 • Create synergy within MDAs; private sector, NGOs, Academia, DPs, and Individuals • Plan and achieve political buy-in • Constitute and coordinate sub-committee operations • Mobilise resources for the UWEWK 2021 • Convene meetings and make key decisions for UWEWK 2021 • Decide on Key Guests and Invite them
	Secretariat	<ul style="list-style-type: none"> • Keeping the team informed of progress • Source for suppliers of goods and services • Take NOC minutes and follow up actions with various sub-committees • Support NOC chair in scheduling and organizing meetings • Consolidate sub-committee information • Prepare awards and certificates • Liaise and support events committee in procuring and managing event managers • Work with support from the protocol committee to prepare list of invitees and coordinate invitation of participants • Manage and coordinate registration of participants with the events committee • Support the Technical Committee in documentation and reporting the event • Coordinate implementation, follow up actions for UWEWK 2021 and arrange timely preparation for subsequent events. • Coordinate printing of reports, summary outcomes and all proceedings with the publication committee. • Liaise and support all sub committees in preparation of documentation and keeping records

	Committee	Key Roles
3	Technical	<ul style="list-style-type: none"> • Develop templates, issuing the call for abstracts, papers and follow up on presenters • Coordinate key note speakers and discussants to ensure presentations are in line with the themes • Support capacity building of the presenters • Review all papers and provide feedback to authors; ensure quality of papers and presentations • Assign presentations to relevant themes • Assign and coordinate session chairs and conveners • Coordinate note taking and reporting UWEWK 2021 activities • Develop the program for the entire event • Coordinate hosting of side events • Organise and coordinate field visits • Harmonise criteria for the provision of awards to ensure value to recipients and the providers in respective categories • Institute independent judges to identify individuals and institutions qualified to receive awards
4	Communication and Publicity	<ul style="list-style-type: none"> • Develop communication plan and budget for UWEWK 2021 • Manage communication pre, during and post event communication activities • Develop communication materials for use before, during and after the event • Secure space for media activities and identify discussants • Develop the format for daily updates on the UWEWK 2021 • Prepare and share daily updates on UWEWK 2021 • Develop an App for the UWEWK 2021

	Committee	Key Roles
5	Events and Exhibitions	<ul style="list-style-type: none"> • Venue site planning and set up • Collaborate with secretariat on sources for suppliers of goods and services • Plan and budget for events and exhibitions • Reach out to potential exhibitors • Evaluate exhibitions and identify winners • Identify and allocate space in line with the planned sessions and exhibitions • Coordinate assessment and organise awards for the exhibitors; • Ensure that there is appropriate sanitation and hygiene facilities at the venue • Manage and coordinate ushering of guests and delegates • Liaise with secretariat to ensure that appropriate and reliable information on accommodation for foreign and upcountry delegates is sourced and provided
6	Security and Transport	<ul style="list-style-type: none"> • Secure the venue and premises • Organise travel of participants to and from the venue • Manage protocol for VIPs <ul style="list-style-type: none"> ○ Mandated to Protect the Guest of Honour ○ Protect guests, VIPs delegates and support staff. ○ Ensure security of conference halls and events ○ Secure routes to and from the conference venue ○ Ensure security of conference halls and events • Provide accreditations/name tags
7	Finance and Resource Mobilization	<ul style="list-style-type: none"> • Identify potential sources of funds within and outside MWE • Mobilizing funds for the UWEWK 2021 event • Prepare budget for the UWEWK 2021 conference through consolidation of the various sub-committee budgets into one overall budget • Manage the financial resources for the UWEWK 2021 conference • Sanction requisition of funds to facilitate sub-committees' operations • Maintain up to date financial statement for the operations of the conference • Ensure disbursement of funds in accordance with the approved guidelines • Receive and manage payments • Follow up on accountability for funds advanced for the conference activities • Prepare final financial report for the conference and ensure proper closure

	Committee	Key Roles
		of the account.
8	Sector Day Celebrations	<ul style="list-style-type: none"> • Plan and coordinate the organising of the International sector days (World Water Day, World Forest Day, World Meteorology Day) • Liaise with the respective sector leads to ensure adequate participation and involvement of relevant stakeholders • Support and mobilise relevant resources • Identify and follow up the participation of relevant dignitaries including the guest of honour • Identify and coordinate participation of schools and neighbouring communities • Liaise with Entebbe Municipal leaders and relevant security agencies in the planning and holding of the sector days • Liaise with the secretariat and events in the sourcing of goods and services
9	Regional Participation	<ul style="list-style-type: none"> • Plan and coordinate the participation of the ministry regional structures in UWEWK 2021 • Develop activities and budget for the regional activities • Mobilise relevant stakeholder and partners to participate and support UWEWK 2021 activities at the regional level • Provide regular update to NOC on progress and provide a report at the end of the events
10	Protocol	<ul style="list-style-type: none"> • Collaborate with Security and transport on protocol issues • Coordinate with the transport team on the movement of the delegates to ensure timely and orderly participation; • Make and send invitations. • Create suitable seating arrangements. • Schedule and book transportation. • Arrange lodging and accommodations.

	Committee	Key Roles
		<ul style="list-style-type: none"> • Keep a list of key business leaders and government officials.
11	Publications	<ul style="list-style-type: none"> • Prepare, Review and update all proceedings of UWEWK 2021 • Publish Proceeding for UWEWK 2021 • Prepare and Design summary report for UWEWK 2021 • Preparation of evaluation reports • Prepare summary of outcomes of UWEWK 2021 • Specific outputs:UWEWK2021 Magazine, Post event supplements in Newspapers (New Vision & Monitor), Publications in scientific journals /magazine, Formal Communication to respective entities for tasks related to them; Update the ministry outreach resources like the Websites, WRI etc.
12	Walkers	<ul style="list-style-type: none"> • Develop a concept note for the walkers' activities • Develop a budget for the walkers' activities. • Develop a plan on how the walking activities are going to be. • Coordinate the walking activity with the regional offices. • Publish documentation for the walking activities.

A.3: Programme, Presentations and Papers at UWEWK2021

Table 4: Original Programme for the Uganda Water and Environment Week 2021

PROGRAMME FOR THE UGANDA WATER AND ENVIRONMENT WEEK 2021 (UWEWK2021)					
Theme: Water and Environment security for socio-economic transformation of Uganda					
7 - 20 March	UWEWK 2021 PRE-EVENT ACTIVITIES				
	PRE-EVENT #1: UWEWK 2021 Walk for Water, Environment, Climate Change and Public Health (371Km) from Kampala to Kasese led by Uganda Walkers' Association (9th to 20th March 2021)				
	PRE-EVENT#2: UWEWK 2021 Flip-flopi Lake Victoria Expedition in Uganda (7th to 22nd March 2021)				
	PREEVENT#3: Kingdom of Buganda Mini Open Day Exhibition at Bulange Mengo (12 March 2021)				
15-20 Mar	PRE-EVENT #4: UWEWK 2021 - Writeshop (11th and 12th March 2021)				
	PRE-EVENT #5: UWEWK 2021 - Regional Activities (15th - 20th March 2021)				
	PRE-EVENT #6: High level Dialogue on Forest Restoration (18 March 2021)				
Sunday 21st March 2021	PRE-EVENT #7: Running out of Trees (ROOTs) Run to launch the Annual 40 Million Trees Planting Campaign (21st March 2021)				
	OPENING CEREMONY: @ MWE Auditorium and Live on UBC & NBS TVs. and ZOOM				
	14:00 - 14:05	Welcome and Introduction to the UWEWK2021			
	14:05 - 14:10	Welcome Remarks by Chair, National Organizing Committee			
	14:10 - 14:20	Speech on the World Forest, Water and Meteorological days by the United Nations Resident Coordinator, Uganda			
	14:20 - 14:30	Welcome Speech by Minister of Water and Environment			
	14:30 - 14:45	Opening Speech by Guest of Honour, the Prime Minister of Uganda			
	14:45 - 15:10	Key Note Presentation: "Water and Environment security for socio-economic transformation of Uganda"			Key Note Speaker: Prof. Ken Strzepek. Industrial Research Institute, MIT, USA
	15:10 - 15:15	TV Interlude and Health Break			
	15:15 - 16:45	Panel Discussion: Ms. Elsie G. Attafuah - UNDP Resident Representative; Mr. Alfred Okot Okidi - Permanent Secretary, MWE; Prof Alex Ariho - Director General, Excel Hort Consult Agribusiness Incubator; Hon. Mariam Mayanja Nkalubo - Minister of Lands and Environment, Buganda Kingdom; Mr. Ramathan Ggoobi - Lecturer, Makerere University Business School; Ms. Blick Carol Gloria- National Coordinator, Youth Go Green Youth Clubs			Moderators :Charles Odongtho, UBC and Josephine Karungi, Consultant
16:45 - 17:00	Discussions and Feedback				
END OF DAY ONE					
Monday 22nd March 2021	Dialogue Sub-theme No. I - VALUING WATER AND ENVIRONMENT RESOURCES FOR SOCIO-ECONOMIC TRANSFORMATION OF UGANDA - (ZOOM)				
	10:00 - 10:20	Key Note Presentation: "Valuing Water and Environment resources for socio-economic transformation"			Key Note Speaker: Mr. Oliver Greenfield, Global Convener- Green Economic Coalition, UK
	10:20 - 12:15	Panel Discussion - Mr. Ronald Kagwa- Manager, NPA; Dr Arthur Bainomugisha- ED ACODE; Mr. Cornelius Kazoora- Consultant; Mr. Dean Muruven - Global Freshwater Practice Lead - WWF International; Dr Florence Adongo - Director, DWRM -			Moderator: Ms. Sophie Kutegeka- CD IUCN
	12:15 - 12:45	Discussions and Feedback			
	LUNCH BREAK				
	Parallel Sessions (ZOOM)				
	14:00 - 17:00	Session 1: Valuing Water and Environment resources for socio-economic transformation- Policy, Practice & Scientific Papers Presentation - Part I, (DWD Board room) refer to annex i	Session 2: Applied training: Natural Resources Based Business and Entrepreneurship: Climate Smart Aquaculture - Dr. Ronald Semyalo MUK (Zooka Board room) refer to annex ii	Session 3: Virtual Field visit: WASH in the Refugee Context – Delivering services beyond humanitarian response - Austria Development Agency (Nile Board room) refer to annex iv	Session 4: Side Event PPP Approach for accelerating access to Water and Sanitation in Uganda: National Water and Sewerage Corporation (IREC Board Room 3) Annex iii
	Session 5: Side Event: Green Climate Fund Wetlands Project - UNDP (MWE Auditorium) refer to annex iii				
	END OF DAY TWO				
	Tuesday 23rd March 2021	Dialogue Sub-theme No. II - WATER AND ENVIRONMENT IN A CREATIVE ECONOMY (ZOOM)			
10:00 - 10:20		Key Note Presentation: "Water and Environment in a Creative Economy"			Key Note Speaker: Dr Nagaraja Rao Harsh, Global Lead – Disruptive Technology, World Bank, USA

	10:20 - 12:15	Panel Discussion: Dr. Stuart Worsley - Green Economy Coalition, Countries Programme Director; Dr Daisy Owomugasho - Country Director, Hunger Project/FRA; Mr. Gideon Badagawa- ED Private Sector Foundation; Mr. Peter Kuria- Director Innovations and Business Incubation, AAAN; Mr. David Duli- Country Director, WWF Uganda Country Office					Moderator: Ms. Jane Nabunnya Mulumba -CD IRC
	12:15 - 12:45	Discussions and Feedback					
	LUNCH BREAK						
	Parallel Sessions (ZOOM)						
	14:00 - 17:00	Session 6: Water and Environment in a Creative Economy - Policy, Practice & Scientific Papers Presentation,(Nile Board room) refer to annex i	Session 7: Applied Training: Natural Capital Accounting in Uganda: Introduction for Decision Makers- DEA (Zooka Board room) refer to annex ii	Session 8: Side Event: Addressing Climate Change impacts and their causes towards sustainable water and environment resources management and use- UWASNET (IREC Board room 1) refer to annex iii	Session 9: Virtual Field visits: Rain Water harvesting from rock outcrops- Akwang Rock catchment- Aid Environment. Virtual Field Visit: Bamboo utilization, possibilities and potential to improve livelihood, to restore land and mitigate climate change - INBAR (DWD Board room) refer to annex iv	Session 10: Side Event: The value of safe water supply in healthcare facilities for socio-economic transformation -IRC/WaterAid (IREC Board room 2) refer to annex iii	
END OF DAY THREE							
Wednesday 24th March 2021	Dialogue Session No. III- MANAGING WATER AND ENVIRONMENTAL SHOCKS - (ZOOM)						
	10:00 - 10:20	Key Note Presentation: "Managing water and environment shocks "			Key Note Speaker: Dr. Musonda Mumba - Director, UNDP Rome Centre for Sustainable Development, Italy		
	10:20 - 12:15	Panel Discussion: Dr Radhika Murti -Director, Global Ecosystems Management -IUCN; Dr Emmanuel Zziwa - FAO; Mr. James Collins Dombo -Ag. PS, OPM; Dr. Joshua Zake – ED, Environment Alert: Dr Charles Wana Etyem - Warner Consultants; Mr. Collins Oloya -Director, DEA.					Moderator: Prof Yazihdi Bamutaze - MUK
	12:15 - 12:45	Discussions and Feedback					
	LUNCH BREAK						
Parallel Sessions (ZOOM)							
14:00 - 17:00	Session 11: Managing Water and Environmental Shocks - Policy, Practice & Scientific Papers Presentation, (Nile Board room) refer to annex i	Session 12: Career Talk for young professionals, refer to annex (IREC Board room 1) refer to annex iv	Session 13: Applied Training: IWRM- a tool for Integrating Climate Change Adaptation and Community Managed Ecological Disaster Risk Reduction in Uganda -IIRR (Zooka Board room) refer to annex ii	Session 14: Side Event: Climate Change Financing in Uganda-CSBAG (IREC Board room 2) refer to annex iii	Session 15: Side Event: Official launch of the GIZ programme Natural Resources Stewardship Programme (NatuReS) - GIZ (Auditorium MWE) refer to annex iii		
END OF DAY FOUR							
	Dialogue Session No. IV- WATER AND ENVIRONMENT SECURITY FOR SMART URBAN GROWTH- ZOOM						
	10:00 - 10:20	Key note presentation: "Water and Environment security for smart urban growth"					Key Note Presenter: Dr. Graham Alabaster, Head-UN Habitat Geneva
	10:20 - 12:15	Panel Discussions: Dr Silver Mugisha- MD NWSC; Mr. Edward Kiwanuka- Town Clerk, Gulu City; Mr. Fridtjof Behnsen- Head of GIZ NatuReS, Tanzania ; Ms. Dorcas Okalany- PS, Min of Lands; Ms. Chikondi Chabvuta - Regional Advocacy Adviser, CARE SA; Ms. Jane Sembuche Mselle -Country Director, Water Aid Uganda					Moderator: Ms. Cate Zziwa Nimanya, CD Water For People
	12:15 - 12:45	Discussions and Feedback					
	LUNCH BREAK						
Parallel Sessions (ZOOM)							
14:00 - 17:00	Session 16: Water and Environment Security for inclusive-growth - Policy, Practice & Scientific Papers Presentation - Part II, (Nile Board room) refer to annex i	Session 17 : Applied Training: The Shit Flow Diagram (SFDs) and City Service Delivery Assessments (CSDA) tools for enhancing sanitation service- Water for People & GIZ (IREC Board room 2) refer to annex ii	Session 18 Side Event: Trans boundary water cooperation focus on River Nile -Trans boundary Department MWE (Zooka Board room) refer to annex iii	Session 19: Side Event: Delivering Bonn Challenge Pledges in a way that benefits people and biodiversity: The Ugandan model - IUCN (IREC Board room 1) refer to annex iii	Session 20: Applied Training: Introduction to GIS Asset Mapping and Surveying - Engineers without Borders USA & WiGIS Uganda (DWD Board room) refer to annex ii	Session 21 Side Event: Official Launch of the WRI mentorship program for young and early career professionals in water and environment Sector- WRI (MWE Auditorium) refer to annex iii	
END OF DAY FIVE							
Thursday 25th March 2021	Parallel Sessions (ZOOM)						
	07:00 - 09:00				Session 26: Breakfast Meeting : UMA, MWE and GIZ- (Protea Hotel) refer to annex iii		
Friday 26th March 2021	9:00 - 12:30	Session 22: Youth Debate -Youth Go Green (IREC Room 1) refer to annex iv	Session 23: Physical field Visit: Pit emptying using the gulper technology; Makindye Division and Lubigi treatment plant - Water for people refer to annex iv	Session 24: Managing Water and Environmental Shocks - Policy, Practice & Scientific Papers Presentation, refer to annex (Zooka Board room) refer to annex i	Session 25: Valuing Water and Environment resources for socio-economic transformation - Policy, Practice & Scientific Papers Presentation,	Session 27: Virtual Field Visit: Enhancing Resilience of Communities to Climate Change Through Catchment Based Integrated Management of Water And Related Resources in Uganda - EURECCA (DWD Board room) refer to annex	

				refer to annex (Nile Board room) refer to annex i		iv
LUNCH BREAK						
UWEWK2021 WRAP UP & CLOSING CEREMONY: @ MWE Auditorium and Live on UBC & NBS TVs. and ZOOM						
14:00 - 14:05	Welcome to the Closing Ceremony					
14:05 - 14:20	UWEWK2021 Summary & Key Messages					
14:20 - 15:45	Panel Discussion: Dr Robert Limlim - Director of NUSAF3 (OPM); Amb Attilio Pacifici- Head of EU Delegation in Uganda; Dr. Alexander Danilenko- Sr. Water and Sanitation Specialist, World Bank; Ms Anne Juuko- CEO Stanbic Bank; Mr. Julius Mukunda - ED CSBAG; Eng. Joseph Eyatu- Director-DWD					Moderators: Charles Odongtho, UBC and Josephine Karungi,Consultant
15:45 - 17:00	Closing Speech by Guest of Honour -Minister of Water and Environment					
END OF UWEWK 2021 CONFERENCE						

Table 5: List of Abstracts and Papers submitted for UWEWK2021

S/No.	Title of Abstract	Theme for UWEWK 2020	Category of applied research	Author's Name
1	Assessment of Kampala city groundwater vulnerability and possible management of the natural resource.	Valuing Water and Environment resources	Scientific	Johnson Pule
2	Groundwater Assessment in Kitgum District	Valuing Water and Environment resources	Scientific	Daniel Samson Okurut
3	Increasing sustainable access to safe water through promoting rain water stone masonry and Ferro cement harvesting tank	Valuing Water and Environment resources	Policy	Richard Mpagi
4	Effective demand for more reliable hand pumps in rural Uganda	Valuing Water and Environment resources	Practice	Daniel W. Smith
5	Enhancing resilience of communities to climate change through a catchment based integrated management approach: experiences from EURECCCA Project	Valuing Water and Environment resources	Practice	Callist Tindimugaya
6	Sustainable Land Management Paradigm, Harnessing Technologies for Nutrient and Water Management in the Great Lakes Region of Africa	Valuing Water and Environment resources	Practice	Musinguzi Patrick
7	Bankable Nature Solutions, an innovative way to attract private sector and financial institutions into sustainable utilization of water and land resources in Uganda	Valuing Water and Environment resources	Practice	Namanya Beria
8	Assessing the spatial and temporal variations in water quality along a segment of River Sironko on Mt. Elgon, Uganda	Valuing Water and Environment resources	Scientific	Justine Kilama Luwa
9	Effect of land cover type on water yield in selected catchments of the Kyoga Water Management Zone, Eastern Uganda	Valuing Water and Environment resources	Scientific	Ellen Kayendeke
10	Climate-Smart Watersheds: A framework for hydro social resilience to climate change in fragile catchments	Valuing Water and Environment resources	Scientific	Yazidhi Bamutaze
11	Design and Construction of a Hydro Powered Water Pumping System and Power Generation System	Valuing Water and Environment resources	Scientific	David Kimera
12	Football for Community WASH Challenge-Tap and respond to Young adolescents	Valuing Water and Environment resources	Practice	Caroline Namale
15	Community Led Wetland Restoration. Lessons from restoration of Papayo Wetland, Palisa district	Valuing Water and Environment resources	Practice	Moses Egaru
16	Increasing biodiversity conservation and employment opportunities through Forest Landscape Restoration in Uganda	Valuing Water and Environment resources		Alex Hudson
17	Refugee Participation in the Conservation of Wetlands in Uganda: Kyaka II Refugee Settlement	Valuing Water and Environment resources	Practice	Flavia Kunihiro
18	IOT Based Irrigation System	Valuing Water and Environment resources	Scientific	Musa Nahaima
19	Sustainable Value addition of water and natural resources for increased income and employment through productive use equipment	Valuing Water and Environment resources	Practice	Tulina Solar Uganda

20	The Challenges of Sustainable Management and Utilization of Water Resources in Uganda: A case of River Atari, Kyoga water management Zone-Uganda	Valuing Water and Environment resources	Practice	Haggai Ojwang
21	Causes of Uganda's diminishing forest cover: A Case of Bugoma Central Forest Reserve	Valuing Water and Environment resources	Practice	Cotilda Nakyeeyune
22	Water Security Threats and Investment Opportunities in Greater Kampala Metropolitan	Valuing Water and Environment resources	Practice	Lydia Ngozi
	Fruits of embracing IWRM Framework: A case of Kyoga Water management zone (KWMZ)	Valuing Water and Environment resources	Practice	Tumusiime Edmond Peter
	Balancing Cost Recovery and Affordability: Findings from a Piped Water Project in Northern Uganda	Valuing Water and Environment resources	Practice	Noah Otim
	Adaptive Planning and Management: Implementing WASH Programmes Flexibly in a Rapidly Changing World	Valuing Water and Environment resources	Practice	Rithwan Kalinaki
	Potential application effects of 'Hunate' Agro-input on release of Nitrates, Ammonia and Phosphorus in a Production Environment in Uganda	Valuing Water and Environment resources	Practice	Nuwarimpa Nagaba
	Dynamics of Wood Value Chains for Smallholder Tree Farmers in Mubende District	Valuing Water and Environment resources		Abdul Samanya
	Abstract from Protos	Valuing Water and Environment resources	Policy	George Bwambale
23	Innovative Solutions to Enhance Equitable Piped Water Supply Services in Uganda (Case of Umbrellas of Water and Sanitation)	Water and environment in a creative economy	Practice	Diana Keesiga
24	Promoting inclusive water resources management practices for sustainable development in Uganda	Water and environment in a creative economy	Practice	Baker Matovu
25	Financial empowerment of rural communities for water sustainability and agricultural growth	Water and environment in a creative economy	Practice	Chris Prottas
26	Poultry: critical linkage between livelihoods and rural hygiene	Water and environment in a creative economy	Practice	Chris Prottas
27	Implications of Vegetation Change on Catchment Hydrology in Awoja, Lake Kyoga Basin	Water and environment in a creative economy	Scientific	Ingrid Martha Kintu
28	Water Supply KPI monitoring using Internet of Things (IoT)	Water and environment in a creative economy	Practice	Julius Bakeine Musiimenta
29	Scaling up the use of Inclusive Finance for catchment restoration in Uganda	Water and environment in a creative economy	Practice	Sophie Kutegeka
30	The Water Works Program for Ensuring Long-term Sustainability of Water and Sanitation Infrastructure in Kakumiro District: Lifewater International's O&M Strategy	Water and environment in a creative economy	Practice	Paul Oloya

31	Supporting Women Groups to Produce Improved Energy Saving Stoves Using Local Materials; A Case of Awoja Catchment in Kyoga Water Management Zone	Water and environment in a creative economy	Practice	Benjamin Wanga
32	Assessment of the Influence of Upstream Water Use and changes in Climatic Conditions across River Mpanga Catchment on Hydropower Production, Kamwenge, Uganda.	Water and environment in a creative economy	Scientific	Charles Onyutha
	Effective coordination as key driver for achieving Water and environment security for socio-economic transformation of Uganda	Water and environment in a creative economy	Policy	Orishaba Judith-
	Responding to the COVID19 Pandemic through the Community Engagement Strategy	Dealing with water and environment shocks	Practice	Kumbulani Ndlovu
33	Strategies for Managing Water Crisis-Case Study in National Water and Sewerage Corporation	Dealing with water and environment shocks	Practice	Derrick Arthur Ddumba
34	Review Of The Use Of Exotic Tree Species And The Potential Impact On Environment In Uganda	Dealing with water and environment shocks	Policy	Alex Semakula
35	Application of satellite data to develop drought early warning systems in Uganda	Dealing with water and environment shocks	Scientific	Josephine Mendela
36	Determinants and Values of Willingness to Pay Towards Flood Management in Uganda	Dealing with water and environment shocks	Scientific	Ambrose Mubialiwo
37	Water Quality Monitoring of Lake Victoria Using GIS and Satellite Imagery	Dealing with water and environment shocks	Scientific	Ssewankambo Gyaviira
38	Hydrological characteristics underpinning landslides in Manafwa catchment, Mount Elgon	Dealing with water and environment shocks	Scientific	Moses Kutosi
39	Trends and response of medium catchments to rainfall variability in tropical highland environments: A case of Sipi catchment on Mt. Elgon, Uganda	Dealing with water and environment shocks	Scientific	Justine Kilama Luwa
40	Flood Hazard Assessment and Mapping of Flood Inundation Area of the Manafwa River Basin in Eastern Uganda using SWAT and HEC-RAS Model	Dealing with water and environment shocks	Scientific	Godwin Erima
41	Assessing Soil Erosion Using Rusle and SDR Model	Dealing with water and environment shocks	Scientific	Sharon Akech
42	Evaluation of Maize Yield Response to Different Levels of Water Stress During Off Season	Dealing with water and environment shocks	Scientific	Denis Nsubuga
43	Increasing Income Through Irrigated Vegetable Production	Dealing with water and environment shocks	Scientific	Marty Fokkink
44	Investigating the impact of a potential cascade dam failure on Victoria Nile as a result of failure of Nalubale and Kiira dam	Dealing with water and environment shocks	Scientific	Joel Martin Eyiiga
	Local Community Involvement in Restoration of Nyakahita Wetland, Maziba Catchment	Dealing with water and environment shocks	Practice	Mugisha Louis
	Responding to climate change impacts through irrigation in Uganda: Challenges, Opportunities and Benefits	Dealing with water and environment shocks	Practice	Opolot Emmanuel
	Application of WEAP-SWAT: A creative tool for assessment of water demand and availability under climate change in Mitano Catchment	Dealing with water and environment shocks	Scientific	Trust Brenda
45	Water and Environmental Conservation for vulnerable resource dependent communities: A Call for Action	Dealing with water and environment shocks	Policy	Anthony Mugeere

46	River Rwizi Catchment Degradation, Restoration and Effects On Community Livelihoods: Case Study for River Rwizi in South Western Uganda	Dealing with water and environment shocks	Scientific	John Okiira
47	Water Budgets: Foundations for Managing Water and Environmental Shocks	Dealing with water and environment shocks	Practice	David Kataratambi
48	Implementing a Landscape Approach to jointly address climate change and societal challenges in Uganda	Dealing with water and environment shocks	Practice	James Omoding
49	Applying the Sense-maker tool to un-pack stakeholder perceptions for improved management and utilisation of environment resources	Dealing with water and environment shocks	Practice	James Omoding
50	Harnessing Community Potential to Protect the Water and Environment Resource for Social Economic Transformation of Rwizi Catchment	Dealing with water and environment shocks	Practice	Dunstan Ddamulira
51	Design and Construction of a Gravity Flow Rain Water Harvesting System for Irrigation	Dealing with water and environment shocks	Practice	Ivan Eric Okiror
52	Scenario-Evaluation Gaming: A Sustainable Approach to Forest and Water Resources Management, a case of Mt. Elgon Water Tower, Uganda	Dealing with water and environment shocks	Practice	George Kimbowa
53	Status of Water Quality of Lake Victoria in relation to recent fish kills: a rapid assessment study within bays and pelagic zones	Dealing with water and environment shocks	Scientific	Deo Odota
54	Abstract On Experiences On Establishment of Energy Saving Cook Stoves in Aswa Catchment as Alternative Livelihood and Energy Saving Technology	Dealing with water and environment shocks	Practice	Deneth Mugarura
55	Assessment of the triggers of floods in the Rwenzori region	Dealing with water and environment shocks	Scientific	Brian Guma
56	Assessing Environmental Management Challenges and Solutions in Maziba Sub Catchment. A case of River Kiruruma, Kabale district	Dealing with water and environment shocks	Practice	Tusiime Gilbert-
57	Combating deep gullies in Maziba catchment. A Case study of Nyamurindira, Ruhanga and Kilembe micro catchments	Dealing with water and environment shocks	Scientific	Mugisha Louis
58	Effect of Eutrophication on the Quality of Water along the Shores of Lake Victoria	Dealing with water and environment shocks	Scientific	Namukisa Victoria
59	De-carbonizing Kampala City Transport System	Ensuring water and environment security for sustainable urban growth	Practice	Joseph Kigozi
60	Climate Resilient Urban Mobility by Non-Motorized Transport	Ensuring water and environment security for sustainable urban growth	Scientific	Joseph Kigozi
61	Water Contamination: Its Effects, Prevention, and Climatic Impact. A Case of Uganda	Ensuring water and environment security for sustainable urban growth	Practice	Vincent Olema
62	Seasonal dynamics of climate change on medium timescale and potential effect on patterns of hydro meteorological hazards in the Kyoga Water Management Zone	Ensuring water and environment security for sustainable urban growth	Scientific	Jesse Kisenbe

63	Hydrological regimes under dynamic land use and land cover changes in the Manafwa River catchment, Uganda	Ensuring water and environment security for sustainable urban growth	Scientific	Godwin Erima
64	Assessing levels of heavy metals and E.coli in green vegetables grown in the Nakivubo wetlands	Ensuring water and environment security for sustainable urban growth	Scientific	Paul Elema
65	Deterioration and Optimal Rehabilitation Models for Urban Water Distribution Systems: A case study of Kampala water, Uganda	Ensuring water and environment security for sustainable urban growth	Scientific	Rose Auma
66	Adoption of Interlocking Stabilized Soil Blocks	Ensuring water and environment security for sustainable urban growth	Practice	Benon Kwikiriza
67	Impact of Poor Stakeholder Collaboration On Wash-Data Chain Management: A Case Study of Mbale Municipality	Ensuring water and environment security for sustainable urban growth	Practice	Tumusiime Edmond Peter
68	WASH systems building blocks – a tool for water service improvement in Kabarole District Local Government	Ensuring water and environment security for sustainable urban growth	Practice	Anobe Florence
69	Evolving Sustainable Urban Growth through Multi-stakeholder Partnerships: The Greater Kampala PET Plastics Recycling Partnership	Ensuring water and environment security for sustainable urban growth	Practice	Masaaba Peter
70	Rapid Assessment and Design Study for Improved Waste Management in Kabango Town-Kiia Catchment, Masindi-Hoima, Uganda	Ensuring water and environment security for sustainable urban growth	Scientific	Kerudong Paskwale

A.4 Sponsors and partners for UWEWK2021

Table 6: List of the Sponsors and their logos

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