



Volume 8, Issue 1, March 2025

# Water and environment resources for enhanced resilience and improved incomes and livelihoods



**INSIDE THIS EDITION**

Towards sustainable use of River Mpanga

Bridging Uganda's WASH and Climate Divide

# TABLE OF CONTENTS

Editor's Desk	1
Message from The Minister	3
About the Uganda Water and Environment Week 2025	4
Shaping the Future of Water and Environment	5
Remembering Our Journey	7
Towards Sustainable use of River Mpanga:	8
How livelihoods in the Mpanga catchment have been impacted by adopting soil and water conservation techniques.	10
The Remarkable journey of WSDf-C in improving service delivery in Uganda	11
Towards Equitable and Sustainable use of water and environmental resources for improved incomes	14
Innovative Financing and Service Delivery Opportunities for Rural Safe Water in Uganda	35
KADWAMA'S Journey to becoming an Area Service Provider for Kamwenge District	16
Securing Water for Enhanced Resilience and Improved Incomes and Livelihoods Efforts by Water for Production Regional Center -Central	17
The Digital Migration Journey of forest data collection and Management	18
Efforts by Wetlands Management Department (WMD) in the Conservation of Wetlands in Central Uganda	19
IFPA-CD, Uganda's Conservation Success:	21
The impact of W&E Graduate Mentorship, Internship, and Placement program on delivery of water and environment sector objectives	23
Why mentorship will overtake training as the secret sauce for employee productivity:	24
Between Ruthless Rains and Scorching Suns: Bridging Uganda's WASH and Climate Divide" By Naomi W. Kabarungi, Communications and Advocacy Manager, IRC <a href="http://www.ircwash.org/uganda">www.ircwash.org/uganda</a>	26
Compliance to the Water Act in Refugee Settlements	28
Assessing the Impact of Human Activities on River Nile Banks and Lakeshores of Lake Victoria.	30
The role of water and environment in strengthening resilience and livelihoods.	31
Embracing Green Construction to Address Water, Environment, and Climate Challenges.	32
Embracing Green Construction to Address Water, Environment, and Climate Challenges.	33
Uganda Ramsar Sites:	34
The role of museums to boost a paradigm change on water and environment related perceptions and uses for sustainable education.	35
My Rwenzori Experience.	36



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## THE WATER AND ENVIRONMENT MAGAZINE

The Water and Environment magazine is a publication intended to share insights of accomplishments, on-going activities, challenges and opportunities within the Water and Environment sector. It targets professionals, practitioners, key sector stakeholders and the public as an avenue for providing feedback, encouraging dialogue and engaging through outreach. The authorship is from mainly the Water and Environment sector although its readership is intended for all.

## THE WATER RESOURCES INSTITUTE (WRI)

The Water Resources Institute (WRI) was established in 2018 to be a center of excellence that provides cutting edge applied research and training; delivers continuous professional skills development across all levels of water, environment and related resources management and development while serving as a neutral place for dialogue and outreach for the sector.

## DISCLAIMER

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The MWE, WRI and the editors will not accept responsibility for any damage or loss suffered by any person or party acting or refraining from acting upon any material contained in this publication.



*Our Esteemed Reader,*

As Uganda continues its journey toward sustainable development, the challenges surrounding water and environmental management have never been more pressing. Climate change, rapid urbanization, pollution, and increasing water demand are straining our natural resources. Yet, amid these challenges, there are opportunities to innovate, collaborate, and build a more resilient future.

We are excited to present to you the 8<sup>th</sup> edition of the Water and Environment Magazine, wherein we are reminded of the critical role the Ministry of Water and Environment (MWE) plays in shaping the socio-economic transformation of Uganda. MWE continues to deliver on its core mandate of sound management and sustainable utilization of water and environment resources. This is in a bid to achieve the Uganda Vision 2040, agenda 2030 and the various national development priorities and targets. The Ministry has undertaken a number of activities aligned to water supply, sanitation and hygiene, water for production, water resources management, water for health, water for ecosystems, environment and natural resources, climate change and other cross cutting issues.

This Edition of the Water and Environment Magazine has been prepared at a time when the country is celebrating the Uganda Water and Environment Week (UWEWK). Our theme this year, *"Water and Environment Resources for Enhanced Resilience and Improved incomes and Livelihoods,"* underscores the need to enhance cooperation and bridge borders for peaceful and sustainable utilization of water and environment resources to ensure resilient communities and improved lives and livelihoods. As we gather policymakers, researchers, and communities, sector and non-sector players, we will explore innovative solutions that protect our natural resources but also enhance livelihoods across the nation.

UWEWK2025 is the 8<sup>th</sup> of its kind and will be a week-long event slated for 17<sup>th</sup> to 21<sup>st</sup> March 2025. This is preceded by various pre-event activities in the MWE-deconcentrated regional structures around various places of the country. These activities include the Walk for water, environment and climate

change, Youth Debates, Clean up exercises, sports activities, science innovation hubs, health camps, and radio and TV talk shows, among others. As part of UWEWK, we shall celebrate key international sector days; International Day of Forests, World Water Day and World Meteorological day.

Uganda Government took centre stage in the recently concluded COP29, where countries came together to showcase unity against an existential threat of climate change. In this UWEWK2025, MWE will share the outcomes of COP29 and explore the role of water and environment in climate action. In addition, will explore ways to harness the momentum from such international stage events to inspire collective action towards a sustainable future for Uganda's water and environment resources.

We as well, present to you experiences of sector partnerships, industry experts and practitioners in addressing the emerging water and environment issues. These range from water resources regulation, financing, water and environment information management, and many others. Read on and enrich yourself with knowledge from the various practitioners.

The increasing need to involve youth and women in the water and environment is gaining attention. This magazine highlights MWE's efforts to engage diverse interest groups in sustainable management and development as well as addressing water and environment challenges.

As we engage sector and non-sector players, MWE has consistently advocated for breaking silos in the development and management of water and related resources. This has created space for collaboration with various partners, including public and private practitioners, NGOs, CSOs, religious and cultural institutions, and academia. MWE has largely implemented its mandate through collaboration, and we are pleased to share highlights of these initiatives.

We sincerely appreciate our contributors for their dedication and passion in bringing these pages to life. Their insights have helped highlight key challenges in achieving SDGs related to water, sanitation and pollution abatement and ecosystem conservation and protection.

As we usher you into this exciting journey, let us build resilient communities with our valued water and environment resources amidst the climate change crisis in Uganda. Together, we can build a resilient Uganda that thrives in harmony with its natural resources. Thank you for your continued support and commitment to this vital cause.

*Join us on this journey—because water and environment matter!*

# Message from The Minister

*Ladies and Gentlemen,*

It is with deep pride, unwavering commitment, and a forward looking spirit that I present to you this edition of the Water and Environment Magazine, as part of our annual publication—a magazine that stands as a testament to our shared journey towards a sustainable and resilient Uganda. In these pages, we share with you our story, our challenges, our triumphs, and our vision. Today, as we stand on the threshold of a new chapter in our environmental stewardship, we have much to celebrate and even more to aspire to.

I am honored to share this message as we prepare to celebrate the upcoming Water and Environment Week from March 17th to March 21st, 2025. This annual event is a cornerstone of our commitment to safeguarding Uganda's vital water and environmental resources, which are essential for enhancing resilience, improving incomes, and uplifting livelihoods across our nation.

Our country is blessed with abundant water bodies and diverse ecosystems that form the foundation of our economic growth and community well-being. However, with challenges such as climate change, rapid urbanization, and environmental degradation, it is imperative that we manage these resources sustainably. This year's theme, "**Water and Environment Resources for Enhanced Resilience and Improved Incomes and Livelihoods,**" reflects our determination to confront these challenges head-on and to transform our natural wealth into lasting prosperity.

The Water and Environment Week is more than just a series of events—it is a call to action. It provides us with an opportunity to engage in meaningful dialogue, share innovative solutions, and forge stronger partnerships. Our approach recognizes that the challenges we face cannot be addressed by any single entity. It is through collaborative efforts with local communities, private sector partners, international organizations, and academic institutions that we have been able to advance our initiatives in water supply, sanitation, and ecosystem restoration.

Over the past years, our Ministry has worked tirelessly to expand access to clean water, improve sanitation infrastructure, and restore degraded ecosystems. We have implemented integrated water resource management strategies and launched projects that empower communities to manage their local environments effectively. These collective efforts have resulted in significant progress, from enhanced water



quality and infrastructure development to increased community resilience against climate impacts.

In a special way, I wish to thank the different partners who have supported us in delivering on our mandate. During the UWEWK2025, we have received tremendous support from our usual and new partners. We are grateful to the leadership of District Local governments, Civil Society, Development partners, Cultural institutions, Uganda Joint Christian Council, various City Authorities and various organizations, schools and local leaders around the country for joining us and supporting us once again to celebrate a memorable UWEWK2025.

Looking forward, we remain steadfast in our commitment to innovation and sustainable development in the use and safeguard of our water and environment resources. As we embark on the Water and Environment Week, I urge every one of you to participate actively in the discussions, workshops, and community activities planned throughout the week. Your insights, energy, and collaboration are essential in our collective journey toward a more sustainable future for Uganda. Together, we can create an environment where clean water flows freely, ecosystems thrive, and every Ugandan enjoys the benefits of improved livelihoods and enhanced resilience.

Thank you for your unwavering support and for joining us in this vital mission. Let us continue to work hand in hand toward a greener, more prosperous Uganda.

For God and My Country

Hon. Sam Cheptoris  
Minister of Water and Environment

# About the Uganda Water and Environment Week 2025

The Uganda Water and Environment Week (UWEWK) is a weeklong event that is organized annually by the Ministry of Water and Environment (MWE) through the Water Resources Institute (WRI). Since its inception in 2018, the event seeks to contribute towards the attainment of sustainable socio-economic transformation and achieving Ugandan National Development Plan III and Vision 2040. It provides an interface between sector actors and other stakeholders for knowledge exchange, advocacy, influencing, dialoguing, and learning for the improvement of Uganda's water and environmental resources.

The Ministry of Water and Environment through the Water Resources Institute (WRI) together with partners will hold the eighth Uganda Water and Environment Week (UWEWK) from Monday 17<sup>th</sup> March to Friday 21<sup>st</sup> March 2025.

The event will bring together Government Ministries, agencies and departments, Development Partners, Civil Society Organizations, NGO's, Cultural and Religious Institutions, Private Sector, Academia and Researchers, and other institutions within the Water and Environment network to engage and exchange information on water and environment management and development in general and across various sectors of the economy. The event has developed into a flagship program for advocacy, information sharing, and learning within the water and environment spectrum.

The overall theme of UWEWK 2025 is *"Water and environment resources for enhanced resilience and improved incomes and livelihoods"* and will be explored through four sub themes which include:

*The UWEWK event seeks to contribute towards the attainment of sustainable socio-economic transformation and achieving Uganda's National Development Plan III and Vision 2040*

SUB-THEME

1

**Water and environment for a peaceful and sustainable future.**

SUB-THEME

2

**Water and environment for climate action.**

SUB-THEME

3

**Equitable and sustainable use of water and environment resources for improved incomes and livelihoods.**

SUB-THEME

4

**Water and environment innovations, knowledge and capacity for empowering a new generation.**

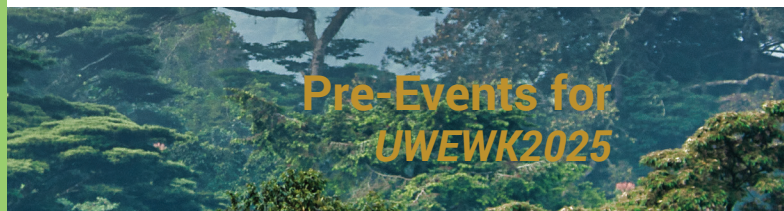
The holistic and innovative approach in delivering the UWEWK2025 aims to create linkages between previous UWEWKs, and other water, environment and climate change related events such as UN Water Conference , SDG Summit, World Biodiversity Summit, Nile Basin Development Forum, AfricaSan7, and COP28.

The nexus between water, environment, conflict and peace is profound, water scarcity can escalate tensions between nations, but cooperation in water and environment utilization can foster relationships and help communities become more resilient. Similarly, as climate change intensifies and populations grow, the pressure on water and environment resources increases alongside the potential for conflict among communities, users and stakeholders. To maintain peace in water scarcity regions, we must invest in sustainable water management systems to provide a long-term solution. That's why water and environment sustainability is vital to the future well-being of humans, aquatic conservation, ecosystems and socio-economic development.

# Shaping the Future of Water and Environment



**UGANDA  
W&E  
WEEK**



**A**s Uganda gears up for the highly anticipated 2025 Uganda Water and Environment Week (UJWEWK2025), a series of pre-events have been conducted to lay the groundwork for insightful discussions, innovation, and action in the water and environment sector. These pre-events serve as crucial platforms for stakeholders—ranging from policymakers and researchers to practitioners and communities—to engage in meaningful dialogue, share knowledge, and shape solutions that drive sustainable water and environmental management.

This year, the pre-events focused on emerging challenges and opportunities in water governance for peace, climate action, pollution control, and sustainable resource management. Through technical workshops, field demonstrations, public engagement forums, and youth innovation competitions, participants have gained valuable insights and contributed to shaping the agenda for UJWEWK 2025.

By fostering collaboration and proactive engagement ahead of the main event, these pre-events aim to set the stage for impactful policy recommendations, innovative solutions, and strengthened partnerships that will drive Uganda toward a more sustainable and climate-resilient future. Stay tuned for updates on

schedules, key speakers, and how you can participate in shaping the future of water and environmental management in Uganda.

## Albertine Region Pre-event Activities

In the Albertine region, the MWE entities participated in the flag off of the walkers from the region in Buliisa. Engagement of key partners in the Albertine

region has continued during UJWEWK2025 and this involved dialogues, youth debates, sports activities etc.

The Albertine region is a host of key administrative and economic powerhouses of the country such as Fort Portal tourism city, Albertine Oil graben, etc. The face of water and environment has been vivid during the pre-event activities in this area.



*Chairperson of Uganda Local Governments Association, Hon Richard Rwabuhinga joins MWE officials, partners and stakeholders during the open day and Commissioning of hydrological station in AWMZ*



### Northern Region Pre-event Activities

As part of the Northern Water and Environment Week (NUWEWK) activities, the Ministry of Water and Environment (MWE) – UNWMZ conducted school engagement sessions in several schools such as Vanguard Primary School, Mother Ludia Nursery and Primary School, Laroo Primary School, Emmanuel Primary School and Gulu Primary School. This has helped to rally and inspire the young generation to protect water resources and advance the cause of sanitation and hygiene.



Engagement with young minds in during NUWEWK

### Karamoja Region Pre-event Activities

Various activities have been conducted as part of celebration of UWEWK2025 in Karamoja region, focusing on environmental conservation, sanitation, and community engagement to promote sustainable water management.

MWE officials, development partners and the local community undertook a general cleaning exercise at Moroto Central Market, removing solid waste, unclogging drainage trenches, and sweeping the area. The week's events will culminate in a Menstrual Hygiene Run on 15th March, with proceeds supporting girls in Karamoja.

### Eastern, Central, and South-Western Region Pre-event Activities

UWEWK continued throughout with every corner awake alive to the water and environment issues in the country. Several activities targeting every stakeholder were conducted. These included cleanup exercises, public dialogues, youth engagement, among others.



Launch of UWEWK2025 in Eastern region

### The 518km Walk for Water, Environment and Climate Change

UWEWK2025 has featured a 317km Walk for Water, Environment and Climate Change, aimed at catalyzing dialogue and document collective action and innovative solutions to water, environment, and climate change. The walk started on 3<sup>rd</sup> March 2025 Buliisa. The walkers traversed various districts including Buliisa, Masindi, Nakasongola, Luweero, Wakiso and Kampala.



Flagging off of Walkers in the Albertine region



General cleaning exercise at Moroto Central Market



# Remembering *Our Journey*



## The successful story of UWEWK2024

The Ministry of Water and Environment through the Water Resources Institute (WRI) together with partners held the seventh Uganda Water and Environment Week (UWEWK) from Monday 18th March to Friday 22nd March 2024. The overall theme of UWEWK 2024 was **“Rethinking collective action and innovative solutions to water, environment, and climate change crisis in Uganda”**.

UWEWK 2024 was preceded by various pre-event activities in the MWE regional offices and around various places of the country. These activities included the 518km Walk for water, environment and climate change, Youth Debates, Clean up exercises, sports activities, radio and TV talk shows, among others.



Some officials during the opening ceremony including the Guest of honor and Minister of Water and Environment

The main event was held at the MWE headquarters and graced by various dignitaries. Key activities included Keynote addresses, panel discussions, paper presentations, side events and exhibitions.



Delegates during a Panel discussion



Some pre-events in UWEWK2024; L-R Flagging off of Walkers, Cleanup exercise, tree planting, March in Mbale city

This UWEWK2024 event was largely successful with a combined attendance of 2319 (Physical-1551 and Online-768) participants and over 60 partners and sponsors. As part of the main event, there were Key Note Addresses and Dialogues, 6-Applied trainings, 34 Papers and Poster Presentations and 16 Side events that included Career Talk Show, Youth Debates and the University Hackathon, Career talk and Mentorship, Field Visits, Project Launches, etc. Key outcomes were carried forward to shape the future of collective action and innovative solutions for water and environmental action.



THE REPUBLIC OF UGANDA  
MINISTRY OF WATER AND ENVIRONMENT



water for people  
UGANDA

# Towards Sustainable use of River Mpanga

## How the Albert Water Management Zone is working with Stakeholders to mitigate the Water Security challenges in the Mpanga Catchment Area

*“Flooding, such as that seen in the Rwenzori region upstream of the Mpanga River, is creating environmental refugees,”* says Mr Tusiime Tinkasimire Samuel, a Senior Sociologist with the Rural Water and Sanitation Regional Centre 5 of the Ministry of Water and Environment.

The Mpanga River has historically been a source of abundance and a lifeline for communities in Western Uganda, from its source in the Rwenzori mountains to Lake George in Kitagwenda District. For generations, the river has provided water for drinking, agriculture, and livelihoods. The area’s landscapes and fertile soils, coupled with the existence of the water body, have been contributing factors to the communities’ thriving, fostering a deep connection between the people and the river.

However, with increased population across the districts in the catchment and rapid urbanization and increased human activity, notably in Fort Portal City, the story of Mpanga has, in recent years, turned bitter. The river has flooded on various occasions, eroding the landscape; the waters have been polluted with

physical, chemical, and biological residues, making it unsafe for human and animal consumption, with extreme weather changes exacerbating the situation

### **Paying a heavy cost for safe drinking water**

“Our water treatment costs are highest during the wet season because of human activities where people open the riverbank and residues from these activities make the water compromised,” says John Paul Onencan, the Senior Water Resources Quality Controller for the National Water and Sewerage Corporation (NWSC) in Fort Portal City.”

Mr. Onencan further explains that it takes more water purifiers to make the water safe and clean for human consumption.



A section of River Mpanga in Fort Portal City showing pollution and poor garbage disposal

### Albert Water Management Zone's collaborative approach to tackling water security challenges

In a bid to achieve more a holistic approach, integrating the management of land, water, and related resources within the entire catchment area, GoU through MWE, divided the country into four water management zones: Albert, Kyoga, Upper Nile, and Victoria.

"The ministry has evolved since 2011 when we deconcentrated into water management zones with our major role being to implement catchment-based water management resources approach," explained Dr Guma Brian Emmanuel, the Albert Water Management Zone team leader. This approach birthed the **Mpanga Catchment Conservation Project**. Launched in 2015, the project represents a significant shift in how the vital water resource is managed.

Some of the project's key initiatives and outputs are presented below;

- Integrated Water Resources Management (IWRM):** The development of the Mpanga Catchment Management Plan was undertaken as part of IWRM, a process focused on creating and implementing comprehensive plans for sustainable water use that balance the needs of sectors such as agriculture, domestic use, and industry.



Terracing and tree planting in Karangura have helped reduce soil erosion and river silting

- Environmental Protection:** Environmental protection efforts that are carried out include enforcing regulations against deforestation and encroachment on water sources, promoting sustainable land management, and controlling pollution from agricultural and industrial activities. As part of this, a 30km stretch of riverbank was designated for protection, with over 5km already restored through nature-based methods like afforestation and grass planting. Terracing, implemented in areas like Karangura, has helped prevent soil erosion and river silting.
- Community Engagement:** This is key aspect of the project's work, which includes educating people about the risks of polluting and degrading water resources and fostering local ownership and protection of these resources to ensure effective local action.
- Monitoring and Enforcement:** A robust system was established to track water quantity and quality, land use changes, etc. This system entailed the installation of surface water monitoring stations, weather stations, and groundwater divers. This has enabled projections to measure the environmental response to implemented reforms.

### Contribution of Water for People

Key challenges facing the project include limited funding, capacity constraints, and the need for stricter enforcement against pollution in the catchment. Implementing partners, notably Water For People, play a vital role in addressing these gaps and supporting the government.

Effective enforcement of the buffer zones established with Water For People's assistance is now essential to prevent further encroachment on the Mpanga's water resources.

### Success stories

There is evidence that the project's interventions are indeed paying off as evidenced by the 2024 Knowledge, Attitudes, and Practices (KAP) study commissioned by Albert Zone and Water For People and funded by the Conrad N. Hilton Foundation, revealing that over 90% of the target population have knowledge and are aware of climate change.

Tangible gains so far realized include increased hydropower production from less than 1MW of power to 5 MW, improved agricultural output in Karangura sub county, among others.

The Mpanga River stands at a turning point. The Mpanga Catchment Conservation Project offers a beacon of hope for a sustainable future, aiming to reverse degradation and restore the river. The success of this ambitious project is crucial for the future of the Mpanga and the communities it sustains



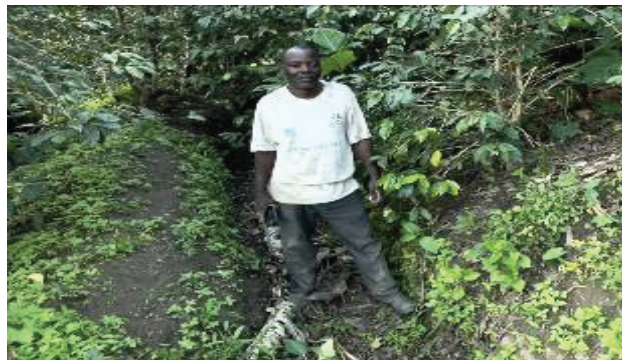
# How livelihoods in the Mpanga catchment have been impacted by adopting soil and water conservation techniques.

By Kiteme Rita, Sociologist at MWE-AWMZ

River Mpanga has an approximate length of 200 Km with a catchment area of 5,200 km<sup>2</sup> and flows through Kabarole, Fort Portal City, Kyenjojo, Kazo, Ibanda, Kiruhura, Kitagwenda, and Kamwenge districts. MWE, through the AWMZ, with funding from the Joint Partnership Fund, developed the Mpanga Catchment Management Plan in 2015.

The Mpanga Catchment Management Plan was developed with input from all major catchment stakeholders, including government Ministries, Departments & Agencies, civil society, non-governmental organizations, and water user associations, the private sector, media, and cultural & religious representatives. The plan highlights the challenges affecting water and environment resources; including pollution, wetland encroachment, soil erosion, riverbank stabilization, and poor land use practices. Additionally, the plan emphasizes the appropriate remedial catchment management measures.

The AWMZ has implemented various remedial catchment management measures since 2016 on the hotspots in the upper, middle, and downstream sections of the Mpanga catchment. Considering that the river originates from the upstream Karangura hills in Kabarole District, erosion was prioritized, and hence, communities were equipped with knowledge and skills in soil and water conservation to minimize the rate of runoff as well as siltation of the river.



Contour bunds constructed in Muhindo Hezron's

The results were visible two years later, as evidenced by some beneficiary community members in the Karangura Sub-county. Muhindo Hezron Kalyata, a 55-year-old coordinator of the Kanyamura Twekambe Farmers Marketing Association, expressed his gratitude for the positive impact on their environment. As one of the benefactor farmers, he now boasts of the benefits of implementing measures like the contour bunds, and vetiver grass planting. He reports that before this, there was significant soil loss and mudslides during the rainy season, which had a detrimental effect on the community's livelihood when houses and crops were destroyed. Therefore, he extended his appreciation to the Government of Uganda for providing hands-on training in soil and water conservation techniques, tree growing, and the supply of agricultural equipment such as hoes, cutlasses, axes, and shovels for the continuous maintenance and replication of the measures to other surrounding villages. Muhindo says, "We now harvest produce that is worth more than it was in the past because the terraces have increased water retention during the dry season and hence a bunch of matooke that was once valued at 5,000 Shs now costs 15,000 Shs or more. Additionally, the coffee yield has increased from 2 kilograms to 20 kilograms per tree, drawing additional assistance from organizations such as the Uganda Coffee Development Association (UCDA)."

Kalyata also emphasized the need for extra support for disaster-prone communities to foster climate change adaptation and sustainable development.



A percolation pit in a benefactor farmer's garden in Karangura Sub-county demonstrates "road water harvesting"

# The Remarkable journey of WSDF-C in improving service delivery in Uganda

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The Ministry of Water and Environment, in collaboration with its development partners, established the Water and Sanitation Development Facilities (WSDFs) across Uganda. These facilities include WSDF-South West in Mbarara, WSDF-North in Lira, WSDF-East in Mbale, WSDF-Central in Wakiso, and WSDF-Karamoja in Moroto. The primary goal of these facilities is to develop sustainable water supply and sanitation services in Small Towns and Rural Growth Centers. WSDF-Central is Headquartered in Wakiso Town Council and covers 29 districts in Central and Mid-western regions of Uganda. WSDF-C has been a pivotal force in improving water and sanitation infrastructure for over a decade.

WSDF-C was established in 2010 and has since constructed more than 60 piped water supply and

sanitation systems. The region encompasses over 119 gazetted Town Councils and numerous Town Boards. Initially, WSDF-C operated with financial support from both the Government of Uganda (GoU) and development partners. This collaborative funding model continued until 2020, after which the facility has relied solely on financing from GoU.

Over the years, WSDF-C has constructed piped water supply and sanitation systems in 61 urban centres since its inception. This achievement, remains below the planned target of the 147 Towns that were prioritized for implementation in 2010. Nevertheless, the facility continues to receive numerous applications for services which has resulted into the current priority list of over 300 towns in dire need of water and sanitation services in the region.

The table below provides a summary of the Water Supply and Sanitation Systems implemented by WSDF-C. **Summary of WSDF-C Phase I and II accomplishments**

Phase	Completed construction projects		Completed designs		Ongoing designs		Ongoing construction	
	WSS	FSMF	WSS	FSMF	WSS	FSMF	WSS	FSMF
Phase-I	28	1	12	-	-	-	-	-
Phase-II	30	2	13	1	14	3	3	-
WSS – Water Supply Systems FSMF – Fecal Sludge Management Facility								

WSDF-C has made remarkable strides in improving service delivery in Uganda, aligning with the government’s strategic agenda for attaining middle-income. Key achievements include;

- 1. Water Supply Projects:** Phase-I and II construction projects led to over 16,681 new private consumer connections (yard taps) and 564 public fetching points. These facilities initially serve 732,905 people for Phase –I and 484,093 people for

Phase-II, projected to grow to 1,004,115 in Phase-I and 552,108 under Phase-II by the 20-year design horizons.

- 2. Increased Water Delivery:** More water reached 7,392 villages in 1,077 parishes, translating to 68.3% village/ parish coverage by the end of

2022.

3. **Improved Hygiene and Health:** Wider access to water boosted daily water use, improved hygiene, health, and socio-economic activities. The burden of collecting water from remote locations decreased.
4. **Reduced Gender-Based Violence:** The project significantly reduced gender-based violence, including rape and assault, by shortening distances to water sources and reducing competition at point water sources.
5. **Increased School Attendance:** Particularly among girls, due to shorter distances to water sources and better hygiene practices.
6. **Enhanced Sanitation:** Access to basic sanitation, which is the percentage of the population using an improved sanitation facility not shared with other households reduced to **47.8%** from 47.9% in FY 2021/22 attributed to inadequate funding of urban sanitation and increased to **26.9%** from 24% in FY 2021/22 in rural areas and this was attributed to the increased uptake and implementation of market-based sanitation which focuses on upgrading and construction of improved sanitation facilities.

Sanitation coverage, which is the proportion of the population accessing any form of sanitation facility regardless of its quality and compliance with standard stands at **90.8%** in urban areas and **79.5%** in rural areas.

With indicators below the national level of 47.8% and 90.8% in urban areas as reflected in table 2 below.

**Summary of percentages for basic sanitation and sanitation coverages implemented by WSDF-C per region.**

WSDF-C regions	Percentage of basic sanitation coverage	Percentage of Sanitation coverage
South Central region	31.8%	77.9%
North Central region	40.8%	78.7%
Bunyoro Sub regions	27.6%	77.8%

**Therefore,** with a significant reduction in the stance-pupil ratio in targeted institutions, these achievements highlight the significant impact of WSDF-C's efforts in improving the quality of life for Ugandans and supporting the country's development goals.



*WSDF-Central staff together with Kagadi stakeholders inspecting the wash out at the pump house for Kagadi Piped Water Supply System*

Certainly, while WSDF-C has achieved tremendous progress, several challenges were faced during the implementation of these projects:

- **Funding Constraints:** The level of financing for development of water supply and sanitation systems is not commensurate to the population growth which is continuously slowed achievement of 100% coverage for water supply and sanitation.
- **Safely Managed Sanitation:** The Ministry of Water and Environment through the regional WSDF-C is carrying out different initiatives to raise the level of Safely Managed Sanitation, which is defined as “the percentage of the population with access to basic sanitation where excreta are safely disposed in-situ or transported and treated off site”.

Currently, only 9.8% of the population in rural areas are practicing safely managed sanitation in urban areas only 41%. These low levels of safely managed sanitation pose serious public health and environmental risks and must be addressed through development of a complete sanitation value chain comprising of containment faecal waste, emptying, transporting, disposal, treatment and reuse.

Most of the urban centers in the country cannot generate adequate waste water flow volumes to sustain proper operations of sewerage faecal sludge management systems.

Most of households and business premises in the country depend on onsite sanitation facilities for containment of faecal sludge. However, most households and institutional toilets do not meet the required minimum standards for onsite sanitation technologies. Yet the filled-up toilet facilities must be safely emptied and the sludge is safely discharged into the environment

To ensure that the sanitation value chain is complete and operational, faecal sludge treatment plants have to be developed within reasonable distances thus ensuring affordability of the process.

▪ **Land Acquisition:**

Limited willingness of people to sacrifice their land for the development of Water Supply Systems, land is increasingly due to increasing population pressure.

▪ **Costly Technologies:**

Developing appropriate and sustainable technological solutions for water

supply and sanitation is becoming more expensive due to degradation of the environment, spatial distribution of water bodies, poor waste disposal, rapid population growth (urbanization) among others. These have necessitated installation of technologies for haulage of water and waste over long distances and advanced water treatment.



**Going forward:**

WSDF-C has transformed access to water and sanitation in Central Uganda, benefiting thousands of people. While challenges persist, continued investment, donor partnerships, and government support are key to meeting **Uganda's Vision 2040 and SDG goals**. Looking ahead, WSDF-C is committed to expanding services, improving sustainability, and ensuring no community is left behind.



*The new collection tank for Lunya Water Supply System under construction*



## Towards Equitable and Sustainable use of water and environmental resources for improved incomes



**Lessons from Rural Water Supply and Sanitation Department-Regional Centre 4**



**RWSSRC-4` Team at the Bugomolwa WSS handover in Kyankwanzi district funded by the World Bank**

The department of Rural water and sanitation as mandated by the Ministry of Water and Environment under its regional centres has a role of ensuring the Equitable and sustainable use of water and environmental resources so to improve livelihoods. This entails ensuring that everyone has fair access to water and natural resources to achieve economic development, without compromising the needs of future generations or the environment as a whole.

As guided by programme area 6 of NDP IV, AGENDA 2040,SDG 6,12.13 and 14 among others, the Sustainable management and use of natural resources such as land, water, & environment and the effective response to climate change are essential for boosting productivity and value addition. There is therefore need to improve the productivity of human capital and increase household incomes to achieve

a balanced resilient, and sustainable development trajectory.

RWSSRC-4 in collaboration with partners such as Water for People, Whave solutions, are Operationalising the New O&M Framework which partly aims at ensuring equitable and sustainable use of water and environment resources for improved incomes and livelihoods through the various activities;

- Enhancing access to water, sanitation and hygiene (WASH) through advocating for piped systems from point water sources.
- Improving maintenance and functionality of WASH facilities through advocating for ASPs.
- Promoting community mobilization and mindset change through encouraging community participation on projects and training.
- Promoting descent employment opportunities by advocating for prioritization of local labour by the ASPs and Projects contractors .
- Strengthening public-private partnership by attracting the participation of potential Donors through Grant proposal writing.
- Providing support to the planning and development of water supply and sanitation projects through implementation of IWMDP, EXIM Bank Projects and Nexus Green Projects and District Local Governments (DLGs)..
- Promoting appropriate technologies and sanitation practices in rural areas which are climate resilient e.g adoption of solar powered systems, CTLS, MBSIA

However, some challenges still persist and these include Land Acquisition and associated hostility, Compensation costs who do not tally with the people's expectations, Low capacity of local contractors hence reliance on foreign companies, climate change which affects system service levels and low Funding from the government.

In conclusion the equitable and sustainable use of water and environmental resources is crucial for improving incomes and livelihoods, particularly in rural communities. By implementing integrated approaches such as IWRM, Water harvesting and conservation, Ecosystem based adaptation and community led total sanitation (CLTS) etc, we can promote sustainable development and reduce poverty while protecting the environment.



# Innovative Financing and Service Delivery Opportunities for Rural Safe Water in Uganda



Instiglio is a non-profit organization that supports social and public leaders to improve the impact of social programs by leveraging results approaches such as results-based financing (RBF) and performance management. Instiglio works in diverse sectors, such as water and sanitation, education, women's economic empowerment, health, governance, and institutional strengthening. Instiglio works with multilaterals, bilaterals and philanthropies such as World Bank, UNICEF, USAID, the Conrad N. Hilton Foundation, and with governments, including in Kenya, Colombia, Peru, Egypt, and Morocco. In Uganda, Instiglio is working with the Ministry of Water and Environment (MWE) to optimise allocation of resources in the sector, with the Office of the Prime Minister, the Ministry for Relief, Disaster Preparedness and Refugees to improve outcomes for refugees and host communities.

Instiglio has been working with the Government of Uganda (GoU) and partners, to adopt innovative financing solutions to promote effective, sustainably financed, safe water services. Within the water sector, Instiglio's has analyzed existing and potential stakeholders, regulations and financial flows in the sector to understand existing opportunities, constraints, and accountability mechanisms between key actors (e.g., government, donors, service providers, users). Instiglio has shared insights from this assessment with the GoU and other stakeholders and is working with those stakeholders on a proposed innovative financing and service delivery model (a Delivery Accelerator) co-designed with the MWE, which aims to improve service delivery efficiency and results in the water and environment sector.

With the leadership of the MWE, Instiglio is supporting the co-development of the water sector financing facility, a structured performance management strategy, and performance and management contracts tailored to the rural water sub-sector. This packaged solution builds on Uganda's National Development Plan IV (NDP IV), Uganda's Vision 2040, and other sector policies to professionalize water services and strengthen existing governance and accountability mechanisms in line with GoU objectives. The operationalization of this strategy involves engagement with sector stakeholders, including MWE, DLGs, and potential service providers, structured reviews of existing documents and key informant interviews. This approach seeks to support the operationalization of the O&M framework, further supporting safe water access and service delivery across Uganda's Water sector.



## KADWAMA'S Journey to becoming an Area Service Provider for Kamwenge District

In the heart of Kamwenge District, a quiet revolution in the provision of rural water services has, over the past ten years, been unfolding. At the heart of this transformation is the Kamwenge District Water and Maintenance Association (KADWAMA), a registered association and business dealing in the maintenance and repair of water sources, as well as sanitation in Kamwenge. KADWAMA has worked closely with UNICEF and Water For People towards achieving the goal of universal access to safe water and sanitation in the district.

### The Rise of KADWAMA

KADWAMA was born out of necessity. For years, rural communities in Kamwenge District struggled with unreliable water systems. Hand pumps would break down frequently, and repairs were often delayed due to a lack of skilled personnel and spare parts. Water For People skilled over 60 handpump mechanics, but only 35 of them remained in Kamwenge, while the rest remained in Kitagwenda. service provider," Mr Michael Byamukama, the Assistant District Water Officer at Kamwenge District clarifies.



*HPMAs at work: Charity Tumuhairwe repairing a borehole*

### Building Capacity and Embracing Partnerships; From Mechanics to Service Providers

Recognizing KADWAMA's potential to address systemic water service delivery issues, Kamwenge District and development partners provided support. Training programmes equipped KADWAMA mechanics with advanced technical skills, financial management knowledge, and business development support, enabling them to operate as a professional service provider.

### Achievements and Impact

Today, KADWAMA is a beacon of hope for rural communities in Kamwenge District, maintaining over 200 hand pumps and other

water systems and providing clean water to thousands of households. Their proactive maintenance approach has significantly reduced downtime, ensuring communities have consistent access to safe water.

The partnership with Water For People has further amplified their impact. Together, they have implemented community sensitization programmes on water, sanitation, and hygiene (WASH), educating residents on the importance of safe water practices and hygiene.

### Challenges and Learnings and Looking to the Future.

The journey has not been without obstacles. KADWAMA has faced challenges such as limited funding, difficulties in sourcing spare parts, and occasional resistance from communities unfamiliar with the concept of paid water services. However, the association has navigated these challenges with resilience, learning valuable lessons along the way such as inclusive Community Engagement to build trust, developing a sustainable financial model and prioritising Partnerships.

Currently, KADWAMA aims to train and empower more young people to join the water sector, ensuring a steady pipeline of skilled professionals.

# Securing Water for Enhanced Resilience and Improved Incomes and Livelihoods: Efforts by Water for Production Regional Center -Central



You probably wouldn't get through the first 15 minutes of modern life without water. You drink water, wash your face, brush your teeth, and take a shower with water. Water through irrigation produces the food you eat and raw materials for industries for most products used today. Water is arguably the single most important resource on the planet that we live on, and that is why it is essential that we secure it.

Climate change is a reality and is having a big impact against the national development plans. Effects of extreme weather condition are being fought through "fire fighting" responses which in most cases are uncoordinated and leave little positive impact on the ground. In terms of prolonged droughts and unexpected floods, it is in this regard that MWE through its department of Water for Production (WfP) is promoting development of bulk reservoirs and creation of adequate storage as water security to withstand long droughts and flood mitigation in Uganda. A study by the Office of the Prime Minister (OPM) estimated a loss and damage of UGX 2.8 trillion (US\$ 1.2 billion) to the Ugandan economy, equivalent to 7.5 % of the country's GDP in 2010 due to erratic rains. According to the environment report 2014, on average 800,000 ha of crops are destroyed every year by climate –related events.

Interventions have been made to secure water for production through developing and utilizing of available water resources for productive use in crop irrigation, livestock, aquaculture, rural industries and other commercial uses to improve people's livelihoods. To reduce on dependency on rain fed agriculture, WfP has reconstructed/rehabilitated medium and small-scale irrigation schemes all aiming at increasing water coverage for crop production, livestock and human consumption. Bulk water transfer systems, earth dams, valley tanks, deep boreholes and windmill powered water supply systems have also been constructed to increase water storage.

Water for Production (WfP) has so far completed



*A flourishing cabbage garden under sprinkler irrigation scheme irrigation in Kanamba , Mityana District*

construction/rehabilitation of nine (9) medium sized irrigation schemes in Doho in Butaleja District (1000ha), Mubuku in Kasese District (516ha) , Olweny in Lira District (600ha) , Agoro in Lamwo District (650ha), Mubuku 11 in Kasese District (480ha), Doho 11 in Butaleja District (915ha), Tochi in Oyam District(500ha), Ngege in Kween District (880ha) and Rwengaaju in Kabarole District(116ha) and is expected to create a further 3955ha on completion, creating 5657ha of irrigation across the country. An addition of 91 solar powered small scale irrigation schemes (2135acres) have also been constructed in several districts and some still under construction.

All these interventions are aimed at meeting the implementation targets set out for the department which include; 1.5 million hectares of irrigated land by 2040 (50% of the country's irrigation potential) and 163.67 million cubic meters of water for production storage by 2030 as reported in the National Irrigation Policy (2018) and the Water and Environment Sector Strategy Investment Plan 2018-2030 respectively.

A question arises! With all these interventions and the amount of water needed to serve these interventions, Are Uganda's water resources secure for the future? Uganda's level of irrigation is very low compared to other east African countries standing today at a rate of 0.2% compared to 4.1% in Kenya, 2.7% in Burundi,3.6% in Tanzania and 11.4% in Rwanda.

According to the National Water Resource Assessment Report (2013) of the Ministry of Water and Environment, the sum of the external and internal renewable surface water resource (the average annual river flow generated from precipitation) in Uganda amounts to 43.3 billion cubic meters per year. However the utilization rate of the entire renewable surface water resources as per 2013 stood at mere 0.01%.

If the full irrigation potential was to be exploited, the demand for water would be increased by over 400% by 2030 translating into a utilization rate of renewable water resource of just 0.05%. This low level coupled with the implementation of irrigation under integrated water resources management would lead to sustainable irrigated agricultural development, increase in agricultural production and productivity thus enhancing resilience and improved incomes /livelihoods.





# The Digital Migration Journey of forest data collection and Management

*Lessons from the Forest Sector Support Department-MWE*



## 1. From Paper to Pixels: The Forest Sector's Digital Transformation

The Forest Sector Support Department (FSSD) is at the forefront of a transformative journey, transitioning from traditional analogue methods to modern, efficient digital systems. This shift is marked by the integration of the Forest Management Information System (FOMIS) into the Water and Environment Information System (WEIS). As the custodian of Uganda's forest resources, FSSD aims to enhance data management, improve decision-making, and promote sustainable forestry practices through this ground-breaking digital migration.

## 2. Understanding FOMIS

The Forest Management Information System (FOMIS) is a comprehensive digital platform designed to collect, store, and analyze forest data. It supports stakeholders with accurate, real-time information about forest inventories, tree nursery information, resource utilization, and compliance monitoring. FOMIS is part of the Water and Environment Information System (WEIS), centralized database which has been developed by MWE in order to collect and analyze water and environment data to generate information for decision making. By integrating FOMIS into WEIS, FSSD ensures seamless data sharing and a holistic approach to effective management of forest resources.

## Benefits of Digital Integration

The integration of FOMIS into WEIS has delivered benefits for forest management namely:

- i. **Enhancing Data Accuracy:** Automated processes reduce errors and ensure reliable data.
- ii. **Easy data sharing:** Users can easily access data from reports tabs, for informed decision-making.
- iii. **Improving Efficiency:** Real-time data access expedites decision-making and resource allocation.
- iv. **Fostering Transparency:** A centralized system promotes accountability and transparency.
- v. **Supporting Sustainable Practices:** Comprehensive data enables informed policies and interventions for forest conservation.

## 3. The Need for Change

Forest management in Uganda has largely relied on analogue data management methods such as manual inventories, fragmented and paper-based recording systems. These practices have been found to be time-consuming, labor-intensive, prone to error and sometimes result into limited access to real-time data. AS a result, FSSD kickstarted the process of moving away from analogue approaches of managing forest data to improve effectiveness and efficiency of the department. The department developed FOMIS in a bid to streamline forests data collection, analysis and reporting. The migration journey has been ambitious and collaborative.

## 4. System Development and Customization

In 2024, the WEIS was officially launched together with it associated platforms, FOMIS inclusive. The FOMIS platform was upgraded to align with the technical requirements of WEIS, ensuring compatibility and functionality. Over 100 District Forest Officers (DFOs) and stakeholders have been trained on how to enter data, process it and generate reports. FOMIS was piloted in select districts in the country including Wakiso, Kiboga, Mbarara, Mbale and Lira and to test the system and identify and address technical glitches in the system. MWE has plans of rolling out FOMIS across the country which will mark the beginning of real-time data sharing and collaboration among districts.

## 5. Challenges and Future Prospects

While the digital migration has been largely successful, it has not been without challenges. The have included Infrastructure Gaps, Resistance to Change and Lack of gadgets and hardware. FSSD plans to address these issues through targeted capacity-building programs, technical support, and infrastructure investments. SSD is committed to continuously improve the integrated system. The department plans to expand training programs to cover more stakeholders, improve system features based on user feedback and integrating advanced technologies such as remote sensing and AI for data analysis.



# Efforts by Wetlands Management Department (WMD) in the Conservation of Wetlands in Central Uganda



## Background

Wetlands are areas of land that are saturated with water, either permanently or seasonally, they support particular vegetation and animals adapted to the waterlogged conditions. They are transition ecosystems located between terrestrial and aquatic systems.

Wetlands play a crucial role in regulating climate, filtering of waste water, water storage and recharging of ground water table, supporting biodiversity and providing numerous benefits to the society. It is estimated that 15% of the GDP is lost due to destruction of natural resources including wetlands. As such their destruction

affects livelihoods of people as well as the national economy.

Wetlands in Central Uganda have suffered massive degradation as a result of the high population growth rate. As the population grows, so does the pressure on wetlands and their resources. The major wetland degrading activities in central region include; drainage of wetlands for settlements and industrial developments. Also, cultivation, pollution by industries and solid waste disposal poses a big threat to these wetlands especially in Kampala, Mukono and Wakiso Districts. The tendency of people perceiving wetlands as “waste land” and ‘free land’ is driving many to these fragile ecosystems.



## Key Achievements

In a bid to conserve wetlands in Uganda, the Government of Uganda through Wetlands Management Department has gazetted all wetlands in Uganda and has undertaken the following activities in the central Region

### Demarcation

- 44.78Km of Lumansi Wetland boundary was demarcated in Luwero District
- 45Km of Ssezibwa Wetland boundary was demarcated in Nakasongala District
- 48Km of Kiyanja Wetland boundary was demarcated in Kiboga-Bukomero
- 68Km of Mayanja-Kato Wetland boundary was demarcated in Wakiso District
- 50Km of Kibimba Wetland boundary was demarcated in Gomba District
- 26Km of Bimbye Wetland boundary was demarcated in Kasanda District
- 33Km of Nakatongoli-Wakitundu Wetland boundary was demarcated in Mityana Town Council
- 30Km Kaku-Kiyanja Wetland boundary was demarcated in Lwengo District
- 55Km of Lubigi Wetland was demarcated in Wakiso District



A pillar being installed in Mayanja-Kato Wetland boundary Restoration

- 50.4ha of Mayanja-Kato Wetland were restored in Wakiso District
- 257ha of Lubigi Wetland were restored in Kampala and Wakiso Districts
- 110ha of Musambwa-Ssizibwa Wetland were restored in Kayunga District
- 38ha of Lake Wamara shoreline Wetlands were restored in Mityana District
- 42ha of Kafu Wetland System were restore in Kyankwanzi District



Restoration of Lubigi Wetland (removal of flower/ tree nursery beds)

### Development of a wise-use model in Nakaseke District

- Construction of a wise use model with components of a water retention facility, 2 fish ponds stocked with fish in Kisimula Village, Kapeke Sub County, Nakaseke District was undertaken. The water retention facility is located on Katanyebwa Wetland which is a tributary of Mayanja Wetland system. This is intended to teach the community on how best they can make use of the wetlands



One of the fish ponds under the wetland wise use model in Kisimula Village, Nakaseke District

### Major wetland management issues in Central Uganda

**Pollution:** Pollution especially in peri-Urban wetlands within the Kampala metropolitan area which contaminates the wetlands with pesticides, fertilizers, sewage, sediments and many other forms of pollutants. Once a wetland is polluted, it's difficult to clean it up.

**Wetland infilling with murram:** this is a very common practice in the urban areas, wetlands are filled for construction of both permanent and temporary buildings

**Introduction of alien plant species:** *Eucalyptus* and many other alien species have become a threat to wetland resources in Gomba, Butambala, Nakasongola and other areas where there is massive drainage of wetlands for agriculture

**Complex Land ownership issues:** Unclear and complex ownership issues in general, and in particular the leases and land titles previously granted in wetlands, are a challenge in wetland restoration. The need for compensation in cases where leases and land titles will be cancelled in order to allow for the rehabilitation and restoration of vital wetland ecosystem services is paramount.

**Political Interference:** Whereas Central Government or Local Government holds wetlands in trust for the common good of the people of Uganda, recent examples of wetland abuse have included cases where local authorities have been supporting encroachers. It is therefore a dilemma that the very institutions entrusted with the protection of wetlands have in some cases, knowingly or unknowingly, missed to implement the crusade for their conservation.



#### Tagerts/opportunities in the next one year

Some key upcoming initiatives earmarked include;

- ✓ Government of Uganda together with its developing partners has initiated the process of developing an Eco- Park in Lubigi Wetland.
- ✓ There will be restoration of e 650ha of Lwajali and Kijabijo wetlands
- ✓ 2 Wetland-based enterprises for improved community livelihoods will be promoted and supported in Mayanja and Ssezibwa Wetland systems
- ✓ 2 Wetland Wise Use Models will be established in Ssezibwa and Lwajali Wetlands

Takuwa Nuubu  
Regional Wetlands Coordinator-Central

# IFPA-CD, Uganda's Conservation Success:

## Integrating Water Resources, Environment, and Climate Resilience

By *Norah Osende*  
Communications Officer IFPA-CD (MWE)

Uganda's rich natural heritage is a cornerstone of its biodiversity, economic development, and climate resilience. From the towering Rwenzori Mountains to the vast forests of the Albertine Rift, these landscapes provide essential resources such as water, tourism revenue, and livelihoods for millions of people. However, threats such as deforestation, climate change, and human-wildlife conflicts are endangering the delicate balance between conservation and development.

### About the IFPA-CD Project

Uganda Investing in Forests and Protected Areas for Climate-Smart Development (IFPA-CD) Project was launched on March 9, 2022. Funded by the World Bank and the Government of Uganda (GoU), the project is jointly implemented by the Ministry of Water and Environment (MWE), the Uganda Wildlife Authority (UWA), the National Forestry Authority (NFA), and the Ministry of Tourism.

The project is supported by a total financing of USD 178.2 million, with the World Bank contributing USD 148.2 million (83.16%) through a combination of a grant and a loan component, and the Government of Uganda contributing USD 30 million (16.8%).

### Area Coverage

The IFPA – CD Project covers;

- Seven National Parks
- Three Wildlife Reserves
- 27 Central Forest Reserves
- 19 Refugee-hosting districts across the Albertine Rift, Upper Nile regions, and Lamwo District

Specific areas are listed in the table.

Category	Areas Covered
Targeted Refugee-Hosting Districts	Hoima, Kikuube, Kamwenge, Kakumiro, Kagadi, Kibaale, Kiryandongo, Kyegegwa, Adjumani, Amuru, Arua, Madi Okollo, Terego, Koboko, Lamwo, Moyo, Obongi, Yumbe
National Parks	Bwindi Impenetrable, Mgahinga Gorilla, Queen Elizabeth, Mt. Rwenzori, Semuliki, Kibale, Murchison Falls
Wildlife Reserves	Katonga, Ajai, Toro-Semuliki, Kabwoya
Central Forest Reserves	27 Reserves, including: Echuya, Bugoma, Wambabya, Budongo, Zoka, Ihimbo, South Maramagambo, Kalinzu, North Maramagambo, Kasyoha-Kitomi, Kakasi, Nyakarongo, Kasokwa, Era, Otzi East, Otzi West, Wati, Mt Kei, Itwara, Kibego, Muhangi, Buhungiro, Ibambaro, Kitechura, Matiri, Nkera, Rwensambya



A team from the World Bank Implementation Support Mission IFPA – CD Project, along with government officials from the Ministry of Water and Environment (MWE), Uganda Wildlife Authority (UWA), and National Forestry Authority (NFA), pose for a group photo

## How the IFPA-CD project is contributing to water resources management, climate resilience and environmental protection

The project's main components are:

- Effective management of Uganda's forests and wildlife areas
- Promoting tourism and productive forestry for increased revenues and jobs
- Improved landscape management through increased forest cover in refugee hosting districts

Through these initiatives, Uganda is not only safeguarding its natural resources but also boosting economic growth, job creation, and tourism—solidifying its commitment to sustainable development.

The project focuses on protecting critical water catchment areas such as the Rwenzori Mountains, Mgahinga, Bwindi, and Budongo protected areas which are which is both a world heritage site and RAMSAR site, Kisoro water shade which mainly Mgahinga Gorilla National Park and Bwindi impenetrable National Park which is also a world heritage site among others which are vital for maintaining Uganda's water supply vital for maintaining Uganda's water supply.

- All communities surrounding wildlife protected areas under IFPA-CD are potential beneficiaries of water tanks some which have already benefited from the project. This has reduced human-wildlife conflicts over water sources.
- Promoting rainwater harvesting in communities adjacent protected area, so far about 118 water tanks have been installed in Bwindi Mgahinga Conservation Area Benefiting 118 CRM members.

## Key Project Outputs and Way forward

The project has delivered valuable tangible results, among which include the following;

- Water tanks have been constructed around protected areas. Rainwater harvesting increases access to clean water, reduces erosion and creates time to engage in other productive activities
- The project by working in the key catchments has maintained water supplies to over 14 hydropower companies in the Rwenzori and Kanungu regions. In Kabwoya Wildlife Reserve, new water tanks serve both wildlife and local communities, reducing human-wildlife conflicts over water sources.
- Rainwater harvesting techniques, including the installation of tanks, have been introduced, particularly in refugee-hosting districts, to address water scarcity.
- Restoration planting of degraded forests ensures improved forest cover which secures the water catchment functions.

Uganda's conservation efforts are not just about **protecting wildlife**—they are about **securing water resources, boosting the economy, and creating sustainable livelihoods**. The IFPA-CD project is proof that **integrated conservation strategies can drive real impact**, benefiting both **nature and communities**.

By **safeguarding forests, enhancing water accessibility, and supporting local economies**, Uganda is taking a bold step toward a **sustainable and climate-resilient future**. If these efforts continue, Uganda will remain a **shining example of conservation success in Africa**



*A group photo with community members at Echuya CFR and officials from the Ministry of Water and Environment (MWE) following a community engagement session with the World Bank Implementation Support Mission for the IFPA-CD Project*





## The impact of W&E Graduate Mentorship, Internship, and Placement program on delivery of water and environment sector objectives

By *Fortunate Kemigiyisha*, Research Officer, Water Resources Institute

As we continue to navigate the complexities of the modern world, it has become increasingly clear that empowering young people is crucial for building a brighter future. In pursuit of empowering young minds and bridging the gap between theory and practice, the Water Resources Institute (WRI) of Ministry of Water and Environment (MWE) inaugurated the Graduate Mentorship, Internship, and Placement program. In collaboration with implementing partners, MWE has been committed to providing opportunities for growth and development through its Graduate Mentorship, placement and placement Program. In this article, we reflect on the program's impact, express our gratitude to our implementing partners, and look forward to its future prospects.

Through this program, graduate trainees have had a life-changing experience. The Program is designed to provide young fresh and early career graduates with the skills, knowledge, and networking opportunities necessary to succeed in their chosen careers. Since its inception, the program has had a profound impact on the lives of our graduate trainees. Through mentorship, training, and hands-on experience, our trainees have gained confidence, developed valuable skills, and built lasting relationships with their peers and mentors. One of our graduate trainees,

*Asaasira Yvonne Tricia, a graduate of Kyambogo University (Civil Engineering) had this to say about the program: "The graduate training opportunity has been a game-changer for me. I have gained invaluable experience, made amazing connections, and developed skills that I will carry with me for the rest of my career."*

The WRI in collaboration with the aforementioned partners (Oxfam, UNHCR, Nsamizi, LWF and Water Mission) trained/placed 12 graduates in 2020/2021, 15 graduates in 2022, 24 in 2023 and 35 in 2024 under the first, second, third and fourth cohort respectively.

The impact and benefits of this program to the individual and organizations include; Retention: 2020/2021 - 100%, 2022 – 100%, 2023 70% of the graduate interns, 30% reduction in staffing cost and full time presence of technical staff in field. We would like to take this opportunity to express our heartfelt gratitude to our partners who have collaborated with us to make this program a success. Your commitment to empowering young people is truly inspiring, and we are

honored to have you by our side. Through your support, graduate trainees have had opportunities they need to thrive. We look forward to continuing our partnership and making an even greater impact in the lives of young people as well as involving many more partners.

### Team of graduate trainees under taking an orientation program at WRI.

As we look to the future, we are excited to announce plans to promote and expand our Graduate Mentorship, internship and placement Program. We aim to increase our reach, providing opportunities to even more young graduates, and to deepen our impact, providing support that is more comprehensive and resources. We are committed to building on the success of our program, and we are eager to explore new partnerships and collaborations that will help us achieve our goals. With your continued support, we are confident that we can make a lasting difference in the lives of young people.

Together, we can empower young people to build a brighter future for themselves and for generations to come.

On side note, with profound gratitude, WRI recognizes the tremendous contribution from the partners such as NGOs, CSOs, Private Sector, Religious and cultural institutions,

International partners (GWP, UNESCO, UNICEF, UNHCR, UNINE, UNECE, IGAD, EWBs etc.), academic (MUK, MUBS etc.), private sector institutions among others in advancing its four focus areas (applied training and research, dialogue and outreach).



*Mentorship is powerful precisely because it plows the ground for organizations to plant the seeds for technical skills and company loyalty as mentees value the self-development track contribution to their overall well-being.*

# Why mentorship will overtake training as the secret sauce for employee productivity:

Experiences from the Water Resources Institute Mentorship program

By Joyce Kyeyune

**A**n eyebrow-raising article from the Harvard Business Review (HBR) in 2019 stated: *“Companies spend heavily on executive education but often get a meager return on their investment. That’s because business schools and other traditional educators aren’t adept at teaching the soft skills vital for success today, people don’t always stay with the organizations that have paid for their training, and learners often can’t apply classroom lessons to their jobs.”* <https://hbr.org/2019/03/the-future-of-leadership-development>

And even though we know informally that employees are jaded about training (*hunting high and low for excuses to dodge training or commenting on dancing rabbit videos during sessions*) still, we find that companies and organizations continue to invest in traditional training programmes as part of their revenue growth strategies and employee retention plan.

In the HBR article, business professors Mihnea Moldoveanu and Das Narayandas, introduce an interesting concept –the Personal Learning Cloud (PLC) which they recommend as more transformative *“...by making it easy and affordable to get personalized, socialized, contextualized, and trackable learning experiences enabled by online learning, digital tools and interactive platforms, from both legacy providers and upstarts.”*

The 2019 article was visionary –today, we see employees engaging and leading their own learning (partly driven by Covid-19 forced remote learning and the ubiquity of Artificial Intelligence) in topics that inspire, develop and build them as individuals and consequently help them become more productive in the workplace. The PLCs that employees ride on do not necessarily have anything to do with their formal job tasks.

In this same breath, the Ministry of Water and Environment, led by Dr. Alfred Okidi and stewarded by Commissioner, Dr. Callist Tindimugaya, pioneered the first ever government ministry mentorship programme to enhance continuous learning pegged to personal development skills among ministry staff. This aligned well with the Ministry strategic plan, which was articulated as:

*“...focusing on investment in the future of the sector by transferring knowledge while instilling values in sector professionals, leading to a holistic transformation of the sector.”*

The mentorship programme is a fantastic case study of a public institution innovatively supporting employees to be more productive through the *‘personalized, socialized, contextualized’*, PLC-inclined mode that HBR proposed.



The six-month mentorship programme, which is now in its fourth cohort, was started initially to encourage female staff to build their confidence and skills to aspire and gain leadership positions in the sector. Supported by Water Aid and implemented by Contour Consults and Girls 4 Girls, the programme was later scaled up to include male mentees enrolling close to 200 mentees by 2024

## Why is mentorship a unique boost for employee productivity?

*Personal development and technical knowledge combo:*

It diverges from the traditional company-focused training to employee personal development. Each MWE mentorship session addresses sector technical topics in one track with a second track focused on self-development topics like personal branding, mental wellness, personal financial management and effective non-verbal communication. When asked about the most impactful benefits of the programme, one mentee stated that they benefitted most from *“financial skills, discipline, patience, resilience and assertiveness”*. When asked about recommended improvements to the programme, one mentee mentioned: *“We would like more*

sessions especially about all topics we covered for real life like family, money and mental health...”

The qualitative evaluation results imply that learning that is structured to support individual benefit may be more engaging and impactful for employees. In other words, when employees feel ‘cared for’ as individuals, they are more motivated to care about organizational goals as well.

**Relatable and approachable facilitators:**

‘Recruiting’ work-life professionals as mentors to carry the learning was “refreshing for the fact that it came from down-to-earth people who had seen these principles work for them”, said one mentee. The mentors were selected from different fields to share their success principles which most mentees said inspired them. “It is common to grow weary, but the experience and counsel that was shared reinforced my resolve to keep on being excellent in my workplace”.

Seasoned mentors bring flavour and lived experiences in a ‘safe space’ for broad question and answer

sessions that are attractive for young professionals that are eager to learn, progress, and make their mark.

**Non-excessive time**

consumption:

Efficient use of available time is a key factor in capacity strengthening initiatives. Each full day session was held once a month with a technical and personal development track and afternoon group sessions discussing the personal development track. Integrating mentorship within the Ministry

calendar ensured that staff were not overly absent from their work responsibilities and yet they could still benefit from skills development.

Once-a-month sessions are more acceptable for mentors who often have full consulting schedules and would not be able to commit time beyond monthly engagements. This staggered mentorship allowed time for practicing the self-development skills and increased knowledge of the technical issues in the sector and how they fit into the context of the work responsibilities of each staff.

**Resource efficient delivery:**

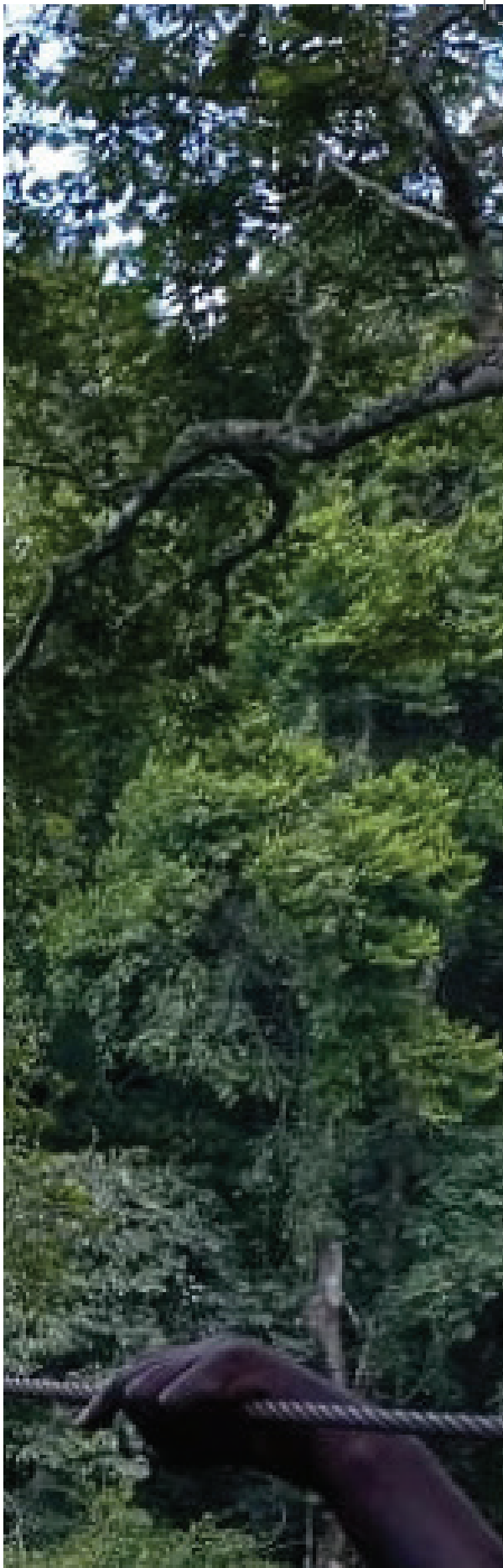
Low-cost delivery of the mentorship is a key enhancer of the programme ensuring it can be delivered consistently. The expert mentors are invited as volunteers sourced from a pool of referred distinguished professionals, keeping ‘training’ costs minimal. A team from the Water Resources Institute of the Ministry

*Mentorship is powerful precisely because it plows the ground for organizations to plant the seeds for technical skills and company loyalty as mentees value the self-development track contribution to their overall well-being.*

coordinated and organized the site logistics on their premises, including communication and mentee selection. Thus, the typical budget-straining costs of most one-off training programmes are avoided by staggering them across the year and signing discounted long-term mentorship management contracts.

**About the author**

Joyce Kyeyune is a Strategic Communications Advisor with more than 10 years’ experience working with public institutions, nonprofits and the private sector in East Africa to strengthen their communication, documentation and advocacy skills. She is the Principal Consultant with ICT Creatives, the Knowledge Management Company which provides technical support for knowledge management initiatives in the region. [jonaiga@gmail.com](mailto:jonaiga@gmail.com)



## Between Ruthless Rains and Scorching Suns: Bridging Uganda's WASH and Climate Divide"

By Naomi W. Kabarungi, Communications and Advocacy Manager, IRC [www.ircwash.org/uganda](http://www.ircwash.org/uganda)

*Eteera omunaku tekya*  
(The rain that drenches the unfortunate one will not stop soon – a Ugandan proverb.)

Uganda is in the grip of an intense heatwave, with temperatures rising above 40 degrees Celsius in some parts of the country. The Meteorology Department has advised people to stay indoors and drink plenty of water. For many Ugandans, both are out of reach: they must go out and eke a living, yet access to safe drinking water is not guaranteed.

Barely a couple of months ago, heavy rainfall swept through the eastern district of Bulambuli. Floods submerged the roads and gardens, and homes were buried in the deadly landslide. Scores of families are still mourning loved ones who never made it out alive.

Indeed, *eteera omunaku tekya*. For those already struggling, climate disasters do not just come and go. Every flood or heatwave brings new devastation, leaving a trail of destruction that lasts long after the waters recede or the temperatures cool. In addition, for communities without reliable

water systems, each new disaster pushes their right to safe water, sanitation, and hygiene further away.

IRC, awake to this complexity, works to deliver systems and services that are truly built to last –not just through direct community interventions, but also by strengthening government advocacy platforms, influencing policy, and supporting long-term planning for sustainable water and sanitation solutions

### **Sustainable solutions: a shift to climate-smart sanitation**

In Kabarole, IRC is proving that water, sanitation, and climate resilience are deeply interconnected—and that solutions do not have to be out of reach.

Many people in the rural growth centers do not think much about toilets. As a result, many households still rely on basic, unimproved pit latrines, which not only overflow during heavy rains but also seep waste into groundwater, contaminating the nearby water sources.

*"Our pit latrine works just fine. When it fills up, we'll just dig another one," says a 30-year-old father of three, pointing to a small shack behind his home. "I have bigger problems—feeding my family, taking my children to school, paying hospital bills. A fancy toilet? That's a luxury."*

But in Kasenda and three other town councils, IRC's home sanitation and hygiene project is ensuring that communities don't have to choose between hygiene and sustainability.

Hon. Prudence, an elected women's representative on Kasenda's Local Council 3 until recently had never given much thought to sanitation. She is now the face of **exemplary leadership** model.

*"I never imagined I'd afford such a smart toilet," she says, standing beside her newly **built safely managed latrine (SML)**. "But now I see the difference. No bad smells. No flies. And I can use the waste as manure for my garden."*



### Systems that are built to last

Addressing climate and water challenges requires more than taps and toilets.

“The climate crisis is not a one-off project that we can just tick off,” says Jane Nabunnya Mulumba, Country Director IRC Uganda. “It demands systems thinking, long-term planning, and policy-driven action. If we don’t protect our water sources and sanitation systems, we are simply waiting for the next disaster.”

That is why IRC works to strengthen government-led water resource management efforts.



Dr Brian Guma of AWMZ receives the published Albertine Water Week magazine from IRC’s Jane Nabunnya Mulumba

- Supports implementation of the River Mpanga Catchment Investment Plan, which ensures the lifeline of thousands of people in Kabarole, Kamwenge, and Kyegegwa is sustainably managed.
- Facilitates the Albertine Regional Water and Environment Week (ARWEWK) an annual event that since 2019 has provided a space for dialogue, learning, and innovation sharing on water,

environment, and climate issues. IRC plays a key role of ensuring that the lessons go beyond the boardroom, through public media campaigns; documenting impact, sharing experiences, and publishing newsletters showcasing progress and innovation.<sup>34</sup>

### WASH away inequalities: it’s everyone’s business!

People grapple with systemic inequalities in accessing WASH, made worse by climate change, leaving women and marginalized groups to bear the heaviest burden. That’s why IRC Uganda is jointly steering the WASH is Everyone’s Business campaign, a multi-stakeholder movement launched by WaterAid in May 2024 to demand fair access to safe water and sanitation for all.

With Vice President Jessica Alupo as the chief champion, the campaign aims to elevate WASH as a national priority, bringing together government, civil society, development partners and private sector actors to push for investment in gender-responsive WASH services.

At the western regional summit in Kabarole, voices from the ground made the message clear.



Delegates at the WASH is Everyone’s Business regional summit in Fort Portal, December 2024


“When the river Nyamwamba floods, everything is washed away—pipes, boreholes, even homes,” says Evelyn Mugume, a Senior Environmental Officer from Kasese. “And when the dry season comes, the women and children walk miles on end for water.”


“We need to stop treating WASH as an afterthought,” adds Hon. Thembo Mujungu, MP for Busongora South. “It’s a right, not a privilege. Climate change is threatening this right every day.”


### Climate finance for WASH

IRC recognizes the urgent need to raise our voices on climate issues to leaders, funders and other actors with formal decision-making power. Through joint efforts with others in powerful coalitions like the Agenda For Change and the One For All alliance, IRC is constantly articulating the connections between water, sanitation and climate resilience, and providing the evidence for WASH as a valid climate adaptation and mitigation measure.


The evidence is clear:

 Over 90% of natural disasters are water-related.

 Climate-smart sanitation can protect water sources and reduce emissions.

 Investing in WASH strengthens economies, improves public health, and builds resilience.

Yet despite the urgency, climate finance for WASH remains critically low.

To bridge this gap, IRC has launched a free online course on Climate Finance for Water and Sanitation. This course provides practical strategies to access and utilize climate finance for equitable and sustainable WASH services.  Enroll for the [Climate Finance: the basics](https://mailchi.mp/ircwash/climatefinance) now free of charge <https://mailchi.mp/ircwash/climatefinance> Because if we don’t act now, the rain will keep pouring on the poor man—long after the storm has passed.



## Compliance to the Water Act in Refugee Settlements

A case study of Rhino and Mvepi Camps in West Nile.



By Nahabbo Mary Nancy, Principal Water Officer, MWE

### Introduction

Uganda hosts more than 1.74 million refugees, of which more than 950,000 are in the West Nile region. The increased number of refugees and the overall increase in population in this region has led to significant pressure on community resources like water. For example, extensive groundwater development is taking place in the refugee settlements through rehabilitation of existing boreholes and or drilling of new ones. In addition, higher-yielding boreholes are considered for installation with submersible pumps powered by solar energy.



*Solar Powered borehole in Rhino camp*

Development and use of groundwater resources in the settlements is not sufficiently regulated as required by the Water Act and Water Resources Regulations guidelines and may result into unsustainable development of these resources. The Government of Uganda through the Ministry of Water and Environment (MWE) in collaboration with United Nations Children's Fund (UNICEF) have implemented

a project to assess the current groundwater situation and regulation of groundwater resources in sub-catchments in and around refugee settlements. One of the key outputs of the study is enhanced regulation of groundwater development and use in refugee settlements through water permit system.

All key stakeholders were visited including but not limited to Office of the Prime Minister, UNHCR in Arua who are directly responsible for WASH services in the camps. All motorized water sources and wastewater discharge points were mapped for issuance of water abstraction permits. Additionally, the teams raised awareness and trained stakeholders on the water permit system, permit application process and compliance monitoring to water permit conditions.



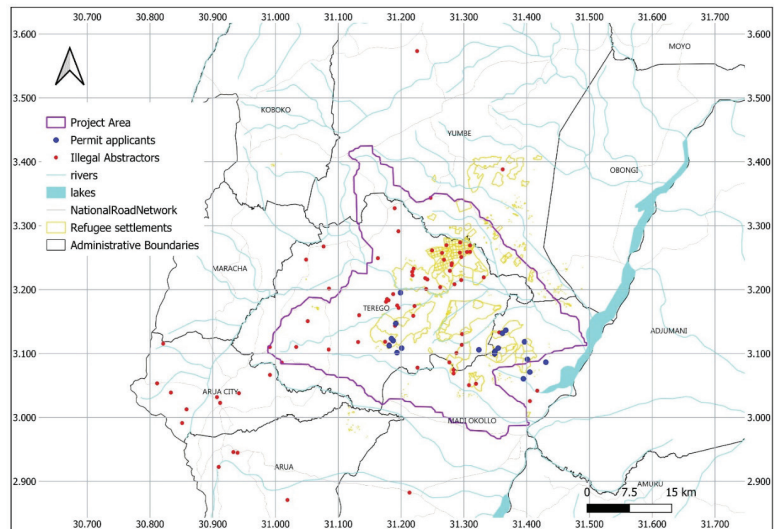
*Field team at UNHCR Offices, Arua*

## Findings

Heavy groundwater development has been observed in the settlements and many abstraction boreholes drilled are within short distances of less than 500m as depicted below. The motorized boreholes are powered by a solar aided system. Unfortunately, the solar panels are always vandalized leading to water shortages in the area. The unregulated boreholes are over 80 with only 19 borehole regulated 19 as showed in fig 4. Most places in the refuge settlements have pit latrines, which are abandoned after filling up. This leads to vulnerability of communities to diseases and pollution of water sources. The waste management in the settlements is very poor leaving faecal material just buried haphazardly a process called 'safe burial'. In addition, livestock is reared near some water sources and this can be a source of pollution to both surface and groundwater systems fig 3.

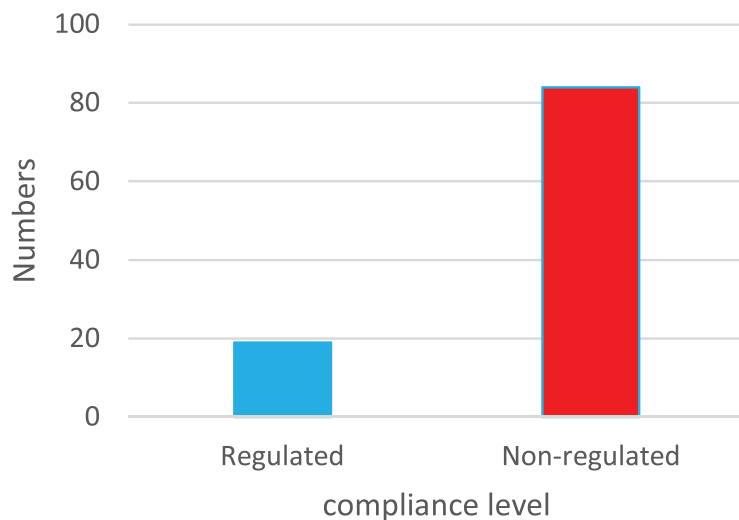
## Way forward

In order to improve compliance to the Water Act and Water Resources Regulations, UNHCR representative Kampala office was communicated regularize all the abstraction points under their jurisdiction to enable proper monitoring of the quantity and quality of water in the settlements. Another communication was to all Chief Administrative Officers requesting them to guide potential abstractors (schools, industries, health centres) to apply for permits for their boreholes. The WASH teams in the settlements were advised to ensure proper waste disposal, good sanitation in the environs of the boreholes. In addition, those with permits were advised to ensure compliance to the permit conditions and related laws and regulations as required by the Water Act and its Regulations. We have recommended that groundwater drilling in this area should be strictly through the Ministry and carried out by valid Regulated Drilling companies, to ensure sustainable groundwater development and use. Additionally, continuous stakeholder awareness and training on the water permit system, permit application process and compliance monitoring to water permit conditions is recommended.



Locations of all mapped motorized sources

## Motorized boreholes



Regulated and non-regulated motorized boreholes



# Assessing the Impact of Human Activities on River Nile Banks and Lakeshores of Lake Victoria.

By Kyoshabire Christine



## Introduction

The river Nile and its associated lakes are vital for ecosystems that support a wide range of biodiversity, provide livelihoods for millions of people and play a crucial role in economic development of the riparian countries. However, the river Nile and its lakes are facing unprecedented threats from human activities including deforestation, land pollution, overfishing which have resulted into soil erosion, sedimentation and habitat loss and climate change. The consequences of these changes are far reaching, affecting not only the environment but also livelihoods of communities that depend on the ecosystems.

WWF report on the Nile River: a source of life and conflict" (2019), recognizes the interconnectedness of the basin countries and puts forward some recommendations which among others include cooperative management, shared governance through which climate resilience and adaptation strategies are emphasized and leading to sustainable development.

Uganda as a country has had a number of initiatives to address this problem; one of them being the Nile Basin Initiative, hosting the NBI secretariat as well as coordinating the implementation of its programs and projects. In July 2007, the Government of Uganda entered into an indemnity agreement with the International Development Association IDA where the Association committed to be partial risk Guarantor to Uganda for the financing of the Bujagali Hydropower project of

250MW. This led to the preparation and implementation of the Kalagala offset sustainable management plan. In 2018, the amendment of the agreement to enable Uganda get more financing to continue with the demarcation process was realized.

It is against this background that the Ministry of Water and Environment through the DESSS was assigned to coordinate and implement this plan since that time to date. Under a plan a number of activities have been implemented in line with what the plan stipulates and as department, we have fully participated in this process.

## Results.

These are the results;

- i. The department was able to demarcate a total area of 364,357 km of 5 forest reserves and enclaves of Mabira Forest reserve.
- ii. We restored 2500Ha of degraded areas in Mabira Central Reserve. 2000 under

WMDP and 500Ha with GOU funding.

## Pillars being lifted and planted.

Challenges and how they have been addressed?

- A lot of resistance from communities, delayed release of funds and sometimes failure to realize them.

However, a lot of sensitization has been done in the communities to make them understand water resources conservation and protection of catchment areas.

## Conclusion

- Government of Uganda is working tirelessly hard towards maintaining peace with its neighbors, benefit sharing as well as conserving water resources for the common good of us all.



*Pillars being lifted and planted.*



# The role of water and environment in strengthening resilience and livelihoods.

By Mary Blessing Ahairiirwe; Volunteer - Women for Green Economy Movement Uganda

Growing up in a small village in one of the districts in Uganda, the only water sources were found in the wetlands. Due to the increasing population and human activities, a lot of encroachment has occurred in the wetlands. Mother Nature cries out for her former self, but we seem to be busy, desperate, and reluctant to heed her call. Mankind has moved from co-creation to the destruction of the environment. As we commemorate the Uganda Water and Environment week 2025 under the theme **“Water and Environment resources for enhanced resilience and improved incomes and livelihoods”**, We must underscore the concept of water to a larger extent since Environment is basically built on the foundation of water.

Water is a vital concept for economic survival and growth. It sustains not only human beings but also other resources. The main sources of water that people largely depend on in Uganda include; wells, rivers and lakes, dams and rainfall among others.

Research shows that Agriculture is the backbone of Uganda’s economy contributing about 25% to the Gross Domestic Product (GDP) and employing approximately 70% making it impossible to prioritize agricultural development without considering water resources. Certain crops, particularly coffee—one of Uganda’s largest exports, depend heavily on consistent rainfall for optimal yields. To ensure these high yields, harnessing water through tanks for irrigation could effectively supplement the natural rainfall.

Poor water quality and access have led to health-related diseases such as cholera and typhoid, which threaten human lives. According to research

conducted by the World Health Organization (WHO) indicates that a significant number of cholera cases arise from a lack of access to safe drinking water, coupled with poor sanitation and hygiene practices. Tackling these issues will not only help reduce the incidence of cholera but also a reliable water supply will attract investment and stimulate local businesses, fostering job creation and economic growth.

Furthermore, the government and relevant authorities should actively support and implement various projects focused on water conservation. These projects could include the development of infrastructure for clean water supply, such as boreholes, wells, and water purification systems, to ensure that communities have reliable access to safe drinking water. Investment in sanitation facilities, including proper sewage systems and waste disposal methods, is equally important to prevent contamination of water sources.

In addition, training programs and workshops can be organized to educate local communities about sustainable water management practices and the importance of preserving natural water bodies, wetlands and forests among others. Collaboration with other entities would enhance the effectiveness of these initiatives, as they often have valuable insights and resources to contribute.

In conclusion, implementing these measures, Uganda can achieve a healthier population and a more resilient economy, paving the way for sustainable development and improved well-being for all.





## Embracing Green Construction to Address Water, Environment, and Climate Challenges.

By Bitariho Kato Gilbert

**G**reen construction, also known as sustainable or eco-friendly construction, is a transformative approach to building that prioritizes environmental responsibility and resource efficiency. By integrating sustainable practices into construction projects, we can address pressing water, environmental, and climate challenge through this cut age approach some of the green construction techniques include but not limited to, integration of renewable energy, use of cross-laminated timber and using Carbon absorbing paints and materials. I am personally driving an innovation of a carbon absorbing paint to enhance green construction. However, I find it important to take you through the how part in this article.

Water scarcity is a growing concern globally, and green construction offers innovative solutions to conserve this precious resource. Techniques such as rainwater harvesting, water recycling, and the use of low-flow fixtures significantly reduce water consumption, these measures not only help conserve water but also contribute to a more sustainable water management system, which all can be embedded and embraced through green construction.

Another sensitive area where green construction plays a pivotal role is in Energy Efficiency, Green buildings are designed to minimize energy consumption. This is achieved through advanced insulation systems, energy-efficient appliances, and renewable energy sources like solar panels. By reducing energy use, green buildings lower greenhouse gas emissions and help combat climate change.

Green construction prioritizes waste reduction through recycling and the use of sustainable building materials. For example, materials like bamboo and recycled aluminum are not only eco-friendly but also durable and recyclable.

It is also important to note that embracing green construction helps us achieve Improved Indoor Air Quality, Conventional buildings often suffer from

poor indoor air quality, leading to health issues. Green buildings use non-toxic materials and proper ventilation systems to enhance indoor air quality, creating healthier living and working environments.

Green construction mechanisms can also help in the Mitigation of Urban Heat Island Effect; urban areas tend to be warmer than their rural surroundings due to the urban heat island effect. Green construction helps mitigate this effect by incorporating green roofs, reflective surfaces, and increased vegetation, which help cool the environment.

Combating the effects of climate change, my innovation of a carbon absorbing paint called carbonab. As the name suggests it is a carbon absorbing and ecofriendly of course, but why? It is just important to note that the construction sector alone contributes 30% of global emissions leading to climate change, those are tons of carbon dioxide emitted every year. This is why paints like carbonab should be embraced in green construction to absorb carbon dioxide from the atmosphere and the construction sector as a positive contributor to the environment.

Throughout this article, it should clearly come out that green construction significantly reduces the environmental impact of buildings, by reducing energy consumption, conserving water, and minimizing waste among others. This holistic approach helps preserve natural resources and promotes a healthier planet.

Embracing green construction is not just a trend; it is a necessity for a sustainable future. By integrating these practices into our building projects, we can address water, environmental, and climate challenges while creating healthier, more efficient spaces for everyone.

By  
**Bitariho Kato Gilbert**  
Civil Engineering Technician  
Proprietor Carbonab Paints Uganda

*Water scarcity is a growing concern globally, and green construction offers innovative solutions to conserve this precious resource.*

## Embracing Green Construction to Address Water, Environment, and Climate Challenges.

*By Bitariho Kato Gilbert*

Uganda, a landlocked country in East Africa, is experiencing the impacts of climate change at an alarming rate. The effects of climate change in Uganda are widespread and are already having a significant impact on the country's environment, ecosystems, and economy. In this article, we will explore some of the key ways in which climate change is affecting Uganda and its environment.

Changes in rainfall patterns are another significant impact of climate change in Uganda. The country is experiencing more erratic rainfall, with periods of prolonged drought followed by intense rainfall events. This has led to an increase in extreme weather events such as floods and landslides, which have devastating effects on communities, infrastructure, and ecosystems. For example, in 2020, Uganda experienced severe flooding in several parts of the country, causing widespread destruction and displacement of thousands of people.

The agricultural sector, which is a key driver of Uganda's economy, is particularly vulnerable to the effects of climate change. Changes in rainfall patterns and rising temperatures are affecting crop yields and livestock production, leading to food insecurity and loss of livelihoods for many rural communities. Subsistence farmers, who rely on rain-fed agriculture, are particularly vulnerable to climate change impacts, as they have limited resources to adapt to changing conditions.

The impacts of climate change in Uganda are not only environmental but also have social and economic implications. Vulnerable communities, such as those living in low-lying areas and remote regions, are disproportionately affected by the effects of climate change. These communities often lack access to basic services such as clean water, healthcare, and education, making them more vulnerable to the impacts of climate change.

Addressing the impacts of climate change in Uganda requires a multi-faceted approach that includes mitigation and adaptation strategies. Mitigation efforts focus on reducing greenhouse gas emissions through the adoption of clean energy technologies, sustainable land use practices, and forest conservation. Adaptation measures aim to build resilience and capacity in vulnerable communities to cope with the impacts of climate change. These measures include improving water management, promoting climate-smart agriculture, and enhancing disaster risk reduction and early warning systems.

The government of Uganda has taken steps to address the impacts of climate change through the National Climate Change Policy and the National Adaptation Plan. These policies aim to promote sustainable development, strengthen climate resilience, and reduce greenhouse gas emissions. International cooperation and support from the global community are also crucial in addressing the impacts of climate change in Uganda, as it requires concerted efforts at the national, regional, and global levels.

In conclusion, the impacts of climate change in Uganda are already being felt in various sectors of the economy and are posing significant challenges to the environment, ecosystems, and communities. Urgent action is needed to address the root causes of climate change and implement adaptation measures to build resilience in vulnerable communities. By working together and taking proactive steps to mitigate and adapt to the impacts of climate change, Uganda can navigate the challenges posed by a changing climate and secure a sustainable future for its people and environment.

**By: Mwanga Cheboi Barre**  
Monitoring and Evaluation Officer  
Ministry of Water and Environment

# Uganda Ramsar Sites:

A treasure trove unique biodiversity and Culture and Sustainable Economic growth in East Africa.

Uganda joined the rest of the World in commemorating the International Wetlands Day' on 2 February 2025 under the **theme "Protecting Wetlands for Our Common Future"** in Rubirizi district.

"Vice President Jessica Alupo, representing the President, delivered a powerful speech reaffirming the government's to conserving wetlands." This was a powerful message to Uganda since we have earmarked different wetlands to not only benefit humanity but also protect the ecological integrity of the nature the commitment by the government to conserve wetlands.

She urged communities to actively protect wetlands, emphasising their role in environmental conservation and encouraging value addition to these areas. Meanwhile, internationally, the day was commemorated in Zimbabwe where by Dr Musonda Mumba, the Secretary General of the Convention on Wetlands highlighted the need for collaboration and foresight in building a future where all people can benefit from wetlands. This was a powerful message to Uganda since we have earmarked different wetlands to benefit humanity.

It is also important to note that besides the different Ramsar sites The Murchison Falls- Albert Delta Wetland System, The Lake Mburo – Nakivale Wetland System, The Lake Opeta Wetland System, The Lake Nakuwa Wetland System, The Lake Mabamba Bay Wetland System, The Lutembe Bay Wetland System, Nabajuzi Wetland System, Lake Nabugabo, Sngo Bay- Mausambwa Island Kagera Wetland and Lake George.

With the above strides in wetlands conservation that cannot be taken for granted, more needs to be done to secure some wetlands designated as World Heritage sites by UNESCO, this will not only supplement the ambitious actions and milestones that government has taken to conserve wetlands but will provide more room for conservation, improve tourism and most importantly avail more financial resources that can be used to the conservation, Contribute to sustainable development, boost scientific research, improve governance and management, community engagement and pride. This will also push Uganda at unique advantage towards conservation.

World Heritage status is vital for instance, some of the criteria used by UNESCO include the Natural, Cultural and Integrity and Protection criteria with all the mentioned procedures, I'm pretty sure that the Wetlands Department can identify the Ramsar sites that can be recognised.

UNESCO World Heritage status will boost the country's commitment towards conservation and UN Decade of restoration





# The role of museums to boost a paradigm change on water and environment related perceptions and uses for sustainable education.

By Francis Xavier Kizito

Uganda is faced with numerous water resources related challenges including; water scarcity, depletion of resources, pollution, desertification, and disrupted patterns of floods and droughts as a result of climate change, together with unprecedented declines in biological and cultural diversity, and the dramatic displacement of human populations, cannot be resolved only through technocratic approaches.

Museums around the world exhibit a unique repository of the different forms of humanity's connection with water and its natural and cultural heritage. They display and explain the function of ancestral techniques, legacies, and traditional knowledge to promote the world's outstanding variety of water and environment related heritages and values that have been passed down through generations. Today, these systems can still inspire more farsighted uses of water with examples of nature-based solutions and zero-waste technology.

In 2017, the Global Network of Water Museums (WAMU-NET) was founded in Venice, Italy to give new value to water history. In 2018, the Council of the Intergovernmental Hydrological Programme (UNESCO-IHP) acknowledged the WAMU-NET network as a 'flagship initiative' (Resolution n.XXIII-5). This resolution calls on people and institutions to enhance water sustainability education and implement urgent actions to repair our deteriorated relationship with water.

The Ministry of Water and Environment through the Water Resources Institute is establishing the Water and Environment museum aiming at fostering water and environment awareness education; improving water and environment management and development through communication and educational activities.

Today there is an urgent need to promote innovative, trans-disciplinary, and holistic perspectives to overcome unduly narrow technical

approaches that have proved to be an inadequate response to the challenges of the national, regional and global water crises.

## The Water and Environment Museum is focusing on;

- a) **Photo gallery** - showing key previous water and environment related events such as conferences, launch events etc.
- b) **Exhibitions**- displaying some of the most outstanding features of water heritage and human knowledge over time. They can also show water and environment technologies employed to develop and manage water and environment resources over time. The exhibitions can be either physical or virtual or both. They can present voices of water illustrating how water technologies and innovations have evolved over time;
- c) **Posters** – Showing key research and study findings through times;
- d) **Newsletter archives**- showing various newsletters produced over time; e) News Archives- key news events over time such as awards; f) Documentaries/Stories- that show the journey of water and environment management and development over the years. These can be told through recorded videos and or written articles or books as appropriate.

The Water Museum will provide a unique opportunity to delve into the history of water resources development and management in Uganda and discover how water has played a fundamental role in the social economic development of life over the years; allow people explore various pumping technologies of groundwater accessibility. The Water Museum transports visitors into the past and present through a blend of history and modernity.

# My Rwenzori Experience.

By Mwesigwa Andrew

I had always yearned to hike Mt Rwenzori. Being a two-time conqueror of Mt. Muhabura in Kisoro, I was eager for a bigger challenge. Rwenzori, it was! These mountains, known as the “Water Tower of East Africa,” feed countless communities, sustaining hydropower, wildlife, and daily human survival. But beneath their breath taking beauty lies an unsettling truth—relentless disaster. A massive wildfire in 2012 destroyed large parts of the forest cover. Since then, flooding has become more frequent and severe. The effects have damaged critical infrastructure and loss of human lives. The latest flood was in September 2024, when river Nyamwamba diverted course into Kasese town. This has evoked the interest of local and international researchers.



A: Water quality testing



B: Water level sensor installed

In July 2024, I joined a team of researchers from Imperial College London on a collaborative expedition on Mt Rwenzori. Our mission was clear: To establish how the destruction of the crucial forest cover had altered the region’s hydrology, setting the stage for more frequent and devastating floods.

The five-day expedition was a test of resilience and determination. Along the way, we could see the damage caused by landslides and erosion, signs of how fragile the environment had become. The expedition also revealed the dispiriting scars of the 2012 wildfire. Although physical regeneration was evident, one could easily witness the contrast between the burnt and healthy forest zones.

After two days of hiking, we installed a monitoring equipment that is a remote water level sensors and an automated rain gauge, to monitor the response of the burnt and unburnt catchments to rainfall in the alpine zone. We measured the stream discharge using the salt dilution method

Ministry of Water and Environment, through the Albert Water Management Zone has implemented several interventions to mitigate the flooding through the Catchment based Integrated Water Resources Management (CbiWRM) approach in the Rwenzori’s. These include structural reinforcements, nature-based solutions, and improved information-sharing systems, and the achievements are evident.

Yet, the challenge remains immense. Our research is a statement of collaboration, and it will contribute another piece to the puzzle, helping to quantify the long-term impacts of the 2012 wildfire and assess water quality along the River Nyamwamba, where evidence of trace metals may signal deeper environmental concerns.

The Rwenzori Mountains tell a story of the fragility of the ecosystem, and people striving to coexist with nature is shifting courses. With science, technology, and joint efforts at the core, the story will have a successful conclusion.

Mwesigwa Andrew  
Albert Water Management Zone  
DWRM- Ministry of Water and Environment

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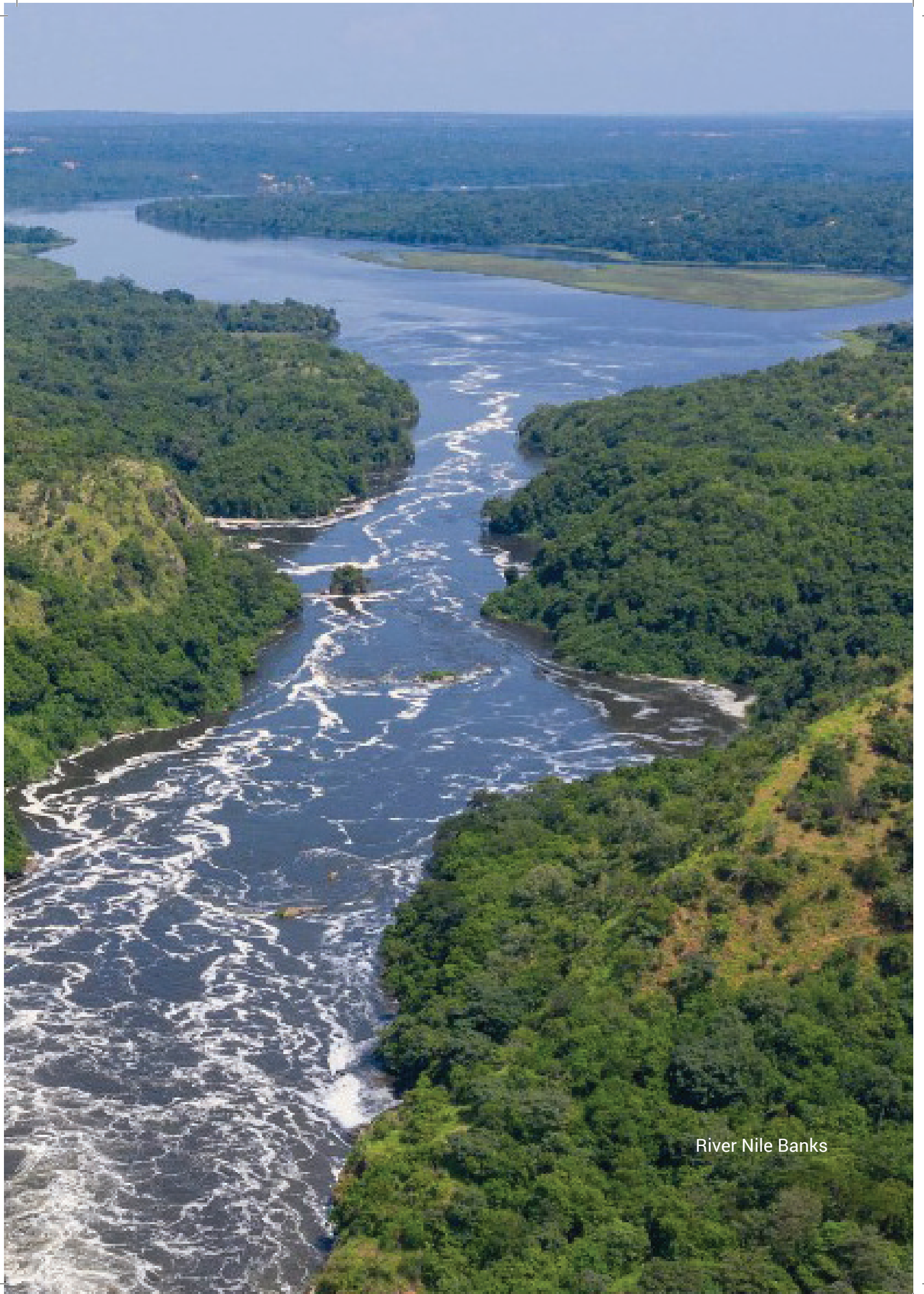
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