

W&E

THE WATER AND ENVIRONMENT MAGAZINE



THE REPUBLIC OF UGANDA
MINIST OF WATER AND ENVIRONMENT



Volume 9, Issue 1, March 2026

Water and Environment for an inclusive and prosperous Uganda

INSIDE THIS EDITION

Transforming Water
Resources Management
in Uganda, page 12

NWSC's Bold Vision for
Water for All by 2030, page, 17

Contents



From the Editor's Desk.....	5
Message from the Minister.....	6
The Uganda Water and Environment Week: A Platform for Knowledge Sharing and Partnerships.....	7
The Build -Up to UWEK 2026 pre-events and actives.....	8
Celebrating our Milestones.....	11
Transforming Water Resources Management in Uganda.....	12
The National Groundwater Strategy and Policy	14
How the WEIS is revolutionizing Water and Environment Data Management in Uganda.....	15
Strengthening Drought Resilience for Smallholder Farmers and Pastoralists in the IGAD Region:	16
NWSC's Bold Vision for Water for All by 2030	18
Building Professional, Financially Sustainable Utilities	20
From Pilot to Proof: What Kabarole Teaches Us About Sustaining Rural Water Services.....	21
We answer your Toughest Water.....	23
Promoting the Development of Paludiculture papyrus Products in Uganda	24
Mpanga's path to Renewal	25
Building Sustainable Futures: The ICRP Impact in South- Western Uganda	26
Regulation of Water Resources in Refugee Settlements	27
Dam Safety in Uganda: Strengthening Infrastructure, Protecting Communities	28
The role of professional bodies in understanding and working in the climate science spectrum:.....	30
How the Graduate Mentorship & Internship Program is transforming young professionals.....	31
Bridging the Experience Gap in the Water Sector:.....	32
The Water, Environment And Climate Change Research Agenda for Uganda	33
Water and Environment: The Foundation of Uganda's Inclusive Future ..	33
From pollution to protection: Reclaiming our drainage channels and springs for a sustainable Uganda	35
Empowering women, youth, and children as drivers of climate resilient wash services for an inclusive and prosperous Uganda	37

COPYRIGHT:

The Water and Environment Magazine © WRI 2026. All rights reserved. All permission should be sought from the WRI.

The Water and Environment magazine is a publication of the Water Resources Institute, Ministry of Water and Environment. It shares accomplishments, ongoing activities, challenges and opportunities of 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 WATER RESOURCES INSTITUTE (WRI)

The Water Resources Institute (WRI) was established in 2018 as a center of excellence that provides cutting-edge applied research and training; delivers continuous professional skills building 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.



Administration:

Contacts: uwewk@mwe.go.ug

Address:

WATER RESOURCES INSTITUTE
Plot 17 John Babiiha Road, Entebbe Website:
<http://wri.mwe.go.ug/>

MINISTRY OF WATER AND ENVIRONMENT

Plots 3-7 Kabalega Crescent, Luzira
P.O Box 20026 Kampala-Uganda Website:
www.mwe.go.ug

DISCLAIMER:

The information shared in this magazine and therefore the opinions therein are not necessarily those of the Ministry of Water and Environment, Water Resources Institute, its agencies, staff or the editors, and should therefore be acted upon at one's discretion.

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.

Editorial Team

Stephen Tumwesige

Water officer
WRPR tumwesigestiv@gmail.com



Richard Musota

Assistant Commissioner
WRPR richard.musota@gmail.com



Gwendolyn Kyoburungi

Coordinator
WRI, wri.uga@gmail.com



Dr. Callist Tindimugaya

Director
DWRM callist_tindimugaya@yahoo.co.uk



From the Editor's Desk

Our Esteemed Reader,

The 9th edition of the Water and Environment Magazine, alongside the 9th Uganda Water and Environment Week (UWEWK) happening 23rd to 27th March 2026 underscore a key reality: "Water and Environment are invaluable for an Inclusive and Prosperous Uganda."

Over the years, UWEWK has grown into a premier national platform that brings together policy makers, development partners, researchers, private sector actors, civil society organizations, cultural and religious institutions, and academia to exchange knowledge, share experiences, and forge partnerships that advance sustainable water and environmental management.

This annual publication continues to serve as an important platform for sharing knowledge, highlighting innovations, and showcasing the collective efforts of stakeholders working to ensure sustainable management of Uganda's water and environmental resources.

This year's theme highlights the central role that water and environmental resources play in driving inclusive development, enhancing climate resilience, and supporting sustainable livelihoods.

This magazine captures a range of perspectives, experiences, and innovations from practitioners and partners across the sector. The articles highlight ongoing initiatives, emerging technologies, research findings, and practical approaches that are contributing to improved water governance, environmental protection, and climate resilience in Uganda.

We extend our sincere appreciation to all our partners and sector stakeholders who have contributed content and expertise without which this publication would not be.

As you read this edition, we invite you to reflect on the progress made, the challenges ahead, and the opportunities that lie before us. ***Together, let us shape a more inclusive and prosperous Uganda!***



Message from the Minister



Hon. Sam Cheptoris

It is my great honor to present this edition of the Water and Environment Magazine as we convene for Uganda Water and Environment Week 2026. This annual publication highlights the progress, partnerships, and innovations shaping Uganda's water and environment sector, while also reaffirming our shared commitment to sustainable development and responsible stewardship of our natural resources.

Uganda's water bodies, forests, wetlands, and ecosystems are invaluable assets that sustain livelihoods, drive economic growth, and support the wellbeing of our communities. However, these resources are increasingly under pressure from climate change, rapid population growth, urbanization, and environmental degradation. Addressing these challenges requires coordinated action, strong institutions, and the active participation of all stakeholders.

This year's theme, **"Water and Environment for an Inclusive and Prosperous Uganda,"** reminds us that the sustainable management of our natural resources is central to national transformation. Water and environmental resources are not only vital for ecosystems, but also fundamental for agriculture, energy production, industry, tourism, and public health. Protecting these resources is therefore essential for building resilience, improving livelihoods, and securing the future of our country.

Over the years, the Ministry of Water and Environment, together with its partners, has made

significant strides in expanding access to safe water, improving sanitation and hygiene, restoring degraded ecosystems, and strengthening integrated water resources management. We have continued to promote climate-resilient development, support community-based resource management, and invest in science, technology, and innovation to improve decision-making in the sector.

The activities leading up to Uganda Water and Environment Week 2026 have demonstrated the growing commitment of Ugandans to environmental stewardship. Across the country, regional engagements, community dialogues, youth innovation activities, and awareness campaigns have mobilized stakeholders to take action in protecting water resources, restoring ecosystems, and promoting sustainable practices. Initiatives such as the *Walk for Water, Environment and Climate Change* have further amplified awareness and strengthened community participation in climate action.

The Water and Environment Week continues to provide a vital platform for dialogue, knowledge sharing, and partnership building. During the week, policymakers, development partners, researchers, private sector actors, civil society organizations, and communities come together to discuss emerging challenges and identify practical solutions that will shape the future of our sector.

I extend my sincere appreciation to all our partners and stakeholders— development agencies, local governments, civil society, cultural and religious institutions, academia, and the private sector— whose continued support enables the Ministry to deliver on its mandate. Your collaboration remains essential in ensuring that Uganda's water and environmental resources are protected and sustainably managed and developed.

As we participate in the various activities of Uganda Water and Environment Week 2026, I encourage all stakeholders to engage actively, share knowledge, and contribute innovative ideas. **Collectively, we can build a resilient, inclusive, and prosperous Uganda where water flows safely, ecosystems thrive, and every citizen benefits from sustainable development.**

For God and My Country

Hon. Sam Cheptoris

Minister of Water and Environment

The Uganda Water and Environment Week: A Platform for Knowledge Sharing and Partnerships

MWE through the Water Resources Institute (WRI) will hold the ninth Uganda Water and Environment Week (UWEWK2026) from Monday 23rd March to Friday 27th March 2026. The event will also commemorate three annual sector International Days: International Forest Day (March 21st), World Water Day (March 22nd) and World Meteorological Day (March 23rd).

Since its inception in 2018, the UWEWK seeks to contribute towards the attainment of sustainable socio-economic transformation and achieving Ugandan

UWEWK2026 will give special focus to Africa Agenda 2063 and its various implementation frameworks such as the Africa Water Vision 2063 and Policy, and Uganda's Tenfold Growth Strategy

National Development Plan 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 overall theme of UWEWK 2026 is **"Water and Environment for an inclusive and prosperous Uganda"** and will be explored through four sub themes namely:

Sub-theme 1: Role of water and environment in achieving Uganda's Tenfold Growth strategy,

Sub-theme 2: Accelerating progress in water and environment through science, technology, innovations and capacity building.

Sub-theme 3: Ensuring environmentally sustainable and climate resilient economies and communities

Sub-theme 4: Leveraging the power and capacity of women, youth and children in delivery of water and environment services

UWEWK has grown into a flagship program for advocacy, information sharing, networking and learning, and mobilization within the water and environment spectrum, not just nationally but regionally and globally.

The African Union has declared 2026 as the Year of "Assuring Sustainable Water Availability and Safe Sanitation Systems to Achieve the Goals of Agenda 2063." This theme elevates water and sanitation to a continental political priority, recognizing them as catalysts for economic transformation, climate resilience. The Africa Water Vision 2063 and Policy has recently been adopted by the African Heads of States with focus on **"A water secure Africa, with safe sanitation for all"**. The continental aspirations will continue to guide the agenda of the African Union Member states, Uganda included.

UWEWK2026 operationalizes and localizes the Africa Water Vision and Agenda 2063 – translating continental goals into national actions on water security, integrated management, transboundary cooperation, finance, governance and climate resilience.

It is timely that discussions during UWEWK2026 will give special focus to Africa Agenda 2063 and its various implementation frameworks such as the Africa Water Vision 2063 and Policy, and Uganda's Tenfold Growth Strategy. The discussions during UWEWK2026 will therefore reflect on and take account of Africa Agenda 2063 outcomes of COP30, World Water Week 2025 and other related events, the outcomes and recommendations of UWEWK2025, as well as the upcoming water and environment related events such 2026 UN-Water Conference, COP31 etc. It will explore their implications to Uganda and discuss the status of their operationalization or domestication and what needs to be done to ensure that they are fully operationalized.

The Build-Up to UWEWK 2026

pre- events and activities

A series of pre-event activities have been organized ahead of the main UWEWK26 to build momentum and stimulate dialogue outside of the headquarter boardrooms. These engagements provide an early platform for stakeholders—including government institutions, researchers, development partners, private sector actors, and communities—to exchange ideas and highlight priorities for sustainable resource management.

The preparatory activities have included regional dialogues, awareness campaigns, radio talk shows, youth debates, innovation hackathons, and community initiatives such as clean-up exercises and tree planting. These engagements were designed to deepen understanding of the critical role of water and environmental resources in supporting Uganda's development ambitions and strengthening resilience to climate change.

The discussions aligned with the event theme, **“Water and Environment for an Inclusive and Prosperous Uganda,”** and helped shape conversations on the role of water and environment in economic transformation, the use of science and technology for improved resource management, climate-resilient development, and the empowerment of women and youth in service delivery.

Together, these pre-events have laid the foundation for meaningful dialogue, stronger partnerships, and actionable outcomes during the main event.

Webinars

UWEWK2026 has featured a unique set of pre-event activities, including carefully selected webinar series intended to shape the Water and Environment Agenda.

The Webinars, held virtually, brought together policymakers, scientists, industry players, civil society and other stakeholders to explore opportunities for bridging the gap between policy, research, and on-the-ground implementation to discuss National, Regional and Global topical issues. The series featured seasoned technical

9th UWEWK 2026
UWEWK 2026 WEBINAR SERIES

- 11th of February 2026, 11:00 AM**
1st Webinar focusing on the overall theme of UWEWK 2026: "Water and Environment for an inclusive and prosperous Uganda".
- 13th of February 2026, 11:00 AM**
2nd Webinar focusing on Sub-theme 1: Role of water and environment in achieving Uganda's Tenfold Growth strategy
- 17th of February 2026, 11:00 AM**
3rd Webinar focusing on Sub-theme 2: Investment in science, technology, innovation and capacity building to enhance progress in water and environment management and development
- 19th of February 2026, 11:00 AM**
4th Webinar focusing on Sub-theme 3: Ensuring environmentally sustainable and climate resilient economies and communities
- 24th of February 2026, 11:00 AM**
5th Webinar focusing on Sub-theme 4: Leveraging the power and capacity of women, youth and children in delivery of water and environment services

Contact us:
Email: www@mwew.go.ug; www@mwew.go.ug
Mobile: +256 772 468 772, +256 753 153 191, +256 772521413, +256 772670517;
Website: www.mwew.go.ug, www.uwew.go.ug

Scan the Code

Register: <https://bit.ly/45Wd4rw>

Listing of UWEWK2026 Webinar series

experts on the theme and the different sub themes of the Uganda Water and Environment Week.

Regional Pre-event Activities

The Ministry of Water and Environment operates through six regional offices namely Eastern Regional office located in Mbale City, Northern Regional office located in Lira City, Western/Albertine Regional office located in Fort Portal City, South western Regional office located in Mbarara, Central Regional office located in Wakiso town and Karamoja Regional office located in Moroto town. Each of the 6 regions have undertaken a number of pre-event activities aimed at bringing stakeholders together to engage, network and contribute to the sustainable development and management of water and environment resources amidst various challenges notable of which is climate change. While different regions had their own unique activities, there were certain activities that were common to all regions such as youth debates, miss climate change awareness competitions, clean up exercises, restoration activities etc.

Below are quick highlights of what took place in each of the regions.

Albertine Region

The Albertine region hosted a wide range of activities including youth debates among universities and secondary schools, sanitation and hygiene certification of schools, tree planting campaigns, and stakeholder dialogues on early warning systems for climate hazards. Wetland protection initiatives were also implemented through demarcation of key wetlands in Kabarole and Kamwenge districts, alongside community sensitization on sustainable resource use and alternative livelihoods.



Reflection Meeting with Fort Portal Diocese Parish Priests

Northern Region

In Lira City, the Northern Uganda Water and Environment Week brought together government institutions, development partners, civil society, and communities for a week of activities focused on environmental sustainability. The celebrations included a green walk, sports gala, tree planting campaigns, city clean-up exercises, school debates, innovation exhibitions, and public dialogue sessions. A health camp and blood donation drive were also organized to engage communities and highlight the link between environmental health and human wellbeing. Youth engagement was further strengthened through regional auditions for the Miss Climate Change Awareness initiative.



Miss Climate Change Awareness Northern Uganda during NUWEWK

Eastern, Karamoja, Central, and South-Western Region

UWEWK continued throughout the other parts of the country with every corner 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.

In Eastern Uganda, activities emphasized youth participation and climate advocacy. Regional auditions for the Miss Climate Change Awareness program attracted young contestants who demonstrated knowledge of climate change challenges and solutions. Participants showcased talent while presenting ideas on renewable energy, environmental conservation, and community awareness, highlighting the growing role of youth as champions of climate action.



Engagement of school children in Eastern region



The Commissioner in MWE, Dr. Callist Tindimugaya representing the Permanent Secretary, MWE to flag off stakeholders from MWE H/Q to the cleaning exercise. The stakeholders included Uganda Prisons Service, Uganda Police, Buganda Kingdom, School children and teachers, NWSC, MWE staff and others.

The 560km Walk for Water, Environment and Climate Change

As part of the pre-events leading to Uganda Water and Environment Week 2026, stakeholders led by the Uganda Walker's Association, undertook a 560 km Walk for Water, Environment and Climate Change to raise awareness and mobilize collective action for sustainable management of natural resources. The walk commenced on 2 2026 in Moroto traversing districts of Napak, Katakwi, Soroti, Kumi, Bukedea, Mbale, Tororo, Bugiri, Iganga, Jinja, Buikwe, Mukono and Kampala. The walk concluded on the 19th March 2026 at the Ministry of Water and Environment headquarters in Luzira, Kampala.

Along the route, Walkers engaged with communities, local governments, schools, civil society and private sector actors in dialogues

on water security, ecosystem protection and climate resilience. Activities included community sensitization meetings, tree planting campaigns, wetland restoration initiatives, clean-up exercises and public awareness events. Over 100,000 tree seedlings were planted or distributed, strengthening efforts to restore degraded landscapes and promote sustainable resource use.

The walk provided a powerful platform to highlight the importance of protecting water and environmental resources in building an inclusive and prosperous Uganda while fostering community ownership of climate action.



Flagging off Walkers in Moroto on 2nd March 2026 for a 560km walk to Kampala

Celebrating our Milestones

The success story of UWEWK2025

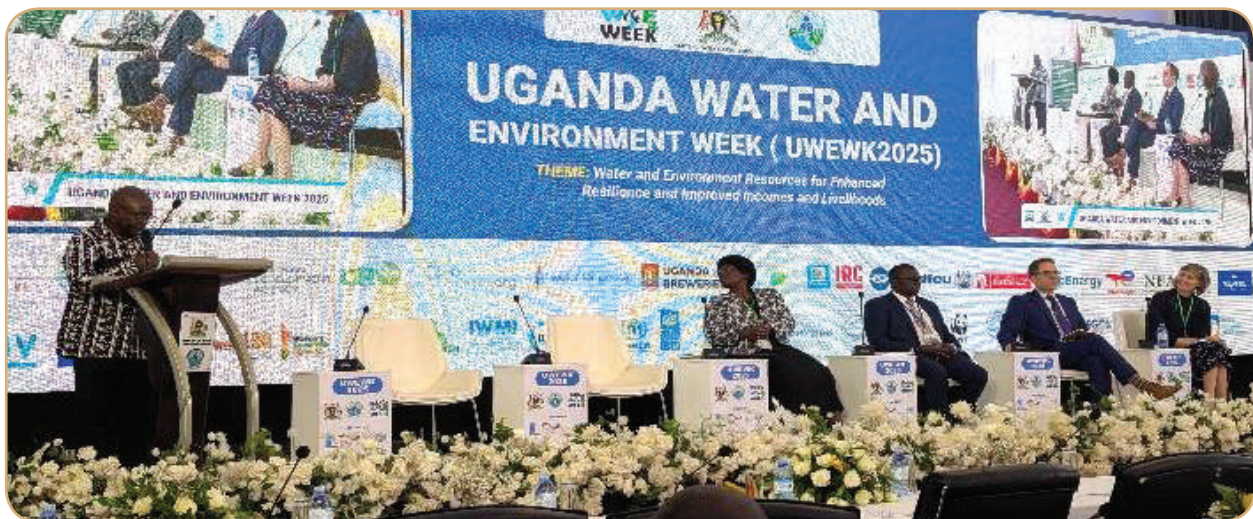
A year ago in this same space, the eighth Uganda Water and Environment Week 2025 (UWEWK2025) was convened under the theme **“Water and environment resources for enhanced resilience and improved incomes and livelihoods”**.

The UWEWK2025 focused on sustainable management of water and environmental resources to strengthen resilience against climate and environmental challenges while enhancing economic opportunities and improving livelihoods for communities. It highlighted the critical role these resources play in supporting socio-economic transformation, promoting equitable access, and fostering sustainable development for current and future generations.



The Guest of Honor-Hon. Justine Kasule Lumumba-representing the Deputy Speaker, giving remarks at the opening ceremony

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.



Day 1 panelists for UWEWK2025

Some key recommendations in UWEWK2025 included:

- i) **Develop Adaptation Plans:** Create comprehensive national strategies for managing environment and water-related climate risks, including both urban and rural perspectives.
- ii) **Infrastructure Investments:** Upgrade water and sanitation systems with resilience in mind, incorporating green infrastructure like wetland restoration and urban flood mitigation.

- i) **Foster Collaboration:** Engage private sector players and international financial institutions to drive investments in renewable energy and climate- smart technologies.
- ii) **Innovative Financing:** Implement blended finance models and green bonds to support projects that build resilience in water, sanitation and environment systems.

UWEWK2026 will provide a status of implementation of UWEWK2025 recommendations and build on the gains and lessons from UWEWK2025 and UWEWKs of previous years.

Transforming Water Resources Management in Uganda

Experiences from the World Bank funded Integrated Water Management and Development Project (IWMDP)



By Eng. Anthelem Iragena, PMP® - Principal Water Officer, MWE

Water is at the heart of Uganda's social and economic transformation. From agriculture and hydropower to domestic supply and ecosystem health, sustainable water resources management is critical for national development. Recognizing this, the Government of Uganda, through MWE, has implemented transformative interventions under various projects and programs one of which is the Integrated Water Management and Development Project (IWMDP).

The IWMDP, funded by the World Bank and implemented by MWE and NWSC, from 2019 to 2026, has had a Component on Water Resources Management. Through this Component a number of activities have been implemented to strengthen Water Resources Management (WRM) across Uganda's four Water Management Zones (WMZs), applying the catchment management approach to Integrated Water Resources Management (IWRM). The results achieved are tangible, far-reaching, and transformative.

Catchment Management in Action

The principle that water resources must be managed at the catchment level, where land, water, ecosystems, and communities interact has been embraced by all stakeholders. The project has successfully implemented priority catchment management measures in five major catchments: Lwakhakha, Aswa II, Kochi, Awoja, and Nyamwamba Sub-catchment. These interventions combined **ecosystem restoration, flood mitigation, and community livelihood support**.

In the **Nyamwamba catchment** in the Rwenzori region—an area prone to destructive flash floods, targeted structural interventions were implemented along **5.4 km of flood-prone sections** of River Nyamwamba. Desilting of the river, river bank protection, and reinforcement of vulnerable sections significantly reduced flood risks while complementing long-term ecosystem restoration. These were supplemented by catchment protection measures and provision of alternative sources of incomes to the communities.

Category	Results achieved in each of the Catchments				
	Nyamwamba	Lwakhakha	Aswa II	Kochi	Awoja
Riverbanks Restored	30Km	72Km	290.3Km	268Km	
Agricultural landscapes restored	550Ha	165.52H	147.1Ha	260Ha	320Ha
Water Sources protected		20 Water Sources			35 Water Sources
Tree growing	1600Ha	203Ha (plus 3 Nurseries established)	801.3Ha (plus 3 Nurseries established)	500Ha (plus 5 Nurseries established)	1448Ha (plus 6 Nurseries established)
Wetlands restored			722.37Ha	110Ha	723Ha
Beneficiary Communities in Alternative Livelihood Options	478H/Hs	400H/Hs	500H/Hs	500H/Hs	800H/Hs
Jobs Created	4,368 jobs (with 23% women)	1,266 jobs (with 36% women)	1,957 jobs (with 25% women)	2,339 jobs (with 37% women)	2,097 jobs (with 32% women)



Strategic Planning for Sustainable Water Use

Strategic planning is the foundation of sustainable water security. Three major milestones been achieved in this regard, namely;

- The development of the Water Resources Management and Development **Strategy and Action Plan** for the Albert Water Management Zone.
- The development of a **Strategy and Policy** for Sustainable Development and Management of Groundwater Resources in Uganda
- Development of State of Water Resources Report

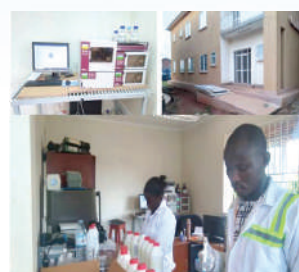
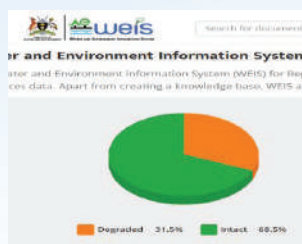
These strategic documents provide long-term vision for sustainable water use, Investment priorities, Institutional coordination frameworks and Integration of climate resilience into water management.

Strengthening Water Resources Monitoring and Information Systems

Effective water governance depends on reliable data. The project significantly strengthened Uganda's water monitoring and information systems through several initiatives.

Development and roll-out of the Water and Environment Information System (WEIS): The Water and Environment Information System (UWEIS) is an integrated, national information platform that collects, stores, processes and shares data on water resources, water supply & sanitation, and environmental indicators. This has been established and operationalized at the national and regional levels ((Water Management Zones) levels to enable : i) Real-time data access, ii) Centralized water resources databases, iii) Improved reporting and transparency, and iv) Enhanced regulatory oversight. This digital transformation has improved decision-making, resource sustainability, transparency and coordination, cost efficiency, compliance and reporting better service delivery in the sector.

- **Establishment of 12 Hydrometeorological Monitoring Systems:** New hydrometeorological stations were established to improve: i) Rainfall monitoring, ii) River flow measurement, iii) Flood forecasting capacity, and v) Climate variability tracking. These systems enhance early warning capabilities and support climate adaptation planning
- **Establishment of 5 Water Quality Monitoring Stations:** The water quality monitoring stations are being used to monitor aerial pollution. The data generated is used as a basis for assessing the contribution of atmospheric pollution to pollution of water resources such as Lake Victoria.
- **Equipping Regional Water Quality Laboratories:** The four Regional laboratories of MWE were equipped with modern water quality testing equipment. This has increased analytical capacity due to automation of analytical processes and reducing turnaround time in generation of water quality information has reduced from 15 days to 7days.



Some initiatives of IWMDP in Water Resources Information & Monitoring(L-R): The WEIS, a SW Monitoring station, installation of Water Quality Monitoring equipment, Water sample analysis ongoing at Lira regional water quality laboratory

Supporting Refugee-Hosting Communities

Uganda hosts one of the largest refugee populations in the world. Increased population pressure in refugee-hosting areas often strains water and natural resources. To address this, problemsix micro-catchment management plans around refugee-hosting districts have been developed for the micro- catchments of Ora, Anyau, Laropi, Ayugi, Nyimur and Mutunda.

These plans are aimed at ensuring availability of water resources of adequate quantity and quality to meet the needs of the refugees and host communities without causing any conflicts. This approach ensures that water resources becomes a tool for cooperation, stability, and resilience rather than tension and conflict.

Looking Ahead

As climate variability intensifies and water demand continues to grow, integrated water resources management will become even more critical. The achievements under the Water Resources Management Component of IWMDP provide a scalable model for Uganda's future water management, demonstrating how strategic planning, community engagement, and institutional strengthening can safeguard the nation's water resources.

Through continued investment and collaboration, Uganda is laying a strong foundation to secure water for people, ecosystems, and economic development for generations to come.

The National Groundwater Strategy and Policy for Sustainable Development and Management of Groundwater Resources in Uganda



By Aheebwa Julius, - Principal Water Officer, MWE

Groundwater is one of Uganda's most important water resources, supplying over 80% of drinking water for rural communities, small towns, and institutions due to its generally good quality and widespread availability. Groundwater development in Uganda began in the 1930s and has supported many water supply projects across the country.

However, increasing demand, climate variability, limited understanding of groundwater systems, and inadequate monitoring have highlighted the need for a more coordinated and sustainable approach to groundwater management. In response, the Government of Uganda, through the Ministry of Water and Environment and with support from the World Bank under the IWMDP project, initiated in 2021 a study to assess and manage groundwater resources and develop a strategy and policy for their sustainable development.

The study was aimed at quantifying available groundwater resources, assess threats and pressures, and evaluate current and future demand. It relied mainly on existing data, complemented by targeted field investigations and stakeholder consultations to inform the study findings and the proposed strategy and policy

Project Deliverables/Outputs

The project produced several outputs, including;

- Assessment of groundwater availability and demand in Uganda,



Some Project activities(L-R): Surveys, Drilling at priority sites, pumping tests, stakeholder consultations

- Assessment of threats and pressures on groundwater resources and strategies and guidelines for to address them,
- National strategy for sustainable groundwater development and management,
- Policy for sustainable groundwater development and management in Uganda
- Others supporting outputs include a GIS-based groundwater database and the drilling and installation of four monitoring wells in critical groundwater-dependent areas.

Key Findings

- Groundwater supplies over 80% of drinking water for rural communities, small towns, and institutions due to its generally good quality and widespread availability.
- Groundwater occurrence and borehole yields in Uganda are highly variable, mainly controlled by localized weathered and fractured zones within basement rocks that cover over 90% of the country.
- Despite its importance, groundwater utilization remains low at about 3% of the national usable resource. While key sectors such as agriculture and industry underutilize this resource, their continued use of this resource needs to be closely regulated and managed to avoid their overexploitation and pollution.
- Groundwater faces increasing pressure from population growth, urbanization, climate variability, and rising demand. Limited monitoring, fragmented data, and contamination risks further threaten the resource.

As Uganda celebrates the Water and Environment Week 2026, the findings of this study highlight the urgent need to safeguard the country's groundwater resources. They call for the support of government, development partners, the private sector, civil society organizations, research institutions, local governments and local communities to ensure that the key recommended actions in the groundwater strategy and policy are prioritized and mainstreaming in the day today activities of all the sectors and stakeholders at various levels

One Platform, Many Solutions



How the WEIS is revolutionizing Water and Environment Data Management in Uganda

By Mugume Mathew, - IT Officer, MWE



The Ministry of Water and Environment (MWE) has established the Water and Environment Information System (WEIS), as a web-based distributed system whose vision is to provide a central secure online structured access point for water and environment data, information and knowledge products to all the stakeholders within and outside MWE to support decision making. The WEIS has established the guiding framework for developing, integrating, hosting, accessing and managing databases in MWE since its operationalization in the last two years.

The WEIS has a wide category of actors namely the MWE staff, external stakeholders and other Ministry Departments and Agencies (MDAs) where integration has been done. The external stakeholders include students, drillers, tree growers, forest rangers, private sector etc. submit requests for service delivery.

Users interact with the WEIS through a collection of independent thematic databases, called modules, some of which include:

- Permits Management Portal (PMP)
- Dams and water ways safety portal (DWWS)
- Water Quality Management System (WQMS)
- Ground Water Time Series (Aquarius) DB
- National Wetlands Information System (NWIS)
- Forestry Support DB (FSSDB):
- Water for Production (WfP) database
- Water Supply Management Information System (WASMIS)

Scan the QR codes below to access the full range of the modules (L-WEIS YouTube page, R-WEIS Modules)



A stakeholder engagement showcasing the Dam and waterways Safety database to registered dam operators at the MWE headquarters

Benefits and User Experiences from the WEIS

- **Centralized and Reliable Data for Decision- Making:** By providing a centralized national platform for collecting, storing, and managing data, WEIS has reduced fragmented databases, minimized data loss, and ensured consistent information across institutions. Access to reliable, up-to-date data enables planners and regulators to make faster, evidence-based decisions.
- **Improved Digital Service Delivery:** Digital workflows have streamlined services such as permit applications, borehole reporting, and data requests, reducing paperwork, travel costs, and processing delays. A registered driller noted that the online borehole reporting portal has simplified submissions and tracking while saving time and transport costs.
- **Enhanced Collaboration and Field Operations:** The system also has strengthened collaboration and data sharing among Ministry departments and government agencies, supporting coordinated national planning. For field officers working in remote areas, offline data collection tools allow wetlands inspections and restoration activities to be recorded and synchronized once connectivity is available.
- **Faster Monitoring and Remote Access:** WEIS has also modernized hydrological monitoring and forestry management, enabling faster reporting and licensing processes. As a web-based platform, it allows authorized staff to access and approve services remotely, ensuring efficiency and continuity of operations.



Strengthening Drought Resilience for Smallholder Farmers and Pastoralists in the IGAD Region:

Lessons from the DRESS-EA PROJECT

The Ministry of Water and Environment (MWE) received funding from the Adaptation Fund through the Sahara and Sahel Observatory to implement the project titled “**Strengthening Drought Resilience for Smallholder farmers and Pastoralists in the IGAD Region**” – DRESSEA Project.

DRESSEA is a regional project being implemented in the countries of Djibouti, Kenya, Sudan, and Uganda. In Uganda, the project is being implemented in the Lokere Catchment of Kyoga Water Management Zone. The project aims to strengthen the resilience of farmers to the impacts of climate change, especially those related to drought.

Project achievements

Over the past 5 years, the project has strengthened the regional drought early warning system through the installation of two automatic weather stations in Moroto – Rupa Sub County and Napak

– Matany Sub County, and provision of equipment for the early warning information center. 2 women; Ms. Aguma Jenifer of Rupa Sub County, and Lomongin Fausta of Matany Sub County were selected and trained in the maintenance of weather stations and were assigned the role of caretakers for the weather stations.



Weather Station at Rupa, Moroto



Kayepas rock water harvesting structure

The Early Warning Center

The weather stations send the recorded weather data telemetrically to the Early Warning Center at the MWE Head Office where it is processed and disseminated to the farmers using SMS. 3,750 farmers have been equipped with phones and solar radios for accessing early warning information.

Women and youths are part of the early warning champions who disseminate early warning information to farmers in their communities. This has improved the quality of seasonal weather forecasts that the Karamoja region is receiving.

Innovative Water Harvesting

252 farmers, 103 female and 73 youths in Moroto (Lotisan and Tapac) and Napak (Lokopo and Lopeei) have been trained in the construction, operation and maintenance of innovative water harvesting structures such as rock water harvesting structures and compound water harvesting structures. These structures ensure water availability for domestic use and smallholder agricultural production. Each structure has a water user committee of 9 farmers, 3 of which are women while 2 are youths. This puts the women and youths in a position of leadership in the maintenance of the structures to ensure sustainability.

Water Protection

186 farmers comprising of 110 female and 84 youth were trained in water source protection for groundwater boreholes in Moroto (Lotisan Sub County) and Napak (Ngolereit and Lokopo Sub counties). Three groundwater boreholes were protected with chain link fencing, live markers, and infiltration ditches were dug in the 50mX50m zone around the boreholes and indigenous grass was planted to enhance ground water recharge.

Source

Climate Agriculture

The project has trained a total of 3,750 farmers and pastoralists of which 1,894 are female and 2,054 youth in climate smart agriculture using techniques such as vegetable basins, zai pits, contour ridges, and infiltration trenches. These techniques improve soil fertility, reduce soil erosion and improve agricultural production. The notable beneficiary groups for women include the Women Empowerment Group in Lotome Sub County - Napak District, the Women Peace Group in Lokopo Sub County - Napak district, and the Nakiloro Farmer Group in Rupa Sub County - Moroto district..

Smart

Next Steps

Through the DRESSEA Project, the MWE is supporting the formation of the Water and Environment Cooperative Society for Moroto, Napak, and Nabilatuk as a framework for supporting the youth and women groups involved in environmentally friendly income generating activities.

There is increasing need for environmental restoration initiatives in the Karamoja region, in which women and the youth can play a significant role as change agents and environmental entrepreneurs. In doing this, the women, youth, and children must work in organized groups, associations, or cooperatives for sustainable financing and marketing.



Soil and water conservation measures in Lotisan, Moroto district



Trainings in raising of nursery beds for vegetables in Katiekile



Compound water harvesting structures in Tapac f Moroto



Perma-gardens in Moroto (Nakonyen and Lotisan)

NWSC's Bold Vision for Water for All by 2030



The National Water and Sewerage Corporation (NWSC) has long been at the heart of the country's drive toward universal access to clean water and safe sanitation. The principal business of the Corporation as defined in the NWSC Act is to operate and provide water and sewerage services in areas entrusted to it by the Government of Uganda, on a commercial and financially viable basis. Currently, the Corporation provides services in 287 Towns, serving approximately 20 million people.

With the expansion of the country's cities, municipalities, and towns, the Corporation has developed a **Five-Year Strategic Plan (2025/26–2029/30)** in compliance with Regulation 18 of the National Planning Authority (NPA)

Development Plan Regulations (2018). The strategic plan is a roadmap crafted to advance the mission of delivering sustainable water and sewerage services to Ugandans.



The NWSC Strategic Plan 2025–2030 is anchored on the NWSC Vision: **“Water for All, for Health, and Prosperity”**. The corporation's mission is: **“To provide reliable, safe, and sustainable water and sewerage services for all while empowering lives, protecting the environment, and building a healthier future generation”**. It builds on the achievements of the previous Strategic Plan and a comprehensive assessment of the emerging trends influencing service delivery.

The NWSC's 2025–2030 Strategic Plan sets out a bold roadmap: one that balances infrastructure expansion, customer service, and environmental

stewardship. The strategic plan recognizes the pressures of rapid urbanization, climate change, and financial sustainability, and positions NWSC as a key player in achieving Uganda's Vision 2040 and the UN Sustainable Development Goals.

At the core of the strategic plan are five clear objectives adapted from the NDPIV, that is:

- **Water for all:** Extending piped water by rehabilitating, upgrading, and developing water and sewerage infrastructure to enhance access, reliability, and quality of services.
- **Environmental Protection:** Compliance with national quality standards through the implementation of sustainable water supply and wastewater management practices.
- **Operational Efficiency:** Strengthening institutional capacity to consistently and efficiently deliver the NWSC mandate and respond to emergencies and disruptions.
- **Customer Focus:** Building customer satisfaction, stakeholder and community engagement through adaptive, responsive and quality service.
- **Financial sustainability:** Ensuring the financial viability and sustainability of the Corporation through effective utilization of the financial resources to provide satisfactory and equitable water and sanitation services.

To measure achievement toward the above objectives, the Corporation has developed primary key targets as the core measures of overall success. The figure demonstrates some of the key targets for the strategic plan period 2025 – 2030.

NWSC's 2030 performance targets demonstrate a bold commitment to transforming access to water and sewerage services across Uganda. Serving a population of 26 million, the corporation aims to expand its water connections to 1.3 million households, ensuring more communities enjoy reliable and safe water. With an ambitious annual turnover target of UGX 768 billion, NWSC is focused on financial sustainability to support ongoing infrastructure investments and operational excellence.

KEY HIGHLIGHTS OF THE LAST FIVE YEARS (2021 – 2025)

Over the period 2021-2025, NWSC recorded substantial improvement in service delivery, marked by the expansion of water and sewerage infrastructure, increased service coverage and customer base, as well as notable financial growth.

Below are highlights of key achievements:

Parameter	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Towns (No.)	258	258	263	273	276	287
Villages Served (No.)	7,192	8,811	10,425	10,476	10,867	11,088
Total Water Network (Km)	19,974	20,495	21,794	22,591	23,289	23,784
Water Connections (No.)	724,006	775,794	840,508	893,600	943,984	1,019,512
Total Sewer Network (Km)	693	716	752	769	773	775.04
Sewer Connections (No.)	23,914	25,180	28,007	28,703	29,577	30,539
Industrial	Parks serviced (No.)	8	8	9	9	10

However, there are still several challenges that hinder the corporation from achieving its targets. These challenges include among others;

- Inadequate budget allocations and under-releases for the expansion of water and sanitation (WatSan) infrastructure which continue to limit NWSC's capacity to extend service coverage.
- High levels of illegal water use and vandalism of water and sewerage infrastructure.
- Inadequate budgetary provisions for water services by Government MDAs, which constrain NWSC's cash flows, affecting its ability to meet operational obligations.
- Inadequate physical planning and speculative land markets continue to hinder the timely implementation of infrastructure development programmes and increase project costs.
- Depletion and degradation of water sources due to unregulated human activities in catchment areas and the impacts of climate change threaten water availability.

Looking ahead, the NWSC is committed to providing safe, reliable, and sustainable water and sewerage services. This commitment is supported through our own internally generated funds as well as support from the Government of Uganda and development partners. NWSC aims to deliver these services in a cost-efficient and environmentally friendly manner.



Figure 2-1 Dr. Silver Mugisha the MD NWSC at a recent project visit of the Karuma Water Works

Building Professional, Financially Sustainable Utilities

Since 2018, WSUP Advisory has been supporting the transformation of Uganda's regional water utilities, known as Umbrella Authorities, from technical support organisations into professional service providers capable of delivering sustainable water services to hundreds of thousands of people in small towns and rural growth centres.

Achieving operational cost recovery is a significant milestone, but true self-sufficiency requires access to capital investment. With government funds stretched thin and development finance increasingly scarce, MWUWS aims to build capacity to attract additional finance and foster autonomy and self-

Our approach focuses on systems strengthening to help utilities become customer-focused, commercially minded organisations that:

- Recover their operating and maintenance costs
- Operate with some autonomy
- Use resources and run operations efficiently through standardised processes
- Plan strategically for future business development
- Have a motivated and committed workforce

WSUP Advisory have supported the Mid-Western Umbrella of Water and Sanitation (MWUWS) in the following areas;

- establishing a functioning board of directors
- implementing a customer charter
- setting up a delegated area management structure, and
- developing equitable service programs.

This has improved non-revenue water and water quality monitoring, and we have invested in staff training and development at all levels.

Journey to self-sufficiency

The MWUWS has made impressive progress, tripling the number of customers from 8,000 to 28,000 and annual revenue from 124 million UGX to 425 million UGX, achieving financial sustainability while dramatically expanding service coverage. Customer satisfaction has also risen significantly, with residents reporting greater confidence in water quality and service reliability.

Achieving operational cost recovery is a significant milestone, but true self-sufficiency requires access to capital investment. With government funds stretched thin and development finance increasingly scarce, MWUWS aims to build capacity to attract additional finance and foster autonomy and self-sufficiency.

WSUP Advisory is supporting MWUWS to demonstrate its creditworthiness through a 'dummy' loan mechanism that enables the utility to experience the full cycle of securing and servicing a loan, from preparing bankable propositions to managing capital expenditure, maintaining regular repayments and reporting to financiers.

Building on this pilot phase, WSUP Advisory is working to establish a guarantee facility to secure finance (commercial, concessionary or supplier credit) for investment in their systems. This phased approach aims to build MWUWS's capacity whilst gradually reducing dependence on government and donor support. Our work in Uganda has provided valuable lessons that we are applying across other countries.



Mid Western Umbrella of water and sanitation Board members- photo credit WSUP Advisory Feb 2026

From Pilot to Proof: What Kabarole Teaches Us About Sustaining Rural Water Services

Across Uganda, the conversation on rural water is shifting. For decades, success was measured by the number of water points constructed. Today, the challenge is sustaining services long after infrastructure is installed. Uganda's Operations and Maintenance (O&M) Framework for rural water supply reflects this transition; moving from isolated community management towards professionalised systems designed to deliver reliable services over time.

As discussions during Uganda Water and Environment Week focus on growth, resilience, and innovation, Kabarole District near Fort Portal Tourism City provides a practical example of how institutional reform and data-driven service delivery can translate national policy into sustained local outcomes. Its experience reflects challenges many districts face when transitioning from community-managed infrastructure to sustainable service delivery systems.

Before the Transition

Despite its peri-urban location and relatively strong infrastructure access, Kabarole still faced sustainability challenges common across Ugandan districts. In 2021, forty-seven isolated community systems operated independently with limited preventive planning and fragmented oversight. Repair response times averaged three to four weeks, functionality was about 72%, and user fee collection 35%. The District Water Officer had one mechanic, no vehicle, and no spare-parts budget. These constraints exposed the limits of the Community-Based Management System and highlighted the need for stronger governance.



School pupils at Rwankenzi Primary School in Kabarole district wash their food containers after the lunch break

Leadership and Partnership as Catalysts

Implementation accelerated when district leadership embraced the O&M Framework as a locally driven reform. The District Chairperson championed the transition, mobilising council support and securing a UGX 100 million local budget contribution. IRC WASH's three years of technical support helped strengthen governance structures, build institutional capacity, and pilot professionalised service delivery approaches.

Board formation through elections was completed within 18 months, reflecting strong local ownership. Rather than imposing a rigid blueprint, district leaders, national institutions, and partners treated implementation as a learning process— adapting national guidance to local realities while reinforcing collaboration across the system.

Putting the Framework into Practice

Between 2023 and 2024, Kabarole began transitioning from fragmented community systems toward a coordinated model of professionalised maintenance. Water Supply and Services Boards were formed and trained in 4–5 sub-counties and at district level. The District Water Services and Supply Board established key governance functions, including developing business plans for approval by the Directorate of Water Development and District Council, holding quarterly meetings, and strengthening capacity for asset inventory, planning, budgeting, and monitoring service providers.

Sub-county WSSBs provide community-level oversight and handle first-line grievances. The ASP will operate as a professional entity with structured maintenance systems, while

Early Signals of Progress

As new arrangements took shape, stakeholders began observing gradual shifts in how rural water services were managed. Maintenance processes became more structured, coordination improved, and response times shortened in several service areas. These shifts reflected the combined effects of district leadership, professionalised service delivery, strengthened governance arrangements, and sustained partner support.

By 2023–2025, functionality levels had risen above 85 per cent, while response times fell to under 48 hours. Collection supported by clustered service areas, improved monitoring practices, and increased community engagement. Preventive maintenance moved onto quarterly cycles, helping reduce emergency repairs and build trust in more predictable services.

Stakeholders emphasise that these are early signals rather than final outcomes. Institutional reforms are still maturing, and sustaining progress will depend on continued collaboration between district authorities, national institutions, partners, and communities.

Kabarole O & M Reform by the numbers

Functionality: From 72% to more than 85 %

Response time: From 3-4 weeks to less than 48 hours

Collection Efficiency: From 35% to more than 70%

Area Service Providers: 3 Clustered Service Areas

Innovation Through Governance

Although innovation in the water sector is often linked to technology, Kabarole's experience highlights governance and data use as key drivers of change. Structured oversight, performance-based arrangements, and data-informed planning reshaped responsibilities. In 2023, IRC WASH supported an online WASH data portal providing real-time asset and functionality data, enabling better monitoring, timely repairs, preventive maintenance, and resource allocation.

Its value lies not in the technology itself, but in its integration with emerging governance systems. This shows sustainable services emerge when institutional learning and technology evolve together.

Lessons for Scaling

IRC WASH has also supported Water Supply and Services Boards in Kitagwenda, Kyenjojo, Kasese, Ntoroko, and Bundibugyo, helping build a regional foundation for governance strengthening. Rather than presenting a finished model, the experience highlights gradual improvement through institutional reform and learning.

Kabarole's journey gives us good lessons which include:

Kabarole's journey gives us good lessons which include:

- **District Ownership:** Local leadership drives reform and mobilises resources.
- **Governance Strengthening:** Structured oversight improves accountability and coordination.
- **Professionalised Service Delivery:** Dedicated service providers improve maintenance and response times.
- **Data-Informed Management:** Reliable data supports monitoring, planning, and resource allocation.
- **Learning and Partnerships:** Collaboration across districts and partners accelerates sector-wide learning.

Honest Reflections

Despite encouraging progress, we acknowledge that the transition remains ongoing. Community acceptance of tariffs continues to require careful communication, especially where expectations of free services persist. Financial sustainability for service providers must be strengthened, and capacity demands on district teams remain significant. These realities reinforce that institutional change is not linear but evolves through continuous learning and adaptation.

About the Writer

Moses Asimwe is the Monitoring, Evaluation, Accountability & Learning (MEAL) Manager at IRC International Water and Sanitation Centre, Uganda Email: asiimwe@ircwash.org <https://www.ircwash.org/uganda>

We Answer Your Toughest Water and Sanitation Questions

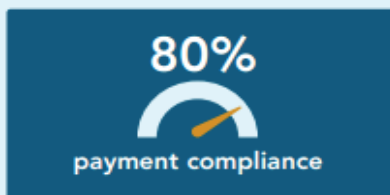


Aquaya is a nonprofit research and consulting organization dedicated to improving global health through universal access to safe water and sanitation. In Uganda, we're partnering with universities, district governments, service providers, NGOs, and communities to ensure safe water reaches everyone. Our key initiatives include water quality monitoring, student training via a fellowship program, and financing models through Village Savings and Loans Associations. We also provide technical assistance for water safety and water resources management.

PROJECT HIGHLIGHTS:

Communities Managing Water

Village Savings and Loan Associations



40% of rural handpumps across Uganda are non-functional due to inadequate maintenance funding. Village Savings and Loans Associations (VSLAs) provide transparent, accountable mechanisms for communities to fund water maintenance.

Evidence: VSLA pilot communities in Kabarole achieved 80% payment compliance and sustained maintenance funds (vs. zero previously).

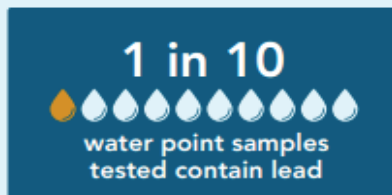
Now evaluating impact: VSLA models are active in 116 communities in Kabarole (The Water Trust) and 55 communities in Kikuube (Whave Solutions).

Learn How



Uganda's Water Quality

Data Driving Action



Water contamination threatens rural communities. Our WaterTRACS research in Uganda (Kabarole and Lira) reveals critical findings: the majority of water points contain *E. coli*; piped systems exhibit high contamination; 1 in 10 water points contain lead; household storage practices affect water safety; and chlorination significantly reduces contamination.

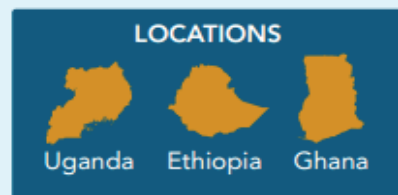
These findings guide district governments and the Ministry of Water and Environment on water service delivery and treatment options.

See Data



Building Water Quality Leaders

Water Quality Testing Fellowship



The water sector needs skilled professionals. Our Africa Water Quality Testing Fellowship trains undergraduate students in water quality testing and data analysis, equipping them to strengthen service delivery. So far, over 200 graduates have completed the program and gone on to apply their skills in the workforce.

The fellowship is active in Uganda (Makerere University) and Ethiopia (Bahir Dar Institute of Technology), expanding to Ghana.

Explore Curriculum



Promoting the Development of Paludiculture papyrus Products in Uganda



By the Peat4People Uganda Team (Robert Rwamuhokya, Salome Alweny, and Simon Baer), GIZ Uganda

Wetlands: Nature's Hidden Powerhouses

Wetlands play a key role in supporting livelihoods, regulating climate, and sustaining biodiversity. characterized by a layer of peat—partially decomposed organic matter that accumulates under waterlogged conditions.

According to the definition adopted by Uganda's Community of Practice on Peatlands, a peatland is a wetland—vegetated or non-vegetated, wet or drained—with at least 10 cm of partially decomposed organic matter near the surface and a minimum of 12% soil organic carbon by dry weight.

Peatlands store approximately twice as much carbon as the world's forest biomass within their soils. They also provide habitat for specialized species, reduce flood risks, and contribute to water security.

The threat, and the Paludiculture solution

Despite these benefits, Uganda's peatlands face increasing degradation from drainage for agriculture, peat extraction, and infrastructure development. These pressures undermine ecosystem services that communities depend on for water, food, and energy. Sustainable land-use alternatives are therefore required.

Paludiculture offers such an alternative. It involves the productive use of wet and rewetted peatlands by cultivating biomass adapted to waterlogged conditions. This approach maintains peat soils and their ecological functions while generating income.

By linking conservation with economic activity, paludiculture supports both restoration and livelihood development.

The Peat4People Initiative in Action

The Peat4People project, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), supports this transition in Uganda and Rwanda.

The project operates in partnership with Uganda's Ministry of Water and Environment (Wetlands Management Department), GIZ (consortium lead), the Food and Agriculture Organization, and the Michael Succow Foundation (partner in the

Greifswald Mire Centre). It strengthens technical capacity, supports policy development, promotes sustainable financing, and advances practical paludiculture business models.

Papyrus: From Traditional Use to Modern Innovation

A central focus of the project is the development of papyrus-based value chains. Papyrus (*Cyperus papyrus*) is a perennial wetland sedge that grows up to 3–5 meters tall in permanently wet soils and forms dominant stands in peatlands.

It produces high biomass through an extensive rhizome system and regenerates quickly after harvesting. Traditionally, communities use papyrus for mats, baskets, ropes, and paper. Its strong fibrous stems and lignocellulosic composition also make it suitable for processing into fiber-based boards, panels, and molded packaging materials

Scaling Innovation and Market Opportunities



L-R Examples of traditional handcrafted papyrus baskets, Processed boards out of papyrus fibre prototyped by ZELFO Technology

To promote papyrus as an innovative raw material, Peat4People has conducted material testing in Germany for fiber boards and molded trays, developed technical guidance materials, and launched a national paludiculture innovation call.

Selected initiatives now receive targeted support in sustainable harvesting and cultivation, product development, business mentoring, and market linkages

By demonstrating that wet peatlands can be conserved and productively managed, paludiculture presents a practical pathway for Uganda. It aligns climate mitigation, ecosystem restoration, and local economic development, while shifting peatland management from degradation toward sustainable use.



Mpanga's path to Renewal

The Watershed Management and Nature-Based Conservation (WMNC) Project

Ministry of Water and Environment | Albert Water Management Zone

The Ministry of Water and Environment (MWE), through its catchment-based approach, is transforming how Uganda protects its most precious resource. By shifting from top-down management to community-led conservation, the Ministry is ensuring that the restoration of our waterways begins where people and nature intersect.

The Strategic Vision: Albert Water Management Zone (AWMZ)

Uganda is divided into four strategic Water Management Zones. The Albert Water Management Zone (AWMZ), covering 61,000 km², is at the forefront of this mission.

The AWMZ doesn't just plan; it monitors and protects through:

Data-Driven Decisions: Operating 58 water monitoring stations and 5 automated weather stations.

Regulation: Overseeing 300+ water abstraction and waste discharge permits to ensure equitable use.

Quality Control: Utilizing a fully equipped laboratory to maintain high water quality standards across the region.

The Mpanga Catchment: A Call to Action

Spanning 5,200 km² across eight districts, the Mpanga River Catchment is a lifeline for Western Uganda. However, it faces critical threats from land degradation and climate change. In response, the MWE launched the Watershed Management and Nature-Based Conservation (WMNC) Project in June 2024.



Figure shows automatic station installed in Kasese and water level sensor installed in River Mubuku

Milestones of Transformation

In its first year alone, the WMNC project has achieved significant physical and technical milestones:

- **Reforestation:** Over 110 acres of degraded land have been replanted with trees like *Prunus africana* and *Grevillea*.
- **Wetland Recovery:** 120 acres of formerly encroached wetlands were demarcated and are now undergoing natural regeneration.
- **Innovation Hubs:** Two demonstration hubs (2.5 acres each) were established to teach sustainable land-use practices.
- **Modern Monitoring:** A new hydrological station provides real-time data on water levels and quality, aiding in flood management and resource planning.
- **Skills Development:** Over 20 technical staff and 5 Catchment Management Organizations were trained in GPS mapping and advanced monitoring.



Joint launch of the afforestation component at Rukiri Sub-county land in Ibanda District

Changing Hearts and Minds

Beyond the physical markers of success, the project's greatest achievement may be the shift in community perspective. For years, riverbanks were scarred by encroachment. Today, leaders like Rev. Jackson Rwabishari of Kamwenge report a "mindset change," where communities are now choosing to protect rather than reclaim wetlands.

As the project enters its second year, the message remains clear: River Mpanga is a mirror of the choices we make. By choosing conservation, the Ministry and its partners are ensuring that the river flows gently for generations to come.



Building Sustainable Futures: The ICRP Impact in South- Western Uganda

Ministry of Water and Environment | Albert Water Management Zone

The Irrigation for Climate Resilience Project (ICRP) represents a landmark inter-ministerial collaboration between the Ministry of Water and Environment (MWE) and the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF). Supported by the World Bank, the initiative is a proactive response to the climate-related vulnerabilities of Uganda's agricultural sector.

A Vision for Scalable Infrastructure

Since its launch in April 2020, the ICRP has transitioned from rigorous feasibility studies to tangible ground-level action. The project's backbone includes the Matanda Dam and irrigation scheme, alongside the Enengo intake.

Target: Extending sustainable irrigation to over 22,000 hectares.

Impact: Directly benefiting 4,000+ smallholder farmers in the Kanungu and Rukungiri districts.

Goal: Breaking the cycle of dependence on erratic rainfall and stabilizing regional food production.

Safeguarding the Future: Catchment Management

A critical lesson in global infrastructure is that a dam is only as good as the land around it. To prevent sedimentation and protect the capital investment, the Albert Water Management Zone (AWMZ) has prioritized Catchment Management (Component 1.3).

Partnering with the Mubuku Integrated Farmers Association (MIFA) since March 2025, the project has implemented robust restoration measures:

Soil & Water Conservation (SWC): 150 hectares restored using runoff infiltration channels, grass bunds, and stone bunds.

Reforestation: 300 hectares of degraded land revitalized through afforestation and agroforestry.

Beyond Engineering: Empowering Communities

The ICRP's success is measured not just in hectares, but in livelihoods. By engaging local "labor gangs" and artisans, the project has fostered deep community ownership.

"The shift from seeing catchment restoration as an abstract concept to a practical tool for yield improvement has sparked an insatiable demand for these technologies within the community."

Key Milestones:

- 1,200+ Households mobilized and equipped with conservation skills.
- 400+ Local Jobs created, specifically targeting youth and women.
- Local Economic Growth: Engaging local suppliers, such as blacksmiths in Katete Sub-county, for tool production.

The Path Forward

By integrating complex engineering with grassroots community empowerment, the ICRP is more than just a series of dams; it is a blueprint for climate-resilient development. For the people of Kanungu and Rukungiri, it is a promise of food security, economic opportunity, and environmental stewardship for generations to come.



Women and youth participation in environmental conservation through Labor-Gangs



Regulation of Water Resources in Refugee Settlements

Insights form Nakivale and Oruchinga Camps, Isingiro District

By Nahabbo Mary Nancy - Principal Water Officer, MWE

Uganda's status as a leading refugee host of more than 1.74million has led to a surge in population within Western Uganda. In settlements like Nakivale and Oruchinga, this growth has triggered extensive groundwater development. To meet demand, implementing agencies are rehabilitating old boreholes and drilling new ones, increasingly utilizing solar-powered submersible pumps.

However, much of this development has historically bypassed the guidelines set by the Water Act. To address this, the MWE and UNICEF recently conducted a study to assess the groundwater situation and integrate these settlements into the national water permit system. By mapping motorized sources and wastewater discharge points, the project aims to ensure that water use is both legal and sustainable.

A snapshot of infrastructure

The study mapped a diverse range of water facilities across the two settlements:

- **Nakivale Camp:** Features 37 hand pumps 10 motorized boreholes, and 3 motorized surface water points.
- **Oruchinga Camp:** Relies on 20 hand pumps, 2 motorized boreholes, and a gravity flow scheme (managed by the district) that provides 60% of its yield to refugees.

Despite the infrastructure, regulation remains a hurdle. Of the sources surveyed, **only nine were regulated**, while six operated without oversight. Initial compliance with permit conditions was found to be low, highlighting a need for urgent administrative intervention.

Water Quality

Two primary threats were identified from the samples from 24 boreholes.

- **Geological Contamination:** High concentrations of Iron are prevalent across most boreholes due to the local geology.
- **Microbial Contamination:** Sanitation challenges specifically the use of unlined pit latrines and the improper burial of septic waste, pose a



severe risk of waterborne diseases like cholera and typhoid.

Way Forward

The scarcity of clean water has forced many residents into water rationing or the use of contaminated alternative sources. To reverse this trend, the study outlines a clear roadmap:

- **Regularization:** Water permits should be acquired for all sources coupled with compliance to permit conditions.
- **Sanitation Reform:** WASH teams must prioritize proper waste disposal and improve latrine construction in view of the water table.
- **Strict Oversight:** Future drilling must be sanctioned by the Ministry and executed only by registered companies.
- **Continuous Training:** Stakeholders require ongoing education regarding permit applications and compliance monitoring.

By aligning refugee response with national water laws, Uganda can move toward a sustainable model that protects both the displaced and the host communities.



Dam Safety in Uganda: Strengthening Infrastructure, Protecting Communities

By Eng. Dominic Banaga Mucunguzi, Assistant Commissioner, MWE

Uganda's economic transformation is closely linked to the sustainable management of its water resources. Dams play a critical role in supporting national development. They underpin hydropower generation, irrigation, livestock production, aquaculture, and flood control - making them strategic national assets.

Hydropower alone supplies more than 90 percent of Uganda's electricity demand. Along the Victoria Nile cascade stand the country's five major hydropower dams: Nalubaale, Kiira, Bujagali, Isimba, and Karuma. Together, these facilities power industries, hospitals, schools, and homes across Uganda.

In addition, over 62 mini-hydropower plants across the country are expanding rural electrification and stimulating local economic growth.

With this growing infrastructure comes a clear responsibility of ensuring dam safety at every stage, from design and construction to operation and long-term maintenance.

The Importance of Dam Safety

Dam safety is critical for protecting lives, livelihoods, and the environment. Dams must withstand natural forces and operational stresses throughout their lifespan. Failure due to poor design, inadequate maintenance, extreme weather, or weak oversight can cause severe social, economic, and environmental consequences.

For communities living downstream, unsafe dams can trigger sudden flooding that destroys homes, crops, and infrastructure. Strengthening dam safety through effective monitoring, maintenance, regulation, and emergency preparedness ensures dams continue providing benefits such as water supply, irrigation, flood control, and hydropower.

As Uganda celebrates the Water and Environment Week 2026 under the theme "Water and Environment for an Inclusive and Prosperous Uganda," it is timely to reflect on the country's progress and renewed commitments to strengthen dam safety governance, operational systems, and community resilience.

A Strong Regulatory Framework

The Ministry of Water and Environment (MWE), through the Directorate of Water Resources Management, has established a comprehensive dam safety regime anchored in:

- The Water Act, Cap 164
- The Water (Dam Safety) Regulations, 2017
- The Uganda Dam Safety Guidelines, 2014

These instruments provide binding standards for design approval, construction supervision, instrumentation, inspection schedules, maintenance requirements, and emergency preparedness.

To operationalize these mandates, the Ministry established a dedicated Dam Safety Unit (DSU) composed of multidisciplinary engineers and technical specialists. The Unit reviews dam designs, conducts safety inspections, classifies dams according to hazard potential, and monitors compliance nationwide.

This institutional structure ensures that dam safety is not incidental—it is systematic, regulated, and continuously supervised.

Inspection and Monitoring: Delivering Results

Uganda's five major hydropower dams are under continuous regulatory oversight. Monitoring activities include:

- Routine and special safety inspections
- Structural instrumentation monitoring
- Reservoir level surveillance
- Review of operation and maintenance procedures
- Verification of Emergency Preparedness and Response Plans (EPRPs)

Beyond large hydropower, the Ministry supervises over 62 mini-hydropower plants to ensure compliance with structural, operational, and environmental safety standards.

These systematic inspections strengthen a preventive maintenance culture, improve accountability among operators, and enable early identification of emerging risks. The focus is on proactive risk reduction—ensuring infrastructure reliability and public safety.

Emergency Preparedness: From

Compliance to Readiness

All high- and medium-hazard dams in Uganda are required to maintain approved EPRPs. These plans define:

- Roles and responsibilities
- Communication protocols
- Coordination with security and district authorities
- Early warning procedures
- Evacuation arrangements where necessary
- Periodic drills and simulation exercises

The Ministry works closely with dam operators, the National Emergency Coordination and Operations Centre, security agencies, and district leadership to strengthen coordinated response mechanisms. Preparedness is embedded not merely as a regulatory obligation, but as an **operational culture**.

Catchment Management and Water



Source Protection

Dam safety is closely linked to the health of the surrounding catchment. To date, 25 Water Source Protection Plans for hydropower facilities have been developed across the country. Protecting catchments ensures that dams continue to operate efficiently while also supporting ecosystem health and climate resilience.

Protecting catchments protects dams - healthy watersheds are the first line of infrastructure safety.

Digital Oversight through WEIS

Protecting catchments protects dams - healthy watersheds are the first line of infrastructure safety

A major milestone in strengthening dam safety has been the operationalization of the Water and Environment Information System (WEIS). Under WEIS, the Ministry established a dedicated Dam and Waterways Safety Database, providing a centralized platform that consolidates:

- A national inventory of dams and hydropower plants
- Inspection reports and compliance status
- Structural and operational data
- Reservoir monitoring information
- Records of corrective actions

This digital transformation enhances transparency, coordination, and evidence-based decision-making. By shifting toward data-driven supervision, Uganda is strengthening proactive and preventive dam safety governance.

Looking Ahead

Dam safety is a shared national and regional responsibility, requiring strong legislation, effective regulation, prepared operators, and engaged communities. Uganda has strengthened its framework through a dedicated Dam Safety Unit, compliance inspections, emergency plans, and a digital safety database. Coordination with neighboring countries ensures regional resilience.

As the nation expands water and energy infrastructure, safe dams remain central to sustainable development—protecting lives, supporting reliable energy, and safeguarding communities. By acting early and together, Uganda can transform its water infrastructure into a foundation for inclusive prosperity and long-term safety.

The role of professional bodies in understanding and working in the climate science spectrum:

Reflections from the Institution of Surveyors of Uganda and the surveying profession

Wafula Robert (ISU), Mutiibwa K. Robert (MWE), Dr. Kibwami Nathan (MAK) and Mukasa Tom (ISU)



Established under the Surveyors Registration Act 1974, the Institution of Surveyors of Uganda (ISU) is a professional body that comprises Land, Quantity, Valuation, Mining & Hydrological surveyors to advance and safeguard the surveying profession. The Institution's mission is

"To promote and uphold professional surveying practices that enhance the quality of services under the various surveying disciplines in Uganda."

Uganda's development trajectory faces a convergence of systemic pressures that among others include, Climate Vulnerability, Rapid Transformation and intense pressure on the finite natural Resource interpreted as competing demands on land, water, and the ecosystems and the threats are not isolated cases but rather interconnected systems that should not be managed "in silos".

The ISU understands that "Achieving the ambitions of the Climate Change Act (2021), NDC, WASH-NAP and many other National Initiatives require translating high-level policy into precise, spatially-informed action on the ground and the Surveying Professional Body is pivotal to such an undertaking if the intended outputs are to be achieved.

In the Anthropocene, sustainable development requires operating within planetary boundaries guided by integrated economic, social, and environmental management. This emphasises the need to have 1) Resilient Cities & Infrastructure where the built environment is spatially planned and climate proofed, 2) Adequate and deliberate Land-Use Management which strikes a balance between development (with ecological limits) aided by precise land governance and finally 3) Goal-Based Implementation targeting both national (NDP IV, Vision 2040, ATM,s, NDCs, National NAP, etc)

and global climate commitments and targets. The localised plans, budgets, actions and activities must be well crafted so that they contribute effectively towards the set goals at all levels in the country.

The climate change space in Uganda is gradually taking shape and calling for various practitioners to recognise and align with the discipline. The water and environment sector need to set out guidelines, accreditation mechanisms and accredit locally trained verifiers in the climate change (carbon markets) discipline to have such critical and sensitive matters managed by fellow nationals. The ISU is one such relevant profession body that is one of the active 'multi-purpose vehicles that are key to the sector as the country takes steps into becoming a climate-smart nation.

Arise to the Call

Eeh, Eeh, Eeh!

Ki?

Our environment, a hindrance to our country's growth.

Nature's cry, the earth's despair rising heat, a future of floods and droughts, a changing sky.

A quiet crisis unfolds, erratic skies leaving communities to wonder why?

Uganda's beauty starts to die. Forests fall, the trees now few, wildlife suffers, what to do? Plastic chokes the rivers' flow.

A planet dying, don't you know?

Rise up, act now, it's never too late.

In green initiatives, community gains.

Sustainable paths, let's create renewable energy, plant some trees.

By acting now, we can promote our natural heritage for generations to come.

For Uganda's future, let's be free. Now is the time.

Written by,

**KISAKYE PRECIOUS VANESAH
S. TWO WEST IGANGA S.S**





How the Graduate Mentorship & Internship Program is transforming young professionals



By Atuhairwe Christine Rachel, Mentorship and Internship Officer, Water Resources Institute



Graduate trainee being taken through the use of biodigester-based faecal sludge treatment plants (FSTPs)

For young professionals entering Uganda's water, environment, and humanitarian sectors, the Graduate Mentorship & Internship Program has become more than a learning opportunity—it is a turning point.

Transitioning from university to the professional world is challenging, but through the Ministry of Water and Environment, UNHCR, Nsamizi, and partners, graduates gain growth, purpose, and opportunity. Their reflections reveal a program that introduces them to humanitarian work while shaping them into confident, skilled, and compassionate professionals ready to make a difference.

The Power of Hands-On Exposure

The program's highlight involve immersive field experience. Trainees apply classroom theory to real humanitarian work—implementing sanitation, hygiene promotion, and monitoring water systems in refugee settlements. Techniques like CLTS, PHAST, CHAST, and SBCC became practical tools. Mentorship from seasoned WASH and public health practitioners give graduates hands-on exposure that shaped their growth and understanding of community resilience.

A platform for Career Growth

The program bridges graduation and meaningful employment, helping trainees secure roles with organizations like Water Mission, LWF, and Nsamizi. It sparks new ambitions—advanced studies, community empowerment, and humanitarian service—while developing soft skills such as adaptability, resilience, and professionalism. Graduates emerge as skilled, confident, and empathetic professionals shaping

their careers and communities.

Gratitude and Hope for the Future

Trainees consistently expressed gratitude to MWE, UNHCR, Nsamizi, and partner organizations for believing in young professionals and investing in their futures. Many described the program as “life-changing,” “a blessing,” and “a priceless opportunity.”

Some have already transitioned from trainees to staff, actively contributing to WASH interventions and humanitarian efforts, while others pursue new opportunities empowered by the knowledge and values gained.

By providing hands-on experience, mentorship, and professional values, the program is shaping the next generation of WASH and humanitarian leaders—one cohort at a time.

Future outlook

The Mentorship and Internship Program is a powerful model for nurturing young talent in Uganda's humanitarian, water, and environment sectors. It ignites passion, builds competence, and instills a strong sense of responsibility toward vulnerable communities. As trainees' stories show, investing in young people is more than a development strategy—it is a commitment to creating a resilient, inclusive, and compassionate future.



This program transformed my transition from university to the professional world. I learned hands-on WASH and humanitarian skills, grew in confidence, and discovered my true passion for serving communities.

Naturinda Sarah (Water Mission-Rhino Camp)



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.

Awori Maurine (Nsamizi-Kyangwali)



Bridging the Experience Gap in the Water Sector:

A Strategic Initiative to Retain Expertise through Retired Professionals Scheme

By Francis Kizito Xavier, Deputy Coordinator, Water Resources Institute



Retired professionals with the Permanent Secretary, MWE

Over the years, the sector has been losing highly resourceful expertise through mandatory retirement of senior professionals. At the same time, a significant number of seasoned Directors, Commissioners, Assistant Commissioners and technical specialists are approaching retirement.

This trend poses a risk to institutional memory, technical capacity, and the strong performance that has made the sector a benchmark in Uganda and the region. To address this issue, one valuable solution has been the establishment of the Retired professionals' scheme under the Water Resources Institute (WRI).

The journey to the Retired Professionals Scheme

The Water Resources Institute launched the Retired Professionals Scheme in September 2022. The initiative enables retired experts to support the next generation through technical guidance, mentoring, training, and advisory services. The scheme ensures that the sector continues to benefit from decades of accumulated knowledge and experience from professionals in both academia and practice.

To strengthen and operationalize the initiative, the Ministry, through WRI, signs framework contracts with retired professionals. So far out of about 110 professionals on the database, 83 professionals have signed framework contracts with MWE up from the initial number of 37 professionals in 2022.

This expansion reflects the growing demand for expert support and the success of the program in enhancing sector performance.

The Ministry of Water and Environment recognizes the importance of building a strong pool of experts to support the sector whose roles include:

- Supporting research and consultancy
- Delivering applied training at WRI
- Mentoring young professionals
- Contributing to policy and strategy development
- Supporting sector dialogue and knowledge documentation

Delivering Impact Across the Sector

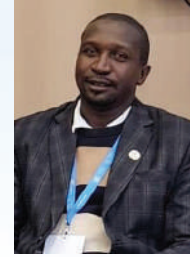
Since its inception in 2022, the program has demonstrated significant impact. The 37 retired professionals who signed framework contracts with the ministry in 2022 have contributed to a wide range of areas namely:

- Development of the Financing Strategy for the National Water Policy
- Establishment of the Water and Environment Museum for Uganda
- Development of the national research agenda
- Development of the WASH Master Plan guidelines for districts
- Conducting trainings at WRI
- Contributing to the Mentorship and internship programs of the WRI
- Undertaking review of Catchment management planning and regulatory framework

A Sustainable Model for the Future

The continued expansion of the Retired Professionals Scheme demonstrates its importance as a sustainable model for knowledge retention, capacity building, and sector resilience.

By investing in people and experience, the Ministry is ensuring that the water and environment sector remains strong, innovative, and well-equipped to meet future challenges.



THE WATER, ENVIRONMENT AND CLIMATE CHANGE RESEARCH AGENDA FOR UGANDA

By Francis Kizito Xavier, Deputy Coordinator, Water Resources Institute and Dr Callist Tindimugaya, Commissioner, WRPR

1.0 Purpose and Focus of the Research Agenda

The Ministry of Water and Environment (MWE) through the Water Resources Institute has developed a comprehensive research agenda for Water, Environment and Climate Change. The agenda aims to guide applied research that directly informs policy, planning, and practice in Uganda, and to provide practical evidence, tools, and innovations for sustainable management. The Agenda responds to growing pressures on water and environmental resources arising from rapid population growth, urbanization, industrialization, land-use change and climate change. It also seeks to address the impact of climate change on people, their livelihoods and the economy.

The Agenda is structured around three core thematic pillars—**Water, Environment and Climate Change**— supported by cross-cutting topics and an explicit implementation, monitoring and evaluation framework.

2.0 Thematic Research Areas

2.1 Water Research Stream Themes

The water research stream focuses on water use efficiency, resource availability and management, and the economics of water use, with an emphasis on applied research to improve allocation, service delivery, resilience, and economic productivity.

Key research themes and areas include (illustrative, not exhaustive):

- a. Theme 1: Water use efficiency and losses
- b. Theme 2: Sustainable agricultural water management
- c. Theme 3: Water-related disasters and risk management
- d. Theme 4: Water scarcity, livelihoods and adaptation
- e. Theme 5: Institutional economics and governance of water
- f. Theme 6: Economic valuation of water resources

2.2 Environment Research Stream Themes

The environment research stream responds to Uganda's severe environmental pressures, including pollution, land degradation, biodiversity loss and unplanned urbanization, which undermine ecosystem services, livelihoods and economic development.

Major themes and representative research areas include:

- a. Theme 1: Environmental monitoring and assessment
- b. Theme 2: Ecosystem health and biodiversity
- c. Theme 3: Sustainable practices and technologies
- d. Theme 4: Environmental impacts
- e. Theme 5: Environmental management and governance
- f. Theme 6: Waste management and circular economy
- g. Theme 7: Water resources and flood management
- h. Theme 8: The private sector in environment and health
- i. Theme 9: Environment and economics

2.3 Climate Change Research Stream Themes and Areas

The climate change research stream addresses adaptation, mitigation and resilience across water, agriculture, ecosystems, health and socio-economic systems.

Key themes and sample research areas include:

- a. Theme 1: Climate change management and mitigation
- b. Theme 2: Climate change impacts on water, agriculture and livelihoods
- c. Theme 3: Climate change impacts on ecosystems and biodiversity
- d. Theme 4: Climate change, health and social vulnerability

2.4 Cross-cutting Research Topics

Cross-cutting topics link water, the environment, and climate change, and strengthen the integration, uptake, and impact of research. Key areas include:

- Agricultural productivity and food security under climate change, addressing soil constraints, seed systems and adaptive farming practices.
- Integrated research, dissemination and policy impact, focusing on knowledge translation, partnerships and communication mechanisms that enhance uptake and scalability.

3. Operationalisation and Implementation Plan

3.1 Institutional Arrangements and Structure

The WRI under the Ministry of Water and Environment is the central coordination hub for the Research Agenda. The Institute's governance and organizational structure—including reporting lines, thematic units and partnerships—are being designed or adjusted to accommodate an expanded research mandate.

3.2 Strategic Partnerships and Stakeholder Engagement

Implementation depends on strong partnerships with:

- a. Government ministries, departments and agencies.
- b. Universities and research institutions.
- c. NGOs and civil society organisations.
- d. Private sector actors and development partners.

Stakeholder engagement supports research co-design, field implementation, validation, dissemination and uptake into policy and practice.

4. Monitoring and Evaluation Framework

A comprehensive Monitoring and Evaluation Framework has been developed to track progress, outcomes and impacts of the WRI Research Agenda.

5. Summary of Implementation Approach

Together, the thematic research agenda, prioritization system, operational arrangements, budget and M&E framework provide a coherent roadmap for the WRI to lead applied research on water, environment and climate change in Uganda. The Agenda prioritizes high- impact, policy-relevant, feasible research, backed by a diversified resource mobilization strategy and strong partnerships, to support sustainable, climate-resilient development.

Water and Environment:

The Foundation of Uganda's Inclusive Future

By Ayebale Anxious, Future environment steward

A Nation Built on Natural Wealth

Uganda's path to inclusive growth and sustainable prosperity is deeply rooted in how it manages its water and environmental resources. Frameworks such as Uganda Vision 2040, the National Development Plan IV (NDP IV), and the Sustainable Development Goals (SDGs) all recognize that water security and environmental sustainability are essential to socio-economic transformation.

With abundant freshwater systems, fertile soils, wetlands, and forests, Uganda is well endowed. However, rapid population growth, urbanization, climate change, and environmental degradation are placing increasing pressure on these resources—threatening the very foundation of development.

Water Security: A Pathway to Equity and Growth

Access to safe and affordable water remains uneven, especially in rural areas, informal settlements, and refugee-hosting communities. Women, children, and vulnerable groups are most affected.

Improving equitable water access through inclusive service delivery can:

- Enhance public health
- Increase school attendance, especially for girls
- Boost economic participation

Beyond domestic use, water is central to Uganda's economy. Irrigation supports agriculture, hydropower drives energy production, and reliable water supplies sustain industry and tourism. Strategic investment in water infrastructure is therefore critical for inclusive growth.

Nature as an Engine for Prosperity

Uganda's ecosystems—wetlands, forests, and catchments—are not just environmental assets; they are economic lifelines. They regulate floods, purify water, and store carbon.

Yet, degradation of these systems increases disaster risks and undermines long-term development. Climate change is already intensifying floods, droughts, and landslides.

Nature-based solutions such as wetland restoration, afforestation, and catchment protection offer cost-effective ways to build resilience while supporting

livelihoods.

The Power of Integrated Governance

Sustainable management of water and environmental resources requires strong coordination across sectors—agriculture, energy, land use, and urban development. Fragmented approaches often lead to inefficiencies and conflicts.

Equally important is inclusive governance. Engaging communities, women, youth, and local institutions ensures that policies are grounded in reality and that resources are managed sustainably for future generations.

Partnerships and Innovation for a Resilient Future

Achieving Uganda's ambitions demands collaboration. Government provides leadership, the private sector drives investment, academia generates knowledge, and development partners support implementation.

Emerging tools—digital technologies, climate finance, and data-driven planning—offer new opportunities to accelerate progress and strengthen resilience.

Uganda's efforts also contribute to regional stability in the Nile Basin and global climate action, positioning the country as a responsible steward of natural resources.

A Call to Action

Water and environmental resources are the lifeblood of Uganda's future. Their sustainable management is not optional—it is essential.

Platforms like the Uganda Water and Environment Week offer an opportunity to renew commitment, strengthen partnerships, and turn policy into action.

By placing water and the environment at the heart of development, Uganda can secure resilience, equity, and shared prosperity for generations to come.



From pollution to protection: Reclaiming our drainage channels and springs for a sustainable Uganda

A Story from Kikoni, a Reflection for all Uganda

BY DEMSA STUDENTS, MAKERERE UNIVERSITY

"Department of Environmental Management Students Association" (DEMSA)

From mighty rivers to humble drainage channels, from protected springs to underground aquifers, water shapes our environment, public health, and future. As Uganda celebrates innovation, resilience, and sustainability during Water and Environment Week, we are reminded that the health of our nation flows through its water.

The Hidden Crisis in Our Drainage Channels

A recent assessment of the Kikoni stream near Makerere University highlights a hidden crisis. Once a lifeline, urbanization, poor sanitation, and waste disposal have transformed sections of the stream into carriers of pollution. The study revealed high turbidity, low dissolved oxygen, and the presence of coliforms, E. coli, and Salmonella typhi—making the water unsafe for human use. Point sources like direct wastewater discharge and non-point sources such as urban runoff and "flying toilets" were identified as major contributors.

Nearby springs, however, showed better quality: lower turbidity, higher dissolved oxygen, and minimal bacterial contamination. Groundwater naturally filters pollutants, but without proper protection, even springs risk contamination from runoff and human activity. The contrast is clear—the more exposed a water body, the higher its risk of pollution.

These findings are a stark reminder that water management is not just technical; it is tied to sanitation, planning, behavior, and governance. Polluted channels increase waterborne diseases, harm community health.

Turning Awareness into Action

Uganda Water and Environment Week calls for solutions. Practical steps include:

- Strengthening urban sanitation infrastructure to prevent wastewater discharge.

- Protecting and upgrading springs with fencing, concrete aprons, and drainage.
- Promoting community education to prevent waste dumping.

Every drainage channel connects to a larger ecosystem; every spring sustains a household.

Every drainage channel connects to a larger ecosystem; every spring sustains a household

Water pollution is not nature's fault—it is the result of human choices. Protecting Uganda's water is a moral responsibility to current and future generations.

A Call to Responsibility: flowing toward a cleaner future

The Kikoni study offers both a warning and a lesson: human activities degrade surface water, but with proper care, groundwater remains resilient.

Let this article inspire renewed commitment.

Let drainage channels flow clean again.

Let springs remain protected.

Let Uganda's waters tell a better story in the years ahead

Empowering women, youth, and children as drivers of climate resilient wash services for an inclusive and prosperous Uganda

By Twinomuhangi Onem

Uganda is grappling with the severe impacts of climate change, which manifest through extreme conditions such as excessive rainfall causing floods, landslides, soil erosion, and prolonged droughts. These challenges undermine health services in health centers, schools, and communities.

A survey conducted in 2025 in the Rwenzori regions of Kasese and Ntoroko districts (270 households) revealed that 64% of female respondents rely on a single livelihood compared to 36% of men. In schools, inadequate sanitation facilities and the lack of menstrual hygiene management support compromise girls' dignity, health, and attendance. Additionally, 44% of women reported never receiving climate-related information, compared to 27% of men, limiting their ability to make informed decisions about water management, farming, and household preparedness.

With partnership from Sudwind and support from the Austrian Ministry of Social Affairs, Environmental Alert is implementing the Resilient Communities to Health and Climate Change Hazards in Uganda (RCHCHU) project. The initiative aims to improve health services in schools, health centers, and communities in climate-affected areas of the Rwenzori region. Activities include installing handwashing and rainwater harvesting systems in schools and health centers, ensuring reliable access to clean water. Sanitation facilities, each with an incinerator and girls' washroom, are designed for water efficiency and include provisions for menstrual hygiene management, protecting both the dignity of girls and the environment.

As we gather for **Uganda Water and Environment Week 2026**, we call upon water and environment



A newly Constructed latrine in one of the project schools

sector stakeholders to leverage the power and capacity of women, youth, and children to:

- Assess not only physical water infrastructure needs but also social dynamics that determine who accesses, manages, and benefits from these resources.
- Invest in women and youth training in green livelihoods that generate income and protect the environment, creating advocates for sustainable resource management.
- Disseminate water and environmental information through channels accessible to women and youth in local languages and formats suitable for those with limited literacy.
- Document how women, youth, and children interact with water and environmental resources across ecological zones, generating evidence to inform policy, planning, and programming.

Sponsors of UWEWK2026





FOR FURTHER DETAILS, CONTACT AND INQUIRES

For any inquiries, please get in touch with
uwewk@mwe.go.ug or wri.uga@gmail.com

Website:

www.uwewk.mwe.go.ug, www.mwe.go.ug

Telephone Phone:

+256 772 521413 / +256 772468772 / +256 753153791

**UGANDA
W&E
WEEK**



THE REPUBLIC OF UGANDA

