



MINISTRY OF  
WATER AND ENVIRONMENT



WATER AND ENVIRONMENT INFORMATION SYSTEM

# WEIS BEACON

Your Quarterly Byte of the Water and Environment Information System

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## Message from the Permanent Secretary, Dr. Alfred Okot Okidi

The Ministry of Water and Environment (MWE) has developed and launched a web-based platform, the Water and Environment Information System (WEIS), available at <https://weis.mwe.go.ug>. The WEIS serves as a one-stop hub, providing structured access to water and environment data, information, and knowledge products for both internal and external stakeholders. The platform is designed to support data-driven decision-making, inform policy formulation, and enhance service delivery. By integrating all water and environment databases under the Ministry into a unified interface, the WEIS offers seamless access to a wide range of thematic data and resources.

Prior to the implementation of the WEIS, the MWE operated multiple standalone and non-integrated databases. This fragmentation made it difficult to trace data, hindered efficient data sharing, and limited the capacity for comprehensive multidimensional analysis. Consequently, the timely generation and dissemination of reports to stakeholders were also adversely affected.

The implementation of the WEIS has been carried out in two distinct phases, with support from the World Bank. Phase I was initiated under the Water Management Development Project and focused on integrating thematic departmental databases within the Directorate of Water Resources Management.

Phase II, implemented during the Integrated Water Management Development Project, involved upgrading the Phase I systems, developing and integrating databases from the Directorate of Environmental Affairs and the Directorate of Water Development, and launching a publicly accessible web portal.

Additionally, Phase II included integration with other Ministries, Departments, and Agencies (MDAs), such as the Uganda Revenue Authority (URA), the Ministry of Local Government (MoLG), and the National Information Technology Authority (NITA-U), further enhancing inter-agency data sharing and collaboration.

Following the successful go-live of the WEIS on 20th December 2023, MWE has implemented various strategies to enhance the system's visibility, awareness, adoption and operationalization among its stakeholders. As part of these efforts, MWE is launching a digital WEIS Newsletter, known as the **WEIS Beacon**, which will be published quarterly. The WEIS Beacon will provide updates on the salient features, end-user support, success stories and feedback related to the WEIS, thus, strengthening stakeholder engagement, improving end-user involvement and facilitating knowledge transfer.

I extend our gratitude to the World Bank, our stakeholders and staff of the MWE for their support and collaboration in the development and implementation of the WEIS. Your dedication and commitment have been instrumental in making this system a reality, improving data-driven decision-making, service delivery and improving water and environmental management for sustainable development.



## Message from the Ag. Director DWRM, Dr. Callist Tindimugaya

The design and implementation of the WEIS began with a feasibility study which focused on key components of water resources management, including the Hydrological Information System (covering groundwater, surface water, and water quality), water permits, and document archival.

Concluded in the financial year 2014/2015, the study laid the foundation for the implementation of six thematic databases during Phase I, which was successfully completed in 2018.

Phase II was a follow up of Phase I and involved the upgrade of Phase I products as well as the development and integration of the databases from the Directorate of Environment Affairs and the Directorate of Water Development. The WEIS now comprises of 16 thematic modules serving the staff of MWE, its external stakeholders and other users.



I would like to thank the MWE Management for spearheading and supporting the successful implementation of the WEIS phase I and II. Special thanks go to the WEIS contract management team, database managers, the rest of the MWE staff and the World Bank for a job well done.

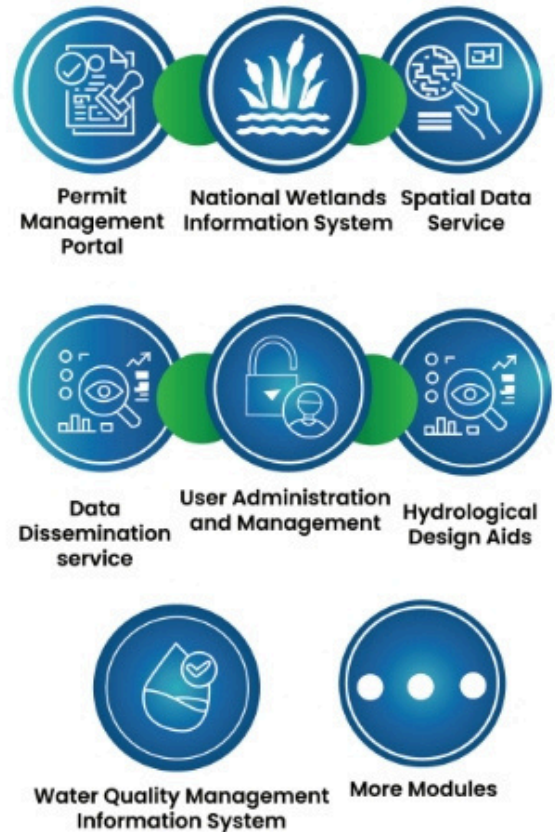


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### WEIS Modules



A banner showcasing some of the modules of the WEIS.

## Message from the Editorial Team

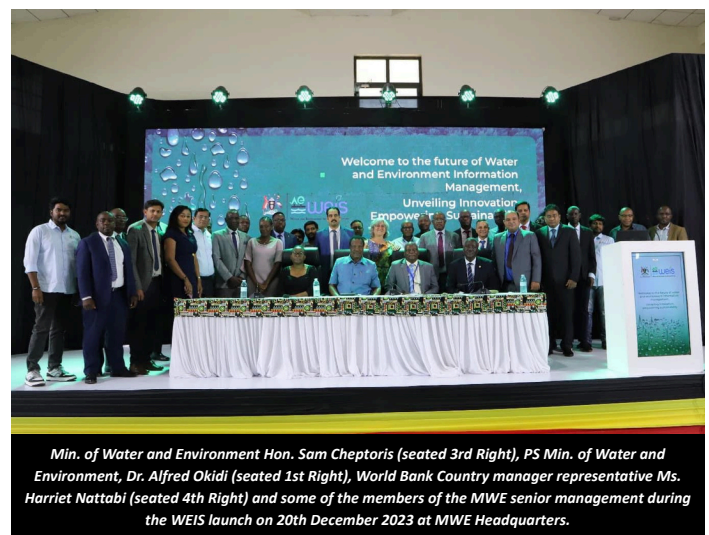
Following the launch of the WEIS, the primary goal during the operationalization is to raise awareness and promote its adoption among all MWE stakeholders.

The WEIS Beacon will serve as a quarterly update, highlighting key system features, recent updates, and end-user engagement initiatives. Through this, we aim to foster awareness, encourage system adoption, and support consistent usage to support government's efforts for the digital transformation.

We acknowledge and extend our appreciation to the Ag. Director of Water Resources Management for his steadfast support and guidance throughout the implementation and rollout of the WEIS. We further recognize the strategic leadership of our MWE senior management team, the technical expertise of the database managers, and the commitment of the staff of the Ministry. Their collective efforts have been instrumental in ensuring the successful development and implementation of the WEIS.

## VISION OF THE WEIS

To provide an online centralized secure, structured access to water and environment data and information to the Ministry internal and external stakeholders; and to support integrated data driven decision making within MWE.



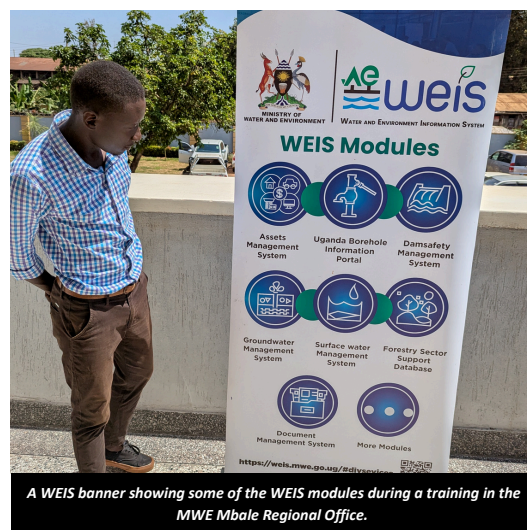
Min. of Water and Environment Hon. Sam Cheptoris (seated 3rd Right), PS Min. of Water and Environment, Dr. Alfred Okidi (seated 1st Right), World Bank Country manager representative Ms. Harriet Nattabi (seated 4th Right) and some of the members of the MWE senior management during the WEIS launch on 20th December 2023 at MWE Headquarters.



## The modules of the WEIS

The WEIS consists of a collection of independent databases called modules running on different machines, communicating with each other through sharing messages in order to exchange common data even when they appear to be on a single processor. These modules are categorized as either thematic or generic basing on their usage by a specific department or all MWE stakeholders respectively. The thematic database modules of the WEIS, which are responsible for managing data are;

- 1. Borehole Information module:** This is managed by the Monitoring and Assessment department of MWE. The database contains detailed technical information about Uganda's groundwater resources. This includes but not limited to data on groundwater levels, quality, usage, recharge rates, and geological characteristics. It serves as a vital tool for monitoring and managing groundwater, facilitating informed decision-making in water management and environmental protection efforts. Additional technical information includes location, borehole identification, hydrogeological, geophysical, geological, installation details, etc. It is accessed and used by the members of the department and all registered drillers and hydrologists.
- 2. Permits Management Portal module;** This is managed by the Water Resources Planning and Regulations department of MWE. In Uganda, under the Water Act Cap 152, and the associated regulations, anybody abstracting water from a lake, river or underground using a motorized pump, discharging wastewater into the environment, involved in drilling for water in construction of dams and other structures on water bodies is required to obtain a water permit and comply with the conditions attached to permit. The Permits Management Portal (PMP) in the WEIS is designed to facilitate the MWE to regulate water use and resources by issuing;
  - A Groundwater Abstraction permit to those that are abstracting groundwater using motorized pump
  - A Surface Water Abstraction permit to those that are abstracting surface water using motorized pump or those diverting surface water from a lake, natural reservoir or river
  - Waste water discharge permits for individuals or businesses that discharge wastewater
  - A Drilling permit to those who are involved in the business of drilling for water supply
  - Hydraulic works construction permits to those involved in construction of structures such as dams and bridges on water bodies
  - Easement Certificates to those who seek right of way to abstract from and discharge to a water body.



A WEIS banner showing some of the WEIS modules during a training in the MWE Mbale Regional Office.

The Permit Management Portal also enables monitoring of compliance of permit holders to the permit conditions through the compliance module as well as easing generation of several reports by capturing the history of compliance level for each permit holder.

The PMP allows prospective water individual users and companies or water permit holders to; track the progress during permit applications, submit online compliance data, apply for borehole numbers, apply for registration as a hydrogeologist (firm or individual) and monitor compliance to the water permit conditions.

It is accessed and used by the members of the department, all registered drillers and hydrologists, all water users (individuals and organizations).

- 3. Surface water database module:** This module, managed by the Monitoring and Assessment Department of MWE, is integrated with AQUARIUS® and is designed for the acquisition, storage, analysis of time series data from surface water monitoring stations. It captures high-resolution hydrological observations from rivers and lakes, including water levels, flows, temperature and other critical parameters essential for advanced hydrological analysis and decision support. The system enforces role-based access control (RBAC), allowing authorized users within the department to access, process, and analyze raw datasets, while other end-users are granted access to metadata summaries. It supports data entry both manually or automated via telemetry. Datasets can be made available to all MWE staff and the general public through the Data Dissemination Portal, subject to fulfillment of the predefined Ministry's data request protocols and adherence to the data usage terms and conditions.

## The modules of the WEIS, Continued

**4. Ground water database module:** This is managed by the Monitoring and Assessment Department of MWE, is integrated with AQUARIUS® and is designed for the acquisition, storage, analysis of time series data from groundwater monitoring boreholes. Like its surface water counterpart, the groundwater timeseries database enables detailed analysis, data visualization for advanced hydrological analysis and decision support. It supports data entry both manually or automated via telemetry. Datasets can be made available to all MWE staff and the general public through the Data Dissemination Portal, subject to fulfillment of the predefined Ministry's data request protocols and adherence to the data usage terms and conditions.

**5. Water Quality Management Database module:** This is managed by the Water Quality Management Department of MWE. The module is a repository for all water quality and environment data and information from the Center and Regional Laboratories. The Water Quality Management database module supports effective water quality monitoring, assessment and management, facilitating environmental protection and sustainable water resource use. It includes data and information on sampling locations, frequency and analytical methods, ensuring data accuracy and reliability through quality assurance measures for the nation. It is accessed by the members of the department and all external stakeholders who submit samples to the different MWE laboratories.

**6. Dam and Waterways Safety Database module:** This is managed by the Water Resources Planning and Regulations department of MWE. It is designed to provide detailed, information on the safety and management of dams and waterways. By centralizing data on dam conditions, water levels, structural integrity, and safety protocols, the module aims to improve the management of the data and information on the safety and sustainability of water resources, ensuring they continue to support communities and ecosystems effectively. This module is accessed by the members of the department and dam owners or operators.

**7. Forestry Sector Support Database module:** This is managed by the Forestry Sector Support Department of MWE. This module facilitates the collection of data on seedling requisition and distribution, forestry monitoring, tree nursery audits, tree farmer training, and capacity-building programs. It also provides useful information on acreages planted or restored, survival percentage, targeted beneficiaries, and partners/funders who have contributed to the overall goal of the forestry sector of increasing forestry cover in Uganda.



Currently, the Forestry Sector Support Database module of the WEIS is used to monitor; Area of land planted or restored, Number of tree seedlings produced per season, Species and quality of planting materials produce, Number of seedlings beneficiaries by gender, Number of farmers trained, Survival percentage of trees planted, Location of forest to be harvested, the Volume of forest produce and issuance of movement permits. It is accessed and used by the members of the department, District Forest Officers and deputies, Forest rangers, and the rest of the public.

**8. National Wetlands Information System module:** This is managed by the Wetlands Management Department for the generation and storage of wetlands data in Uganda. It is used to capture, analyze and store wetlands data especially spatially geo-referenced data. The key performance indicators for National Wetlands Information System are to report on the; Area of total wetlands coverage in the country, Area of wetlands restored, Area of wetlands under management planning and length of wetland boundaries demarcated. Currently, this module is only accessed by the members of the department that manages it.

**9. Rural Water and Sanitation Database module:** This module, managed by the Rural Water department, supports both offline and online data capture tools, enhanced alert mechanisms and integration with demographic and geographic data sources. It plays a critical role in planning, budgeting and reporting of District Water Sanitation conditional Grant and hence overseeing the efficient use of district-level water and sanitation grants. It supports annual work planning and budgeting, approval workflows from parish to district levels and contract tracking, complete with dashboards, photos and progress indicators, track contracts, facilitating planning down to parish level and generate detailed performance reports. It is accessed and used by the member of the department and District local government officers.



## The modules of the WEIS, Continued

- 10. Water for Production database module:** This is managed by the Water for Production department, tracks and manages water usage for agriculture, livestock, aquaculture, and industry ensuring efficient allocation to boost productivity, food security, and rural livelihoods. It is accessed and used by the member of the department only.
- 11. Sanitation Management Information System module:** This is used to promote clean and healthy communities, it captures sanitation and hygiene data from rural and urban areas, supporting safe and affordable sanitation, sustainability, community level initiatives, and evidence-based decision-making. It is accessed and used by the member of the department and District local government officers.
- 12. Environment Management Information System module:** This is managed by the Department of Environment Support Services, is used for tracking land use, forest cover, and fragile ecosystems, while monitoring climate indicators and supporting disaster preparedness, restoration, and sustainable land management. It is accessed and used by the member of the department only.
- 13. Water and Sanitation Management Information System module:** This module is managed by the Rural Water Supply and Urban Water Supply Departments of the MWE. WASMIS captures, manages and visualizes data on Uganda's point water sources and piped water supply systems. It enables national-level and district-level stakeholders to track water access, system functionality, population coverage and service reliability, thereby supporting planning, monitoring and equitable distribution of water services. It is accessed and used by MWE staff, District Water Officers, Implementing Partners and development stakeholders working on water supply across Uganda.
- 14. Data Dissemination Services module:** This module is managed by all the departments of MWE that disseminate data to both staff and the members of the general public. This module facilitates end user customized thematic water and environment related data requests that are sent to the departments that manage this specific data. The data requested is approved and disseminated via this portal, making it available to the requestor through the WEIS. It is accessed and used by all MWE staff and all public stakeholders.



- 15. Assets Information Management Database module:** This module supports the full lifecycle management of water related assets and monitoring infrastructure. This module provides tools to create, update and delete asset entries, as well as view detailed specifications and operational data. Users can analyze asset status, generate alerts for maintenance or replacement and visualize asset locations using different icons based on asset type. Integrated with the Spatial Data Service module of the WEIS, the asset portal enables role-based access to asset records and facilitates report generation for asset-related insights. It is accessed and used by MWE staff from the Water for Production department, Urban Water department and Rural Water department.
- 16. Spatial Data Service module:** This GIS-powered module, managed by all departments within MWE, facilitates the visualization, processing, and analysis of spatial data. Users can upload georeferenced layers and metadata, perform advanced raster and vector operations, and generate multi-layered thematic maps for visualizing key indicators such as hydrological monitoring stations, district-level metrics, and environmental zones. The module includes spatial analysis tools such as buffer creation, intersection queries, and attribute-based filtering, dynamic rendering of spatial content across the WEIS platform based on OpenStreetMap. As the backbone for all spatial data processing in the WEIS, this module supports the functionality of all other WEIS components that handle geospatial information.
- 17. Document Management System module:** This module is managed by all the departments of MWE and provides a centralized storage with search-and-find and disseminate mechanisms of electronic reports, studies, plans, policies, any softcopy outputs of modelling activities, aggregated documents, knowledge products and maps within MWE. This system is used to disseminate these documents and knowledge products based on the role-based access control authorization within MWE departments, sectors, and to the general public. It is accessed by all MWE staff and all the public stakeholders.

The WEIS architecture also includes three foundational modules that are integral to its core operations. These modules are classified as core due to the sensitive and platform-critical nature of the data they manage. Access to these modules is strictly restricted to the WEIS super user, as they govern system-wide configurations, high-level data controls, and administrative functionalities essential for maintaining the integrity and security of the entire platform.



*A stakeholder engagement to showcase the WEIS Document Management System features to Environmental Officers of MWE during a training at MWE Lira regional office.*

The WEIS Offline Data Collection Tools enable users to capture environmental and water-related data in areas without internet connectivity. These Android-based applications ensure secure, geotagged data entry capable of uploading and synchronization of data to the central servers, at MWE, once connectivity is restored. These tools are critical in bridging in-situ data collection gaps in remote locations and improving data availability.

Prior to the WEIS, MWE staff used to conduct field activities that required in-situ data collection with the help of paper-based data collection forms. This would be applicable to areas with or without internet service. Following the roll-out of the WEIS, the platform provides offline data collection tools.

The WEIS Offline Data Collection Tools are used for collecting and securely storing data electronically in areas without internet connectivity. These tools are installed and run on Android® handheld devices enabling users to capture and save in-situ data while they work in the field. Once internet access is restored, the tool uploads the data to the MWE data center online servers—ensuring no loss of critical data gathered in the field.

The tools feature intuitive digitized mobile interface forms that facilitate quick and user-friendly data entry. Additionally, the tools are equipped with GPS and mapping capabilities, allowing users to tag multiple locations for accurate data tracking.



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## WEIS Offline Data Collection Tools



*A stakeholder engagement with the Wetlands Management Department staff during a hands on training session of the National Wetlands Information system at MWE Lira regional office.*

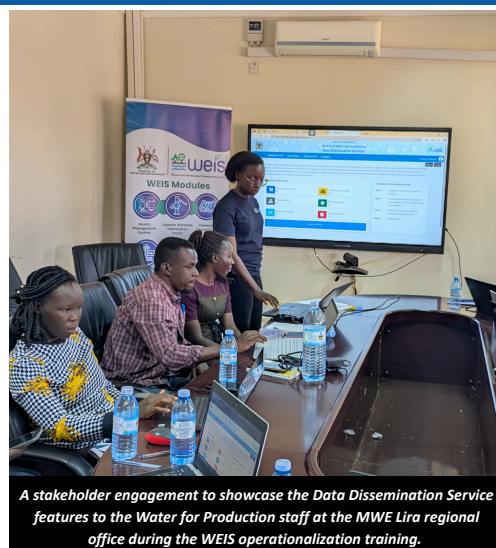
Prior to the use, a user should be register in the WEIS and then downloads and installs it to their handheld device. This maintains data integrity and confidentiality since the access is restricted to authorized users only.

Currently, the suite of the WEIS offline tools are: National Wetlands Information System Offline Tool, Water Quality Management Database Offline Tool, Forestry Sector Support Database Tool, Permits and Compliance Offline Tool, Borehole Offline Tool.

These tools are particularly beneficial for wetland officers, water officers, forest officers, district environment officers, water analysts, drillers and hydrologists, enabling them to efficiently collect and manage water and environmental data even in remote locations.



*The Ag. Director, DWRM (5th L-R), with the supplier, supervisor and the WEIS phase II implementation team.*



*A stakeholder engagement to showcase the Data Dissemination Service features to the Water for Production staff at the MWE Lira regional office during the WEIS operationalization training.*



# WEIS Operationalization Strategies

The operationalization strategies of the WEIS focus on system adoption, usage and improve user skills by integrating the WEIS into their daily workflows and processes. These strategies involve training, system rollout, awareness campaigns, and user onboarding across all levels of MWE and its stakeholders in the public domain.

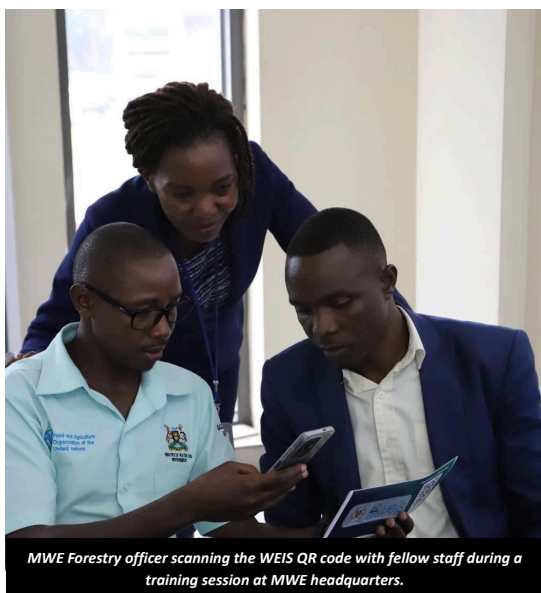
## 1. Hands on training of the WEIS modules and Offline data collection Tools in the MWE- Mbale & Lira regional offices.

The WEIS IT Team conducted training at the MWE Mbale and Lira regional offices from February – March 2025 to facilitate the adoption and usage of the WEIS modules. Staff were trained on the salient modules of the WEIS like the Document Management System and Data Dissemination Services. The team also had hands-on training on the department specific modules including; Forest Sector Support Database, Water Quality Management Database, Compliance module and National Wetlands Information System.

The sessions covered presentations on the WEIS modules and the different offline tool interfaces, users hands-on training and configuration of the offline tool application, data collection and system troubleshooting.

### Key Outcomes

- At least 60 MWE staff successfully registered in the WEIS.
- More than 65 staff were trained across multiple departments on the different WEIS modules.
- Successfully tested the Forestry Sector Support Database, National Wetlands Information System and Water Quality Management Database offline data collection tools.
- Enhanced the system features and functionality from the user feedback collected.



MWE Forestry officer scanning the WEIS QR code with fellow staff during a training session at MWE headquarters.



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A stakeholder engagement to showcase the Document Management System features to the Water for Production staff at the MWE Lira regional office during the WEIS operationalization training.

## 2. District Forestry Officers Induction on the WEIS Forestry Sector Support Database

The WEIS IT Support Team conducted an induction training for District Forestry Officers under the Local Government and MWE Forestry Officers including regional forestry officers in Mbale, Lira, Mbarara, Wakiso and MWE Headquarters from February – March 2025. The training focused on the Forestry Sector Support Database module, equipping officers with skills to register, enter data and manage forestry-related records in the WEIS. More than 137 officers attended online, while 25 participated physically at the MWE headquarters.

### Key Outcomes

- At least 162 officers were trained on seedling requisition, distribution, monitoring and generation of forest product trade reports.
- The Forestry Sector Support Database offline data collection tool was piloted while at tree nurseries in Lira and Mbale MWE regional offices.
- Enhanced awareness and visibility through the distribution of user manuals, brochures, video guides and other awareness materials.
- Enhanced the system features and functionality from the user feedback collected.

# WEIS Operationalization Strategies, Continued

## 3. National Wetlands Information System module and Offline Tool Hands On Training at MWE Mbale regional office.

The WEIS IT Support Team conducted training at MWE Mbale office to increase the adoption and usability of the National Wetlands Information System from February – March 2025. The sessions focused on the National Wetlands Information System module and offline data collection tool, equipping the Wetlands Management Department staff with essential skills to navigate and operate the system.

### Key Outcomes:

- Increased awareness of the National Wetlands Information System through hands on training of 17 wetland and environmental officers at the regional office.
- User adoption enhanced through the successful installation and field testing of the National Wetlands Information System offline tool conducted at Namatala wetland in Mbale for real-time data collection.
- Enhanced the system features and functionality from the user feedback collected.



## 4. The WEIS Side Event during UWEWK25:

In March 2025, the WEIS took center stage during the 8th Uganda Water and Environment Week (UWEWK) 2025 during the hybrid side event captioned “Enhancing the Management of Data and Information products in the MWE through the WEIS”.



### Key highlights of the side event included:

- **Panel discussion:** The side event featured panelists from the WEIS implementation team and Database Managers of various WEIS modules. This panel format enabled diverse perspectives and in-depth discussions on the system’s safety, features, operations and usability based on curated frequently asked questions gathered during the numerous stakeholder engagements.
- **Dialogue:** Comprised of a question-and-answer session and lite presentations on the different interfaces, fostering active engagement around the various WEIS modules. This interactive format enhanced participation from both MWE staff and external stakeholders, deepened understanding of key system features and encouraged greater adoption and long-term commitment to the WEIS.
- **Statistics:** From the survey conducted, there is need for more target specific end user training and continuous one-on-one support to improve the understanding and promote the effective use of the WEIS. 93% of the participants rated the side event as “Excellent” citing clarity of presentations and relevance of content. 78% of the participants successfully registered their user profiles in the WEIS. The participants expressed more interest in the Document Management System.

The WEIS side event at UWEWK 2025 served as a vital platform for engaging diverse stakeholders, fostering awareness, and facilitating meaningful dialogue on the system’s impact and future. In demonstration of their commitment to adopt and effectively utilize the WEIS, several participants proactively scheduled one-on-one training sessions with their respective Database Managers to deepen their understanding and enhance usage of the system.



# Immediate Achievements of the WEIS Implementation

1. MWE has established a secure web-based, structured and centralized access point for water and environment data and information to the Ministry's internal and external stakeholders.
2. The WEIS has instituted a framework for the design, development and hosting of all databases in MWE. All the water and environment databases of MWE should be anchored into the WEIS, which is the one-stop data and information service portal.
3. The upgrade and rehabilitation of the IT infrastructure like networks, hardware (servers, switches, etc.) both at MWE and all the regional offices was achieved.
4. Developed, integrated, rolled out and operationalised the modules of the WEIS.
5. Usage of mobile phone-compatible application (offline data collection tool) interfaces for electronic collection of field data in remote areas where there is no internet coverage.
6. Improved the search, find and dissemination of documents within MWE through the Document Management System.
7. Improved the integration and harmonization with already existing databases within and outside MWE.
8. Integrated MWE to the eGovernment Interface (eGI) of NITA. The integration to eGI facilitates access to common data of other MDAs like URA, MoLG, NIRA, URSB for data verification and sharing.
9. Published an external public-user interface accessible via the WEIS web portal ([weis.mwe.go.ug](https://weis.mwe.go.ug)) to improve data and information dissemination and service delivery to all MWE's stakeholders.



A workshop showcasing the features of the Dam and Waterways Safety Database module at Electricity Regulatory Authority offices in Bugolobi.



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## Recent Collaborations

The collaborations highlight the engagements by MWE's departments with various MDAs and development partners regarding the usage, adoption and improvements that can be done to their WEIS modules. These have driven technical enhancements, such as database customization and API integrations to meet specific stakeholder and end user needs for the continuous improvement of the functionality and features of the WEIS. These collaborations not only improve data verification and sharing but also facilitate the visibility, awareness, adoption and effective usage of the WEIS platform. The collaborations are;

### 1. Water Quality Management Database module

*Training on data querying and reporting via the database management system of a relational database.*

From 27th – 30th January 2025, the MWE through the Water Quality Management Department organised and conducted a technical training workshop on the best practices of data management, querying and reporting. This initiative through the Sustainable Water Quality Management Project aimed at training staff who interact with the WEIS on a day to day basis by enhancing their skills in the creation and the usage of user customized queries and reporting based on the existing data in relational database systems. The training mainly focused on the use of tools that facilitate effective interaction with WEIS Water Quality Management Database module including querying techniques, viewing creation database optimization strategies, etc to enrich reports generated to support decision making.

### 2. Dam and Waterways Safety Database module

*Technical discussion on the features of the Dam and Waterways Safety Database.*

On 26th – 27th February 2025, MWE through the Water Resources Planning and Regulations Department held a working session with representatives from the Electricity Regulatory Authority to discuss the WEIS modules, functions and specifically the features of the Dam and Waterways Safety database.

The objective was to assess the feasibility of adding customized workflow processes within the Dam and Waterways Safety database module to enable Electricity Regulatory Authority to submit regulatory data into the WEIS.

## Recent Collaborations, Continued

### Key Outcomes

- The gaps in the current systems of MWE and Electricity Regulatory Authority were reviewed and areas where the WEIS could complement was noted.
- The teams identified the specific data parameters for the workflow for the submission of regulatory data.
- A follow-up meeting was proposed to be held at MWE headquarters to further define technical specifications and integration pathways.

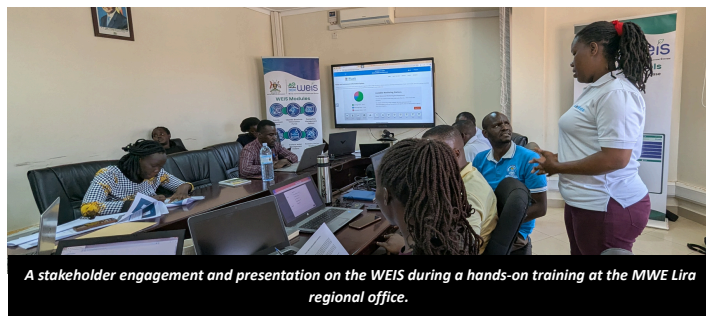
### 3. Induction Training for Drillers on the Borehole Module of the WEIS

As part of the ongoing efforts to operationalize the WEIS, MWE conducted an induction training for all the registered drillers on 27th August 2024. The first training, held at the MWE Headquarters in Luzira, brought together representatives from 44 out of the 54 registered drilling companies in Uganda. The session aimed at introducing the Borehole Information Module of the WEIS, thus creating awareness, and providing practical hands-on guidance on the submission of borehole completion reports in preparation of onboarding the drillers to adopt the system.

Some of the salient features of the borehole module that were discussed during the induction include: tracking of changes in water table elevation over time; monitoring water quality data pH, temperature, dissolved oxygen, ions, nutrients, trace elements, etc; aquifer properties by describing the geological and hydrogeological properties such as transmissivity, permeability and porosity; details on the well formation like depths, construction materials, installation dates; groundwater extraction rates; groundwater replenishments and discharge; land cover and use; etc.

#### Key achievements from the training include;

- The successful registration of more than 65 drillers into the WEIS platform and hands-on trainings on the module workflows.
- Improved visibility and awareness creation through the distribution of the WEIS information materials to support continuous e-learning content from brochures and the tutorial content on the WEIS YouTube channel.
- It was adopted that the submission of all the borehole completion reports to MWE with effect from 1<sup>st</sup> November 2024 would be done online via the Borehole Information module of the WEIS.
- A one-on-one helpdesk for all the registered drilling companies on the usage of the borehole information module of the WEIS was created to provide dedicated user support to handle feedback, improve awareness and adoption of the system.



A stakeholder engagement and presentation on the WEIS during a hands-on training at the MWE Lira regional office.

- Enhanced the system features and functionality from the user feedback collected.
- Promoted system integrations, data cleanup and gap filling through the importation of the previously issued borehole numbers from the Permits Management portal to ensure seamless data verification and validation.

### WEIS Facts

1. The WEIS started with 7 modules during Phase I and has scaled up to 18 modules in Phase II, with more integrations on the way!
2. The WEIS is integrated with URA for verification of payment data, MoLG to retrieve the approved and most recent administrative data and NITA-U as a gateway to other MDAs, promoting collaborations and data sharing across government agencies seamlessly.
3. The WEIS supports offline data collection, ensuring field officers can conduct e-data collection in areas with unreliable internet and this data is uploaded to the MWE server when a reliable connection is restored.
4. With GPS capabilities, the WEIS users can do both point and polygon maps of wetlands, boreholes and water sources, making reports more accurate.
5. The Document Management System in the WEIS eliminates the paper chase by offering a centralized, secure and searchable online platform for storing, retrieval and sharing Ministry documents, which makes e-document management easier and more accessible.

**Scan the QR Code to open the WEIS home page**



WEIS Home page QR Code.



## Frequently Asked Questions

### 1. What is the WEIS?

**Answer:** The WEIS is an online one-stop web interface that provides access to all of MWE's thematic databases for the purpose of collecting, storing, analyzing and disseminating water and environment-related data, information and knowledge products to its stakeholders; and to improve data driven reporting and decision-making.

### 2. What is the WEIS solving?

**Answer:** The WEIS addresses the Ministry's challenges of data fragmentation, limited accessibility, inconsistency, poor integration, data loss and incoherent data standards, while promoting data availability, unified access, centralized storage, multi-dimensional analysis and reporting to support data-driven decision-making.

### 3. Who is meant to use the WEIS?

**Answer:** The WEIS is designed for use for all MWE stakeholders which includes all the staff and the general public. The general public includes MDAs, Academia, Private sector, Development partners, etc.

### 4. What are the requirements for accessing the WEIS?

**Answer:** If you are on the Ministry's computer network, type <https://weis.mwe.go.ug> in your browser to access the home page. If you are not connected the Ministry's network, you need a device with Internet access, then type <https://weis.mwe.go.ug> in your browser to access the home page. The home page contains public content like the services and the feedback interface. The services refer to the different thematic database modules, while the feedback is used to collect the end user's opinions for quality assurance and improvement of the system.

## Scan the QR Code to access the WEIS Youtube Channel



WEIS Youtube QR Code.



### 5. How can I register in the WEIS?

**Answer:** To register in the WEIS, visit the WEIS homepage (<https://weis.mwe.go.ug>) and click the register button located at the top right corner of the webpage, fill in your personal details and submit the form. You will receive a verification email to confirm your registration. After verification, log in using your credentials to access the system. In addition, you can scan the WEIS YouTube QR code to view the online video on the registration process via the WEIS YouTube page.

### 6. Is the registration and usage of the WEIS free?

**Answer:** Yes, the registration and usage of the WEIS is free.

### 7. Who can I contact if I encounter an error, complexity or problem while using the system?

**Answer:** The MWE staff should contact their department's designated Database Manager or help desk for immediate support. Registered public users can log into their WEIS accounts and click the "Feedback" link on the main dashboard to submit a feedback form. Unregistered users can report issues by visiting <https://weis.mwe.go.ug> and clicking the "Feedback" link on the homepage to send their concerns directly to the WEIS Administrator or contact the designated help desk.

### 8. Is there a user manual to guide navigation of the different WEIS modules?

**Answer:** Yes, user manuals are available within each module of the WEIS. These manuals provide step-by-step guidance to assist users in effectively utilizing the system's features. In addition, you can scan the WEIS YouTube QR code to view the existing online self-help videos for an interactive guide via the WEIS YouTube page.

### 9. How is data in the WEIS quality assured?

**Answer:** The WEIS is a distributed system, comprising of numerous integrated thematic database modules. These modules remain under the control of their respective departments, which are mandated to manage the specific data of each database. Thus, the quality assurance of each database is done within the specific department by the registered end users.

### 10. How is the security of the data implemented?

**Answer:** The WEIS is a Role-Based-Access-Control (RBAC) system, thus, content is viewed based on the user's data security rights and usage policies.



## Testimonials

The testimonials from the WEIS users provide compelling insights into its real-world impact. From MWE staff, drilling companies, wetlands officers and other stakeholder categories, users appreciate the streamlined data management, reduced paperwork and enhanced service delivery. Their experiences highlight the value, relevance and impact of the WEIS towards the centralized data collection, analysis, storage and dissemination of water and environment data, information and knowledge products.

### 1. Borehole Information Module

"... it was hard for us to follow up on borehole data and permit applications. But now with the WEIS, we just submit online and we can track everything easily. Even the Ministry responds faster. It has reduced the back-and-forth and saved us transport costs ..."

*Registered Drilling Company*

### 2. National Wetlands Information System module

"... most of our wetland areas are in remote locations where there's no internet. But without internet, we are still able to capture data using the National Wetlands Information System offline tool which uploads the collected data to the MWE server when the connection is restored. This has reduced paperwork, saved time and improved how we report on various wetland activities like inspections, demarcation and restoration ..."

*Wetlands Officer, Kyoga WMZ*

### 3. Permit Management Module

"... I recently accessed the system while abroad and completed permit approvals within a few clicks eliminating delays and ensuring business continuity ..."

*Principal Water Officer, MWE*

### 4. Forest Sector Support Database module

"... what used to take weeks, now takes days, like generating harvesting licenses, produce declarations and movement permits is remarkably faster than before. The system has made reporting much easier, while tracking seedling distribution, survival rates or the acreage planted. It's not just about the efficiency, but the convenience of having all this data at my fingertips ..."

*Forest Officer, MWE*

**Scan the QR Code to  
access the feedback form**



*WEIS Feedback QR Code.*



*The panelists during the WEIS side event held at MWE during UWEWK25.*