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CS Water Hails KEWI As a Lead in Regional Water Management Solutions During the 9th Africa Water Week in Egypt



CS Eng. Eric Murithi Mugaa (seated, 3rd from right), Kenya Ambassador to Egypt Hon. Fred Outa (seated, 2nd from right) pose for a group photo with other participants during this year's 9th Africa Water Week in Egypt. Eng. Murithi has praised KEWI for playing a pivotal role in Kenya and also becoming a key player across Africa in capacity building for the water sector.

BY: ENG. JUSTUS WERSONGUR

The Cabinet Secretary, Ministry of Water, Sanitation and Irrigation, Eng. Eric Murithi Mugaa has recognized and hailed the presence of Kenya Water Institute (KEWI) at the continental Africa Water Week, held 13-17 October 2024 in Cairo, Egypt. He noted that KEWI, along other MWSI institutions had made a significant impact at the 9th Africa Water Week. The CS

lauded KEWI's expanding role in the region, noting that the institute is not only playing a pivotal role in Kenya, but is also becoming a key player across Africa in capacity building.

He urged KEWI to further cement its niche in capacity development for the water sector throughout the continent, recognizing the institute's expertise and commitment to sustainable water management solutions. KEWI, and CEO KEWI, were well represented by

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Eng. Justus Wersongur, the Head of Water and Wastewater Engineering, who participated as a high-level panelist and speaker in two key convener sessions. The event brought together key water sector stakeholders from across Africa, offering a platform for knowledge exchange,

partnership building, and discussions on some of the most pressing water-related issues. Together with Gatsby Africa, WASREB, and the Water Sector Trust Fund (WSTF), the Kenyan team presented a united front, demonstrating the country's commitment to addressing water-related challenges both domestically and across the continent.

During the first convener session, titled *"The New Approach to Capacity Building on Non-Revenue Water (NRW) Management,"* Eng. Wersongur highlighted KEWI's proactive steps toward addressing Kenya's NRW challenges. Kenya faces a high NRW level, with approximately 43% of its water supply lost due to



Eng. Wersongur sharing on *"The New Approaches to Capacity Building on NRW Management"* at the KEWI's Centre of Excellence'.

leakages, meter inaccuracies, illegal connections, and unbilled authorized consumption. Wersongur shared that through the NRW Center of Excellence, jointly established by KEWI and Gatsby Africa, there has been an increased focus on capacity building to reduce NRW from 43% to 25% in the next five years. This goal is being pursued by integrating Industry 4.0 solutions into the training and operations of water utilities across the country.

"At KEWI, we are empowering our trainees with cutting-edge tools like real-time data monitoring, smart water metering, and predictive maintenance analytics to track and manage

water losses more effectively," Wersongur explained during the session.

By combining technology with practical training, KEWI is equipping a new generation of water professionals to lead the fight against NRW in Kenya. In

addition to KEWI's work on NRW, Wersongur also spoke about the institute's involvement in the Third Country Training Program (TCTP), which will focus on building the capacity of water utilities in nine countries across Africa. This initiative will see KEWI playing an instrumental role in enhancing the technical and managerial skills of water utility operators across the continent, reflecting the institute's growing role as a regional leader in water sector capacity building.

In a second session convened by the **International Water Management Institute (IWMI)**, Wersongur turned his focus to irrigated agriculture. He outlined the strategic steps the Kenyan government has

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taken to improve the enabling environment for both small-scale farmers and private sector investors. Financing is a critical barrier for many farmers looking to invest in irrigation infrastructure. To address this, the Kenyan government has engaged financial institutions to provide low-interest credit facilities that make it easier

for farmers to access the capital required for irrigation systems.

Additionally, Wersongur pointed to the Water Act 2016, which guarantees equitable water rights for all users, including the agricultural sector, ensuring that water resources are distributed fairly and sustainably. He also stressed the importance of Public-Private Partnerships (PPPs) in supporting large-scale irrigation projects. "A prime example is the Galana Kulalu Irrigation Project, where the government is working alongside private investors to develop large-scale irrigated agriculture that benefits not



Eng. Wersongur (seated, far left) contributes as a panelist on how Kenyan Government has enhanced enabling environment for Irrigated Agriculture.

only the private sector but also smallholder farmers," Wersongur explained.

The sidelines of Africa Water Week also offered KEWI an opportunity to explore future collaborations with other water sector players. Notably, Wersongur engaged in discussions with the South Sudan Ministry of Water and the Stockholm Environment Institute, laying the groundwork for potential partnerships aimed at strengthening water management in the region. Concisely, KEWI's active participation in the 9th Africa Water Week underscored the

institute's growing influence in the region and its pivotal role in shaping the future of water management in Kenya.

Through strategic partnerships, innovative training, and a clear focus on technological solutions, KEWI is at the forefront of efforts to reduce NRW, improve irrigated agriculture, and enhance water security across the country. As Africa continues to face mounting water challenges, KEWI remains committed to contributing its expertise and leadership to drive sustainable water solutions for the benefit of all.

Normalizing Operation and Maintenance in Water Supply and Distribution Systems



A group photo of the fourth cohort of participants from Nairobi City Water & Sewerage Company (NCW&SC) training on Operation and Maintenance of Water Supply Networks at Kisumu Campus.

BY: OTIENO FREDRICK

In yet another precedent setting move by the management of the Kenya Water Institute (KEWI), Kisumu Campus has hosted the fourth cohort of participants from Nairobi City Water & Sewerage Company (NCW&SC) for a 5 - day training on Operation and Maintenance of Water Supply Networks.

The training which began on Monday 14th October 2024 distinguishes the Campus as a vanguard of O&M and builds on a solid track record of dedicated service to the industry spanning over a decade. Through provision of superior, cutting edge short courses, the institute also

reinforces wider interventions by NCW&SC to mitigate water scarcity in Nairobi, and parts of Kiambu and Machakos Counties.

The participants drawn principally from Supply and Distribution Department were treated to a comely atmosphere nuanced by highly trained and competent facilitators from the institute.

While acknowledging the institute as a receptacle of expertise, and a point of reference for practitioners in Water, Sanitation, and Irrigation sectors, Campus Principal Dr Emily Chepkoech accentuated the facilitative nature of the training and encouraged participants to embrace meaningful

discussions as a means of achieving actionable and consequential O&M plans.

The Principal further extended a hearty welcome to the participants by calling to mind the various short courses that dovetail with O&M. Among the courses in the province of O&M include, Water Infrastructure Asset Management through GIS and Earth Observation Tools, Renewable Energy Technologies for Water Supply, Advanced Pumps Maintenance, Advanced GIS and Remote Sensing in Water Management, and Nonrevenue Water Management.

At the same time, the participants expressed overwhelming interest in

Normalizing Operation and Maintenance in Water Supply and Distribution Systems



A session during the training of Nairobi City Water & Sewerage Company (NCW&SC) staff on Operation and Maintenance of Water Supply Networks at Kisumu Campus

KEWI programs and relished the opportunity to pursue Certificate and Diploma courses on part-time basis.

Similar sentiments were echoed by the course participants through session president Mr. Victor Onyango. In his remarks, the Cohort leader lauded the institute for a delivering a comprehensive training that tackles critical aspects of Operations & Maintenance including Wastewater Collection and Treatment; Conventional Drinking Water Treatment Process; Pipeline Profile, Pressure, and Size Classification; Pipe Installation and Pressure Testing; Pipeline Sterilization and Water Quality

Monitoring; Non-revenue Water Management and Meter Servicing and Calibration; Drinking Water Treatment, Simulation and Jar Testing; Operation and Maintenance of Water Treatment System; Preparation and Implementation of Operation and Maintenance Plan.

With a strong bias towards Supply and Distribution, the participants noted the potential impact of the program on performance of systems, particularly on extraction, collection, and conveyance of water for domestic and public use. Incidentally, the training corresponds to the completion of the Northern Collector

Tunnel Water in September 2024. A product of the Nairobi Water Master Plan and a key part of Fourth Nairobi Bulk Water Supply System, the project is expected to improve access to water and sanitation to some 1.2 million residents through daily supply of an extra 140,000 cubic meters of safe potable water. Consequently, it is expected that the project will enhance capacity of NCW&SC to operate and maintain raw and treated water transfer terminals, steel transmission pipelines, and reservoirs in the newly completed supply lines.

Eyeing Skilled Future Water Sector Renaissance Through Practical Learning and Training



Students from Kitui Campus in a practical pipe-laying exercise at the campus.

BY: NEWTON OMUSASIA

At the Kenya Water Institute (KEWI), the focus on competency-based training ensures that students acquire hands-on skills essential for addressing real-world challenges in the water sector. Recently, students

from the Kitui campus participated in a practical pipe-laying exercise, a vital component of their curriculum designed to reinforce theoretical knowledge with practical application.

Under the expert guidance of Mr. Newton Omusasia, a

seasoned professional in water distribution systems, the students embarked on a comprehensive pipe-laying session. The day began with a briefing where Mr. Omusasia emphasized the significance of proper pipe installation, which is crucial for maintaining an effective and efficient water distribution network. He outlined safety protocols, the tools required, and the procedures for laying pipes correctly. This initial instruction not only set the tone for the day but also highlighted the importance of adhering to best practices in the field.

As the students donned their safety gear, excitement filled the air. This was their chance to transition from the classroom to the field, applying their knowledge of hydraulics, material selection, and trenching techniques. Working in teams, they divided tasks among themselves: some were responsible for measuring and marking the layout, while others dug trenches and prepared the pipes for installation.

The practical session allowed students to face real challenges. They encountered variations in soil types, existing infrastructure, and environmental conditions, requiring them to adapt their strategies accordingly. This experience was invaluable, teaching those critical problem-

Eyeing Skilled Future Water Sector Renaissance Through Practical Learning and Training



-solving skills and the importance of teamwork. The camaraderie that developed during the exercise fostered a collaborative spirit, a vital aspect of working in the water sector where projects often require diverse expertise and shared goals.

Throughout the day, students learned the technical aspects of pipe-laying, including the correct angles for joints, the significance of proper alignment, and the need for thorough compaction to prevent future issues. They practiced using tools such as pipe cutters, wrenches, and trenching equipment, gaining familiarity with the equipment they would use in their future careers. Moreover, they understood the environmental considerations that must be taken into account when laying

pipes, emphasizing the need for sustainability in water management practices.

Reflecting on the experience, many students expressed a renewed sense of confidence in their abilities.

"This practical session not only reinforced what we learned in class but also gave us the chance to apply that knowledge in a real-world setting," said one student. "I now feel better prepared for my future career in the water sector."

The importance of such practical experiences in competency-based training cannot be overstated. They bridge the gap between theory and practice, ensuring that graduates are not only knowledgeable but also skilled and ready to tackle the challenges of the water sector. As

Kenya faces increasing pressures on its water resources, having a workforce that is well-equipped with practical skills is essential for the sustainable management and distribution of water.

In conclusion, the pipe-laying practical at KEWI Kitui exemplifies the institute's commitment to developing competent professionals in the water sector. By providing students with opportunities to engage in hands-on learning, KEWI prepares them to meet the demands of the industry effectively. As these students move forward in their careers, the skills and experiences gained during such practical sessions will undoubtedly play a crucial role in shaping their contributions to the water management in Kenya.



KEWI Hosts Tailored Leadership and Governance Training for Water Sector Leaders



A group photo of the Senior Management Officers of water related institutions during the recently concluded Leadership and Governance training for organized by KEWI and held at PrideInn Paradise Beach Resort in Shanzu, Mombasa.

BY: DORINE EVA IRUNGU

The Kenya Water Institute successfully conducted a comprehensive Leadership and Governance training designed specifically for Senior Management Officers of water related institutions including Board of Directors in County Governments and other institutions. The 3-day training that took place at PrideInn Paradise Beach Resort in Shanzu, Mombasa, from 16th – 18th October 2024, was organized to enhance the governance capacity and leadership skills necessary for sustainable water management and service delivery across the

country.

“The need for strong leadership and sound governance in the water sector cannot be overstated,” said Mr. Nelson Kwamini, KEWI Deputy Director Research, Consultancy and Technical Services as he officially opened the training, on behalf of Dr. Leiro Letangule, EBS, KEWI Director/CEO, for you and we are proud to provide you with the tools necessary to drive positive change in your organizations.”

Participants were introduced to key topics such as Leadership and Governance in Water

Institutions, where they gained insights into the unique challenges and opportunities faced by water service providers. Attendees explored best practices in decision-making, strategic leadership, and the importance of aligning leadership goals with the sustainability needs of water resources.

A significant portion of the training centered on Tools and Instruments for Governance, which emphasized practical strategies for improving institutional performance, took attention of the participants. KEWI’s Engineer Simon Ndeweni took them through the techniques for Non-

KEWI Hosts Tailored Leadership and Governance Training for Water Sector Leaders



*Dr. Ruth Tuwei from ELDOWAS makes her contribution during the recently concluded **Leadership and Governance** training for Senior Management Officers of water related institutions organized by KEWI and held at PrideInn Paradise Beach Resort in Shanzu, Mombasa.*

-Revenue Water (NRW) Reduction Management. This module emphasized the strategies for identifying and reducing water losses, ensuring institutions can optimize their operational efficiency.

This came at a point where the institute launched a Non-Revenue Water Management Centre of Excellence and a mobile workshop, in conjunction with Gatsby Africa. Water Service Providers are encouraged to bring their staff for specialized training and take advantage of the opportunity to hire the equipment available at the Centre to enhance their non-revenue water management

efforts.

The training also covered the increasingly important area of Sustainability Reporting, which offers water institutions a framework for demonstrating their commitment to governance transparency and environmental responsibility. By incorporating sustainability reporting into their governance structures, institutions can improve stakeholder trust and accountability while supporting the broader agenda of environmental conservation.

Those who participated were drawn from Eldoret

Water and Sanitation Company, Kapsabet-Nandi Water and Sanitation Company, Mavoko Water and Sewerage Co., Amatsi Water Services Company, Kiambu Water and Sewerage Company, Homabay Water and Sanitation Company and Water Services Regulatory Board.

This tailored program demonstrated KEWI's commitment to strengthening leadership in water governance and ensuring that decision-makers in the sector are equipped with the skills to lead their institutions towards better performance, resilience, and sustainability.

Smart water Metering: Advancing Water Management through Innovation

BY: BRITNEY MOKEIRA

This week, the Kenya Water Institute (KEWI) held a specialized course on smart metering, aimed at equipping participants with the skills and knowledge needed to modernize water distribution and management. The course covered a range of topics, beginning with an introduction to smart water meters and their increasing role in addressing water management challenges. Participants learned how smart meters, unlike traditional ones, provide real-time data and enhance the accuracy of water consumption tracking, making them essential for improving water efficiency.

The course also provided an overview of water distribution systems, highlighting the processes of sourcing, treating, and distributing water to consumers. This gave participants a strong foundation for understanding how smart meters fit into broader water management systems. Additionally, they examined the differences between traditional and smart meters. Traditional meters were shown to have limitations, such as an inability to detect leaks or provide immediate data. Smart meters,



A smart water meter on display at KEWI Non-Revenue Centre of Excellence laboratory.

in contrast, offer advanced monitoring and early detection of problems.

Practical sessions were a key component of the course, with participants taking part in meter installation and reading exercises. This hands-on experience, paired with theoretical learning, gave participants the skills to properly manage both conventional and smart meters. They also learned about the components and technologies involved in smart metering systems, including sensors and communication tools used to transmit data in real-time to central monitoring systems.

The course addressed the benefits and challenges of adopting smart meters. Benefits include increased accuracy in billing, better management of water

consumption, and the ability to detect leaks early. However, participants also discussed challenges such as the high costs of installation, maintenance requirements, and potential data privacy concerns.

Participants were taught how to collect and transmit data from smart meters and use this information to enhance water management strategies. The course concluded with a focus on how to analyze and utilize

smart meter data, guiding utility providers in making informed decisions regarding water distribution and consumption. To solidify their learning, participants developed implementation plans for smart meters tailored to their specific contexts.

Taking this course provides significant benefits for water management professionals. It enhances technical expertise, promotes efficient water use, and equips participants with practical skills necessary for integrating smart technologies into water distribution systems. As smart metering continues to revolutionize the water industry, this course prepares professionals to lead the charge in implementing these systems, ensuring sustainable water management practices for the future.

KEWI Shines During the Mazingira Day Open Tournament

BY: BRITNEY MOKEIRA

The Mazingira Day Open Tournament, held this week at the Kenya Institute of Highway Building and Technology (KIHBT), brought together teams from various institutions, including a strong delegation from the Kenya Water Institute (KEWI). The event featured a variety of sports competitions, with participants showcasing their talents in games such as handball, football, basketball, table tennis, chess, and more. KEWI's teams, both men and women, competed fiercely across all games.

Among the standout performances was KEWI's dominance in the handball and football competitions, where both the men's and women's teams emerged as champions. In the handball matches, the KEWI teams displayed



KEWI's men football and women handball teams respectively (up and below) warm up before their pitch encounters during the Mazingira Day Open Tournament held at Kenya Institute of Highway Building and Technology (KIHBT) grounds, Ngong.

exceptional teamwork, strategic play, and determination, overpowering their opponents to secure first place. Their victories were a testament to the intensive preparation and commitment shown by the players and their coaches.

Similarly, in the football competitions, KEWI's men's and women's teams once again demonstrated their superior skills on the field. Their fast-paced, coordinated attacks and solid defense ensured that they maintained control of the game from start to finish. The football finals were particularly intense, with both teams putting on impressive performances that captivated the audience and led to well-deserved victories.



While KEWI dominated handball and football, the institution also gave competitive performances in other games, including basketball, table tennis, and chess. KEWI students displayed remarkable sportsmanship and resilience throughout the tournament.

Overall, KEWI's participation in the tournament was a resounding success, as the students excelled in multiple sports categories, particularly in handball and football. Their achievements underscored the institution's commitment to nurturing well-rounded students who excel both academically and in extracurricular activities. KEWI's victories were a proud moment for the institute and further strengthened its reputation in the inter-college sports scene.

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Photo of the Week



Second Year students form Chiakariga Campus during their Survey practical lesson.

Photo by Joan Ruth Letangule.

Quote of the Week

“The only limit to the height of your achievements is the reach of your dreams and your willingness to work for them”

Mitchelle Obama.

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Round Up of the Weekly Events



Eng. Simon Ndweni explains how to use various state of the art Non-Revenue Water management tools and equipment to participants of the **Leadership and Governance** professional development program recently held at Pridelnn Paradise Beach Resort in Shanzu, Mombasa.

Round Up of the Weekly Events



The joint opening ceremony for Smart Water Metering, Metering, Billing and Revenue Collection and Pipework Skills for Water Supply and Sewer Systems professional training programs at KEWI.

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- Meter Reading
- Sewerage Operations

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Vision

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Good Corporate Governance
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