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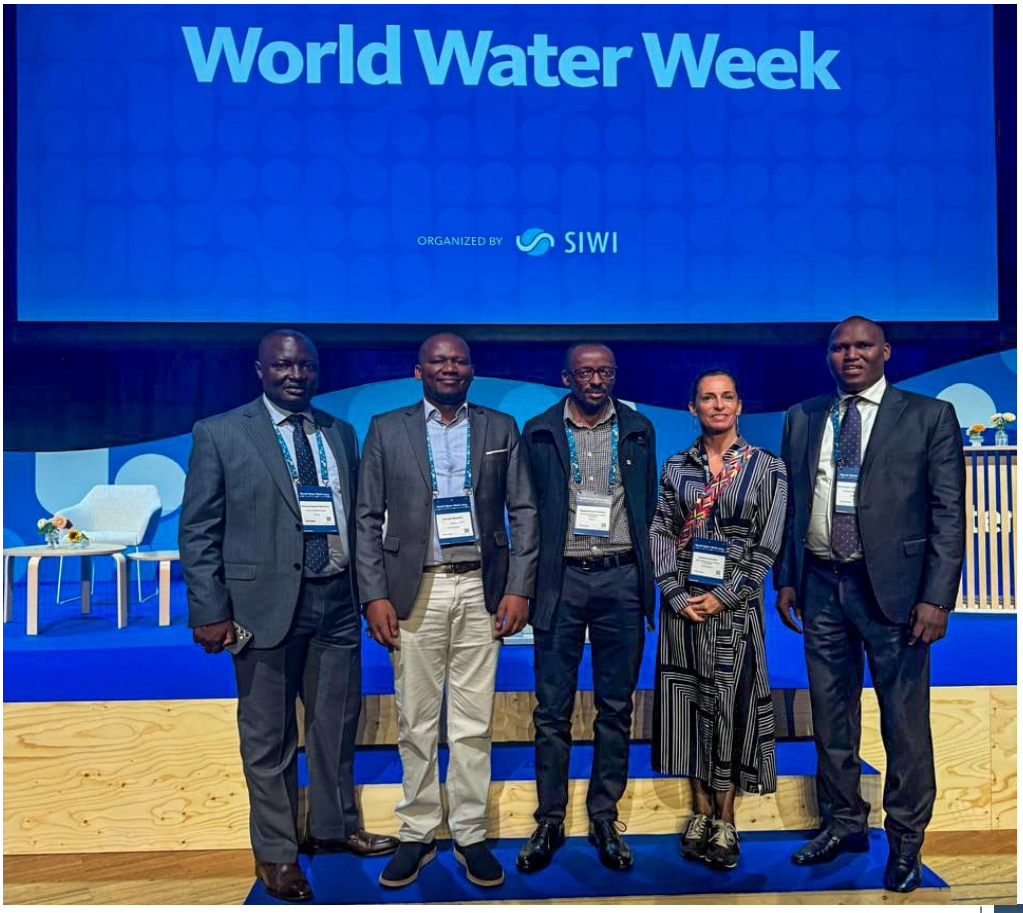
REPUBLIC OF KENYA

KENYA WATER INSTITUTE
KEWI
Fountain Of Water Knowledge

WEEKLY Newsletter

August 24–30 2024

KEWI CEO Joins Global Leaders at World Water Week in Stockholm, Sweden



KEWI CEO Dr. Leiro Letangule EBS, (Far Right) with other participants including Deputy Director Research, Consultancy and Technical Services Mr. Nelson Kwamini (Far Left) during the World Water Week in Stockholm, Sweden.

Kenya Water Institute's Director/ CEO Dr. Leiro Letangule EBS, joined leaders and experts from around the globe in celebrating World Water Week in Stockholm, Sweden.

The event, which brought together leaders, policymakers, and experts from across the globe, focused on innovative approaches to tackling the world's most pressing water challenges.

World Water Week, organized by the Stockholm International Water Institute (SIWI), serves as the leading annual event for discussions and collaboration on global water issues. This year's theme, "Bridging Borders: Water for Peaceful and Sustainable Future," asks us to recognize the regional and global interconnectivity of communities and nations, and underscores the collaborative effort needed to achieve a

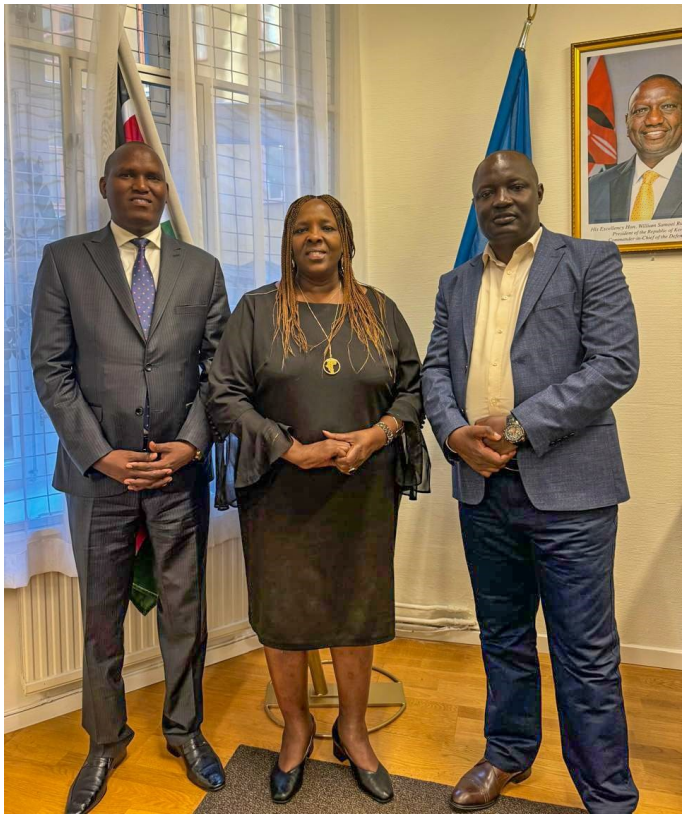
HIGHLIGHTS

KEWI CEO Joins Global Leaders at World Water Week in Stockholm, Sweden

peaceful and sustainable future.

During the event, Dr. Letangule engaged with international peers, sharing KEWI's experiences and insights on sustainable water management practices in Kenya.

The Institute is committed to contributing to the global dialogue and working with our international partners to develop innovative solutions that will ensure water sustainability for future generations.



Dr. Letangule and Mr. Kwamini with the Kenyan Ambassador to Stockholm Amb. Angeline Musili.

During various discussions, experts explored the connections between water, food, energy, and biodiversity, underscoring the need for cross-sectoral collaboration. The panelists agreed that while the interconnected nature of these challenges is increasingly recognized, discussions often remain siloed. As they look ahead to World Water Week and beyond, the panelists expressed hope that such platforms will inspire broader engagement and collaboration across sectors.

The panelists had high expectations for World Water Week. They hoped participants would embrace the complexities of global water issues, challenge themselves, and bring new perspectives. Engaging with experts from various fields was expected to lead to a growing momentum. The theme aimed to inspire collaboration and integrated approaches, encouraging attendees to step out of their comfort zones and connect with others from different sectors.

The panelists also hoped to see continued progress beyond World Water Week towards (Conference of Parties) COP29 and further. They aim to integrate the agricultural perspective within the nexus approach at the Climate and Biodiversity COPs, which will both have Water Pavilions.

Dr Letangule, was accompanied by Deputy Director Research, Consultancy and Technical Services, Mr. Nelson Kwamini.

The participation of KEWI's CEO at World Water Week underscores the institute's dedication to global water issues and its role as a leader in water education and research in Kenya and beyond. By joining this international gathering, KEWI continues to strengthen its position as a key player in the global efforts to secure sustainable water resources.

RESEARCH

Incentivize Water Vendors to Help Improve Water Quality, Study Suggests

BY: PIUS KIMANI

Aquaya's study report on improving water quality in Nairobi suggests that the Nairobi Water and Sewerage Company (NWSC) can promote water safety by implementing institutional arrangements, incentives, enforcement, and monitoring. This is possible through working closely with small-local providers (SLP)/ vendors and who include formal and informal entities and who typically serve the poorest households and other cities.

Dr. Mwanarusi Mwatondo and Ms. Jackline Ndiiri from Aquaya Institute (Urban Wash Project) in a group photo with KEWI Deputy Director Research, Consultancy and Technical Services Mr. Nelson Kwamini and other members of staff .

The report, titled "Urban Resilience by Building and Applying New Evidence in WASH," (URBAN WASH) aimed to understand evidence gaps around vendor water safety in select areas within Nairobi. It also explored how the utility can incentivize small -local providers to improve water safety and how the utility in collaboration with other government actors, and county can leverage existing initiatives to effectively monitor these providers. This can be replicated by other water utilities in the country and help strengthen linkages to monitor SLPs effectively.

Aquaya research manager Mwanarusi Mwatondo, while sharing the report with Kenya Water Institute Research, Consultancy, and Technical Services Division head Mr. Nelson Kwamini, as part of the efforts to validate the results of the findings and initiate discussions on recommendations with relevant stakeholders, emphasized the need for professionalizing vendors through water safety training, including water storage and handling practices, water quality standards, and chlorination. She also suggested developing a water quality certificate for vendors, which should be publicly displayed and renewed annually. Mwatondo also suggested creating a feedback loop between monthly/ quarterly water quality test results and suggestions for improvements in water safety practices.

The study conducted in Kawangware, Kiambio, Mathare, Mukuru, and Kibera areas found that vendors in urban areas lack knowledge and access to testing kits, preventing them from performing water quality tests. 60% of SLPs didn't know government water quality standards.

The report also revealed that 59% of households used water kiosks or standpipes for drinking water, indicating a high risk of water contamination before consumption due to low levels of residual chlorine. This was corroborated by Nairobi Water's April 2023 vendor registration database which showed that the majority of households used only one

Incentivize Water Vendors to Help Improve Water Quality, Study Suggests

source of water.

The study suggests that SLPs interventions should prioritize kiosks, as they represent the largest market share in Low Income Areas (LIAs), and face degradation in water quality due to rationing. With the majority of households perceiving SLP water as good quality based on smells, colour, taste, storage and handling, vendor hygiene, container cleanliness, raised tanks with lids, and illness experiences, it was therefore imperative that water storage by vendors be of key concern since the likelihood of distributing water with degraded residual chlorine would be high due to the duration such water takes between collection and distribution. This water quality intervention should be emphasized on despite the SLPs indicating that they rarely received customer complaints.

The report found that 78% of SLP water samples had no E. coli presence, indicating low levels of microbial contamination but insufficient residual chlorine. However, only 33% met or exceeded the requirement for free chlorine residual, indicating a risk of recontamination during household storage. The report which is set to be discussed, and a consensus created on an action plan during a workshop with relevant stakeholders, suggests that incentivizing vendors would improve water quality. To encourage more customers to consume water with guaranteed quality, regulators should adopt measures such as providing low-cost storage solutions to certified vendors and offering tariff discounts/ rebates for legal piped connections meeting water quality requirements.

The study identified water rationing, competition among vendors, and high costs of purchasing water as main challenges faced by SLPs, which consequently create loopholes for low water quality. There being no process for certifying vendors in Nairobi, the study results suggested that certification of water vendors stood a high chance of distribution of good water quality which ultimately influence household choices. Thus, the recommendations aim to address these issues and promote widespread adoption and replication across the country.

Dr. Mwanarusi Mwatongo, Research Manager at Aquaya.

Aquaya is a nonprofit research and consulting organization supported by the US Agency for International Development (USAID) and led by Tetra Tech and which is dedicated to improving safe water and sanitation access in low-resource settings.

Ensuring a Reliable Water Supply in Kenya's Growing Urban Areas

BY: DORINE EVA

As Kenya continues to experience rapid urbanization, the demand for reliable water supply in urban areas is rising significantly. This growing demand presents several challenges, but also opportunities for innovative solutions.

To begin with, population growth and urbanization in cities like Nairobi, Mombasa, and Kisumu has placed immense pressure on existing water supply infrastructure, leading to frequent shortages and disruptions. The expansion of informal settlements often lacks adequate water, making it difficult to provide consistent water supply. The rapid population growth in Kenya's urban centers, driven primarily by people migrating in search of better employment opportunities, has put immense pressure on the existing water supply infrastructure. As more people flock to the cities, the demand for water has surged beyond the capacity of outdated systems. This strain has led to frequent shortages and disruptions, particularly in densely populated areas, where the infrastructure struggles to keep pace with the growing needs.

Many urban areas in Kenya heavily depend on surface water sources for their water supply. However, this reliance is becoming increasingly unsustainable as these sources are subjected to over-extraction, pollution, and the impacts of climate variability. With rising demand and insufficient regulation, surface water bodies are being depleted faster than they can be replenished, while pollution from industrial and domestic waste further degrades water quality. Additionally, unpredictable rainfall patterns caused by climate change are worsening the situation, making surface water an increasingly unreliable resource for urban populations.

Climate change has introduced a new level of uncertainty to rainfall patterns in Kenya, with serious consequences for urban water supply. The once-predictable rainy seasons are now characterized by unpredictable downpours, causing flash floods that not only damage infrastructure but also contaminate water sources. Conversely, prolonged dry spells are becoming more common, leading to droughts that severely limit water availability. These unpredictable weather patterns make it increasingly difficult for water supply systems to operate effectively, leading to frequent disruptions and shortages in urban areas.

Kenya's urban water infrastructure, much of which

A photo of an overpopulated estate in Nairobi, Kenya. Photo Courtesy.

Ensuring a Reliable Water Supply in Kenya's Growing Urban Areas

is outdated and in need of repair, is plagued by significant leakage and loss. Aging pipes and poorly maintained systems result in substantial amounts of water being lost before it even reaches consumers. In some cities, non-revenue water (NRW) that is produced but never billed due to leaks, theft, or metering inaccuracies—can account for as much as 45% of the total water produced.

One of the most effective solutions to the problem of insufficient water supply in Kenya's cities is the expansion of water supply networks to reach areas that have been historically underserved. Informal settlements, in particular, often suffer from a lack of access to reliable water sources, forcing residents to rely on unsafe alternatives. Extending the water supply infrastructure to these areas is essential for achieving equitable access to water and addressing the needs of all urban residents. This expansion not only helps to close the gap in water distribution but also contributes to social and economic development by improving the overall quality of life for those living in these areas.

Developing alternative water sources is essential for enhancing the resilience of urban water supply. Groundwater exploration presents a valuable opportunity to diversify water sources in urban areas, offering a reliable supplement to surface water supplies. However, this must be done sustainably, with careful management to prevent over-extraction and depletion of groundwater reserves. In addition, large-scale rainwater harvesting offers another solution, particularly during dry seasons when traditional water sources may be strained. By capturing and storing rainwater, cities can reduce their reliance on existing water infrastructure and improve overall water security for the growing populations.

The adoption of smart water management technologies is crucial for improving the efficiency and sustainability of urban water supply systems. Advanced leak detection technologies offer a powerful solution to the widespread issue of water loss, allowing for the early identification and repair of leaks within the distribution network. By minimizing these losses, cities can conserve significant amounts of water and reduce the strain on their supply systems. Additionally, the installation of smart water meters provides numerous benefits, including accurate billing and better monitoring of water usage. These meters help reduce NRW by ensuring that all water consumption is properly accounted for. These technologies represent a forward-thinking approach to managing urban water resources more effectively.

Ensuring a reliable water supply in Kenya's growing urban areas requires a multifaceted approach that addresses both the technical and governance challenges. By investing in infrastructure, diversifying water sources, leveraging technology, and improving management practices, Kenya can secure a sustainable water future for its urban populations.

Ksh.11.2B lost annually due to Non - Revenue Water.

KEWI Upgrades Facilities and Secures Key Partnerships Ahead of September 2024 Intake

BY: FAIZAH JEPKORIR

The Kenya Water Institute, through its Academics Division, is gearing up for its September 2024 intake, which begins on September 10th and runs for one week. The institution is unveiling significant updates designed to enhance its academic environment and expand its capacity. With a focus on accommodating more students than in previous intakes, KEWI is transforming its campuses with cutting-edge classrooms, state-of-the-art laboratories, and ongoing hostel renovations. These extensive upgrades are set to revolutionize the entire institution, ensuring that students nationwide have access to premier resources and opportunities.

In tandem to these substantial physical enhancements, KEWI is advancing its commitment to professional certification and career readiness. The institute has formed strategic partnerships with the Hydrologists Registration Board and other professional organizations to bolster the qualifications and skills of its graduates. These collaborations are crucial for preparing students to excel in their respective fields, highlighting KEWI's dedication to producing graduates who are both academically proficient and industry-ready.

New partnerships are also broadening the horizons for KEWI graduates. A notable collaboration with the National Employment Authority (NEA) will facilitate international job placements for Certificate and Artisan graduates holding valid passports. This initiative represents a significant opportunity for prospective students seeking global career experiences, enhancing the value of this intake.

Moreover, KEWI has secured a landmark agreement with Danish Industry (DI) through the Strategic Partnership Agreement (SPA 2.0). This partnership focuses on advancing skills development and green technology in crucial areas such as wastewater management, desalination, and climate change. DI's support, including both a grant and technical assistance, will enhance KEWI's capabilities in these critical fields.

The Deputy Director Academic Affairs Mr. Eric Wamiti emphasized the transformative impact of these developments. "The enhancements and expanded enrollment for this semester are not merely about upgrading infrastructure or curriculum; they are about equipping a larger number of students with the skills and global exposure necessary to thrive in an increasingly interconnected world. Our goal is to ensure that KEWI remains a leader in water sector education and training," he reiterated

As KEWI prepares for the new semester, students can anticipate benefiting from these strategic initiatives, which promise to deliver a future-ready education that addresses both local and global challenges. With these comprehensive upgrades and expanded admissions, KEWI is set to provide an exceptional educational experience, empowering students to excel in a rapidly evolving industry.

OPINION

Achieving Work-Life Balance

Work-life balance is a term that we hear a lot, but what does it really mean? And how can we achieve it in a world that is constantly changing and demanding more from us?

Work-life balance is not a one-size-fits-all concept. It is a personal and dynamic state of harmony between your professional and personal priorities. It is also a process of making choices and setting boundaries that align with your values and goals.

Achieving work-life balance can have many benefits for your well-being, productivity, and happiness. Here are some tips that can help you find your own balance:

Identify your productivity peaks. Everyone has different times of the day when they are more focused, creative, and efficient. Find out when you are at your best and schedule your most important tasks accordingly. This will help you get more done in less time and avoid unnecessary stress.

Make your health a priority. Your physical and mental health are the foundation of your work-life balance. Make sure you get enough sleep, eat well, exercise regularly, and take breaks throughout the day. These habits will boost your energy, mood, and immune system, and prevent burnout.

Leverage technology. Technology can be a double-edged sword when it comes to work-life balance. On one hand, it can help you work more flexibly, efficiently, and collaboratively. On the other hand, it can also distract you, overwhelm you, and blur the lines between work and life. The key is to use technology wisely and intentionally. For example, you can use tools like Time Doctor to track your time and productivity, Hootsuite to manage your social media presence, and LinkedIn to network and learn from your peers. You can also set limits on your screen time, turn off notifications, and disconnect from work when you are done for the day.

Tell a personal story. One of the best ways to engage your audience is to share your personal experiences and insights. People love stories that are authentic, relatable, and inspiring. You can use stories to showcase your expertise, values, and personality, and to connect with your network on a deeper level. For example, you can share how you overcame a challenge, learned a valuable lesson, or achieved a goal that relates to your field or industry.

Seek support and feedback. You don't have to balance work and life alone. You can reach out to your family, friends, colleagues, mentors, or coaches for help and advice. They can offer you emotional support, practical solutions, and constructive feedback. You can also join online communities and groups that share your interests and goals, and learn from their experiences and perspectives.

BY: JEFFERSON SUMANCHA

Quote of the Week

"I believe that if you'll just stand up and go, life will open up for you. Something just motivates you to keep moving."

-Tina Turner .

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Call for September 2024 Intake

REPUBLIC OF KENYA

MINISTRY OF WATER, SANITATION & IRRIGATION

KENYA WATER INSTITUTE

CALL FOR SEPTEMBER 2024 INTAKE

DIPLOMA COURSES

- Water Resources Management
- Water Laboratory Technology
- Water Engineering Technology
- Information Communication Technology
- Wastewater and Sanitation Engineering Technology
- Irrigation and Drainage Engineering Technology

CERTIFICATE COURSES

- Water Resources Management Technology
- Water Laboratory Technology
- Water Engineering Technology
- Information Communication Technology
- Irrigation and Drainage Engineering Technology
- Wastewater and Sanitation Engineering Technology

ARTISAN COURSES

- Water Operator Course
- Plumbing and Pipefitting Technology
- Water and Wastewater Management Technology

INTAKES:

JANUARY

MAY

SEPTEMBER

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Round up of The Week's Events

A joint training session with the Enterprise Resource Planning (ERP) vendor, Information Communication Technology (ICT), and user departments with the aim of maximizing ERP system efficiency.

Long - Term Programmes

Diploma in Water Engineering Technology (DWET) Diploma in Wastewater
Diploma in Water, Sanitation Engineering Technology (DWSET)
Diploma in Water Resources Management Technology (DWRTM)
Diploma in Irrigation and Drainage Engineering Technology (DIDET)
Diploma in Information Communication Technology (DICT)-KNEC
Diploma in Water Laboratory Technology (DWLT)
Certificate in Wastewater and Sanitation Engineering Technology (CWSET)
Certificate in Water Resources Management Technology (CWRMT)
Certificate in Information Communication Technology (CICT)- KNEC
Certificate in Water Laboratory Technology (CWLT)
Certificate in Water Engineering Technology (CWET)
Drilling Operations and Management (DOM)
Plumbing and Pipe Fitting (PPF)
Water Operators Course (WOC) in:

- Water Supply
- Meter Reading
- Sewerage Operations

Short - Term Programmes

Use of Earth Observation Tools and GIS for Water Resources Management
Entrepreneurship and Financial Management for Water Managers
Operation and Maintenance of Water Supply Networks
Metering and Installation of Water Supply Networks
Leak Detection & Repair techniques
Drilling Operations and Management (DOM)
Operation & Maintenance of Pumping Stations
Pump Selection, Installation and Maintenance
Plumbing, Pipe Fitting and Solar Water Heating
Instrumentation for Water and Wastewater Systems
Water Governance, Management and Technology
Application of GIS for Water Utilities Mapping
Drilling Operations and Management
Water Quality Sampling and Testing
Microbiological Water Quality Assessment
Integrated Water Resources Management
Non-Revenue water
Water Management
Customer Care

Vision

A Technical Centre of Excellence in Training, Research, Innovation and Consultancy in the water, Sanitation and Irrigation Sector.

Mission

T o offer Competency-Based Training, Research, Innovation, Consultancy and Outreach Services in the Water, Sanitation and Irrigation Sector for sustainable development.

Core Values

Good Corporate Governance
Professionalism
Customer Focus
Innovativeness
Inclusivity
Patriotism
Integrity

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OTHER SERVICES OFFERED

Water Quality Laboratory Services
Drilling and Test Pumping Services
Ground water Assessment Services
Conferencing Services
Troubleshooting of pumps boreholes and distribution systems
Repair of pumps boreholes and distribution systems

Your feedback is crucial for our improvement

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