

November 02-08 2024

Empowering Kenya's Water Sector: KEWI Hosts Training of Trainers on Green Technologies



Klaus Lehn Christensen, Regional Manager DI East Africa (4th from right), Svend-Erik Jepsen, Head of Water & Climate Adaptation at DI Denmark (5th from right), Millicent Kariuki, TVET Project Manager, DI East Africa (2nd from left), Eng. Mercy Khamonya, DI Project Coordinator, KEWI (center), with other KEWI Staff at the Main Campus in Nairobi.

BY: BRITNEY MOKEIRA

The Kenya Water Institute on 4th November 2024, conducted a full-day Training of Trainers (ToT) program centered on Green Technologies. This initiative, developed as part of the Strategic Partnership Agreement (SPA) between KEWI and the Danish Industry (DI) is designed to empower trainers in KEWI with vital knowledge and skills to drive sustainable practices. The project is guided by the theme "Promoting Green Transition

for Sustainable Development and Decent Job Creation in the Water Sector," emphasizing the role of green technologies in fostering a sustainable, environmentally-conscious workforce. Through this program, KEWI and DI aim to modernize training practices and education in the sector, ultimately leading to an enhanced skill set among water sector professionals across Kenya.

The training opened with an overview of the SPA project's key objectives, emphasizing its commitment to addressing some

HIGHLIGHTS

- 3 Am Championing KEWI's Fund Drive to Attract More Research Grants and Collaborations, CS
- 4 Promoting Sustainable Water Use in Agriculture: A Key to Food Security
- 5 Accelerating Green Transition and Climate Smart Practices in WWM
- 7 Leveraging GIS for Climate Change Mitigation and Sustainable Development
- 8 CS Calls for Enhanced Collaboration to Drive MoWSI Developments

Empowering Kenya's Water Sector: KEWI Hosts Training of Trainers on Green Technologies



Eng. Mercy Khamonya DI Project Coordinator, KEWI, makes a presentation during the meeting at KEWI Nairobi Campus Main Conference room.

and optimize water reuse. With climate change posing increasing risks to water resources, Mr. Jepsen highlighted the critical role green technologies can play in creating climate-adaptive, resilient infrastructure.

His session

of the pressing issues in water sector. The project focuses on up skilling and enhancing educational resources to improve sustainability within the water sector. As part of KEWI's comprehensive strategy, the newly developed curriculum is structured around three key areas essential for sustainable development in water resource management:

Water Desalination Technologies, Automated Bio digesters (known as Bio cycle 360), and Climate Change with a special focus on Green Technologies in the water sector. These areas were selected to address both immediate and long-term needs in the sector. Water desalination technologies, for example, are intended to provide viable solutions for water-scarce regions, while

automated bio digesters offer sustainable waste management solutions that convert waste into energy and compost, contributing to a circular economy model. Additionally, the climate change module highlights how green technologies can help mitigate environmental impacts, allowing the water sector to adapt to and address the growing climate crisis.

A keynote session led by DI's Global Advisor, Mr. Svend-Erik Jepsen, delivered an engaging presentation on wastewater management technologies and climate resilience in water systems. His talk emphasized the importance of addressing wastewater management through innovative technologies that minimize environmental degradation

underscored the potential for modern technologies to reduce pollution, conserve water, and maintain ecosystem balance in Kenya's water systems.

The training concluded with a renewed commitment from participants to champion sustainable practices in the water sector. KEWI's ToT program on Green Technologies represents a significant step toward building a skilled workforce equipped to lead Kenya's green transition. Through this partnership, KEWI is setting a benchmark in sustainable education, aiming to create a lasting impact in Kenya's water management and ensuring that future generations benefit from a cleaner, greener environment.

MORE ON THIS ARTICLE; ON PAGE 5.

Am Championing KEWI's Fund Drive to Attract More Research Grants and Collaborations, Says CS

BY: PIUS KIMANI

The Cabinet Secretary Ministry of Water, Sanitation and Irrigation Eng. Eric Murithi Mugaa, has hinted that he is working round the clock to rally The Kenya Water Institute fund drive that will be keen in attracting more research grants and collaborations from local and international corporations.

While acknowledging that research was critical in driving advancements in any sector and that it was only possible through adequate funding, Eng. Murithi has further noted that he was aggressively pitching to development partners to incorporate a capacity building component in all future projects of supporting young staff to further their education either through master's degrees or research opportunities across institutions in the country.

The CS was responding to a question on his "X" social media account on what his ministry was doing to facilitate research in water resources management above what it was excellently doing at KEWI since local universities too boasted of robust research infrastructure and numbers.

While referring to KEWI Chiakariga Campus, Eng. Murithi noted that putting up the required infrastructure was

one of the ways his ministry was progressively working in its endeavour to ensure accelerated reforms within the institutions are felt.

"We are equipping the Chiakariga Campus with a tuition block named the "Irrigation Block" which will include a modern library, conference facility, classrooms and offices. All we need is student to apply and join the institutions." He responded.



Eng. Murithi who was keen to engage the water enthusiasts who were eager to get insight into how he was attending to critical issue affecting them called upon them to feel free in engaging him and sharing their observations and finding as a mean of knowledge sharing. Responding to a question by one of the followers on the emerging research on fluoride and its harmful effects on early childhood development, the CS noted that he was aware of the effect of fluorosis

to children. He prodded the follower who shared research finding on the effects of fluoride exposure to children.

While absolving his ministry from claims that no sewer development had taken place in the country of late, the CS noted that the professionals in the water industry were actively working to address the issue and that the progress could be seen on the kind of water infrastructure developed yearly, and the number of both water and sewer connections done annually.

The CS appreciated the comparative analogy posted by a follower about the telecommunications industry which has been boosted by investment by telcos on IT curriculum like Safaricom PLC at the local universities and secondary schools. He appreciated that concerted efforts from all stakeholders was a take home, with the ministry taking the lead in capital provision.

The conversation had risen from an article appearing on KEWI'S Weekly Newsletter on "Harnessing the Power of Smart Ecosystems for Sustainable Management of Water Resources" which the CS had shared on his Facebook and X social media accounts and which he termed educative.

Promoting Sustainable Water Use in Agriculture: A Key to Food Security

BY: DORINE EVA

As climate change and population growth put increasing pressure on water resources, sustainable water use in agriculture has become critical. In Kenya, where agriculture is a primary economic activity and a major consumer of water, finding ways to optimize water use while maintaining productivity is essential for food security.

By implementing sustainable practices, leveraging technology, and providing targeted training, the agricultural sector can address water scarcity while protecting the environment.

Agriculture is a significant water-intensive sector, with approximately 70% of global freshwater being directed towards irrigation. However, much of this water use is inefficient, leading to losses and depletion of natural resources. Sustainable water use helps conserve water for future generations, reduce greenhouse gas emissions, and ensure stable yields, even during periods of drought. Practices such as drip irrigation, rainwater harvesting, and water recycling are effective methods that can

be integrated to promote responsible water management.



As a reputable training institute, KEWI offers courses that provide essential knowledge and practical skills for sustainable water management in agriculture, helping farmers and agricultural professionals develop solutions to reduce water waste and improve irrigation efficiency.

Key strategies can be adopted to ensure sustainable water use in agriculture. For instance, Drip Irrigation is an efficient irrigation method that delivers water directly to the roots of plants, minimizing water loss through evaporation. It has been proven to reduce water usage by up to 50% compared to traditional surface irrigation. The institute offers Diploma and Certificate Programme in Irrigation and Drainage Engineering Technology, which cover the design, installation, and maintenance of drip irrigation systems, empowering

students to implement this technology in their fields.

Rainwater harvesting involves capturing and storing rainwater for use during dry periods. This approach is especially useful in arid and semi-arid areas of Kenya where rainfall is limited. KEWI encourages rainwater harvesting by teaching techniques that include rooftop collection systems. By maximizing the use of rainwater, farmers can rely less on conventional water sources, making their operations more resilient to drought.

The integration of sustainable water practices into agriculture is essential for addressing water scarcity and climate challenges in Kenya and beyond. With KEWI's commitment to training and capacity-building, Kenyan farmers and agricultural stakeholders are well-positioned to adopt innovative water-saving techniques. Sustainable water use in agriculture is not only a pathway to resilience but a fundamental requirement for the future of farming.



ABOVE & BELOW: Chiakariga Campus has adopted Water Harvesting Storage Tanks & Drip Irrigation techniques.

Accelerating Green Transition and Climate Smart Practices in Water And Wastewater Management

BY: OTIENO FREDRICK

The strategic partnership between KEWI and the Confederation of Danish Industries (DI) was recently strengthened through a joint visit to Kisumu Water & Sanitation Company (KIWASCO) on Wednesday 6th November 2024. In a remarkable demonstration of commitment to green transition and climate smart production, the parties coalesced around the broader objective of cascading the "Promoting Green Transition for Sustainable Development and Job Creation in the Water Sector" project to water companies in the western region, and specifically focused on ways of enhancing competence of water operators in desalination and wastewater management technologies.

Widely seen as an apt response to high energy costs in water and wastewater utilities, and high amounts of greenhouse gases generated from wastewater facilities, the project seeks to engineer tradeoffs between green production and value for customers. Inordinate energy consumption has been identified especially in low-income and middle-income

40% of total energy requirements in typical water treatment process. Justification for green transition is further accentuated by the failure to achieve nutrient recovery (especially nitrogen and phosphorus) and use of obsolete and high-power consuming technologies in developing countries. Invariably, the preceding factors keep the cost of water



economies, where evidence of strong positive correlation between energy use and NRW levels have been established. In fact, NRW of 50% - 60% is estimated to consume about

treatment and greenhouse emissions up.

The project will tackle barriers to desalination technology by providing climate smart energy to reduce

Accelerating Green Transition and Climate Smart Practices in Water And Wastewater Management

energy costs of powering pumps, membranes, and other processes. In this regard, new approaches for reducing power consumption and greenhouse emission were explored, as well as adoption of energy efficient pumps, NRW reduction, recovery of methane and its subsequent use for power generation, and reuse of effluent. These developments highlight opportunities for water utilities to enhance operational efficiency without compromising green production imperatives.

At the company's Resource Recovery facility, the teams explored common challenges faced by the plant and discussed potential insights, and solutions to overcome them. Issues of aging infrastructure and nutrient management were explored.

Yet, the foregoing benefits cannot be realized without building technical

capacity for staff. Equally significant is the limited capacity in utilities to develop and execute climate risk plans. Consequently, as the largest business organization in Denmark, with an extensive network of 20,000 companies drawn from manufacturing, information technology, and trade and industry, DI seeks to support sector players to institute systems for green production while highlighting incentives for climate smart production and greenhouse reduction.

Present at the meeting was Klaus Lehn Christensen,

Regional Manager DI East Africa, Svend-Erik Jepsen, Head of Water & Climate Adaptation at DI Denmark, Millicent Kariuki, TVET Project Manager, DI East Africa, Dr. Emily Chepkoech, Principal Kisumu Campus, Eng. Mercy Khamonya, DI Project Coordinator, KEWI, and Otieno Frederick, Registrar, Kisumu Campus. Also present at the meeting was Engineer Moses Jura, Technical Manager, KIWASCO.



Leveraging GIS for Climate Change Mitigation and Sustainable Development

BY: LILIAN M. & FAITH J.

In the face of escalating environmental challenges, particularly those posed by climate change, the need for innovative solutions is more urgent than ever. Geographic Information Systems (GIS) have emerged as a crucial tool for collection, analysis, and visualization of spatial data in monitoring and addressing climate-related issues. These insights can then be used to develop strategies for mitigating the effects of climate change and promoting sustainable practices in water resources management.

The Kenya Water Institute has recognized the growing demand for professionals equipped with GIS skills and is proud to announce a professional development program dedicated to this important field. Kenya Water Institute will be conducting a course on advanced remote sensing and GIS for water professionals in various water sector for a period of five days from 18th November 2024 at Kenya Water Institute's, Main campus in Nairobi.

The GIS course at KEWI is designed to equip the water professionals with the skills necessary to use GIS in the context of climate change adaptation and sustainable

water use and management. The course covers a range of topics, including data collection techniques, spatial analysis, mapping, and evidence-based decision making.

The course is relevant for GIS Officers, Operation and Maintenance officers, ICT officers, County and Sub County Water Officers with basic computer skills. This will be a practical based training and will be conducted through short lectures, demonstrations, field work and case studies. At the end of the training the participants will be able to apply GIS skill in creating, manipulating and analyzing spatial data for water utilities infrastructure.

Many water utilities infrastructure data have spatial attributes and some of these are hidden underground and they require regular operations and maintenance. Many water supply organizations in Kenya lack the capacity of handling spatial data about their assets. Storing this information together with the required attribute

information will help the companies in creating an inventory of their water distribution assets and their physical location, identifying the exact locations of their water utilities, updating available information, speeding up the operations and maintenance, quantify the amount of water that is lost from the water supply system and decision making and policy formulation.

GIS provides valuable tools for understanding, monitoring, and mitigating the effects of climate change. By analyzing spatial data, we can make informed decisions to create a healthier planet.

MINISTRY OF WATER, SANITATION & IRRIGATION
KENYA WATER INSTITUTE

PROGRAM

Advanced Geo-Information Systems (GIS) and Remote Sensing in Water Utilities

Date
18th – 22nd November, 2024

Duration
5 Days

Venue
Main Campus along Ole Shapara Avenue, South C Nairobi

Cost
Ksh. 35,000

shortcourses@kewi.or.ke 0722-207-757 www.kewi.go.ke

CS Calls for Enhanced Collaboration to Drive Ministry of Water Developments and Regulations

BY: DORINE EVA

During the recent launch of the Water Resources Authority (WRA) Strategic Plan, the Cabinet Secretary Ministry of Water, Sanitation and Irrigation Eng. Eric Murithi Mugaa, emphasized the importance of collaboration from different partners to support the Ministry's goals in sustainable development and regulatory frameworks.

The Cabinet Secretary highlighted the need for support from various sectors to help address pressing challenges in water management and resource conservation.

The Kenya Water Institute, is a premier institution under the Ministry of Water dedicated to training and capacity building within the water sector.

KEWI provides specialized training programs that equip water professionals with the technical skills needed to support water-related initiatives, regulatory efforts, and sustainability goals.

This training is pivotal as the Ministry seeks to strengthen its human resource base and enhance the capabilities of those working in water regulation and management.

KEWI's focus on building a well-equipped workforce aligns directly with the Ministry's mission, as it trains individuals not only to address current water management challenges but also to innovate for the future.

Eng. Murithi encouraged partners to support the Ministry as a whole, and this includes KEWI's work, recognizing that investment in

training and skills development is a vital aspect of sustainable water regulation and resource protection.

The event, which brought together stakeholders from various sectors, underscored the Ministry's commitment to capacity-building, innovation, and sustainable management of water resources.

By reinforcing KEWI's mandate and engaging more partners, the Ministry aims to secure long-term solutions for water sustainability, regulatory compliance, and development in the water sector.



An Extract from The Star Newspaper.

Preparations for KEWI 36th Graduation Ceremony Get Underway as Crucial Dates are Announced

BY: PIUS KIMANI

The Kenya Water Institute is set to hold its 36th Graduation Ceremony on 29th November 2024 at its Main Campus along Ole Shapara Avenue, South C, Nairobi.

Through a graduation ceremony notice released by the office of Senior Principal Registrar (SPR), the ceremony which is held annually to celebrate the completion of studies for Artisan, Certificate and Diploma students will be held at the new graduation grounds.

While releasing the notice, the office of the SPR has hailed the forthcoming function as a momentous one, for both the institute and the graduands as it marks a reassuring juncture for all stakeholders who put all their efforts to see that the graduands are equal to the task ahead of them.

“Celebrating this milestone each year is quite a big step and win for both the students and the staff whose coordinated efforts ensure that we release to the job market a dependable community of water stewards and practitioner.”

The notice has required that all the prospective graduands to have paid a graduation fee

and the payment details presented to the accounts office for issuance of official receipt as this will help facilitate the smooth flow of the exercise.

“Graduands must provide evidence of payment of the graduation fee before collecting the graduation gowns.”

The office has, through an earlier memo to all students, further called on all prospective graduands to clear all the pending requirements regarding their fees and industrial attachment reports, so that their names can be included in the final graduation list.

“All students on industrial attachment and have completed 8 weeks in their industrial attachment stations to submit their industrial attachment documents for the assessment...” the memo read.

The event themed “Sustained Quality Training for Socio-economic Transformation in the Water Sector” is expected to be graced by the Cabinet Secretary, Ministry of Water, Sanitation and Irrigation Eng. Eric Murithi Mugaa. A host of other high-ranking guests have also been invited to witness the release of more

than 1000 graduands to the job market.

The notice comes at a time when preparations for the day are gathering pace as the event is just 3 weeks away. On the notice, the prospective graduands will be required present their graduation fee payment slips by Monday 25th November 2024 which will also serve as the day when the respective registrar offices in the campuses will issue the graduation gowns.

Once cleared, the graduands will attend a graduation rehearsals on the eve of the graduation day i.e. Thursday, 28th November 2024 and are expected to return the graduation gowns to their points of collection two weeks after the ceremony.

IMPORTANT DATES

Graduation fee payment deadline- 22nd November 2024

Presentation of payment slip- Monday 25th November 2024

Issuance of graduation gowns - Monday, 25th November 2024

Rehearsals- Thursday, 28th November 2024

Graduation ceremony- Friday, 29th November 2024

Return of graduation gowns - Friday, 13th December 2024

36th Graduation Ceremony



MINISTRY OF WATER, SANITATION & IRRIGATION
KENYA WATER INSTITUTE



36th GRADUATION *Ceremony* Congratulations Class of 2024!



29th November 2024



Main Campus, along Ole
Shapara Avenue, South C,
Nairobi



info@kewi.or.ke



0722207757



www.kewi.go.ke

Quote of the Week

“Good leaders build products. Great leaders build cultures. Good leaders deliver results. Great leaders develop people. Good leaders have vision. Great leaders have values. Good leaders are role models at work. Great leaders are role models in life.”

-Adam Grant

EDITORIAL TEAM

Editor

Dorine Eva Irungu

Writers:

Britney Mokeira

Otieno Fredrick

Pius Kimani

Lilian Mutangili

Faith Jeptaunet

Photographer

Pius Kimani

Designer

Pius Kimani

Call for Professional Development Program



REPUBLIC OF KENYA



MINISTRY OF WATER, SANITATION & IRRIGATION
KENYA WATER INSTITUTE

PROGRAM

Advanced Geo-Information Systems (GIS) and Remote Sensing in Water Utilities



Date

18th – 22nd November, 2024



Duration

5 Days



Venue

Main Campus along Ole Shapara Avenue, South C Nairobi



Cost

Ksh. 35,000



shortcourses@kewi.or.ke



0722-207-757



www.kewi.go.ke



Round up of The Week's Events



Members of the Governing Council Mr. Solomon Kiptarbei Maritim, Ms. Jane Muthoni Nyoko and Dr. Nancy Koech, together with KEWI Director/CEO Dr. Leiro Letangule EBS, during a visit to Chiakariga Campus to check the progress of the new irrigation block.



It is a wrap for Mombasa Water and Sewerage Company team, having concluded a 5 days Course on Pipeskills Work Supply and Sewer Systems.

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 (DWRMT)
 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 (CWLTL)
 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

To 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

GET IN TOUCH WITH US

The Director,
Kenya Water Institute,
P.O. Box 60013-00200 Nairobi
TEL: +254 722-207757
Email: info@kewi.or.ke
Website: www.kewi.go.ke

For enquiries about our TVET programs
Contact the Registrar, Admissions Office.
Phone: 0735339206
Email: admissions@kewi.or.ke

KEWI Nairobi Campus
P.O. BOX 60013 – 00200
Tel: 0722207757
Email: info@kewi.or.ke

KEWI Chiakariga Campus
P.O. BOX 12 – 60215
Tel: 0729009104
Email: chiakariga@kewi.or.ke

KEWI Kitui Campus
P.O. BOX 1514 – 90200
Tel: 0707566395
Email: kitui@kewi.or.ke

KEWI Kisumu Campus
P.O. BOX 7825 – 40100
Tel: 0746212708
Email: kisumu@kewi.or.ke

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



communications@kewi.or.ke



[@kewi_kenya](https://twitter.com/kewi_kenya)



Kenya Water Institute



www.kewi.go.ke