



WEEKLY Newsletter

November 30- December 06 2024

Achievement Unlocked: KEWI is now ISO 9001:2015 Certified



Cabinet Secretary Ministry of Water Sanitation and Irrigation, Eng. Eric Murithi Mugaa, Chairperson KEWI Governing Council Hon. Patrick M. Mbangula, KEWI CEO Dr. Leiro Letangule EBS, and Water Secretary Eng. SAO Alima.

The Kenya Water Institute (KEWI) has reached a significant milestone by attaining ISO 9001:2015 Certification, a globally recognized standard for quality management systems. The achievement was officially unveiled during the Institute’s 36th Graduation Ceremony, a momentous event that was graced by the Cabinet Secretary Ministry of Water,

Sanitation, and Irrigation, Eng. Eric Murithi Mugaa.

This certification underscores KEWI’s unwavering commitment to delivering exceptional training, research, and consultancy services in the water sector. ISO 9001:2015 is a benchmark for quality, ensuring that the Institute adheres to consistent

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Achievement Unlocked: KEWI is now ISO 9001:2015 Certified

adheres to consistent standards in processes, service delivery, and customer satisfaction.

ISO 9001:2015 certification signifies that KEWI has implemented an effective

including; enhanced credibility and reputation, emphasizing a culture of continual development, ensuring that the Institute adapts to evolving industry

KEWI plays in equipping the water sector with skilled professionals and emphasized the importance of maintaining high standards to address the country's water and sanitation challenges.



As KEWI celebrates this achievement, the Institute remains committed to advancing quality in education and professional training, solidifying its impact on Kenya's socio-economic development and environmental sustainability.

Certification Manager Eastern Africa Mr. Kennedy Obuya and Sales and Marketing Manager Eastern Africa Mr. Ali Noor presenting the ISO 9001:2015 dummy Certificate to CS Eng. Eric Murithi Mugaa.

The ISO 9001:2015 certification is not just a badge

quality management system designed to enhance operational efficiency, improve service delivery, and meet the expectations of stakeholders. This milestone aligns with KEWI's vision to be a center of excellence in capacity building for sustainable water resource management.

The certification brings several benefits to the Institute,

needs., improved stakeholder satisfaction including, students, partners, and industry players among others.

During the colorful ceremony, the Cabinet Secretary commended KEWI's leadership and staff for their dedication to achieving this prestigious certification. The CS highlighted the vital role

of honor but a promise to stakeholders that KEWI will continue to innovate, excel, and lead in the water sector. As the Institute graduates another cohort of skilled professionals, it looks forward to a future defined by quality, integrity, and excellence.

CEO Rallies Organization to Merge Their Innovative Efforts in a Bid to Address Water and Circular Economy Challenges



Dr. Letangule making his contributions during the Panel discussion.

BY: PIUS KIMANI

The Kenya Water Institute CEO Dr. Leiro Letangule EBS, has emphasized the need for sustainable and scalable water and sanitation solutions in the face of climate change. He has further called for continuous evolution on how institutions and organizations jointly discharge their services to ensure sustainability and address emerging challenges in the water, sanitation, and wastewater sectors in Kenya.

Speaking during the just-concluded German-Africa Business Summit (GABS) 2024 in Nairobi, on how different levels of collaboration can drive innovations in the transformation of water and wastewater, Dr. Letangule

highlighted the importance of collaboration in transforming water and wastewater in the water and circular economy. He stressed that no institution could work in isolation in reusing materials or products for sustainable production. He also emphasized that with lack of access to safe drinking water and adequate sanitation services and rapid urbanization organizations must leverage their strengths and merge efforts to develop a strong model to address the sector's issues.

“Many people still lack access to safe drinking water and adequate sanitation services, with rural and remote areas getting affected the most. With demands of the rapid urbanization posing a new centre of struggle for the

growth of urban towns that are trying to keep the pace against an outdated or inadequate water and wastewater infrastructure, different organizations must leverage their strengths and then merge efforts to come up with a strong

model that helps address the issues that affect the sector,” he said.

In its strategic way of contributing solutions towards these new challenges, Dr. Letangule noted that the institute had signed collaboration agreements with various organizations with an intent to not only strengthen its mode of service delivery but also harness the strengths possessed by the partners as a means to offer a holistic solution to the issues affecting the industry and be able to give value for money to the consumers of both the services and products on offer.

“Industrial wastewater is becoming a growing concern with untreated or poorly treated effluents getting into our water systems, which

CEO Rallies Organization to Merge Their Innovative Efforts in a Bid to Address Water and Circular Economy Challenges

ultimately poses a severe risk to the ecosystem and public health. These and many other realities have made us partner with private organizations like WILO, which offers modern pump technologies, and WaterKiosk Africa, which leads in water desalination technologies to help address emerging issues within the sector. As we train professionals, we ensure that they get the relevant knowledge that suits the evolving needs and is in line with the new technologies,” Dr. Letangule said.

He noted that KEWI had made major improvements along its line of service delivery to ensure that its contribution towards making the sector more resilient and sustainable was emphatic.

“At KEWI, we have been continuously revising and updating our curriculum, and currently we have adopted a CBET curriculum that emphasizes the practical delivery of our services. This places us at a vantage position of producing a highly competent and critical pool of

professionals who are averse to the needs of the industry and the larger market,” he added.

Dr. Letangule noted that to remain responsive to the needs of the industry and to

partnerships even more affordably because of taking advantage of the existing infrastructure. This has eased the penetration of the new technologies and innovations, which has consecutively helped address the shortcomings experienced in the water and wastewater sector.”

Dr. Letangule conclusively noted that the sector needs to be more definite in its approach to the provision of the solutions that will be of benefit both in the short and long run. He rallied likeminded organizations to ensure that they helped address the prevalent challenges affecting the sector to manage the critical problems affecting the many parts of the world.

“With water, wastewater, and sanitation and their management remaining a critical challenge, it's still an opportunity for willing and likeminded organizations to introduce their innovative solutions and technologies to help address these issues,” he concluded.



guarantee sustainability, organizations needed to assess how adaptive their innovations were to the intended consumers to ensure that such innovations served their purpose. He noted that innovations needed to be affordable to ensure that they maximally benefited all the intended communities of persons.

“Public-Private Partnerships (PPP) have allowed organizations like KEWI to manage their

Another Successful Training Session for MOWASSCO



Participants from Mombasa Water Supply and Sanitation Co. Ltd in a group photo at Kitui Campus.

BY: ABIGAEEL SONGOK

The recent training programs held at The Kenya Water Institute Kitui Campus for Mombasa Water Supply and Sanitation Co. Ltd. (MOWASSCO) staff members in November and December 2024 represent a significant milestone in promoting collaboration and knowledge-sharing. The partnership between the KEWI and MOWASSCO highlights their shared commitment to enhancing professional growth, improving service delivery, and empowering staff with crucial skills.

In November 2024, 18th to 22nd, the campus hosted 13

MOWASSCO staff members in the first cohort of the Negotiation Skills Courses/ Debt Collection Strategies program. This course equips participants with the skills to handle the complexities of debt collection and negotiation in the water sector, where financial management and customer relations are vital. The second cohort, which took place from 2nd to 6th December 2024, saw 15 participants from MOWASSCO join the course, reinforcing MOWASSCO's commitment to professional development.

While giving his remarks, Mr. John Albert Alal, the team

leader of Cohort One, expressed his appreciation for the training, describing it as a valuable opportunity for participants to gain new insights into addressing common challenges in the water supply industry. "Effective debt collection strategies are vital for ensuring a steady revenue stream, enabling MOWASSCO to maintain and expand its infrastructure while also treating customers fairly. Mastering negotiation skills ensures that staff can engage with customers, stakeholders, and partners in ways that build trust and create win-win outcomes," he said.

Another Successful Training Session for MOWASSCO

systems to improve efficiency and customer Simultaneously, another group of 15 MOWASSCO participants participated in the Management of Metering, Billing, and Revenue Collection

solutions into billing and revenue collection systems to improve efficiency and customer satisfaction.

Through these training programs, MOWASSCO's staff gained valuable

KEWI in its expertise and for the opportunity to contribute to the growth and development of its workforce.

"The knowledge shared during these training sessions will have a long-lasting



Mombasa Water Supply and Sanitation Co. Ltd participants during a class presentations.

impact on

Course, which focused on essential aspects of revenue management. The Management of Metering, Billing, and Revenue Collection course emphasized the importance of precision in metering systems and accurate billing to safeguard the company's financial health. MOWASSCO's commitment to training in this area reflects its desire to enhance transparency, avoid disputes, and strengthen customer confidence. The course also explored how to integrate various technological

knowledge and demonstrated their dedication to continuous learning and professional growth. This proactive approach to skill enhancement is essential in meeting the growing demand for water services, evolving customer expectations, and the ever-changing regulatory landscape in the water sector.

During the closing ceremony, Mr. Elkanah Matara Kaburi, the Campus Principal, extended his heartfelt appreciation to MOWASSCO for trusting

MOWASSCO's operations, and KEWI looks forward to continuing its partnership in the years to come. The shared commitment to innovation, training, and development will lead to a more efficient, effective, and sustainable water sector in Kenya, benefiting both the residents of Mombasa and the wider community."

KEWI and LETZTEST Partner to Provide Mobile Water Laboratory Services to the Water Sector



KEWI CEO Dr. Leiro Letangule (centre), LETZTEST CEO MSc. Andrian Letzner (right) and Country Relationship Manager Mr. George K'Ouma (left).

BY: PIUS KIMANI

The Kenya Water Institute (KEWI) and LETZTEST, have assigned a Memorandum of Understanding (MoU) that primarily aims to establish a framework for collaboration between the two organizations. Once established, it will promote sustainable development and growth within the Kenyan water sector by fostering strategic collaboration, knowledge sharing, innovation and capacity building which will ultimately improve water access, quality, infrastructure and expertise.

In a ceremony which was

preceded by a half-day intensive training of KEWI staff members from Water Quality Department, sector stakeholders and KEWI students on how to use the recently provided state-of-the-art mobile water laboratory, KEWI CEO Dr. Leiro Letangule EBS, and LETZTEST CEO MSc. Andrian Letzner praised the new development terming it as a big win not only for the institute in its furtherance of its Competency-Based Training, Research, Innovation, Consultancy and Outreach Services mission but also to the larger Water, Sanitation and Irrigation Sector in terms of advancing

the requirement of how the industry responds to water quality in both the water and environmental sectors.

“With the new mobile water laboratory now with us, we stand at a vantage position of once again offering the best solutions and approach on how we handle the whole issue of accessibility regarding water quality. This technology will bridge the gap both in time and resources and at the same time help address the speed at which we attend to water testing requirements,” Dr. Letangule said.

The collaboration will see LETZTEST technologies showcased in KEWI Campuses mobile water labs for

KEWI and LETZTEST Partner to Provide Mobile Water Laboratory Services to the Water Sector



A Mobile Water Laboratory.

marketing and exhibition purposes. This is with an aim to exhibit water testing technologies to potential clients and stakeholders. With an aim to raise awareness about water and wastewater quality and environmental sustainability, the two organizations will also collaborate on outreach programs and offer joint consultancy services in the water sector to generate financial income. These services will include water-quality surveys, water analysis, water quality management training for

implication and their use is not restricted to one place like the regular water labs," he said.

MSc. Andrian noted that his company will provide training to KEWI personnel on the use of modern analytical technologies which will include hands-on workshops. Seminars and ongoing support to enhance their professional skills and collaborate on short courses on water quality in the water sector.

"To ensure that KEWI as our partner stays at the forefront of technology in the

water sector, we shall keep KEWI updated on technological advancements and innovations in water testing and environmental analysis and also engage in joint research projects focused on water resources management, environmental monitoring and new analytical techniques in water quality management," he added.

LETZTEST is a private German manufacturer company of water testing equipment and

an international team of water quality experts who provide consulting and training for the successful operation of water laboratories in large countries with areas of limited infrastructure.

KEWI is the latest to partner with this company that has introduced a groundbreaking solution for remote water laboratories projects by developing a fully equipped lab-in-a-box designed for advanced end-users.

Final-Year Water Engineering Students Showcase Innovative Water Sector Projects

BY: BRITNEY MOKEIRA

KEWI Final-Year Students recently displayed their creative and innovative projects aimed at addressing critical issues in the water sector. These projects, a culmination of the students' academic journey, showed their technical expertise, creativity, and commitment to solving real-world challenges. Among the various projects presented, one stood out for its potential to make a significant impact on communities facing water scarcity.

A group of students proposed a meticulously designed underground water storage tank aimed at harvesting and storing rainwater for the Wajir Modern Market. This project addresses the acute water shortage problem in Wajir, a semi-arid town in Kenya. The underground tank is specifically designed to collect and store rainwater, ensuring a continuous supply for the market's traders and their livestock during dry periods. Water scarcity is a pressing issue in this region, significantly impacting economic activities and the daily lives of residents. The students' solution offers a sustainable and practical approach to improving water

availability in the area, promising long-term benefits for the market and the surrounding community.

The students outlined a comprehensive rainwater harvesting system to support



their design. The process begins with the collection of rainwater, typically from roofs or other suitable surfaces. This harvested water undergoes initial screening to remove large debris and impurities, ensuring that only clean water enters the system. The water is then directed into a reservoir for storage. Finally, a fine screening process is applied to purify the water further, making it suitable for various uses, including drinking, cleaning, and supporting livestock. This step-by-step approach ensures the reliability and safety of the stored water.

Beyond addressing water shortages, the project has the potential to mitigate some of the economic challenges faced. By providing a reliable water

source, traders can operate more efficiently, and livestock can remain healthy, both of which contribute to the overall economic stability of the region. Additionally, the project demonstrates the importance of integrating sustainable solutions into local infrastructure to combat the adverse effects of climate change, particularly in arid and semi-arid areas.

This initiative highlights the role of young engineers in driving innovation in the water sector. It showcases their ability to combine theoretical knowledge with practical application to develop impactful solutions. Further, the underground water storage tank project serves as a model that can be replicated in other regions facing similar challenges, scaling up its benefits across the country.

These efforts not only reflect their academic achievements but also their dedication to addressing one of Kenya's most pressing challenges. Their work shows the transformative power of education in equipping the next generation of professionals with skills and vision to create a more sustainable future. Through projects like this, these aspiring engineers are setting a high standard for innovative problem-solving in the water sector.

Strengthening Water Use Efficiency through IoT-Based Smart Water Tanks

BY: OTIENO FREDRICK

The unfolding water crisis, and clamor for water smart practices across the world is shifting responsibility of water use efficiency to organizations and households. This trajectory has been occasioned in part by operational and technical inadequacies of pumps and motors leading to frequent tank overflows.

For instance, failure by pump operators to act when tanks are filled and mechanical faults in motors are foremost issues that should be mitigated. Tank overflows are common in many homes and industries yet the dangers and hazards associated with them are yet to be fully internalized. Unremitting overfills in tanks and reservoirs typically mark the onset of deterioration and progressive collapse of structures. It also defers the realization of last mile connectivity and availability of water for domestic and agricultural uses. Costly repairs, mold growth, and a host of environmental issues are also expected from long term overflows.

While such inconveniences may seem mundane, they are symptomatic of serious issues such as defective valves, obstructed drain lines, and super-optimal pressure.

In the past decade, the foregoing challenges have spurred interest in IoT based automation and smart water systems. These technologies have emerged as effective tools for strengthening water use efficiency and enhancing control of water supply chains in general. The systems are effective in reducing wastage by halting operation of pumps and motors upon attainment of recommended water levels. The systems are also designed



to monitor water level and quantity continuously thereby minimizing water loss.

In recent times the cost of smart water technologies have reduced due to availability of low-cost IoT systems. For instance, the Web 2.0 and the introduction of cost-effective smart devices that utilize low power has led to increased adoption of smart water technologies. In basic water level and flood monitoring applications, the NodeMcu firmware, an open-source development board embedded on the ESP8266 Wi-Fi Module is preferred. Arduino UNO micro-controller board, a Relay module, an overflow sensor,

Ultrasonic sensor for accurate computation of water depth, Light Emitting Diode (LED) display, LED indicator, and a low-cost IoT software platform such as Blynk application.

The ESP8266 Wi-Fi Module supports communication between system components and facilitates transfer of data via a Wi-Fi connection. The recommended sensor is the JSN-SR04T ultrasonic variety, usually placed at the recommended water level while for display, a 0.96" I2C OLED variety is preferred.

These technologies are easy to operate with manual and automatic operation possible. Modern IoT applications are connected to a relay to facilitate on and off switching of the pump. Monitoring and control of water depth is achieved through the Blynk tool. Blynk tool is effective for connecting devices to the cloud via mobile apps, while monitoring and controlling them remotely.

While smart water level monitoring in domestic settings is still not yet fully adopted, it is also evident that without timely intervention, the overflows could compromise water quality and disrupt supply to urban and rural areas. Additionally, failure to switch off pumps at the onset of overflow, could hinder quality of life by jeopardizing last mile connectivity.

Institute's Students Excel in KETISA Games

BY: BRITNEY MOKEIRA

The recently concluded Kenya

Technical Institutions Sports Association (KETISA) games were a vibrant showcase of talent, sportsmanship, and teamwork. Held at the Kenya Forestry College, the event brought together students from various technical institutions



across the country, providing a dynamic platform to compete in a variety of sports and demonstrate their athletic prowess.

A wide array of sports was featured at the games, including handball, football, scrabble, volleyball, badminton, and table tennis, ensuring an inclusive and dynamic competition. Among the participating institutions, KEWI stood out as a top performer, demonstrating exceptional skill and determination in multiple categories.

KEWI's men's team delivered an impressive performance, clinching first place in the men's handball competition after a series of intense and closely fought matches. The team also achieved a commendable second place in the scrabble competition, showcasing their

intellectual agility and mastery of the game. Their determination and skill were evident throughout the games, earning them admiration and respect from their peers.

The women's team also dominated the competition in several categories. They gave an impressive performance and triumphed in handball, badminton, and table tennis, showcasing their versatility and exceptional teamwork. Their success was a testament to their rigorous preparation and commitment to excellence.

The games fostered a sense of solidarity and unity among students from diverse backgrounds, highlighting the importance of teamwork and mutual respect. Beyond the competition, the event provided an opportunity for students to develop their

leadership, communication, and problem-solving skills, attributes that are vital both on and off the field. This year's games also emphasized the role of sports in holistic education. Participation in athletics not only nurtures physical fitness but also instills discipline, perseverance, and a competitive spirit. For institutions like KEWI, these attributes align with their broader mission of developing well-rounded individuals ready to contribute to society.

The students' outstanding performance was a source of pride for the institution reinforcing its reputation for fostering excellence in both academics and extracurricular activities. The KETISA games continue to be a powerful reminder of the transformative power of sports, inspiring participants and spectators alike to strive for greatness.

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Round Up of The Week's Event



KEWI CEO Dr. Leiro Letangule among other water experts during a water and circular economy discussion at Radisson Blue Hotel.



Moments during The Kenya Water Institute and LETZTEST Memorandum of Understanding signing at KEWI Nairobi Campus.



Round Up of The Week's Event



KEWI Students during the Kenya Technical Institutions Sports Association (KETISA) games held at Kenya Forestry College, Londiani.



KEWI Student Julius Syanda Nzioki during the International Day for Persons with Disabilities held at Mwingi Resource Centre, Kitui County.

Round Up of The Week's Event



Kenya Water Institute, Chiakariga Campus joined Tharaka Nithi County Government and other stakeholders in marking the World AIDS Day.



Various moments during the training and awarding of certificates to participants of various Professional Development Programs offered at Kenya Water Institute.

Long - Term Programmes

Diploma in Water Engineering Technology (DWET) Diploma in Wastewater
 Diploma in Water, Sanitation Engineering Technology (DWSET)
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 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)
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 Water Operators Course (WOC) in:

- Water Supply
- Meter Reading
- Sewerage Operations

Short - Term Programmes

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 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
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 Instrumentation for Water and Wastewater Systems
 Water Governance, Management and Technology
 Application of GIS for Water Utilities Mapping
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 Water Quality Sampling and Testing
 Microbiological Water Quality Assessment
 Integrated Water Resources Management
 Non-Revenue water
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 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

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