Volume 3 Issue 13

REPUBLIC OF KENYA

KENYA WATER INSTITUTE KEWI Fountain Of Water Knowledge

WEEKLY Newsletter

April 5th – April 11th

Namibia's Human Resource Development Centre Explores KEWI's Partnerships for TVET and Water Management

KEWI Director/CEO Dr. Leiro Letangule, EBS (Third right) flanked by (from right) Deputy Director Academic Affairs Mr. Eric Wamiti, Dr. Beatha N. Kapolo, Head of NamWater's, Human Resource Development Centre, Mrs. Kristina Afomso, NamWater's Manager of Organizational Development and Talent Management, Mr. Richardt Kharuchab, Principal of Career Programme and Curriculum Implementation and Head of Department, Water Resources Management Ms. Dorice Situma pose for a group photo when the delegation from Namibia visited KEWI for a benchmarking and study tour.

BY: PIUS KIMANI.

In a move to bolster its capacity in technical and vocational education and training (TVET) and water management, a delegation from Namibia Water Corporation Limited's (NamWater) Human Resource Development Centre (HDRC) made a strategic official visit to Kenya Water Institute (KEWI) for a comprehensive benchmarking mission. The delegation, comprising Dr. Beatha Ndinelao Kapolo, Head of Technical and Vocational Education and Training (TVET), Mr. Richardt Kharuchab, Principal of Career Programme and Curriculum Implementation, and Mrs. Kristina Afomso, Manager of Organizational Development and Talent Management, also visited other key institutions in the region as part of their study tour.

HIGHLIGHTS

Namibia's Human Resource Development Centre Explores KEWI's Partnerships for TVET and Water Management

The Namibian delegation in engagement with KEWI team led by Deputy Director, Academic Affairs Mr. Eric Wamiti on areas of mutual interest and possible collaborations at KEWI headquarters, Nairobi.

The visit, which took place as part of HDRC's ongoing mandate to enhance capacity building and training, focused on learning from KEWI's robust TVET training programs and industrial practices in water management. Recognized for its regional leadership in water sector education and training, KEWI provided a rich learning platform for the Namibian team. The primary aim was to deepen HDRC's capabilities in designing and delivering relevant, practical, and sustainable training programs aligned with current global and regional water management challenges.

During their engagement at KEWI, the delegation held extensive discussions with their Kenyan counterparts on a wide array of topics, all aimed at enhancing capacity building through institutional collaboration and knowledge exchange. Key areas of mutual interest included research and innovation in water and sanitation technologies, technical support and consultancy services, green technologies and sustainability, and curriculum review, development, and implementation.

Both parties agreed that strengthening institutional collaboration would provide greater opportunities for mutual learning, especially in the context of climate change adaptation, smart water technologies, and sustainable infrastructure. Viewing it as a pathway for instructor upskilling and knowledge transfer, the HDRC team expressed keen interest in understanding how KEWI integrates industrial attachment, hands-on training, and public-private partnerships into their academic and vocational programs — an approach that could significantly improve practical skill development in Namibia's water sector workforce.

"The possibility of secondments or staff exchange programs is a potential avenue for promoting continuous professional development and technology transfer between our two institutions," noted Mr. Kharuchab.

The team further explored potential partnerships for training and faculty exchange programs that would allow Namibian instructors and students to gain access to cutting-edge knowledge and research in water science and engineering. Interest was shown in KEWI's innovative

Namibia's Human Resource Development Centre Explores KEWI's Partnerships for TVET and Water Management

approaches to sustainable water technologies and its integration of engineering principles with environmental conservation practices.

To further broaden their understanding of academic and technical training models, the delegation visited Jomo Kenyatta University of Agriculture and Technology (JKUAT), a leading academic institution with strong programs in water and environmental engineering. The visit provided deeper insight into advanced academic curricula, research facilities, and faculty development initiatives.

KEWI and Namibia delegation pose for a photo after their visit to Nyeri Water and Sanitation Company (NYEWASCO) for a study tour on its industrial operations.

As a way of exposing themselves to industry best practices, the team also paid a visit to the Nyeri Water and Sanitation Company (NYEWASCO), a top-performing water utility company in Kenya known for its operational efficiency, innovative practices, and customer service excellence. Hosted by the Chief Manager, Corporate Services CPA Rose Wairimu Gitahi on behalf of Managing Director Eng. Peter G. Kahuthu, the visit to NYEWASCO offered practical insights into effective utility management, quality assurance systems, and community engagement strategies that can be adapted to the Namibian context.

HDRC representatives noted the importance of exposing their technical instructors to real-world water utility operations, as such practical experience enhances the industrial relevance and impact of TVET education.

The official visit underscored the importance of cross-border collaboration in enhancing water sector competencies and institutional capacity. Dr. Kapolo emphasized that partnerships such as these are critical for driving innovation and addressing common challenges in water security and sustainable development.

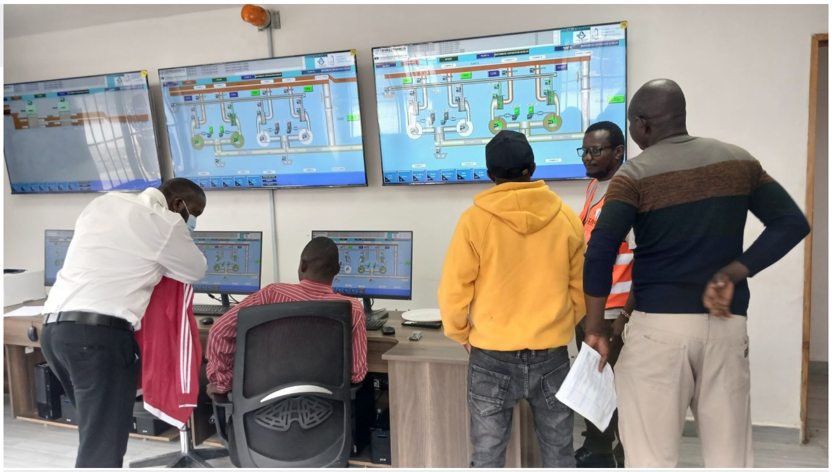
"We are encouraged by the depth of knowledge and commitment we witnessed in Kenya. It affirms our belief that peer to peer cooperation is key to unlocking our collective potential and an accelerated journey towards a sustainable partnership," Dr. Kapolo remarked.

The visit concluded with a commitment to establish a formal framework for collaboration between HDRC and the visited Kenyan institutions. These partnerships are expected to lay the groundwork for future joint initiatives in research, curriculum development, staff development, and technical exchange.

As Namibia continues to prioritize sustainable water management and technical capacity building, this benchmarking visit marks a crucial step toward developing a skilled, future-ready workforce capable of addressing the country's pressing water and environmental challenges.

Empowering the Water Sector through Specialized Training

BY: C. KIPTOO



Short course participants seen interacting first-hand with the automation of wastewater treatment processes using Supervisory Control and Data Acquisition (SCADA) systems during their visit to Ruai Wastewater Treatment Works.

The Kenya Water Institute (KEWI) recently concluded a successful series of short courses aimed at enhancing technical and operational capacity within the water and sanitation sector. The training attracted participants from various water utility companies across the country, demonstrating the growing need for upskilling and knowledge-sharing in the industry.

The training programs offered included:

Metering, Billing, and Revenue Collection

This course focused on efficient and accurate water metering, data management, billing procedures, and revenue collection strategies. Participants were taken through modern practices for minimizing non-revenue water losses and improving customer satisfaction through accurate billing systems. Trainers emphasized practical tools for meter reading, customer relations, and integrated billing platforms.

Pipework Skills for Water Supply and Sewer Systems

This hands-on course equipped participants with the necessary pipe installation, repair, and maintenance skills required for both water supply and sewer systems. Instructors from KEWI guided trainees through various pipe joining techniques, trench safety procedures, and leak detection methods. The course also addressed environmental and health considerations when working with sewer infrastructure.

Automated Biodigester Systems

As a new addition to KEWI's training portfolio, this course marked a significant step toward promoting sustainable and green energy solutions. Participants were introduced to the concept and operation of bio digesters, which use anaerobic digestion to treat organic waste and generate biogas. KEWI experts explained system design, automation techniques, and potential applications in both urban and rural settings. This course opens doors to affordable, renewable energy options and improved sanitation, aligning with national green energy goals.

As part of the training experience, participants took part in a field trip on Thursday to benchmark real-world practices. They visited the Kabete Water Treatment Plant in Kiambu and the Ruai Wastewater Treatment Works, both managed by Nairobi Water and Sanitation Company. At Ruai, participants witnessed first-hand the automation of wastewater treatment processes using Supervisory Control and Data Acquisition (SCADA) systems—an eye-opening experience that showcased the future of smart water management.

These short courses underscore KEWI's commitment to advancing technical knowledge and operational efficiency in the water sector. Trainers and instructors played a vital role in delivering practical and industry-relevant skills that will undoubtedly enhance service delivery in the participating institutions.

For a full list of short courses offered by KEWI, please visit www.kewi.or.ke or contact info@kewi.or.ke for more information.

Innovative Water Solutions: KEWI Final-Year Students Tackle Sector Challenges with Creative Projects

BY: BRITNEY MOKEIRA

In a world increasingly burdened by climate change and water scarcity, innovation has never been more crucial. Final-year students at the Kenya Water Institute (KEWI) have demonstrated that the future of water management in Kenya lies not just in policy, but in practical, homegrown solutions.

In a recent project presentation event, student's unveiled innovative technologies and systems designed to solve real-world water challenges—from sustainable harvesting and storage to urban agriculture and alternative water generation. Some of the projects presented include;

Rainwater Harvesting through Rock Catchments

One of the most promising innovations was the design of a rainwater harvesting system using natural rock outcrops as

collection surfaces. This system, specifically intended for use in arid and semi-arid regions prone to both drought and flash flooding, harnesses the runoff generated on large rock surfaces during the rainy season.

"We wanted a solution that works with nature, not against it," one of the student presenters explained.

"By building retention walls around the rocks and channeling the runoff through grit chambers and sedimentation tanks, we are able to collect and store water safely—without the need for expensive chemical treatments."

The system relies entirely on physical sedimentation to remove suspended solids, making it cost-effective and environmentally friendly. While the harvested water is not immediately safe for drinking, it plays a crucial role in non-potable uses like livestock watering, small-scale irrigation, and sanitation.

More importantly, the stored water can be routed to treatment facilities for purification when needed. "This is a simple, replicable system that can be adopted in rural communities with minimal technical training," the group noted. "It's about creating water resilience in regions that are too often forgotten."

Sustainable Groundwater Recharge System

As Kenya's urban and agricultural demands strain groundwater sources, recharging aquifers naturally has become a priority. Addressing this, a team of students led by Omar Abdi, Brian Kisoi, and Ibrahim Ismail developed a sustainable groundwater recharge model to increase the efficiency of natural infiltration.

"Our system uses strategically layered soil types—gravel, sand, and loam—to facilitate rapid infiltration while filtering contaminants," Omar explained during their presentation.

"It's a system that can be deployed in areas with declining water tables and can work in tandem with existing boreholes and water abstraction facilities."

The group's prototype demonstrated how subsurface reservoirs could be recharged faster and more effectively during rainy seasons, potentially reversing years of unsustainable groundwater

Innovative Water Solutions: KEWI Final-Year Students Tackle Sector Challenges with Creative Projects

extraction. They also highlighted how community education and localized water governance are essential in ensuring long-term sustainability. "This is not just a technical solution," Brian Kisoi added. "It's a community water management strategy."

Atmospheric Water Generating System

With water scarcity affecting millions globally, a team of students—Sylvester Ombati, Brian Kithinji, and Brian Kipetuan—introduced a compact atmospheric water generator (AWG) using thermoelectric cooling.

The team noted that while current water output is limited, future iterations could incorporate solar energy and larger cooling modules to increase yield. Their vision is to develop a fully autonomous, renewable-powered water generation unit for off-grid communities. Ultimately, this research project represents a crucial step towards developing accessible, sustainable water generation technologies for water-scarce regions, offering hope for communities struggling with water accessibility by providing an innovative method of extracting moisture directly from atmospheric air.

Urban Hydroponic System

In a rapidly urbanizing Kenya, food and water security are deeply intertwined. Recognizing this, Eric Murimi, Rahab Wanja, and Florence Kamande designed a hydroponic farming model for urban and peri-urban settings. Their system allows crops to be grown without soil, using nutrient-rich water solutions in a compact, vertical layout—ideal for Nairobi's limited urban spaces. "Our research focused on the effects of nutrient levels, wick systems, and substrate materials like peat moss on plant growth," said Wanja. "We found that hydroponics can significantly reduce water use while increasing productivity."

However, their study also identified real-world constraints: high initial startup costs, limited technical knowledge, and inconsistent power supply. These challenges, they argued, should not be seen as barriers but as opportunities for policy and private sector intervention.

"We recommend partnerships between government, NGOs, and the private sector to offer training, financing, and infrastructure support," Kamande added. "Urban hydroponics has the potential to feed cities while conserving water and it needs to be part of Kenya's agricultural future."

More than just academic exercises, these final-year projects signal the critical role of vocational and technical education in shaping Kenya's water future. KEWI's commitment to hands-on, problem-solving learning is equipping students with the tools—and the mindset—to drive sustainable change. These innovations, though born in classrooms and labs, carry the potential to transform lives, ecosystems, and entire communities. With the right support, many of these student-led solutions could scale into impactful, real-world interventions. By investing in young talent, encouraging practical innovation, and supporting research-based learning, KEWI is shaping not just graduates but guardians of our most precious resource: water.

KEWI Extends its Winning Streak at the KETISA Games

BY: BRITNEY MOKEIRA

Floorball Ladies in action at Kenya Industrial Training Institute (KITI) – Nakuru at the just concluded KETISA Games.

The Kenya Water Institute (KEWI) once again demonstrated its excellence beyond the classroom at the recently concluded 33rd Edition of the Kenya Technical Sports Association (KETISA) Games. Held at the Kenya Industrial Training Institute (KITI) – Nakuru Campus, the event brought together students from technical and vocational institutions across the country to showcase their athletic skills, sportsmanship, and school pride. KEWI proudly participated in various sporting disciplines, including rugby, football, floorball (men and women), javelin, high jump, netball, tennis, and volleyball.

KEWI athletes gave a spirited and commendable performance, with several teams and individuals emerging victorious in their respective categories. The men's and ladies' floorball teams were among the top performers, displaying agility, teamwork, and tactical brilliance that earned them top honors in their events. In track and field, KEWI continued to make a mark with strong showings in the javelin (men's category) and high jump (ladies' category), where students impressed with their technique, focus, and determination.

These achievements reflect more than just athletic ability—they demonstrate the institute's commitment to nurturing well-rounded individuals who excel both academically and physically. KEWI recognizes the important role sports play in promoting leadership, discipline, and resilience among students. As one of the institute's sports coordinators noted, "Our students not only competed—they competed with passion and pride. It was truly inspiring to see them give their best, both individually and as a team."

The KETISA Games also provided a valuable opportunity for KEWI students to network with peers from other institutions, build camaraderie, and strengthen their sense of community and teamwork. Faculty and staff praised the students for their discipline, determination, and sportsmanship throughout the tournament.

Looking ahead, KEWI remains committed to developing its sports programs further by investing in training, mentorship, and resources that support student-athletes. By doing so, the institute aims to continue producing not just competent water professionals but also strong, confident individuals who can lead in all areas of life. The performance at the 33rd KETISA Games is a proud reminder that KEWI is a home of champions—on and off the field.

Congratulations to all the athletes, coaches, and support staff who represented KEWI with excellence and integrity. Your hard work and dedication continue to uplift the KEWI name.

MAY 2025 INTAKE ADVERT

REPUBLIC OF KENYA

MINISTRY OF WATER, SANITATION & IRRIGATION

KENYA WATER INSTITUTE

KENYAWATER INSTITUTE INVITES APPLICATIONS FOR ADMISSION

Kenya Water Institute invites applications for May 2025 intake for the programs offered in Nairobi campus and satellite campuses of Chiakariga, Kitui and Kisumu. The programs will be offered through a Blended Learning Model (online and in person learning for practical based courses). Applicants MUST indicate the campus of choice in the application form.

Program Title	Minimum Requirements	Duration	Campus	Tuition Per Semester
1. **Diploma in Water Engineering Technology (DWET)**	a) KCSE Mean Grade C- (minus) or a division (II) in KCE with at least D (plain) in any of the sciences (Mathematics, Physics, Chemistry or Physical Science and Biology) or Geography OR b) KCSE Mean Grade C- and Artisan Course Certificate from KEWI or any equivalent National Qualification c) As determined by the Academic Board.	Three years	Nairobi Chiakariga Kitui Kisumu	Kshs. 31,300
2. **Diploma in Water Resources Management Technology (DWRMT)**	a) KCSE Mean Grade C- (minus) or a division (II) in KCE with at least D (plain) in any of the sciences (Mathematics, Physics, Chemistry or Physical Science and Biology) or Geography OR b) KCSE Mean Grade C- and Artisan Course Certificate from KEWI or any equivalent National Qualification c) As determined by the Academic Board.	Three years	Nairobi Kitui Kisumu	Kshs. 31,300
3. **Diploma in Irrigation and Drainage Engineering Technology (DIDET)**	a) KCSE Mean Grade C- (minus) or a division (II) in KCE with at least D (plain) in any of the sciences (Mathematics, Physics, Chemistry or Physical Science and Biology) or Geography OR b) KCSE Mean Grade C- and Artisan Course Certificate from KEWI or any equivalent National Qualification c) As determined by the Academic Board.	Three years	Chiakariga Kisumu	Kshs. 31,300
4. **Diploma in Wastewater and Sanitation Engineering Technology (DWSET)** 5. **Diploma in Water Laboratory Technology (DWLT)**	a) KCSE Mean Grade C- (minus) or a division (II) in KCE with at least D (plain) in any of the sciences (Mathematics, Physics, Chemistry or Physical Science and Biology) or Geography OR b) KCSE Mean Grade C- and Artisan Course Certificate from KEWI or any equivalent National Qualification c) As determined by the Academic Board.	Three years	Nairobi	Kshs. 31,300
6. **Diploma in Information Communication Technology (DICT)-KNEC**	a) KCSE Mean Grade of C- and above or its equivalent as acceptable Qualification by KNQA OR b) KNEC Certificate for CICT	Three years	Nairobi	Kshs. 31,300
7. **Certificate in Water Engineering Technology (CWET)**	a) KCSE Mean Grade D (plain) OR b) Artisan Course qualification from KEWI or any equivalent National Qualification OR c) As determined by the Academic Board	Two years	Nairobi Chiakariga Kitui Kisumu	Kshs. 30,000
8. **Certificate in Water Resources Management Technology (CWRMT)**	a) KCSE Mean Grade D (plain) OR b) Artisan Course qualification from KEWI or any equivalent National Qualification OR c) As determined by the Academic Board	Two years	Nairobi Kitui Kisumu	Kshs. 30,000
9. **Certificate in Irrigation and Drainage Engineering Technology (CIDET)**	a) KCSE Mean Grade D (plain) OR b) Artisan Course qualification from KEWI or any equivalent National Qualification OR c) As determined by the Academic Board	Two years	Chiakariga Kisumu	Kshs. 30,000

MAY 2025 INTAKE ADVERT

10. Certificate in Wastewater andSanitation Engineering Technology (CWSET) 11. Certificate in Water laboratory Technology (CWLT)	a) KCSE Mean Grade D (plain) OR b) Artisan Course qualification from KEWI or any equivalent National Qualification OR c) As determined by the Academic Board	Two years	Nairobi	Kshs.30,000
12. Certificate in Information Communication Technology (CICT)-KNEC	a) KCSE Mean Grade D (plain) and above OR b) Its equivalent as acceptable Qualification by KNQA	Two years	Nairobi	Kshs. 30,000
13. Plumbing and Pipe Fitting (PPF) 14. Water Operators Course (WOC) in: • Water Supply • Meter Reading • Wastewater Mgt. tech.	a) KCSE Certificate OR b) Basic Operator Course qualification OR c) Any other qualification approved by the Academic Board	Two semesters	Nairobi Chiakariga Kitui Kisumu	Kshs.30,000
15. Irrigation and Drainage systems	a) KCSE Certificate OR b) Basic Operator Course qualification OR c) Any other qualification approved by the Academic Board	Two semesters	Chiakariga Kitui	Kshs.30,000
16. Drilling Operations and Management (DOM)	a) KCSE Mean Grade D (plain) OR b) Certificate in Water Related course WaterTechnician, Water Resource Management,Water Engineering, Mechanical Engineering) OR c) Industry Practice as a Drilling Technicianof at least 2 years	8 weeks	Nairobi	Kshs 40,800

MODE OF APPLICATION

Application forms can be obtained from Kenya Water Institute, Nairobi South 'C', Chiakariga, Kitui and Kisumu campuses; or downloaded from KEWI website. A non – refundable application fee of Kshs 1,000.00 should be paid using this link. https://www.kewi.go.ke/application-payment-process

Applications should be addressed to the **DIRECTOR, KENYA WATER INSTITUTE, P. O. BOX 60013 -00200 NAIROBI. Applications** to reach not later than **30th April 2025.** Attach photocopies of Academic Certificates, National ID card and original application fee receipt.

Foreign students to add 20% on all charges. For enquiries: Nairobi - 0722 207 757, 0735339206, Chiakariga – 0729009104, Kitui 0707 566 395

Persons with disability and female students are encouraged to apply.

Quote of the Week

"Success is the sum of small efforts repeated day in and day out."

Robert Collier

EDITORIAL TEAM

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Round up of The Week's Events

Moments during joint meeting between KEWI Management and Machakos County leadership on the preparedness for the upcoming MOU signing and official visit by a high-level delegation from Gansu Academy for Water Conservancy, China.

Picture of the Week

Their Voices

Rebecca Njeri—Counsellor

"Your overall workplace mental health is paramount in driving forward the goals of a company."

Guyo Abdulkadir—Office Administrative Assistant

"A vibrant student community fosters a more enriched college experience, leading to increased student engagement, satisfaction, and academic success.''

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

GET IN TOUCH WITH US

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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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