Dedan Kimathi University of Technology

DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

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Souvenir Magazine

16th Graduation Ceremony



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Welcome Message by
The Vice Chancellor

Welcome to the 16th graduation magazine. We are proud to be graduating 877 graduands in this cohort. This is a significant milestone in the University as we celebrate a decade of academic excellence, significant strides in research and innovation, and a continuous commitment to technological development and advancement for a better life. I want to extend my congratulations to the graduating students.

The University is the country's most specialized University in technology, with over 90% of its programs focusing on technology education, research, and development.

As guided by its vision, DeKUT is specialized as a Premier Technological University, excelling in Quality Education, Quality Research and Technology transfer for National Development. We focus on niche areas where capacity building and research will impact the National Development Agenda. DeKUT has extended its reach, ascending to new heights in promoting research and innovation both regionally and internationally. To complement this, we have built an ecosystem that fosters innovation and entrepreneurship.

DeKUT has formed strategic alliances through the Memoranda of Understanding (MoUs). Among these, we have partnered with the United Nations Economic Commission for Africa (UNECA), which has led to the creation of Origin Research and Innovations Labs to address complex challenges in Africa. Origin is a central hub for collaborative innovation, offering access to top-notch facilities, R&D support, testing services, networking opportunities, and funding access.

Most recently, DeKUT has teamed up with the New-Kenya Planters Co-operative Union (New-KPCU) to promote collaboration, innovation, and progress. These partnerships are driven by a shared commitment to excellence, advancing knowledge, and positively impacting society.



Prof. Eng. Peter. N. Muchiri
Vice Chancellor, DeKUT

To our graduands, as you stand on the brink of a new chapter, I extend my wishes for your continued success in all your endeavours. Remember that you carry with you not just a degree but also the values and ideals of this great institution. I urge you to be exemplary ambassadors of our University, demonstrating integrity, excellence, and a commitment to positive change wherever you go. Embrace the challenges ahead with courage and determination, knowing you are well-equipped to make a difference in your respective fields.

Congratulations, Graduating Class of 2024!

DeKUT Signs a Collaboration Agreement with the New Kenya Planters Co-operative (New- KPCU)

By Prof. Eddy E. Owaga



DeKUT signed a collaboration agreement with the New Kenya Planters Co-operative (New- KPCU) on 21st March, 2024 at DeKUT Main campus, Nyeri. Hon. Simon Chelugui, Cabinet Secretary, Co-operatives and Micro, Small and Medium Enterprises (MSME), the Chairman of the New KPCU, among other dignitaries, graced the event.

In the past years, DeKUT, through the Coffee Technology Centre headed by Prof. Eddy Owaga, has been involved in various initiatives related to coffee training, research and technology transfer on coffee productivity and quality towards an innovative and sustainable coffee value chain in Kenya. DeKUT recognizes the immense value and potential of partnerships and collaborations with like-minded institutions. DeKUT shares a vision of collaboration, innovation, and progress with the New KPCU. Collaborating with the New KPCU aligns with the University's goals of promoting sustainability, social responsibility, and community linkages.

Specifically, the agreement enables New KPCU and DeKUT to collaborate on the following areas regarding improved coffee sector performance in Kenya: - Institutional Capacity Building, Farmers and stakeholders Capacity Building, Student Training and industrial attachment Programmes, Research and Technology Development, Technology Transfer, Resource Mobilization, Dissemination and awareness, Equipment and Facilities use, and Consultancies.

Celebrating Chancellor's Day and Launching the Chancellor's Foundation for Innovation Award

The DeKUT held a special event called Chancellor's Day. This important day not only welcomed the esteemed presence of the DeKUT Chancellor, General (Rtd) Dr. Julius Waweru Karangi EGH, CBS, DCO, LOM, but also marked the start of something big: the Chancellor's Foundation for Innovation Award. This new program aims to help students with big ideas but limited resources, encouraging innovation and inclusivity.

The heart of Chancellor's Day was all about making meaningful connections. Chancellor Karangi joined the event, talking warmly with both staff and students. His friendly manner and wise words made everyone feel excited and inspired.

The most important part of the day was the launch of the Chancellor's Foundation for Innovation Award. This award is like a guiding light for students with great ideas who need more support. It wants to recognize and help DeKUT's brightest minds, giving them what they need to achieve their dreams.

Chancellor Karangi showed authentic leadership by donating Ksh 100,000 of his money to the foundation. This generous act shows how much he cares about the University and its people. It encourages others to join and support the next generation of innovators and leaders.

The Chancellor's Foundation for Innovation Award shows DeKUT's commitment to excellence and fairness. By giving a boost to young innovators, the University isn't just making education better—it's creating a legacy of change and empowerment far beyond the campus.

As Chancellor's Day ended, its message of inspiration and empowerment stayed with everyone at DeKUT. With fresh energy and purpose, students and staff are ready to take on new challenges. With the Chancellor's Foundation for Innovation Award leading the way, the future of DeKUT looks brighter than ever, full of possibilities and opportunities for all.





Unveiling the Future of Manufacturing: The Siemens Centre Launches xArm 7 DoF Robotic Arm and Virtual Mechatronics Services Lab

In a momentous event at the heart of technological advancement, the Siemens Centre recently unveiled groundbreaking innovations to redefine the manufacturing landscape. The launch was graced by esteemed dignitaries, including the DeKUT Chancellor, General (Rtd) Dr. Julius Waweru Karangi EGH, CBS, DCO, LOM, alongside the Vice Chancellor Prof. Eng. Peter. N. Muchiri, Deputy Vice-Chancellor Prof. Esther Magiri, and Siemens Director Prof. Eng. Jean Bosco Byiringiro, marks a pivotal milestone in harnessing cutting-edge technology to drive efficiency, precision, and adaptability in industrial processes.

At the forefront of this unveiling stands the xArm 7 DoF Robotic Arm, symbolizing the essential role of robotics in both local and global manufacturing landscapes. With its seven degrees of freedom, this advanced robotic technology embodies the fusion of innovation and practicality, providing numerous advantages to transform modern production methods. In line with the Skills Initiative for Africa (SIFA), this cutting-edge robotic arm not only showcases technological innovation but also represents a platform for skill development and capacity building, empowering African professionals with the expertise needed to excel in the evolving manufacturing sector.

1. **Enhanced Efficiency and Productivity:** Robotics stand as the linchpin of heightened efficiency and productivity in manufacturing. By leveraging automation, companies can exponentially increase output, translating to amplified revenues and sustained growth.
2. **Unrivalled Precision and Accuracy:** Precision is paramount in pursuing excellence. Robotic arms, with their programmable precision and minimal margin of error, pave the way for producing high-value goods, demanding only skilled labour to orchestrate their mastery.
3. **Mitigation of Human Risk:** Beyond manual labour, robots assume the mantle in hazardous or repetitive tasks, thus mitigating the risk of



The Siemens Centre Launches xArm 7 DoF Robotic Arm and Virtual Mechatronics Services Lab 2

human injury. This emancipation of human capital fosters a symbiotic relationship wherein humans are liberated to engage in higher-order tasks while robots navigate routine operations.

4. **Flexibility and Adaptability:** The hallmark of modern manufacturing lies in its agility and adaptability. Through the inherent re-programmability of robots, manufacturers can seamlessly navigate dynamic production landscapes, accommodating changes, diversifying materials, and orchestrating intricate collaborations with other automated systems.

Complementing the xArm 7 DoF Robotic Arm is the advent of Virtual Mechatronics Services, a domain characterized by immersive virtual reality experiences that transcend conventional boundaries, unlocking many benefits across the manufacturing spectrum.

1. **Engaging Training and Skill Development:** Harnessing the immersive potential of virtual reality, training becomes an enthralling journey of discovery. Through lifelike simulations of complex tasks, trainees gain invaluable insights in a safe and accessible environment, fostering a culture of continuous learning and refinement.

2. **Accelerated Design Prototyping:** In the realm of design and innovation, time is of the essence. Virtual reality empowers engineers and designers to expedite the prototyping process, facilitating early-stage reviews, error identification, and iterative refinement, all without the constraints of physical prototypes.

3. **Remote Collaboration and Maintenance:** The advent of virtual reality transcends geographical barriers, fostering seamless collaboration between disparate teams. Engineers can teleoperate, troubleshoot, and provide maintenance remotely while stakeholders gain real-time insights into project progress, streamlining operations and enhancing accountability.

4. **Optimized Planning and Simulation:** Through the lens of virtual reality, the manufacturing landscape becomes a canvas for digital twins – virtual replicas that enable meticulous planning and optimization. From simulating production lines to optimizing factory layouts, these digital twins herald a new era of cost-effective, space-efficient manufacturing.

The convergence of the xArm 7 DoF Robotic Arm and Virtual Mechatronics Services epitomizes the zenith of technological innovation, propelling manufacturing into a realm of unprecedented efficiency, precision, and adaptability. As industries embrace these transformative technologies, the journey towards a brighter, more sustainable future beckons, promising boundless opportunities for growth and prosperity on a global scale.



The Siemens Centre Launches xArm 7 DoF Robotic Arm and Virtual Mechatronics Services Lab

Chemistry Department graduates its first Polymer Chemistry students

Looking back in 2020, a number of students enrolled for BSc Polymer Chemistry did not know what this course entailed. Numerous phone and email conversations from parents and students were received. While the name sounded "cool", they needed to really understand what they were up to. This group was also admitted during corona period and were forced to have their classes virtually. It was a challenging period just like the other years, but more to them, they did not have earlier cohort of students that they can consult with. Despite all these challenges, the students have emerged victorious and are well prepared to face



Students Personal Journeys

the world and offer the much-needed expertise/ technology in the plastic industry. During the course of their training, they have had guest lectures specifically from Domino Printing Science, a company that donated two equipment to us.

The students have also benefited immensely from industrial trips to plastic companies in Nairobi and Bata Company in Limuru. The plastic companies have exposed them to the state-of-the-art technologies surrounding generation of polymer ingredients and polymer processing to various products. During their attachment period, they have also practiced their theoretical knowledge and skills to the industrial processes. There is a close link for this programme to that of Leather Technology through the generation of plastic soles for the fabrication of leather shoes. Most soles generated are of poor quality and many traders opt for them due to cost implications and end up breaking within a short period of time. The students in polymer chemistry group have been engaged in research that offers quality leather shoe plastic soles that are able to withstand harsh environmental conditions. The students have also interacted with the Polymer and Mould Design Centre at Mechanical Engineering, DeKUT.

Joining Dedan Kimathi University of Technology was our first successful goal and we made it. Despite the fact that we were uncertain of our polymer chemistry course we were undertaking we kept moving on. The advice and encouragement we got on our first-year orientation helped us understand what we were about to do and gave us the urge to want to know what it actually entails.

We as the students pursuing a BSc in Polymer Chemistry at Dedan Kimathi University of Technology have faced numerous challenges throughout our academic journey. From our freshman year, we had to navigate through complex scientific concepts, exquisite laboratory experiments, and demanding coursework. As we progressed to higher levels, we encountered even more challenging courses and research projects that required dedication and perseverance. Despite facing setbacks and obstacles along the way, we exhibited resilience and determination, pushing ourselves to excel in our studies and make meaningful contributions to the field of polymer chemistry. Our journey from freshman year to our final year is a testament of our hard work, passion for science, and commitment to academic excellence". **By Pauline Gathoni Wamaitha, Class of 2024.**



"I was thrilled when I received a Congratulations message to come and pursue Polymer Chemistry course at Dedan Kimathi University which had been introduced in 2020. The prospect of delving into the world of polymers, understanding their properties, and exploring their vast applications excited me. Being part of the pioneer group for this course was a unique opportunity that I couldn't pass up, especially considering my passion for chemistry. Throughout my journey in the Polymer Chemistry course, I have been exposed to a wide range of topics, from polymer synthesis to characterization techniques. The hands-on laboratory experiments have been particularly engaging, allowing me to apply theoretical knowledge to practical scenarios, Various academic trips to Polymer industries and exhibitions, Understanding the structure-property relationships of polymers and learning about their role in various industries has been eye-opening and inspiring". **From Collins Nyongesa, Class of 2024.**



Collins Nyongesa keenly following a demonstration session during Bata Company industrial visit

"The polymer Class of 2024, which included Fidelis Wambui, Collins Nyongesa, Pauline Gathoni, James Mbugua, Dennis Kabugi, and Nickson Oduor, initially had reservations about their chosen major. They gained clarity and confidence in their path under Dr. Tanui's supervision, fueled by reassurance of the course's importance in their lives. Through immersive polymer chemistry experiences such as field trips to Bata and industrial attachments at the Kenya Bureau of Standards, they gained practical insights into the real-world applications of their research. The Class of 2024 is filled with excitement and anticipation as they approach graduation, grateful for their school and lecturers' unwavering support. With dreams of starting their own polymer company, they are united in their determination to face the challenges and opportunities that lie ahead, knowing that together they can achieve greatness. As they prepare to begin a new chapter, the Class of 2024 expresses heartfelt gratitude to their classmates for their support and encouragement. They are prepared to embrace continued growth and success in their future endeavors, having learned valuable lessons, formed friendships, and demonstrated unwavering determination. Congratulations to the Class of 2024 on their graduation, and best wishes for a fulfilling and prosperous journey". **From Fidelis Wambui, Class of 2024**



Ms. Fidelis Wambui proudly displaying a polymer product made at DeKUT polymer lab

Breaking Boundaries: Chemistry Department Secures Milestone Donation from Domino UK Limited

By Dr. Paul Tanui CoD, Chemistry Department, Charles Owino Oloo – Chief Technologist, Chemistry Department
Fred Inshallah Ngere – Technologist, Chemistry Department

In a significant stride towards supporting research capabilities, the Chemistry Department at Dedan Kimathi University of Technology has achieved a remarkable milestone. Through collaborative efforts and a shared vision for advancing scientific inquiry, the department has secured a generous donation from Domino UK Limited, comprising



cutting-edge Gas Chromatography (GC) and Gel Permeation Chromatography (GPC) instruments. This invaluable contribution marks a transformative moment for the university, propelling its scientific endeavors to new heights. The acquisition of state-of-the-art GC and GPC equipment signifies not only a commitment to innovation but also a testament to the enduring partnership between academia and industry.

Gas Chromatography, a cornerstone technique in analytical chemistry, enables precise separation and analysis of complex mixtures with unparalleled accuracy. Its applications span a multitude of fields, from environmental monitoring to pharmaceutical research, offering invaluable insights into the composition and properties of diverse substances.

Similarly, Gel Permeation Chromatography, renowned for its efficacy in polymer analysis, facilitates the characterization of molecular weight distributions with unparalleled precision. This sophisticated tool empowers researchers to unravel the intricacies of polymer structures, driving advancements in materials science and engineering.

With the addition of these advanced instruments



to its arsenal, the Chemistry Department is poised to embark on a transformative journey of scientific discovery. These cutting-edge technologies will not only enhance research capabilities but also foster interdisciplinary collaborations, nurturing a vibrant ecosystem of innovation and inquiry.

Moreover, the generosity of Domino UK Limited underscores the importance of corporate partnerships in fostering academic excellence and driving societal impact. By investing in education and research, Domino UK Limited exemplifies its commitment to advancing scientific frontiers and empowering the next generation of innovators. As the Chemistry Department embraces this new chapter, it stands at the forefront of scientific exploration, poised to make significant contributions to the global scientific community. The journey ahead is one of boundless potential and endless possibilities, fueled by a shared passion for knowledge and a commitment to excellence.

In conclusion, the Chemistry Department extends its heartfelt gratitude to Domino UK Limited and the DeKUT Management for their invaluable support and unwavering dedication to advancing scientific endeavors. Together, we embark on a journey of discovery, pushing the boundaries of knowledge and shaping the future of chemistry one breakthrough at a time.

How DeKUT's Chemistry Department is Transforming Leather Crafting: A Captivating Capacity Building Workshop Unveiled!

In 2023, three researchers in the Department of Chemistry, Dr. Paul Tanui, Project Principal Investigator (PI), Dr. Benson Ongarora, Project Coordinator and Mr. Raja Kannan, Member, won a grant from the National Research Foundation (NRF) of three million Kenyan shillings. The project will be implemented in three phases over eighteen (18) months. DeKUT is part of a consortium of two (2) other member institutions, namely Yallo Limited, Kiambu (a saucerful leather entrepreneur company) and Rukira Vocational Training Centre (Nyeri County Government Training Institution) in Nyeri. Yallo Company has surmounted all the challenges in the leather sector by accessing the international leather market and making huge sales from leather bags.



The team members also selected Ms. Louret Atsenga, and an MSc Leather Technology graduate from DeKUT, for a mentorship programme. The project aimed to establish the existing gaps in training and knowledge sharing. Phase One workshop was organized for the selected Twenty-four (24) trainees and took place at Dedan Kimathi University of Technology (DeKUT) from March 18th-22nd, 2024. The same participants will be taken through Phase Two and Three of the project.

During the opening workshop, Vice Chancellor Prof. Eng. Peter. N. Muchiri, DVC A&F, Prof. Esther Magiri, and the Ag. Head, Research-Innovation Ecosystems and Entrepreneurship Education Office, Prof. Eng. Ndirangu Kioni, CEO of Yallo Limited, Ms. Mercy Kyalo and Manager, Rukira VTC, Mr. Lawrence Magaci graced the occasion. During the training, the participants were taken through the leather value chain, emphasizing how to address the gaps identified during the survey. Further, most counties' stakeholders in the footwear and leather goods sector need a formal structure to support their activities.

The consortium is now gearing up for an exciting journey as they dive into the logistics of delivering Phases Two and Three of their transformative project, set to unfold in July and November 2024, respectively. These upcoming phases promise to be exhilarating as trainees will delve deep into the intricate art of leather footwear and leather goods manufacture. With a keen focus on bridging the skill gap prevalent in the sector, participants are poised to embark on a journey of discovery, unlocking the secrets to crafting quality leather products that resonate with craftsmanship and innovation. Get ready for a hands-on experience like never before as the consortium prepares to equip aspiring artisans with the expertise they need to thrive in the dynamic world of leather crafting.

DeKUT-KFC Film Hub: Where Imagination Takes Flight

The entertainment and creative industry is a vibrant landscape where imagination takes centre stage. It offers a spectrum of experiences, but gaming, filming, and animation stand out for their unique level of engagement. Gaming lets us become active participants in the story, films transport us to other worlds through a powerful blend of acting and visuals, and animation breathes life into the fantastical in ways static forms of entertainment simply can't. In entertainment, these three redefine how we experience entertainment.

One such vibrant space is the DeKUT-KFC Animation, Gaming and Film Hub, a collaborative venture between DeKUT and the Kenya Film Commission born in May 2020. This partnership fosters innovation in animation, video games, and African filmmaking. Situated within the DeST-Park ecosystem, being at the forefront of establishing a Digital Media City, the DeKUT Film Hub is a testament to the power of imagination and collaboration to push the boundaries of this ever-evolving industry.



Animation students after a Boot Camp at the hub



Our core mission revolves around capacity-building, technological innovation, and industry collaboration. We have conducted various training and mentorship programs through industry collaborations with entities like the Nyeri County Government and the Kenya Film Commission, including animation boot camps, film production workshops, and script-writing classes. These training opportunities have had an immense impact on the community. The Film Hub's boot camp training ripples outwards, creating positive change on both social and economic fronts. On a social level, it fosters a vibrant creative community. Aspiring animators, filmmakers, and game developers unite, share ideas, and learn from each other. This collaborative spirit not only fuels innovation but also strengthens the social fabric of the local creative scene. Economically, the boot camps empower graduates with the skills to secure rewarding careers within the booming entertainment industry. This injects a surge of skilled professionals into the workforce, boosting the local economy and contributing to Kenya's reputation as a hub for digital media creativity. One of the trainees had to say from one of the 3D Animation boot camps, "Coming to this animation boot camp has been like rediscovering a lost piece of myself. With all its responsibilities and detours, life had side-lined my love for animation. But here, surrounded by this creative energy and learning these incredible techniques, it's like a spark has been reignited. I am so glad I took up this opportunity."

As a hub of excellence, we always stand by our slogan, "Giving Wings to Your Story." What is your story?

The Film Hub isn't just a training ground for aspiring creatives but also for established talent. It has created job opportunities from which the creatives get their livelihood. The team boasts a roster of experienced animators, filmmakers, and game developers who bring their industrial knowledge and passion directly to the hub. Their dedication and creativity are unmatched, embodying Edgar Degas's quote, "Art is not what you see, but what you make others see."

The hub boasts of several achievements. Among them are the "Best Kids Production" award at the 12th Edition Kalasha International Film & TV Awards and the "DeKUT Coffee Documentary Production" and "Carlphabet Game" awards at the 13th Edition Kalasha International Film & TV Awards. We also did a promotional video for the Google Developers Group summit (GDG DevFest 2022). These honours testify to our dedication to quality and creativity in digital media.

As a hub of excellence, we always stand by our slogan, "Giving Wings to Your Story." What is your story?

New Programmes to be Offered at the Chemistry Department

The department of Chemistry has continued to develop and implement a number of programmes ranging from bachelors all the way to PhD. Her programmes are technological in nature and contribute to the research and development agenda of our country and beyond. The programmes have been carefully crafted to support the country's manufacturing agenda where the students acquire the modern techniques and technologies in emerging areas to offer industrial solutions to the challenges that they face.

The following programmes have been recently developed and are ready to be launched starting in May 2024:

1. PhD in Chemistry
2. MSc in Industrial Biochemistry

Students enrolling to these programmes will interact with our staff who have international exposure as well as industry exposure. We also have a track record of graduating our students within the stipulated time.

Other programmes that are currently being developed and will be submitted to the Commission for University Education are:

1. MSc in Medical Biochemistry
2. MSc in Material Science and Nanotechnology

All the above programmes are to benefit from the DeKUT existing infrastructure including DeKUT Science and Technology Park, DeKUT Comprehensive Cancer Management Centre, Semiconductor Technologies Limited, Origin Research and Innovation Labs (Called ORIGIN) and Financially Independent Centres (FICs). We encourage potential candidates to consider applying for these programmes and join the chemistry department at DeKUT.

A Taste of Programs in the DeKUT Startup and Incubation Centre

By Dr. James Wakiru, Director-DeSIC desic@dkut.ac.ke

Dedan Kimathi University of Technology (DeKUT) has consistently prioritized cultivating innovation and entrepreneurship within its academic community. The Dedan Kimathi Startup and Incubation Center (DeSIC) fosters student creativity and entrepreneurship. Functioning as a catalyst for transformative ideas, DeSIC plays a pivotal role in incubating these concepts until they evolve into viable startup ventures. Below, we review two recent programs exploited to enhance this objective.

DeSIC Incubation Programme

DeSIC's Incubation Program has advocated innovation and entrepreneurship, fostering entrepreneurs' growth and groundbreaking ideas. Tailored as an eight-week curriculum, this program is designed to equip participants with the essential skills necessary to nurture their concepts into businesses.



The first cohort commenced in September 2023, with the first quorum comprising 14 incubates. The participants were provided with training that enabled them to effectively navigate the complexities of business development, translating their ideas into tangible results. The comprehensive curriculum delved into various aspects of entrepreneurship, including creativity, marketing, business planning, and IP Protection. Participants were awarded certificates after the first cohort in November 2023.

With each successive cohort, DeSIC's Incubation Programme aims to cultivate a new generation of trailblazers poised to revolutionize industries and drive economic growth through their innovative ventures. As the program continues to evolve and expand, it remains committed to empowering innovators and catalyzing positive societal change.

In conclusion, DeSIC's Incubation Programme exemplifies the university's dedication to fostering a culture of entrepreneurship and innovation. Through its holistic approach to business incubation, the program has emerged as a catalyst for transformative change, empowering aspiring entrepreneurs to realize their dreams and impact the world.

The Second i2B Storming Night

The i2BTM (Idea to Business) concept was developed to address this vital need, providing a platform (Innovation Weekend) for students and staff to conceive, ideate, develop, and refine innovative ideas for starting a business.

The i2B Storming Night was held on the 15th of March 2024 at the Satima Block; this event served as a platform where innovators, primarily students, explore the intricacies of innovation.

DeSIC organized the i2B Storming Night with esteemed partners, including DeKUT faculty members, Konza Technopolis, KIPI, and the ICT Authority. The collective goal is to provide participants with a comprehensive and enriching experience beyond theoretical knowledge.

The DeKUT i2B Storming Night was a great networking opportunity since the participants met with like-minded individuals, founders, and other influential people and gained exposure to local startups. During the overnight event, 62 elevator pitches were presented and voted for; the selected nine elevator pitches had participants grouped around and could generate the product prototype and business model and, ultimately, the pitch deck with the help of mentors and coaches. Eventually, the winners (runners-up and second runners-up) were recognized and awarded. The judges and organizers noted a marked improvement in our students' maturity and knowledge in the innovation and entrepreneurial space based on the ideas, innovations, and pitch decks presented during the event.

The overarching goal for the i2B Storming Night was to entrench the startup process in the mindset of the participants and involve them throughout the entire process. Key aspects included starting with the end in mind, business modelling, mindset shift, and pitching. The DeKUT i2B Storming Night was very effective in creating a mindset change towards innovation and entrepreneurship among the students, enhancing multidisciplinary collaboration in problem-solving while sharpening entrepreneurial competencies and exposing the innovative side of our students in the entrepreneurial ecosystem.

The Crucial Role of the Network and Infrastructure Section in the DeKUT ICT Directorate

By Richard Kimanzi, Network Administrator, DeKUT ICT Directorate

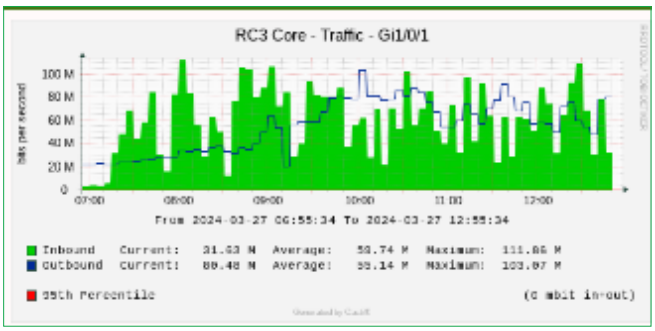
The Network and Infrastructure Section is domiciled within the Dedan Kimathi University Information and Communication Technology (ICT) Directorate. This section is pivotal in ensuring seamless internet connectivity and efficient operations across campus. This section is the backbone of the university's technological ecosystem, from providing internet access to supporting research endeavours. I wish to highlight the various roles and responsibilities that make the Network and Infrastructure Section vital in helping the core university functions.

First, the Network and Infrastructure Section establishes and maintains a robust computer network and IP telephony infrastructure throughout the university's main campus and Nairobi campus. This includes setting up wired and wireless networks,



LAN cable management in a data cabinet

routers, switches, and other networking equipment to ensure uninterrupted connectivity for students, staff, and faculty in classrooms, laboratories, the library, and administrative offices. The Network and Infrastructure team also manages the DeKUT ICT Data Centre. Various servers running systems that support various university functions are hosted in the data centre. This enables smooth academic and administrative operations aided by technology. The DeKUT ICT network infrastructure is anchored on



DeKUT ICT network traffic monitoring tool

the fibre optic backbone that connects all the building blocks within the university to the data centre. With a subscribed bandwidth capacity of 1018Mb/s, the Network and Infrastructure Section manages and distributes reliable internet connectivity to the over 9000 student population.

With the increasing prevalence of cyber threats and data breaches, safeguarding sensitive information and intellectual property is paramount. The Network and Infrastructure Section ensures security and data protection within the DeKUT. The section is tasked with implementing firewalls, intrusion detection systems, continually updating security patches & equipment firmware, continuous monitoring, and other security measures to prevent unauthorized access to the university's network while protecting against malicious activities. Moreover, the Network and Infrastructure Section is critical in disaster recovery and business continuity planning. By implementing backup systems, redundancy measures, and disaster recovery protocols, the section ensures that critical University operations can continue uninterrupted during natural disasters, system failures, or cyberattacks. This proactive approach to risk management helps safeguard the university's reputation, finances, and academic mission.

Additionally, this section supports various academic and research initiatives across campus. For instance,

the section collaborates with faculty members and research teams to set up specialized networks, virtual servers, Virtual Private Networks, and computing resources for data-intensive research projects. In collaboration with Kenet (The university's internet service provider), the Network and Infrastructure Section avails high-performance computing clusters for scientific simulations. Also, it facilitates access to online databases and digital libraries.

Furthermore, the Network and Infrastructure Section ensures maximum network uptime to support the university's administrative functions and operational efficiency. Web applications, the university enterprise resource planning (ERP) system, student/staff portals, institutional email services, the e-learning platform, video conferencing platforms, and cloud-based services are some of the services available to the university students, staff, and faculty through the DeKUT ICT network infrastructure. The section provides the technological backbone for administrative processes and streamlining workflows. This section facilitates enhanced operational efficiency and effectiveness across various departments and administrative units.

With the rapid pace of technological innovation, Universities must stay ahead of the curve and adapt to emerging trends in networking, cloud computing, the Internet of Things (IoT), and other areas. As such, another vital responsibility of the Network and Infrastructure Section is to plan for future technological advancements and scalability to accommodate growth and the ever-growing need for faster and more reliable connectivity. The section conducts regular assessments of the university's IT infrastructure, identifies areas for improvement, and implements strategic upgrades and expansions to meet the evolving needs and demands.

With the rapid pace of technological innovation, Universities must stay ahead of the curve and adapt to emerging trends in networking, cloud computing, the Internet of Things (IoT), and other areas

In conclusion, the Network and Infrastructure Section within the university's ICT directorate plays a multifaceted role in supporting the institution's academic, administrative, and research functions. This section is the cornerstone of DeKUT's technological advancement and digital transformation in the higher education sector. As universities continue to embrace technology-driven solutions and embrace the digital age, the importance of the Network and Infrastructure Section will only continue to grow in significance. The support of the DeKUT Management cannot be underscored; I wish to thank the University Management for their support in continually improving the ICT network infrastructure through budgetary provisions and the inclusion of the ICT function as a critical pillar in the roadmap to achieving the university's strategic goals.

Finally, I congratulate the April 2024 graduating class and wish them all the best in their future endeavours.

Artificial Intelligence and Machine Learning in Geosciences

With the rapid growth and development of artificial intelligence, it is tough for industries to ignore this new technology, and with more industries pouring more money into its development, all roads of the future look to be heading into an AI-driven future. Artificial Intelligence has opened up new thresholds for finding natural resources, mitigating natural hazards, providing software to help us understand the Earth, and so much more.

AI and ML have depth into geoscience, and how they help us in exploration include:

• Predictive Modelling

Predictive modelling is a mathematical process that predicts future events or outcomes by analyzing patterns in a given input data set. In sports, predictive modelling is the probability of Red Bull winning this year's F1 season based on the previous seasons' dominance and performance of their drivers. This is particularly useful in searching for natural resources like groundwater and minerals and predicting the occurrence of a natural disaster such as a volcanic eruption or earthquake.

Suppose there is a pattern for the occurrence of a resource, i.e., the frequency of hot springs in a geothermally active area, A. It can be used to create a model of the most likely resource, which reduces the time taken to reach a particular resource and the expense used to explore it.

• Real-Time Monitoring

Iceland is a volcanically active country; it sits on the mid-oceanic ridge with the Eurasian plate and the North American plate drifting away, meaning eruptions occur on average once every three years. To avoid loss of lives and property due to these eruptions, the Icelandic Meteorological Office (IMO) does live monitoring of volcanic activity with the seismometers and GPS stations placed around the country, providing real-time data to the public, which one can view in real-time in the IMO official website.

AI, in such situations, can be of great use since it can be used to analyze the data as it comes from the monitoring stations, interpret the data and model it, transmit it to a channel where it can be viewed by the public, all in a matter of mere seconds. Thus helping save lives and reduce the property damage that could have been caused by the eruption of a mountain and, to the surprise of the people living around it.

• Geophysical Imaging

One of the challenges of exploration of the subsurface is digging into the sub-surface of the Earth. Luckily, physics principles are crucial for understanding the sub-surface without excavating the ground.

Geophysical imaging is a non-destructive technique that investigates the subsurface of a terrestrial planet. Types of geophysical imaging include Electrical resistivity tomography, ground penetrating radar and magnetotellurics.

Algorithms are used to process data from seismic, electrical or magnetic instruments and create a 3D profile of the subsurface. This aids a geologist in locating where to drill for a water borehole, how to set up a dam on a river or where the oil is, all this while minimizing environmental damage of exploration.

• Management of Resources

Efficiency and management of resources are the cornerstone of every sustainable operation. AI algorithms can be optimized to do this, whether for drilling operations or mineral extraction. Maximum resource extraction with mineral wastage is the best way to achieve sustainability. It minimizes the money used on a project, its environmental impact, and the time spent on the project.

• Autonomous Robots and Drones

"In 1979, my twin Voyager 1 discovered active volcanoes on Jupiter's moon Io. Check this awesome view of two simultaneously occurring eruptions. Ash clouds are rising more than 260 km above the surface in the eruption on the lower right. The other is at the shadow line- V2." Read a tweet from the

official NASA Voyager Twitter account.

AI and ML are integrated into robots and drones. This helps us do the hard work of exploration, and sometimes, it is the only way to do the work of exploration.

Take the voyagers; they both have reached "interstellar space" and are very useful in exploring planets in our solar system; in 46 years, Voyager 1 has reached 162 AU from us, and Voyager 2 has reached 136 AU from us since the time of launch (if you want the distance in km multiply the number with 150,000,000). No human can currently cover 46 years of deep space travel. Thus, the two crafts are fitted with various instruments that collect data from objects in space and send it back to Earth. Algorithms control these instruments and the craft itself, and they help us explore space.
In this regard, AI helps explore remote, rugged regions from the depths of our oceans and into the great expanse of space.

Conclusion

AI and machine learning are rapidly growing concepts. As we continue to push into the future, it will prove more imperative for the idea to be assimilated into the expanding field of geoscience. From exploration to real-time monitoring to mitigating hazards, let's look into AI and ML as tools for unravelling mysteries and a way to a more sustainable and informed future.

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Which way with Generative Artificial Intelligence in Higher Education

By Dr. Kituku, An evangelist of generative artificial intelligence

Generative Artificial intelligence (AI) such as Chat GPT has been seen as a harmful technological disruptor in the academic sector, with educators being confounded to the extent that some stakeholders are banning its use. However, it's important to recognize we live in a technological-knowledge-driven economy, and the working environment in which we are preparing students is full of generative AI; thus, it's our duty as prescribed by the Kenyan constitution to prepare good citizens who can use generative AI responsibly and ethically.

History tells us that generative AI is not the only era being rejected by educators' other eras have been there before; today, they have become an essential ingredient of academics, for example. Computer technology disrupted pencil-paper and chalkboard-driven learning systems, forcing people to learn how to use computers to assimilate and disseminate knowledge. Today, the computer is a crucial gadget for tutors and learners to transfer and gain knowledge. The emergence of the internet and websites challenged tutors, who acted as the only custodians of knowledge and availed themselves of the so-called "online library" where students could gather much knowledge. The next era was the availability of mobile phones, which enabled online and mobile learning, allowing students to learn away from class and playing a pivotal role during COVID-19. The learning management system (LMS) will also enable students to learn away from mortar classes to achieve their goals. Consequently, this generative AI will be adopted in academic circles in a few years and contribute positively to knowledge transfer.

To spice the above up, before generative AI, Machine learning, a branch of Artificial intelligence, has been used by educators to identify students' learning characteristics and prescribe a personalized learning methodology, provide customized learning materials recommendations, content interactive conversations using a chatbot, Provide students feedback on specific tasks, checking plagiarism, Machine translation of education contents to reach broad community, etc. Therefore, it's clear the fear of generative AI is founded on unexamined truth, and we should embrace generative AI with both hands.

What can generative AI do to learners? It guides the organization and planning of learning or teaching by generating learning objectives and course outlines based on curriculum courses. It can be a concept explainer, synthesizer, and content retrieval for personalized learning. By generating questions and case studies, students can evaluate their state of being and what is expected of them. Furthermore, it can be a conversant learning agent for the students, enriching their interaction. Therefore, generative AI provides interactive and personalized learning pedagogies, which are ingredients for better students in knowledge transfer. These are a few examples: Generative AI can do more.

However, for the students to use Generative AI responsibly and ethically, I propose the following: Firstly, computers have always mimicked human beings, and consequently, human intelligence should come before artificial intelligence in the sense that pedagogy andragogy and heutagogy should direct the generative AI not the otherwise for it to have a positive impact. Therefore, students should use generative AI to supplement their learning, not replace it with it. Secondly, the learners should be aware that generative AI can generate non-specific, incorrect, biased, poor-quality output and even hallucinating, thus not all-knowing. Therefore, they should always validate their learning, or it should be done in a controlled manner. Plus, students should endeavour to improve the generative AI by applying the human-on-loop approach and be analytical and critical of the output. Thirdly, students need to learn that the power of generative AI lies in the prompt and, therefore, should be trained on how to generate specific, precise, and goal-oriented prompts that deliver meaningful output. Finally, universities should create generative AI policies stipulating when and not to use it.

I look forward to an environment where generative AI will become part and parcel of our lives in the future and lead to enjoyable learning.

Nurturing Digital Well-being: Finding Balance in the Digital Age

By: Maureen Kuhora

In today's hyper-connected world, where smartphones, social media, and digital devices are pervasive, constant information and notifications make it easy to become overwhelmed. While technology has undoubtedly revolutionized the way we live, work, and communicate, it's essential to prioritize our digital well-being to maintain a healthy balance in our lives.

While these advancements have undoubtedly brought numerous benefits and opportunities, they have also introduced new challenges. Digital well-being encompasses various aspects, including managing screen time, fostering healthy digital habits, and cultivating mindfulness in our use of technology.

The Importance of Digital Well-being

Digital well-being refers to our ability to manage and maintain a healthy relationship with technology, ensuring that it enhances our lives rather than detracts from them. Achieving digital well-being requires a conscious effort to establish boundaries, prioritize self-care, and cultivate mindful tech habits.

Practical Strategies for Finding Balance

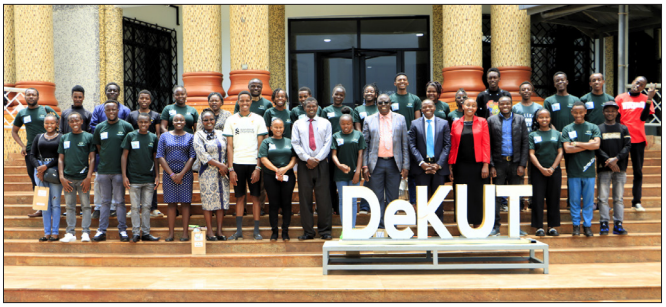
1. **Take Digital Breaks:** Schedule regular digital detoxes to unplug and recharge. Use this time to read a book, exercise or travel.
2. **Cultivate Digital Literacy:** Develop critical thinking skills and digital literacy to navigate the online world safely and responsibly. Stay informed about privacy settings, cybersecurity practices, and online etiquette to protect yourself and others online.
3. **Prioritize Real-Life Connections:** While digital connections are valuable, prioritize face-to-face interactions with friends, family, and loved ones. Invest time building meaningful relationships offline to foster a sense of connection and belonging.
4. **Manage Notifications:** Take control of your digital environment by managing notifications and minimizing distractions. Turn off unnecessary alerts and prioritize notifications from essential contacts or apps.
5. **Set Boundaries:** Establish clear boundaries around your digital usage, such as designating tech-free zones in your home, limiting screen time, and scheduling regular breaks from digital devices.

One challenge is finding balance in the digital age-a delicate balance between leveraging the benefits of technology and mitigating its potential drawbacks.

Finding balance in the digital age is a continuous journey that requires self-awareness, resilience, and a willingness to adapt to the ever-evolving digital world. By embracing digital well-being principles and adopting mindful technology habits, we can cultivate a healthier relationship with technology and reclaim control over our digital lives. Let's strive to strike a balance that honours the benefits of technology while nurturing our overall well-being in the process.

The Green Thumb Movement: Meet the Hands that Nurture Change

The Green Thumb Movement is a youth-led initiative pioneered by Dedan Kimathi University of Technology (DeKUT) students, who have operated under the Centre for Food Safety and Naturopathy (CeFoNa) since 2023. The Movement has been actively involved in setting up a therapeutic garden hub at the CeFoNa Demo Facility, establishing functional food crops, including herbs, fruits and vegetables used to process different therapeutic products, nutraceuticals and cosmetics.



GTM members and University Management

The youth, under the mentorship and coaching of Dr Monica Mburu, came together to promote regenerative agriculture under these goals:

- Create agri-climate entrepreneurship for green jobs, thus addressing youth unemployment- the students are eager to engage in farming as a business after completion of their courses for self-employment.
- Implement youth-focused climate-smart farming
- Enhance agricultural productivity through smart farming methods
- Develop products for wellness and healthy living

This is a testament to the power of young minds and hands, fueled by a passion for nurturing knowledge and a healthier future for themselves, their community, and the planet.



Vertical gardening

How Dedan Kimathi's Green Thumb Movement is Cultivating a Healthier Tomorrow



Herbal garden demo facility

Planting the Seeds of Change: *Achievements that Blossom Hope*

The Green Thumb Movement is already cultivating tangible results that inspire:

- **Functional Food Powerhouse:** In collaboration with Afyalishe Ltd Company, they've developed innovative functional food products – a delicious fusion of taste and well-being. Imagine nourishing your body with every bite, knowing these products were born from a commitment to health and sustainability.
- **Living Laboratories:** Stroll past the therapeutic gardens, vibrant with calming herbs and soothing flora. Witness the ingenuity of mobile gardens and grow bags overflowing with fruits, vegetables, and herbs. These aren't mere decorations; they're living laboratories showcasing the power of peri-urban and regenerative agriculture. Feel the soil beneath your fingertips, witness the magic of nature's cycle unfold, and rediscover the joy of cultivating your food in harmony with the Earth.
- **Empowering Minds:** The Green Thumb Movement isn't just about farming; it's about growing knowledge and nurturing future leaders in sustainable practices. By actively participating in workshops like "Idea to Business," they sharpen their skills to transform innovative ideas into impactful realities. Imagine the possibilities

as these students turn their passion for healthy living into solutions that benefit their community and inspire a generation.

Branching Out: *A Vision that Bears Fruit for All*



Showcasing the Vertical garden

The Green Thumb Movement's vision isn't confined to the university walls. Their roots are reaching out, seeking to nourish the wider community:

- **Healthy Drinking Paradise:** Envision a haven of well-being, a "Healthy Drinking Paradise" where locally sourced, possibly even Green Thumb-developed, products promote holistic health. Picture a haven where a refreshing drink isn't just a fleeting pleasure but a conscious choice that supports local farmers promotes sustainable practices, and nourishes your body and soul. Feel the positive ripple effect as this vision takes root, fostering a healthier community and a thriving local economy.

Seeking a Green Ally: This ambitious vision needs a helping hand to blossom. The Movement seeks an industry partner to amplify its impact and share its message with a broader audience. Imagine the potential of collaboration that takes healthy living mainstream, inspires a generation to embrace regenerative agriculture and ushers in a new era of sustainable food production.

Conclusion

The Green Thumb Movement is committed to promoting regenerative agriculture and functional products. The club plans to hold future events and workshops to educate the public further and encourage adopting sustainable practices. There is growing interest in sustainable food production and natural products in Kenya. We expect to see even more innovation in this field as awareness grows.



Showcasing some of the products.

If their vision inspires you, you feel a connection to the Earth or want to be part of something bigger, reach out to them. **(cefona@dkut.ac.ke, https://chia-project.dkut.ac.ke/cefona/).** Together, we can cultivate a healthier, more sustainable future, one sprout, workshop, and innovation at a time.

So, are you ready to roll up your sleeves and join the Green Thumb Movement? Let's nourish the change we want to see in the world together!

Enhancing the Dedan Kimathi Science and Technology Park (DeST-Park)
One Tree at a Time

The Dedan Kimathi Science and Technology Park (DeST-Park) is a premier Park, the first of its kind in East and Central Africa. DeST-Park pursues three thematic areas: Design, Materials and Manufacturing (DMM), ICT and Agri-tech. It operates in an ecosystem that brings together



Warbugia Ugadensis a native species planted at DeST-Park



Tree Planting during the STI Conference

five key players in the same space: The government, academia, industry, the environment, and society.

Once completed, the Park will be an autonomous unit with all the amenities within the Park. Among its many ambitious endeavours, the DeST-Park is embarking on transforming its landscape into an oasis of greenery and life. With over 3000 trees already planted, this greening initiative is not merely about aesthetics but also a commitment to sustainability.

Why Green and Beautify? Picture this: staring at your computer screen for hours, your mind swimming with data and reports. You feel a familiar pressure building—the need for a break from the relentless demands of the office. Then, you push back from your desk and step outside the sterile walls into a haven unlike any other—a vibrant outdoor space teeming with life. Imagine towering indigenous native trees, their branches a symphony of dappled sunlight and cool shade, and well-manicured lawns. The air hums with the melody of birdsong, each chirp and trill a soothing balm to your focused mind. As a gentle breeze rustles the leaves, calm washes over you. This is not just a break from the office; it's a portal to a world of rejuvenation. Studies even suggest that this verdant escape might unlock the hidden potential within you. Surrounded by the symphony of nature, your focus sharpens, and your creativity blossoms. Ideas that seemed elusive before suddenly come into view, clear and vibrant. This is the magic DeST-Park is weaving through its ambitious greening initiative.

Recently, the US ambassador Meg Whitman visited our anchor clients, Semiconductor Technologies Limited where discussions were held on the agenda of expanding semiconductor manufacturing in the region. The ambassador also observed that DeKUT and DeST-Park are shaping up as the Silicon Savanna where research facilitates innovation and attracts venture capital to development technology companies, just like the Silicon Valley that is hosted by Stanford University.

But the magic of greening goes far beyond our well-being. Trees act as the lungs of our planet, filtering pollutants from the air we breathe and releasing life-giving oxygen. They play a crucial role in regulating the local climate, mitigating the effects of urban heat islands, and providing much-needed shade. Additionally, trees are vital for healthy water cycles by absorbing rainwater and preventing soil erosion. In this way, DeST-Park's greening initiative transcends

the boundaries of the DeST-Park itself, contributing to a cleaner, healthier environment for the entire ecosystem.

The Carefully Chosen Species: The greening initiative focuses on indigenous species native to the Kenyan landscape. These trees offer a multitude of advantages over their exotic counterparts. Why indigenous species? Firstly, indigenous trees are perfectly adapted to the local climate and environmental conditions. This translates to less maintenance, reduced water needs, and a higher chance of survival and flourishing over time. They are naturally resilient to pests and diseases in the local ecosystem, requiring fewer chemical interventions.

Secondly, these native trees support and nurture the pre-existing ecosystem. They provide essential food and habitat for native birds, insects, and small mammals, fostering biodiversity and promoting a healthy ecological balance. Lastly, indigenous trees often have cultural and historical significance, serving as essential local identity and heritage symbols. The trees include species like Grevillea rubosta, Croton megalocarpus, Warbugia ugandesis, Podocarpus falcatus, Spathodea campanulata (Nandi flame), Vitex keniensis (Meru oak), Juniperus procera (Cedar), Markhamia lutea, Olea capensis, Prunus Africana, Casuarina equisetifolia, Acokanthera schimperi, and Teclea simplicifolia, among others. "Each tree planted at DeST-Park represents more than just an addition to the landscape; it's a diverse array of Kenya's rich flora, and each tree contributes to the DeST-Park's unique ecosystem."

Maintenance of the trees. Planting trees is just the first step in DeST-Park's ambitious greening initiative. A dedicated and comprehensive maintenance program ensures these trees survive and flourish, ensuring their continued success. The maintenance practices include:

- **Regular watering:** While rain plays a vital role, irregular weather necessitates consistent watering. This guarantees our trees receive the moisture they need to establish robust root systems.
- **The Power of Mulch:** Mulch serves as a multi-purpose guardian for our trees. It significantly reduces water loss through evaporation, hindering weed growth, regulating soil temperature, enhancing soil quality, and preventing erosion. Implementing mulching practices is crucial for optimal tree health.
- **Nourishing with Fertilizer:** Fertilizer application provides essential nutrients for our trees, promoting healthy and robust growth. Fertilizer can be directly applied around the base of the trees after planting.
- **Guarding Young Trees:** Shielding is paramount, especially for saplings, as it safeguards them against external threats like harsh weather, grazing animals, and human activity. Grazers frequent the DeST Park grounds, so shielding the trees is vital for long-term survival.
- **Maintaining Weed-Free Zones:** Regular weeding is an essential practice. Clearing weeds around the trees eliminates competition for water, nutrients, and sunlight, allowing the trees to thrive. Consistent weeding is being implemented to ensure the saplings' success.

From Risk Models to Radishes: My Green Thumb Odyssey with a Dash of Chutzpah

by Joshua Gichana

Imagine a student buried in actuarial science, his nights haunted by probabilities. Now picture him knee-deep in rich soil, his hands calloused but content, coaxing life from the earth. That's me, Joshua Gichana, leader of the award-winning Green Thumb Movement at DeKUT. It wasn't sunshine and rainbows. Juggling complex coursework with nurturing a fledgling project felt like a high-wire act – exhilarating but terrifying. Remember that feeling of being stretched thin, pulled in a million directions? Yeah, that was my life.

But here's the secret weapon: a heaping helping of chutzpah! That unshakeable confidence, some might call it audacity, fueled my belief that this could change things. It wasn't just about a cool campus garden; it was about healthy living, innovative food, and a sustainable future. Armed with this chutzpah, I took a leap of faith.

One guy with a head full of numbers wouldn't get very far. That's when I realized the magic of collaboration. Enter Jackson Makato, my partner-in-green, whose enthusiasm could light up a whole shamba! Together, we assembled a dream team – the "activators." There's Lewis, the science whiz who ensures our practices are rooted in solid principles. Peris, our very own cheerleader, whose enthusiasm is as contagious as a ripe tomato! We have Felix, the design maestro who transforms our plots into visual feasts, and Grace, the culinary mastermind behind our healthy and delicious creations. Lynn, our nutritionist guru, has helped in scaling out with her knowledge-packed interviews at stations like EBN Tv, and Jackson, our energizer bunny, keeps the project running smoothly. As Jackson would say, "Ni nguvu pamoja! (There's strength in unity!)"

Sure, I was comfortable with risk models, but leading a team meant acquiring new skills. Time management became my mantra, juggling classes with meetings, planting schedules, and workshops. Who knew a student of actuarial science could become a master of delegation and communication? I learned to trust my team, allowing Lewis shine with his scientific knowledge, and Peris to connect with the campus community through her infectious enthusiasm.

But our message needed to reach beyond the garden. I learned the power of graphic design for marketing, creating eye-catching posters and presentations to capture attention. We even co-created a club bash with another group, proving collaboration is key! Dr. Monica has been our guiding light – mentor, cheerleader, and sometimes even our voice of reason.

Graduation is on the horizon, and it's bittersweet. But the Green Thumb Movement's story is far from over. I'm leaving behind a strong, passionate team who are ready to take the project to even greater heights. The skills I've learned – time management, communication, and the power of collaboration – will stay with me. But the lessons learned through the Green Thumb Movement, the sense of community, and the impact we've made, will hold a special place in my heart.

This is your story too. As Jackson likes to say, "mbuzi hufungwa na utamaduni ukifunga haiwezi kula (Goats are bound by culture and cannot eat!)" Do you have a dream tucked away, a passion yearning to sprout? Don't let fear or doubt hold you back. Find your chutzpah, gather your team, and watch your dreams blossom into reality. Just like mine did.

The concept of research and types of research in security management

By Col (Rtd) Dr Theuri, DSyRM Reader

Human beings possess a brain intricately linked to the external environment through five primary sensory organs: the eyes, skin, nose, ears, and tongue. Each organ communicates with the brain via the nervous system, relaying external stimuli. The brain processes these sensations, categorizes them into themes, and draws unbiased conclusions. Data received by the brain from these organs can be quantitative, qualitative, or a blend of both. These sensory mechanisms help individuals comprehend the natural world, make informed decisions based on stimuli, adapt to environmental changes, suggest strategies for enhancing the quality of life, and deepen understanding of phenomena, focusing on cause-effect relationships and variance analysis.

These sensory inputs, or "bits of reality," are interpreted by the brain as numerical data (frequency, mode, mean, median, standard deviation, skewness, or kurtosis), or in textual form (qualitative), or a combination thereof.

Quantitative Data

Quantitative data are numerical and can be counted. The fundamental assumption underlying their acquisition is that the world can be objectively understood, with humans and reality being distinct entities. Today, numerous software tools facilitate the visualization and analysis of quantitative data, including Statistical Package for the Social Sciences (SPSS), Excel, Python, R, Stata, JMP, and SAS. SPSS is particularly prevalent in social sciences research. However, grasping the significance of quantitative data often requires identifying relevant issues related to the phenomenon being studied, a skill not commonly taught in classrooms. Research methods aligned with quantitative data adhere to the positivism paradigm, including experiments, observations, surveys, case studies, correlational studies, and comparative research.

Qualitative Data

Qualitative data are textual and cannot be quantified. The fundamental assumption underlying their acquisition is that the world can be subjectively understood, with humans and reality seen as one. Qualitative data analysis software enables visualization and analysis, such as NVivo, Questioner, MAXQDA, Quikos, Raven's Eye, Dedoose, and Ligre. NVivo is widely used in social sciences research. However, the accessibility of such tools is often limited and controlled by developers. Grasping the meaning of qualitative data requires identifying pertinent issues related to the phenomenon under study, a skill aligned with the constructivism or subjectivism paradigm. Research methods for qualitative data include surveys, case studies, ethnography, grounded theory, historical analysis, interviews, focus group discussions, and observations.

Mixed Data

Mixed data encompass both qualitative and quantitative data. The assumption is that the world is complex, and understanding a phenomenon requires inputs from various sources. Research methods aligned with mixed data typically adhere to critical and pragmatic paradigms.

Threats posed by Improvised Explosives (I.E.s) and Improvised Explosive Devices

By: Col (Rtd) Dr D.W Theuri, DSyRM Reader

Since 2012, Kenya has witnessed several high-profile terrorist attacks, including the U.S. Embassy attack in 1998, the Kikambala Hotel Bombing in 2002, the Westgate Shopping Mall Siege in 2013, and the Dausset Hotel attack in 2020. The escalation in the use of improvised explosive devices (I.E.D.s) in Kenya's North Eastern and Coast regions is particularly alarming. Explosives, chemical substances that detonate or deflagrate upon ignition, are commonly used by terrorists in crafting I.E.D.s. These substances encompass military explosives, commercial explosives, homemade explosives, and improvised explosives.

Military explosives are concealed explosives used in military operations manufactured by licensed industries with known chemical compositions. However, terrorists acquire them through deceit, smuggling, or theft. Commercial explosives utilized in construction, excavation, or agricultural sectors are obtained similarly and possess known chemical compositions. Homemade explosives are manufactured clandestinely, with methods available on the internet.

An improvised explosive device (I.E.D.) is a bomb designed by terrorists to destroy, incapacitate, harass, or distract. I.E.D.s vary in design and may contain various initiators, detonators, penetrators, and explosive loads. They are classified based on how they are conveyed and concealed, such as vehicle-borne improvised explosive devices (VBIEDs), personnel-borne improvised explosive devices (PIEDs), suicide-borne improvised explosive devices (SBIEDs), animal-borne improvised explosive devices (ABIEDs), and drone-borne improvised explosive devices (D-IEDs).

Types of explosives used by terrorists include Ammonium Nitrate Fuel Oil (ANFO), Triacetone Triperoxide (TATP), Semtex, C-4, Ethyl Glycol Dinitrate (EGDN), Urea Nitrate, and Smokeless Powder. The use of I.E.D.s has increased globally in the past two decades, targeting public places and a wide range of targets. These devices can be hidden, delivered by humans, transported in vehicles, mailed/shipped, and detonated directly through pressure or remotely via timing or remote control. In the event of a terrorist attack, measures to minimize casualties include:

a) **Hide:** Seek cover to avoid victimization, minimize noise in communication, use SMS for communication, and maintain hope for rescue.

b) **Run:** Escape quickly from the vicinity of the attack towards police stations or known safe areas without losing direction.

c) **Fight:** If cornered by terrorists, act aggressively using available resources to fend off attackers and protect others from harm.

Institute of Criminology, Forensics and Security Studies (ICFoSS) Visit to the Directorate of Criminal Investigation (DCI) Headquarters

By Col (Rtd) DW Theuri: Researcher

Lecturers from ICfoSS visted DCI headquarters for a presentation by Col (RTD.) Dr. Donald Theuri. The above images show the settings and the presentations of the doctoral research findings conducted at the National Police Service Dog Unit and the Defence Canine Regiment from 2018 -2023. The research aimed to establish the competence of explosive detection dogs (EDDs) in responding to command words and detecting concealed explosives.



An empirical method of studying explosive detection dogs in their training and operational settings, which has been lacking, was designed by the researcher; the dependent and independent variables in the EDDs praxis were also identified, and the study assessed a large sample size of EDDs and their handlers in a field rather than laboratory setting depicted by the existing EDDs literature.

The findings established that the sample size of 89 teams that participated in this research obtained a mean time of 1 -10s in responding to the three command words: 'Sit', 'Heel', and 'Search', indicative of their training competency in executing these command words. However, the sample was' fast' in executing commands: 'Sit' and 'Search' and slow in implementing the command word 'Heel'. The sample also obtained a meantime of between 1 -10s in detecting three concealed 'genuine' explosives: Detonator Cord (Det –cord), Trinitron –toluene (TNT) and Plastic explosive No –4 (PE -4). The sample also obtained similar meantime in detecting three 'inert {pseudo} explosives: Ammonium Nitrate fuel oil (ANFO), Trice ton Tri-peroxide (TATP) and Sodium Chloride. However, results established that the sample was 'fast' in detecting the three concealed 'genuine' explosives and was slow in detecting the three concealed inert explosives. This study recommended adopting the research method designed by the EDDs training institutions to improve the current EDDs praxis in Kenya



Dedan Kimathi University of Technology Financial Aid Office (DeFAO)

By Dr. Majory Nyaga, HoD, DeFAO

Dedan Kimathi University of Technology Financial Aid Office (DeFAO) was established as a one-stop shop for handling DeKUT financial aid programs, thus enabling needy students to complete their academic programs without or with minimal disruptions. The office assists students with financial needs, including fees, rent, food, and upkeep. The office conducts due diligence to increase the chances of identifying deserving students for support. The office explores both internal and external financial aid programs, as shown below:



The 2023/2024 Nobelity Project scholars, when receiving their laptops paid for by the donor

Internal Financial Aid Programs

i. Work Study: University work-study programs are designed to allow students to earn money while gaining valuable skills and experience while still pursuing their studies. The students can use work-study earnings to pay for meals in the University Student's Mess, accommodation in the internal hostels, fees for those with a fee balance, and fees for those without fee balances, which are given cash. Over 400 students benefit from the program annually, earning close to Kes. 2,000,000.

ii. University Bursary: A university bursary is a monetary award given to needy students requiring financial assistance to meet the cost of their education, usually tuition fees. DeKUT bursaries are awarded once or twice a year, depending on the budgetary allocations. The first tranche of the 2023/2024 University Bursary benefitted 23 students in November 2023. The second tranche is ongoing with a plan to assist students with the May-August 2024 fees since they do not expect any HEF funding during that semester. Over 100 students benefit from the university bursaries each year to a total of Kes. 1,000,000

iii. DeKUTSO Bursary: The Dedan Kimathi University of Technology Students' Organization (DeKUTSO) also supports needy peers. In November 2023, the student body awarded 2023/2024 DeKUTSO bursaries to 23 students, amounting to Kes. 180,000.

iv. Internal Hostels on Financial Grounds: DeKUT hostels are convenient, safe, and affordable student accommodation options. However, the spaces are few, making them mostly reserved for students with special needs such as medical, physical, and financial. DeFAO conducts due diligence on students seeking to access the internal hostels on economic grounds to increase chances of assisting deserving students.

v. Staff Donations: Many DeKUT staff and students come to aid needy students, especially those around their circles. They give support through cash donations to cater for meals, accommodation, and fees. Some

lecturers have committed their part-time earnings to pay fees for disadvantaged students, mainly from their departments. Some students mobilize other peers in their classes, hostels, clubs, and especially those from faith-based communities to donate to vulnerable colleagues on compassionate grounds. Over 100 students benefit from this arrangement every semester. Staff and students are encouraged to confirm the students' neediness from the relevant offices before giving the support. There are instances where students who have misused their money pose as needy. This can only be confirmed during the due diligence process.

vi. Financial Literacy Training: Financial literacy is an essential life skill that helps individuals to manage their finances effectively. DeFAO conducts these training sessions during coffee hours and other organized forums, such as empowerment training. Tips on sources, use, and money management skills are shared.

External Financial Aid Programs

For this category of students, their funding model was based on the differentiated unit cost (DUC) model, where scholarship was automatic and based on the price per program. Students were only required to apply for the HELB loan to a maximum of Kes. 60,000. The vulnerable students are also awarded a HELB bursary to a maximum of Kes. 8,000 per annum. For the FY 2023/2024, 4850 DeKUT students have benefited from HELB loans under this category.

Students who sat for their KCSE in the year 2022
This category of students was financed under the New Funding Model. Students placed at the University by the Kenya Universities and Colleges Central Placement Service (KUCCPS) only qualified for the Scholarship and HELB loan upon application. Students who joined under the Self-Sponsored Program (SSP) qualified for only HELB loans. They were categorized into five bands depending on the neediness level. 1788 DeKUT students have so far benefitted under this category.

Further, the HEF portal has been opened to appeal for band review. DeFAO has so far assisted over 80 students in appealing. The office reaches out to both HELB and UFB on behalf of students on HEF matters with positive responses accordingly.

CDF and County Bursaries

These are awarded to needy and deserving students through Members of Parliament (MPs) for the Constituency Development Fund (CDF) and Governors for the County Bursaries. DeFAO has links with the 47 counties through a WhatsApp forum from which the office gets timely information about the advertisement, public participation, and awarding of these bursaries. Many DeKUT students have benefitted from these bursaries. For FY 2023/2024, most of the County & CDF bursaries were rolled out in January and February 2024 due to budgetary issues. On average, over 3,000 DeKUT students benefit from CDF and County bursaries p.a.

i. Sponsored Accommodation: Also known as free accommodation. The university sources for these spaces on behalf of the needy students, which come in the form of bed space in a hostel set-up or full boarding in a home set-up. Many of these sponsors come from accredited private hostel providers who only provide free bed spaces. In a home set-up, the student lives with a family and thus enjoys full boarding facilities. The student is made to sign a Sponsored Accommodation Agreement Form, which spells out the responsibilities of both the donor and the student. On average, ten students benefit from this program every semester.

ii. Individual and Corporate Sponsors: Individual and corporate donors support DeKUT students through scholarships, grants, and other financial aid programs. DeFAO has a database of about 30 such sponsors. Most of their support is restricted to specific students. However, a few donors have offered support through open bursaries, nominees of whom have been identified through the University.

Conclusion

DeFAO takes this opportunity to express appreciation to all our partners who have supported needy students in one way or another. Special gratitude goes to our internal and external donors, who not only brought a smile to the faces of our vulnerable members but also helped DeKUT fulfil its promise of assisting students in the timely completion of their courses regardless of their financial backgrounds.

DeKUT Office of Career Services

By Dr Daniel Njoroge & Vincent Magu

In the ever-evolving landscape of the modern labour market, the proliferation of online work opportunities has become the cornerstone of the digital economy. As the boundaries of traditional employment are becoming increasingly blurry, embracing flexibility and global connectivity offered by online work has become imperative for both students and graduates alike. At the cusp of the 16th graduation edition, it is essential to recognize the transformative power of the digital economy. Technological advancements have catalyzed the evolution of work and entrepreneurship, paving the way for unprecedented opportunities, particularly in online work.

Online Workers Meet–Up

At the Office of Career Services, we have embraced this digital shift and proactively support our students in navigating this new frontier through the DeKUT Ajira Digital Club. Recognizing the growing importance of online work, we set out to create avenues for connection, collaboration, and community building. One such endeavour occurred in the first Lower Central Region physical online workers community meet-up on our main campus on 17th November 2023. The idea was simple yet profound: to unite diverse talents engaged in online work, providing them an opportunity and platform for networking, learning, and mutual support. The event was spearheaded and organized by Ajira Digital in collaboration with DeKUT and attracted 163 students from 4 tertiary institutions. Students were introduced to different online platforms to explore online work, areas of online work, how to sign up, and how to get paid. The attendees were privileged to hear the experiences of students already earning from online work, their journeys through this frontier, and the challenges and successes that they have had.

Lower Central Region Online Workers Meet-Up, Nov 2023

DeKUT's Inaugural Career Fair

Excitement is brewing as we gear up for the Inaugural Career Fair at DeKUT. Set against the backdrop of a rapidly evolving job market economy and business environment, the event promises to be a pivotal moment for our students' academic journeys and career prospects. The Career Fair is more than just a gathering of employers and job seekers. It provides opportunities such as exposure to diverse career opportunities, networking, and an introduction to a diverse pool of companies and industries you may have yet to consider.

Remember, your time at DeKUT is not just about academic excellence but holistic growth and preparation for the world beyond campus. The Career Fair is a stepping stone towards realizing your dreams and aspirations, building and maintaining networks, and setting the stage for a fulfilling career.

Be on the lookout for a time of discovery, inspiration, and endless possibilities. Your future awaits, and the DeKUT Career Fair is here to ignite your journey.

Congratulations to the graduands; keep in touch with the careers office and get actively engaged as an alumnus for the opportunities that may arise through **careerservices@dkut.ac.ke**

DeKUT hosted the Dialogue on Innovative Higher Education Strategies (DIES) Africa Regional Workshop on Management of Internationalization



The training course "Management of Internationalization" is organized within the scope of the DIES programme (Dialogue on Innovative Higher Education Strategies) and is implemented by Leibniz Universität Hannover. DIES is a joint initiative of the German Academic Exchange Service (DAAD) and the German Rectors' Conference (HRK), which aims to support higher education institutions in developing countries to improve their university management and further enhance the quality and relevance of study programmes. DIES training courses are central tools for achieving these aims. They offer modular, practice-oriented continuing education opportunities for university staff at different management levels. Managing internationalization processes is crucial for higher education institutions in today's global knowledge society. Building up or strengthening structures, processes and competencies that facilitate robust, efficient and sustainable international activities prepares universities in developing countries for their activities in the internationalization arena.

The workshop drew participants from eleven countries within Africa and beyond. The DIES training course "Management of Internationalization" has been designed to enable the participants to build effective structures of internationalization at their home institutions after participating in the training. DeKUT, having hosted this workshop, is making tremendous progress in fostering regional and global internationalization.

Innovative Sparks Ignite Sustainability at the Institute of Tourism and Hospitality Management

By: Dr. Peninah Chege

In an era where sustainability is not just a buzzword but a pressing necessity, educational institutions play a pivotal role in nurturing a culture of innovation and creativity to address the challenges facing various industries. Dedan Kimathi University's Institute of Tourism and Hospitality stands at the forefront of this endeavour, pioneering initiatives that blend ingenuity with sustainability to shape the future of the hospitality and tourism sectors.

One of the standout achievements of the institute was the recognition received at the 2024 Sustainable Tourism Travel Agenda for an essay written by one of our students on the benefits of sustainably grown, farmed, and processed coffee. This poster presentation highlighted the environmental advantages of sustainable coffee production and emphasized its economic and social benefits. Such initiatives educate students and contribute to shaping the industry's practices towards sustainability.



Poster on sustainable coffee

Moreover, the institute's students have proactively fostered collaborations to accelerate Sustainable Development Goals within the tourism industry. Their engaging presentations on tourism collaborations garnered attention and sparked meaningful dialogue among industry stakeholders, showcasing the potential for collective action in driving sustainability agendas forward.



Poster on U-innovative business ideas

In the spirit of nurturing entrepreneurship and innovation, students organized a dynamic business expo where creative minds showcased their ground-breaking ideas. Among the standout concepts was the avocado cake, which captured the imagination and exemplified the fusion of sustainability and culinary innovation.

But the pursuit of sustainability extends beyond just cuisine. Recognizing the intrinsic link between



Students presentation on tourism collaborations at the STTA, March 2024

sustainability and wellness, students organized a culinary wellness event. Here, attendees were treated to sumptuous dishes and educated on making sustainable food choices throughout the lifecycle, reaffirming the institute's holistic approach to sustainability education.

Furthermore, the institute embraced the power of events as platforms for showcasing sustainability initiatives. The book launch and Miss Tourism 2024 events served as arenas where students demonstrated their prowess in organizing green events and conferences aligned with the Sustainable Tourism and Travel Agenda. These events celebrated creativity and served as catalysts for inspiring sustainable practices within the broader community.

Lastly, to ensure students are equipped with the latest trends and skills in hospitality, the institute organized alum events where former students shared insights on current trends, particularly in sustainable hospitality. By learning from industry professionals, students gain valuable knowledge and expertise to remain relevant in an ever-changing industry landscape.

In conclusion, the Institute of Tourism and Hospitality Management is not just shaping future leaders in the hospitality and tourism sectors; it's fostering a culture of creativity and innovation deeply rooted in sustainability. The institute is charting a course towards a more sustainable and resilient future for the hospitality and tourism industries through ground-breaking initiatives, collaborative partnerships, and a commitment to excellence.

Celebrating Growth and Innovation: Dedan Kimathi University of Technology's School of Health Sciences

The Dedan Kimathi University of Technology's School of Health Sciences (SoHS) has been on an impressive trajectory of growth and innovation since its inception. From its humble beginnings with just ten students enrolled in the BSc Nursing program in June 2011, the school has flourished into a thriving community with a student population of 400 in the BSc Nursing program alone by the year 2024.

Expansion of Academic Offerings

Continuing its commitment to excellence, the SoHS has recently proposed two pioneering postgraduate programs: the Master of Science in Nursing (MSN) and the Master of Public Health (MPH). This marks a significant milestone for the University and the region, as it will be the first to offer these esteemed postgraduate programs.

Establishment of New Divisions and Departments

Under the umbrella of the SoHS, plans are underway to establish a Center for Health Research and Innovation (CHeRi). While awaiting approval from the University Council, this initiative promises to revolutionize the University's role as a leading hub for health research in the region.

Research and Innovation

The faculty members of SoHS are actively engaged in locally relevant research endeavours. Among these efforts is a study focusing on cancer prevalence and epidemiological characterization among patients attending Nyeri County and Referral Hospital, Kenya. This research underscores the school's commitment to addressing pressing health concerns within the community.

Moreover, the school has secured prestigious research grants to support its endeavours. One such project, titled 'Measuring Household Energy Use and the Construct of Cardiovascular Health in the Kenya Brain and Heart Health Study,' has been awarded funding by the EMORY GLOBAL HEALTH INSTITUTE. Another project, 'Sociodemographic predictors and cardiovascular correlates of age-related cognitive impairment in mid-life and elderly community-dwelling Kenyans,' has received support from the Healthy Lifestyle Institute at the University of Pittsburgh. These grants recognize the calibre of research conducted at SoHS and provide invaluable resources to advance its mission.

Looking Ahead

As the School of Health Sciences at Dedan Kimathi University of Technology continues to grow and innovate, it remains steadfast in its commitment to excellence in education, research, and community engagement. With its expanding academic offerings, establishment of new divisions, and groundbreaking research initiatives, SoHS is poised to make significant contributions to the field of health sciences both locally and globally. As we celebrate the achievements of our graduates, we also look forward to the continued success and impact of SoHS in the years to come.

Embracing Diversity and Learning on the Rails: My Internship Journey in Deutschland

From the silent streets of Zittau to the bustling railway stations of Deutsche Bahn, my internship in Germany was a journey filled with extraordinary, unexpected encounters and invaluable lessons.



My fascination with Germany's rich history and innovative engineering drew me to pursue an internship in this captivating country. Inspired by the experiences of other IAESTE members who had ventured through similar paths, I embarked on a journey that would expand my professional horizons and enrich my understanding of different cultures.

Nestled in the picturesque region bordering Poland and the Czech Republic, Zittau welcomed me with its quaint charm and vibrant community. Here, I encountered the most defining moment in my internship – a meeting with Dr. Daniela Gerd, a distinguished figure in railway technology. As a member of the Management Board for Digitalization and Technology in Deutsche Bahn, Dr. Gerd's insights into the future of digital railway systems left an indelible mark on my understanding of the industry.

Throughout my internship, I delved into the intricate workings of railway transport infrastructure, focusing on the expansion of digital systems in Germany. From digitalization to automation in the planning and operation of command control and signalling, each project and task provided a deeper insight into the complexities of modernizing one of the world's most renowned railway networks.

Yet, amidst the technical challenges and professional growth, the unexpected encounters truly shaped my experience. Adjusting to life in a foreign land, I found solace in the camaraderie of fellow interns from diverse corners of the globe. We navigated language barriers and cultural differences together, forging bonds that transcended borders and enriched our perspectives.

Beyond the confines of my internship, Germany's central location offered boundless opportunities for exploration, from skiing adventures in the Ore Mountains in Saxony to traversing the historic streets and museums of neighbouring countries such as Austria, the Czech Republic, The Netherlands, and Poland. Each excursion provided a glimpse into the rich tapestry of European culture and history.

Reflecting on my time in Germany, I am grateful for the invaluable lessons learned and the friendships forged. My internship exceeded all expectations, challenging me to embrace diversity, foster teamwork, and broaden my horizons. I offer advice to those considering a similar journey: seize the opportunity, embrace the unknown, and embark on a transformative adventure that will shape your future in ways you never imagined possible.

As I bid farewell to Germany, I carry memories of a journey filled with growth, discovery, and the enduring spirit of camaraderie. Though my time as an intern may have ended, the lessons learned and experiences gained will continue to guide me on the rails of life's journey.

I will forever be grateful to IAESTE Kenya and DEKUT for the great opportunity, and as they say it here, Danke schön!!

IAESTE Internship at The Swiss Federal Laboratories for Materials Science and Technology (Empa), Switzerland

Grüezi Mitenand! Writing about Switzerland is never enough in a single briefing. The land is beautiful, from the alpine mountains, many lakes, beautiful cities, and beautiful infrastructure to the welcoming community of hardworking Swiss residents. It is a small country but a dream country to visit, hosting great international institutions, including FIFA headquarters in Zurich and WHO headquarters in Geneva, among many other institutions.

Figure 1: Beauty of Switzerland. (a) Lake Zurich, in Zurich city (b) Lake Geneva, in Geneva city (c) Rhine Falls, the most significant waterfalls in Europe, at Schaffhausen city (d)World Health Organization Headquarters, Geneva city.

The Internship

The opportunity to intern at the Swiss Federal Laboratories for Materials Science and Technology (Empa) offered me great exposure and efficient transfer of multiple skills as a research student. Thanks to IAESTE Switzerland, IAESTE Kenya, DeKUT and Empa for the opportunity. I worked at the Laboratory for Acoustics and Noise Control in the building acoustics section of the Materials and Systems department. The work involved vibroacoustic simulation of the cross-laminated timber structures using finite element software Ansys Mechanical. The simulation was followed by laboratory experiments, modal fitting to extract modal parameters and model updating. It was an exciting journey of discovering the power of finite element analysis (FEA) and the use of technology to achieve critical insight regarding acoustics and noise control. The teamwork and presentations across departments during the monthly seminars were an exciting chance to meet and learn from engineers and scientists working on aircraft noise and railway noise research, among other noise pollution and mitigation areas.

Additionally, the extra tasks on collaborative programming with my supervisor were an opportunity to sharpen my Python programming skills and improve my knowledge and skills in MATLAB programming. Indeed, the internship allowed me to work in a high-tech and results-oriented environment. I was allowed to contribute to the team and learn from the team.



Lake Zurich, in Zurich city



Lewa Savannah, in Zurich Zoo

General Experience

Living in Switzerland is indeed interesting. The country has efficient systems, from transport to medical to research, among other systems. There has not been a single time I have heard of a 5-minute delay in the train or bus, which are the primary means of public transport in the country. The efficiency of the transport guarantees planning, as you are always sure when you take a specific connection, you arrive at your destination at the scheduled time.

The country has four national languages: German, French, Italian, and Romansh, with German, French, and Italian being widely spoken as official languages. It has four seasons, with each season having its beauty. Winter has snow, and every plant almost turns leafless due to the low temperatures, with the sun setting as early as 4.30 pm! Transition to summer has beautiful flowers in spring, then plenty of sunshine in summer.

The country has lovely scenery and suitable sites for tourism, hiking, skiing, and ice skating. Zurich, for example, is the largest city in the country, in the Limmat Valley. The city has such high points as Uetliberg, from which one can have a panoramic view of the whole city and the alpine mountains far off as well. Additionally, the city has one of the largest zoos, the Zurich Zoo. It is fascinating that a section is dedicated to the Kenyan Lewa Savannah, the Lewa National Conservancy. While in this zoo, one feels proud to be a Kenyan.

DeKUT Team Building Activities

By Dr. Peter Kariuki, HoD, HR and Mr. Mwai Kennedy (Outdoor Pursuits' Instructor)

Why are team-building activities so vital to us in DeKUT?

The Constitution of Kenya encourages national cohesion and integration among staff in workplaces. This is, however, not the main reason we arrange team building activities for our staff members. Two of our five core values are diversity and teamwork. These two core values are the quality of being together and appreciating the value each of us plays in the University. These are, therefore, precious virtues that we advocate for and instil in the entire DeKUT fraternity.

Audre Lorde said, "It is not our differences that divide us. We cannot recognize, accept and celebrate those differences." It is promising to be able to think differently but together. Coming together with our differences and making them a strength allows us to achieve great things together. At DeKUT, we embrace each individual's different talents and abilities, which builds a strong force that can conquer anything. The blind trust walk is a pure game of trust for our authorities and our co-workers.



The blind trust walk is a pure game of trust for our authorities and our co-workers.

According to a study published in July 2022 in Proceedings of the National Academy of Sciences (U.S.A.), 1-2 hours of outdoor activities have tremendous positive effects on the employees subjected to team-building exercises, hiking, nature walks and other outdoor pursuits.

During the survey, Scientists observed brain scans from the natural hikers and people who participated in team-building activities and found a decreased flow of blood into the subgenual pre-frontal cortex. An increased blood flow to this region of the higher brain is associated with bad moods, feelings of sadness, worrying, melancholy and depression. Team Building and related outdoor activities have been proven to deactivate it!

A review of the impact of the team-building activities carried out indicates the following:

1. Improved physical and mental health
2. Innovative and creative ideas among staff
3. Enhanced teamwork and focus
4. Improved loyalty and sense of citizenship to the University
5. Improved communication in the Departments
6. The rate of absenteeism and lateness has reduced
7. The rate of staff turnover was reduced compared to previous years.
8. An improvement in the general productivity at the University

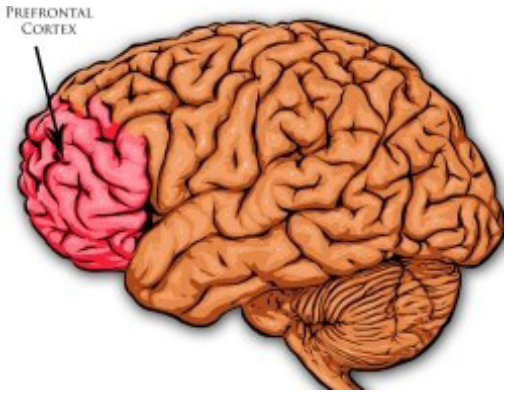
Our next target is to actively and regularly involve staff members in outdoor activities and also team up with the IFBT for nutritional information to reduce the visits to our medical facilities!

Below are some of the team-building activity moments

Time management and meeting deadlines are emphasized in our team activities in our challenge course. This Chemistry team has only 5 minutes to flip the tarp they are riding upside down without stepping out!

So, what does Team Building at Dedan Kimathi University of Technology look like?

It is a wide range of activities designed to improve team performance by developing cohesion, fostering trust, enhancing communication and strengthening



The pre-frontal cortex (PFC) is the cerebral cortex covering the front part of the frontal lobe. This higher brain region has been implicated in planning, complex cognitive behaviour, personality expression, decision-making, and moderating social behaviour. (NAS,2022)

cooperation among its members to make it more efficient. It is a continuous management process never completed because no team can ever outperform its full potential. Therefore, a team-building session is one activity in the constant management process.

First things first.... inclusion!

We need to tolerate others and actively welcome them as individuals and members of another group. Inclusion is an attitude that needs to exist before a group even considers its diversity.

DeKUT staff members from diverse Departments navigate through obstacles to evacuate a potentially "explosive atom" to a "safe" detonation site with critical precision.

Valuing diversity and being inclusive helps us to create more positive working environments.

Staff members are therefore encouraged to attend and utilize the respective team-building sessions as scheduled and prepared by DeKUT Outdoor Section and shared through HR email.



DeKUT staff members from diverse Departments navigate through obstacles to evacuate a potentially "explosive atom" to a "safe" detonation site, with critical precision

Leading the Way: From Academic Excellence to a Smooth Transition

By: James M Rukenya H151-01-2279/2020

For many graduating from DeKUT, the next step can feel daunting. But fear not, fellow graduates! As someone who has thrived in academic pursuits and championed successful transitions, I want to share the valuable role leadership plays in both.

My journey at DeKUT involved not just excelling in academics but also actively leading. As the President of the Equity Leaders Program, I spearheaded initiatives like high school mentorship, personal growth workshops, and community outreach programs. These experiences honed my leadership and organizational skills, which were further recognized when I served as the DeKUTSO Electoral Commission Chairperson.

Leadership and Academic Excellence

Leadership isn't just about titles. It's about taking initiative, fostering collaboration, and inspiring others. In academics, this translates to:

- **Proactive learning:** Don't just passively absorb information. The question, discuss, and actively seek more profound understanding. Lead study groups, participate in class discussions and engage with professors.
- **Motivating peers:** A strong leader uplifts those around them. Assist classmates, share study resources, and create a supportive learning environment.
- **Building a solid work ethic:** Lead by example. Manage your time effectively, prioritize tasks, and demonstrate the dedication required for academic success.

Leadership and a Smooth Transition

Leaving the familiar behind can be unsettling. Here's where leadership empowers you to navigate the unknown:

- **Adaptability:** Be ready to embrace new challenges. Leaders learn to adjust to changing circumstances – a valuable skill for the dynamic world outside DeKUT.
- **Communication:** Effective communication fosters trust and understanding. Hone your communication skills to build strong relationships with future colleagues and employers.
- **Problem-solving:** Leadership equips you to tackle challenges head-on. Analyze, strategize, and develop solutions – skills essential for navigating the professional landscape.

The Takeaway

Leadership isn't just about accolades or positions. It's a mindset that empowers you to excel academically, contribute meaningfully to your community, and confidently transition into the next chapter of your life. Embrace leadership, and you'll be well-equipped to achieve your goals and inspire those around you.

Congratulations, Class of 2024! May your leadership qualities continue to shine as you embark on your exciting journey.

In a World Where the Customer Reigns Supreme

By Kelvin Mburu

Gone are the days when businesses could simply provide a product or service and expect customers to show up without question. We now live in an era where the balance of power has dramatically shifted to the customer. Armed with endless information, options, and elevated expectations shaped by exceptional experiences, today's customers are firmly in control. Fail to treat them as the royalty they are, and they'll quickly take their business elsewhere. This new reality demands a complete rethinking and reorientation – one that places the customer firmly at the epicentre of every organization's universe.

The fundamental premise of customer-centricity is that an organization's success is 100% contingent on how well it can attract and retain happy, loyal customers. It's about designing every offering, policy, process, and interaction around deeply understanding and exceeding customer needs and desires. From marketing to product design to service delivery, the customer's perspective must be proactively infused into all aspects of the business.

True customer-centricity goes far beyond just being responsive when customers complain. It's a philosophical shift that views every function through the customer's lens and aims to craft end-to-end experiences that make their lives easier, more convenient, or more delightful in some way. Leading customer-centric companies are obsessed with gathering and analysing customer insights that shed light on behaviours, preferences, and pain points. They use those insights to develop personalized solutions, communications, and relationships tailored to each customer's goals.

The path to customer-centricity starts with leadership vocally championing a customer-first culture and making it a core organizational value. It requires realigning processes, policies, and technologies around the needs of customers rather than institutional preferences. Frontline employees must be trained and empowered to problem-solve in a way that prioritizes customer satisfaction over rigid rules. Cross-functional teamwork, data-driven accountability, and iterative refinement based on customer feedback are also critical.

While this degree of customer focus demands substantial commitment, the payoff is immense. Companies that get it right enjoy stronger customer loyalty, brand advocacy, and a powerful competitive advantage in today's consumer-driven landscape. Those who fail to embrace customer-centricity risk alienating their customers and getting left behind in an age when the customer is truly king.

Tips for improving customer-centricity:

1. **Make it a Core Value:** Customer-centricity must be deeply embedded into the institution's culture and values. Leaders need to vocally and visibly champion putting the customer first across all levels of the organization. This mindset shift has to come from the very top.
2. **Gather Customer Insights:** Invest resources into truly understanding your customers through data analytics, surveys, interviews, focus groups, and other feedback channels. Go beyond demographics to get a 360-degree view of their needs, preferences, pain points, and goals.
3. **Map the Customer Journey:** Analyse all the touchpoints and interactions customers have with your institution along their entire journey. Identify gaps, frictions, and areas for improvement from the customer's perspective.
4. **Design for the Customer Use customer insights:** to design or redesign processes, policies, facilities, and offerings with the customer in mind from the ground up. Continually optimize the experience.
5. **Empower Employees:** Give customer-facing employees the training, tools, and decision-making power to provide exceptional service. Reward employees who go above and beyond for customers.
6. **Leverage Technology Implement CRM systems:** customer feedback tools, and other technologies that enable personalized experiences, self-service options, and proactive customer care.
7. **Get Cross-Functional Alignment:** Ensure all departments from marketing to operations to IT are aligned and working in sync to consistently deliver on the customer promise.
8. **Close the Loop:** Have processes to promptly address customer complaints and issues. Follow up to ensure concerns were resolved satisfactorily.
9. **Drive Accountability:** Set customer experience metrics and standards, measure performance against them, and hold all functions accountable.
10. **Never Stop Improving:** Consistently collect customer feedback and micro-level data to continuously refine and find new ways to anticipate needs and exceed expectations.

GETRIs- Society of Exploration Geophysics (SEG) DeKUT Student Chapter: Educating, Inspiring, and Impacting Nyeri High Schools

By Christine Cheroo, SEG DKUT Chapter, Geothermal Research Training Institute

In the heart of Dedan Kimathi University of Technology (DeKUT), a dedicated group of young minds from the Geothermal Research and Training Institute (GETRI), has formed the Society of Exploration Geophysics (SEG) DeKUT Student Chapter. This active community of aspiring geoscientists is devoted to uncovering Earth's secrets while also instilling a sense of outreach and education in the local community.



On March 15th and 16th, the SEG Student Chapter visited Rware Secondary School and St. Mary's Boys High School in Nyeri County. This undertaking was an important milestone in the club's continuous attempts to raise awareness of the area of geoscience and its tremendous influence on society, particularly in solving community issues. The major goal of the outreach program was to engage with high school students at a critical point in their academic careers, encouraging them to pursue geoscience as a viable and fulfilling career option. Over 500 kids, spanning from Form 2 to Form 4, were reached through this campaign. These students were not only taught the core ideas of geoscience but also given significant insights into how this profession helps to solve real-world challenges.

The outreach program was intended to be both educational and participatory, with a series of informative experiments demonstrating the practical uses of geoscience. One such experiment was the renowned Coke and Mentos presentation, which accurately mimicked the mechanics of volcanic explosions. This display taught students about the terrible repercussions of volcanic activity, as well as its possible advantages, such as the production of precious minerals and geothermal energy. Furthermore, the SEG Student Chapter's seismology team, carried out tests to further comprehend the causes underlying earthquakes. Students gained an understanding of the mechanisms underlying these natural events by building a model that illustrated earthquake sources and monitored seismic waves on a seismogram.

In partnership with FunKe Science (funkescience.co.ke), the SEG Student Chapter demonstrated further experiments on topics like reflection, refraction, acid-base interactions, and climate change. These hands-on activities not only made science more approachable but also sparked the children's curiosity and passion. High school students and teachers provided overwhelmingly good responses, with many expressing gratitude for the opportunity to discover an area they were previously oblivious of. The SEG Student Chapter is proud of the effect made via this outreach initiative, which was made possible by the Society of Exploration Geophysics' sponsorship through the SEG foundation. Looking into the future, the SEG Student Chapter intends to broaden its outreach efforts, with plans to visit more schools in the future term. By continuing to excite and educate young minds, the chapter hopes to grow a new generation of geoscientists committed to making a difference in the world.

To sum up, the SEG DeKUT Student Chapter is an outstanding demonstration of creativity and commitment, advancing the goal of geoscience research and instruction. Through our efforts, we support the growth of society overall in addition to empowering people to choose careers in this industry. Stay tuned for more incredible accomplishments from the SEG Student DeKUT as we continue to make a lasting impression on the geoscience community.

DeKUT Human Resource Development

By: Dr. Peter Kariuki - HoD, Human Resource

DeKUT Reward and Recognition Policy

Dedan Kimathi University of Technology (DeKUT) is committed to providing efficient and effective service delivery to the customers. To actualize this, strong emphasis has been placed on productivity and performance improvement. A key element in performance management is rewarding of exemplary performance within a framework that also supports the objective of attracting, nurturing and retaining qualified and highly productive staff. It is against this background that a reward and recognition policy was developed to establish a basis for rewarding exemplary performance in order to motivate employees to have positive attitude towards work with a view of enhancing productivity in DeKUT.

Nomination Process for the Awards and Recognition

The University recognize and reward the staff at the end of the year under various categories. Members of staff are required to nominate staff and teams for recognition and awards based on the listed categories and parameters. Further, the nominations are supposed to supported with clear evidences and justifications. Other categories include the long service and retirement awards for which the HR provides the names of the staff qualified.

S/No	Category of Award	Parameters for Consideration
1	Research & Commercialization	**Publications** • Total number of papers published in peer-refereed journals by each nominee or publication of a University level book;
		Patents • Number of patents registered by projects for each nominee;
		Research output • Research transfer output by the nominee in terms of knowledge transfer either within the University or to the community;
2	Community Engagement	• Number of activities carried out by the nominee and have impacted positively on the Community; • Corporate Social Responsibilities performed by the nomine;
3	Customer Satisfaction	• Customer feedback i) For the administrative staff, evidence-based customer service e.g. recognition for best customer service from various sources; ii) For academic staff, the students'/lecturer evaluation feedback; iii) Adherence to semester schedules; iv) Any other service to students which are positive;
4	Team of the Year (Vice Chancellors Award)	• A team could be categorized as School/Institute/Department/Section/Group and qualify for nomination; • The team to be nominated should have evidence of properly executed assignments/duties/tasks; • The delivery of the outcome of the assignment should be team-based which makes it outstanding among other teams; • The team could have evidence of having participated in activities e.g., team building, corporate social responsibilities, etc.;
5	Resource Mobilization	• Number of Research Grants that the nominee has mobilized; • Amount of money that has been mobilized from the grants obtained by the nominee; • Any Technology Transfer that can be identified either directly to the University or the Community; • Any other activity that has mobilized funds/resources for the University;

S/No	Category of Award	Parameters for Consideration
6	Innovations	• The number of innovations (either academic or business innovations) by the nominee; • Gadgets that are in use and are innovated by the staff/nominee;
7	Leadership	• Visionary and transformational leadership; • Positive transformation of the section he/she heads; • Innovativeness and creativity of the nominee; • Problem-solving abilities of the nominee; • Demonstration of leading by example /role model; • Teamwork, involvement, and empowerment of the team;

2023 Summary of Beneficiaries for Awards and Recognition

S/no	Award	No. of Beneficiaries
1	Community Engagement	2
2	Team of the year	2
3	Resource mobilization	1
4	Innovation	1
5	Leadership	1
6	Long service	4
7	Retirement	5
Total		**16**



Resources Mobilization Award



Community Engagement Award





Team of the Year Awards (Catering and Farm)







Long Service/Retirement Awards

Unleash Your Potential: Join Dedan Kimathi University's Thriving Sports Scene

Sports Department, By Stanley Ngata, H.O.D. Sports



Dedan Kimathi University of Technology (DeKUT) is about more than just lectures and labs. It's a place where students can nurture their physical and social well-being through a thriving sports culture. Whether you're a seasoned athlete or a casual enthusiast, DeKUT offers a wide range of sports and activities to get you moving.

With both men's and women's teams in various sports, which include basketball, volleyball, handball, netball, hockey, athletics, soccer, rugby, Taekwondo, chess, darts, scrabble, roll ball, table tennis, lawn tennis, karate, swimming, softball, baseball, badminton, you'll find a welcoming and competitive environment to hone your skills.

Sports participation at DeKUT goes beyond just physical fitness. It's





about fostering teamwork and developing leadership, among other social skills. DeKUT has a history of sporting excellence, with teams consistently competing at regional and national university tournaments. By joining a sports team, you can contribute to this legacy and represent DeKUT on the sporting stage.

For more information, visit the sports office at the Directorate of Students' Welfare.

DeKUT sportsmen and women get the opportunity to participate in university games organized by the Kenya Universities Sports Federation (KUSF) every year. Our University falls under the Central region; therefore, our sportsmen and women participate in the different leagues at the KUSF Central Conference. Our students travel to other universities across the central area as they fight their way up to compete at the highest national level eventually. Some of these universities at the KUSF central conference include Chuka University, University of Embu, Tharaka University, Karatina University, and Kirinyaga University. DeKUT also had the pleasure of hosting one of the KUSF central league games at the beginning of the season, around September 2023.

Dekut dominated in the KUSF National Ladies playoffs 2024 at Pwani University during the KUSF 2024 National Indoor playoffs. This was after emerging as 2nd best University in Kenya behind Kenyatta University. This was after getting three gold medals and becoming the best University champions, i.e., the national champions in the following sports: badminton men, chessmen, and table tennis women. DeKUT also dominated the KUSF National Ball Games Playoffs at Masinde Muliro University. The teams representing Dekut at the Ball games National playoffs were Basketball Men, Netball Men and Hockey Women. Those teams did exceptionally well as they fought their way up to the quarter-finals at the National level. Our sportswomen also got a chance to participate in the Kenya National Women Championships that were held at Egerton university, which was co-hosting with Kabarak university at the end of March 2024. DeKUT presented seven teams: Table Tennis, Chess, Scrabble, Darts, Taekwondo, Hockey and Athletics.DeKUT performed very well in these Women's Championship games, with different teams scoring some of the top positions; for example, Taekwondo was position 2, Athletics position 2, Table Tennis position three and Darts position 3. These performances contributed to DeKUT being the 4th best University overall. We thank God for allowing DeKUT to shine.

We encourage more students to join the sports fraternity so that together, we can continue raising DeKUT's flag out there. We have a known history of exceptional performance throughout the years, so we advise all students to join us as we continue building that legacy.

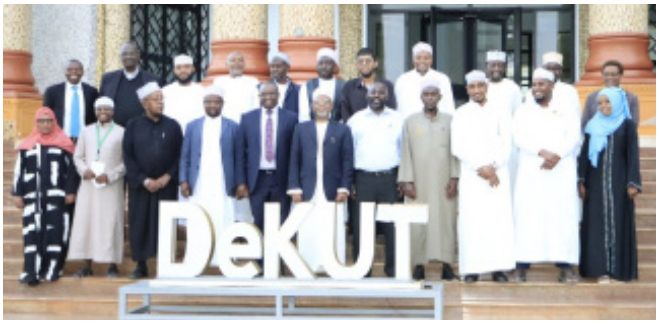
The University Chaplaincy: on the Mission of Upholding Integrity and Moral Guidance

By Rev. Dr. Fr. Vincent Wambugu, HoD-Chaplaincy Department

In pursuit of excellence and moral leadership, the University established a vibrant Chaplaincy Department dedicated to fostering spiritual, pastoral, and ethical guidance within our diverse and multi-religious community. With integrity and moral guidance as its core business, the department seeks to promote this statutory mandate in its guidance of the DeKUT Community, both students and staff.



DeKUTCS during a Sunday Mass at Quo Vadis Youth Hub



Chief Kadhi Sheikh Abdulhalim Athman and his delegation during a visit to DeKUT in December 2023

At the heart of the statutory mandate of the Chaplaincy Department is a commitment to nurture morally upright future leaders who excel academically and embody values that transcend the confines of the classroom. In a world fraught with challenges, where ethical dilemmas abound, the need for robust moral guidance has never been more imperative. In recognition of this need, the Chaplaincy undertakes the vital task of providing spiritual and pastoral care to all, irrespective of their religious affiliation.



DeKUTSDA Choir during a Music Sabbath

Diversity and Inclusivity

One of the defining features of our Chaplaincy Department is its inclusivity. Within our university community, we embrace four Faith Groups: DeKUT Christian Union (DeKUTCU), DeKUT Catholic Students (DeKUTCS), DeKUT Seventh Day Adventists (DeKUTSDA), and DeKUT Muslims (ANSWAR-DeKUT). Through this diversity, we find strength, understanding, and solidarity. The Chaplaincy Department serves as a unifying and collaborative office, bridging differences and fostering an environment of mutual respect and understanding. Above all, everyone finds space and freedom to celebrate their faith through the sacred services guided by the doctrine of each Faith Group in a spirit of mutual co-existence.

Collaborative Support

The Chaplaincy Department enjoys the unwavering support of the Pastoral Team of Collaborators for the Chaplaincy (PTCC), comprising dedicated staff members approved by the University Senate and consequently appointed to this role by the Vice-Chancellor. The PTCC plays a pivotal role in ensuring that the spiritual and pastoral needs of our DeKUT multi-religious community are met effectively and efficiently. Through collaborative efforts, we strive to create a nurturing environment where individuals feel valued, supported, and empowered to navigate life's multifaceted complexities with resilience and patience through the grace of God.



DeKUTCU Worship Team during their main service at Freedom Hall

Guidance and Mentorship

Within the university landscape, the Chaplaincy Department serves as a guiding light, offering counsel, mentorship, and support to students and staff alike. Whether grappling with personal challenges, seeking moral clarity, or simply needing a listening ear, individuals can turn to the Chaplaincy for solace, appreciation, and guidance. The Head of Chaplaincy is a spiritual leader and prioritizes every encounter as a primary duty. Each encounter is respectful to the variant backgrounds of personal faith.

Alignment with the University's Mission and Vision

As custodians of integrity and moral guidance at the University, the Chaplaincy Department plays a pivotal role in realizing the University's overarching mission and vision. By instilling values of integrity, compassion, and ethical leadership, we contribute to cultivating a culture characterized by excellence, inclusivity, and social responsibility. Our efforts extend beyond the confines of academia by preparing students to navigate the world's complexities with integrity and conviction. Of course, with the collaboration of the members of PTCC, this mission is simplified and achieved through outreach to each Faith Group. Each member of the PTCC is an extension of the Chaplaincy to their respective Faith communities.

Conclusion

The University Chaplaincy Department stands as a testament to the University's unwavering commitment to excellence, integrity, and moral leadership. Through collaborative efforts, inclusive practices, and steadfast support, we strive to nurture a community where individuals flourish academically, ethically, and spiritually. As we continue this journey together, let us uphold the values that define us and inspire others to embrace the transformative power of integrity and moral guidance.

The department is forever grateful for the support we receive from all departments of the University, the Faith Communities, the University Management, and, in a particular way, the Vice-Chancellor of this esteemed University.

Let's Vote for a Brain Surgeon who will Operate on our Children

By: Dr. Ramenga Mtaali OSOTSI, Ph.D., Professor and Academic Leader, Institute of General Studies (I.G.S.)

In the lexicon of modern democracies, voting is often heralded as the holy mechanism through which public consensus is reached and leadership is determined. It is the cornerstone upon which the edifice of democracy rests. However, this practice, when scrutinized through a pragmatic lens, reveals significant shortcomings that not only question its efficacy but also highlight its potential dangers, especially in critical sectors such as finance. The premise of voting someone into a position of specialized skill, akin to electing a brain surgeon based on popular vote, underscores a fundamental flaw in the democratic process. As this discourse will elucidate, this flaw empowers individuals lacking the requisite skills to acquire positions of significant influence, thereby precipitating institutional instability and, in extreme cases, teetering these institutions on the brink of disaster or total collapse.

The Illusion of Competence through Voting:

Consider the absurdity of suggesting that a pilot be voted into their position rather than earning it through rigorous training and demonstrated skill. The same holds for fields requiring specialized knowledge and expertise, such as medicine, engineering, and finance. Yet, paradoxically, this logic is often suspended in political and social positions, where the stakes are much higher. The national budget unequivocally necessitates adept financial management alongside budgets of varying scales, from clubs to complex corporations. These are not roles one can or should assume through the mere act of voting; they demand specialized skills and profound understanding.

Case Studies from Modern Finance:

The complexities of modern finance underscore the need for leaders who possess not only a profound understanding of financial principles but also the ability to navigate the intricate global economic landscape. The 2008 financial crisis serves as a poignant reminder of the consequences of entrusting financial institutions and regulatory bodies to individuals ill-equipped to foresee or manage such complexities. The crisis was precipitated partly by a need for more understanding and better management of sophisticated financial instruments like mortgage-backed securities and derivatives. The fallout highlighted the dangers of inadequate expertise at the helm of financial institutions and regulatory bodies, underscoring the argument that more than voting alone is needed for selecting finance leaders.

One more example of people who were voted in failing to carry out their duties: when Patrick Njoroge, the former Governor of the Kenya Central Bank, went to Parliament on June 17, 2015, to be vetted for the position of the Governor of the Kenya Central Bank, the most profound question one of the parliamentarians asked him was whether he was married, and if not, he, the parliamentarian went on to offer, amidst laughter, his sister. A few decent questions were raised about the financial decisions Mr. Njoroge would make on behalf of Kenyans.

Pervasive Incompetence in 'Democratic' Systems:

What we have observed above about finance holds virtually in every sector. Because of having been voted in, we get people who have yet to learn what an education system requires to make crucial decisions about the direction young African countries need to take. Ministries of culture are relegated to useless slots because there is an idea that culture matters less than banking. In Kenya, officers in charge of culture, usually appointed by people voted into decision-making positions, treat culture as Maasai people dancing with spears next to the lions. The exoticization of African culture, be it in Kenya or elsewhere in Africa, is seen by these voted-in powerful ones as the most attractive feature of our cultures. Western culture, either in spiritual spheres or hip-hop incursions, is seen as the 'modern norm.' We do not learn from history because we are told STEM courses (Science, Technology, Engineering, Mathematics) are the only ones that matter in modern society. We are led to believe that knowing where we came from, why we came from there and what mistakes we made is useless. Kenyan students admitted to Dedan Kimathi University of Technology graduate with no idea or interest in who this great man was. Crucial decisions are made about culture, which has stunted the film, music, and writing industries. The situation of these elected incompetent ones has become pervasive in the nation's fabric to the extent that thoughtful people who may have performed well in academics are seen as useless chalk pushers who are only 'book smart' but are not life smart. The glorification of non-performing mediocrity has arrived riding on a democratic vote.

Cultural and Democratic Dissonance:

Historically and culturally, decision-making processes have varied significantly. For instance, traditional African societies often favoured consensus and reasoned debate, where reason had a veto power over decisions. This approach contrasts sharply with the current democratic practices in many Western democracies, where the method of electing a Supreme Leader does not strictly adhere to a one-person-one-vote principle. The divergence from these historical precedents to current practices underscores a disconnect between the essence of democracy and its implementation, particularly when it comes to positions requiring specialized knowledge.

The African Context and Beyond:

In many African countries, the election of leaders who then appoint individuals to critical financial positions without the necessary background or expertise exacerbates economic challenges. These appointments often owe more to political affiliations than to a meticulous evaluation of skills and experience in finance. This practice is not confined to African nations; it is a phenomenon observed globally, where financial portfolios are sometimes allocated to individuals as political rewards rather than based on their financial acumen.

Beyond the Vote: A Call for Expertise-Driven Selection:

The imperative, therefore, is for a selection process that transcends the limitations of the democratic vote, particularly for roles within finance and other specialized fields. This does not entail a rejection of democratic principles but advocates for a more nuanced approach that integrates these principles with a rigorous evaluation of expertise and experience. For instance, the selection process for financial regulators could incorporate a panel of experts tasked with evaluating candidates' qualifications and suitability for the role alongside a mechanism for public endorsement.

The Weakness of Democracy in Leadership Selection:

The frailties of democracy are further exemplified in African nations, where leaders, once voted into power, possess the discretion to form their cabinets. These cabinets, often needing more skills, address complex societal issues ranging from finance to health and education. The crux of the problem lies in the elected leaders' need for more expertise or experience in selecting individuals capable of making informed decisions on matters affecting millions. This is a glaring vulnerability in the democratic process, revealing a system that favours popularity over proficiency.

The Fallacy of Altruistic Leadership:

Central to the argument against the democratic voting process is the fallacy that individuals elected into leadership positions inherently have the nation's best interests at heart. This assumption is not only naive but dangerous, as it overlooks the multifaceted nature of human motivation and the intricacies of governance. The belief in altruistic leadership as a byproduct of the voting process is a misconceived notion that has led to the elevation of unqualified individuals into positions of power, where their decisions—or lack thereof—have far-reaching implications on national and global scales.

Rethinking the Democratic Process

The preceding discussion necessitates a critical re-evaluation of the democratic process, particularly in the context of selecting individuals for positions of specialized skill and significant influence. Voting, while an integral component of democratic practice, should be circumscribed to realms where the consequences of electing individuals lacking specialized knowledge are negligible. This does not pertain to filmmaking or critical sectors but might extend to areas of entertainment or the selection of ceremonial figureheads for limited durations.

The selection of personnel to govern a modern, complex state demands a more rational, skill-based approach. This could involve a hybrid model that combines democratic principles with meritocratic selection processes, ensuring that those at the helm of critical sectors—such as finance—are not only popularly endorsed but, more importantly, are eminently qualified. Such a paradigm shift would not undermine democracy but would strengthen it, ensuring that the pillars of competence and expertise support the edifice of democratic governance.

Conclusion:

The narrative that democracy, often articulated as one person, one vote, is an unassailable mechanism for selecting leaders and guiding governance needs to be critically examined. The analogy of voting in a brain surgeon to operate on our children serves as a poignant reminder of the risks associated with equating democratic voting with the selection of skilled professionals. It underscores the necessity for a nuanced approach to governance that harmonizes the democratic ethos with the imperative for expertise and skill, especially in sectors as critical as finance, education, health, transport, etc. Only through such a reimagined framework can democracies ensure stability, prevent potential disasters, and genuinely serve the interests of their constituents.

The What, Why and How of Gender Mainstreaming

Mainstreaming is the process of making something start to be considered normal. It includes people with particular difficulties or needs in the same places of work or positions as everyone else.

What is gender mainstreaming?

Gender mainstreaming is a global strategy for achieving gender equality and the empowerment of women and girls. It is an approach to policy-making that takes into account both women's and men's interests and concerns. Gender mainstreaming was first introduced at the 1985 Nairobi World Conference on Women. It was adopted as a significant strategy for promoting gender equality at the Fourth World Conference of Women in 1995. It called for mainstreaming all Critical Areas of Concern at the conference, including poverty, human rights, the economy, violence against women, and armed conflict.

Gender mainstreaming is a tool for achieving gender equality

Why gender mainstreaming?

Several studies have shown that, in many cases, public policies have been based on the needs of the dominant group in society or on the needs of those who have traditionally been the decision-makers, primarily men. They need to take into account women's differing



needs and situations. Women and men have different needs, living conditions, and circumstances, including unequal access to and control over power, resources, human rights and institutions, and the justice system. The situations of women and men also differ according to country, region, age, ethnic or social origin, or other factors. Gender mainstreaming aims to consider these differences when designing, implementing and evaluating policies, programmes and projects so that they benefit both women and men and do not increase inequality but enhance gender equality.

How is Gender mainstreamed?

To mainstream Gender in an institution like DeKUT, it is essential to;

- Acknowledge that Gender is a mainstream issue and that gender equality must be a shared primary goal for everyone.
- Understand the specific gender issues relevant to the context
- Define clear goals for achieving gender equality.
- Collect relevant information and data on gender disparities and analyze
- Ensure gender considerations are embedded in policies and programs.
- Allocate budget and resources to support gender mainstreaming efforts.
- Regularly assess progress and adjust strategies as needed.
- Train staff and stakeholders on gender-sensitive approaches.
- Promote Gender mainstreaming through effective communication and advocacy.

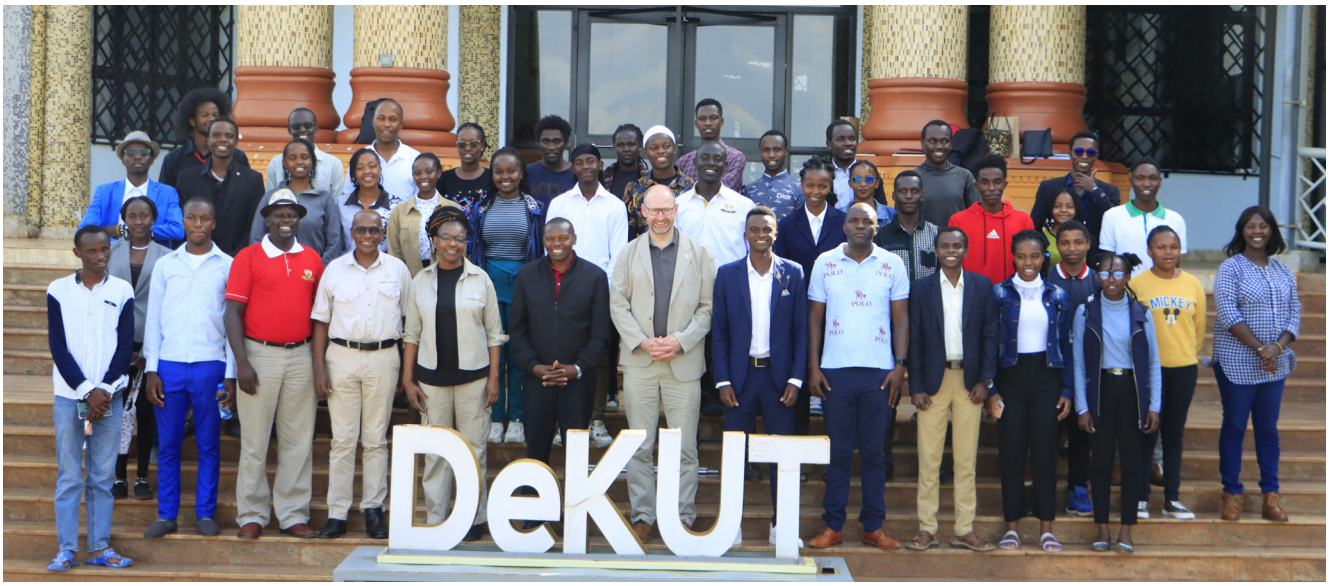
In DeKUT, the directorate of Gender Disability and Equity Affairs (GD&EA) is mandated to mainstream gender and disability issues to all staff members and students. The directorate works with a committee of seven (7), i.e. The Gender and Disability Mainstreaming Committee (GDMC) Every quarter of the financial year, staff are sensitized to gender and disability mainstreaming in various departments to cover all the University departments by the end of the year. The students are sensitized during their class coffee hours and in clubs and societies' meetings.

The National Gender and Equality Commission, in an event where they were launching their 2023 report, recognized DeKUT, among many other institutions, for its efforts in mainstreaming Gender in the year 2022/2023. This was no mean achievement, and the directorate is grateful to the management for continued support, the planning office for the advice and timely sending of Gender mainstreaming reports to the commission and all members of the DeKUT fraternity for their cooperation. We look forward to more excellent collaborations and achievements together.

The President's Award

By Joseph Gichuki Mbathi

What is this? People call it the President's Award, as it is known to many P.A. In 1956, Kurt Hahn, The Duke of Edinburgh, and Lord John Hunt launched a programme in the U.K. It was initially meant for boys only between the age of 15 to 18. In 1958, the Award was now offered to the girls too. Currently, the Award is open to all young people between the age of 14 to 24 years. In 1966, the Award Programme was launched here in Kenya by the founder, H.E. Mzee Jomo Kenyatta, who became our first Patron. Here, Kenya became a Franchise of the Duke of Edinburgh International Award. Ever since every sitting president has been the Patron of the programme, one of the interesting things is that in Kenya, we have grown this culture, and the awardees visit the Statehouse for the Gold awarding ceremony every year.



Now, let's deal with the elephant in the room. What is the Award all about?

The Award is divided into three levels, i.e. Bronze, Silver and Gold. A participant requires three months to complete the bronze level, six months to complete the Silver level and 12 Months to complete the Gold level. What will they be doing within this period?

At every level, the participant needs to learn a skill, get involved in a physical recreation activity, and offer a service to the community for at least one hour per week. Let's take the case of a participant at the bronze level. They will dedicate 1 hour per week for three months.

What can be termed as a skill or physical recreation activity, and what is a service? A skill is anything you are learning for the very first time. It can be cooking or baking. It can be learning a foreign language, or it can be coding. A physical recreation activity is any activity you are involved in that makes you sweat, from running to bike riding to playing football to basketball. When it comes to service to the community, the list is endless. Mentorship, cleaning the environment, and visiting older people are just a few.

This is the part I enjoy most. In all three levels, the participant must participate in an Adventurous Journey. Here in Kenya, the most common one is the expedition, though it is also where people take part in explorations and other journeys. For the bronze level, the expedition takes two days and one night; for the silver level, it takes three days and two nights; for the gold level, it takes four days and three nights.

During the expedition, the participants were involved in activities many people like to refer to as hiking and camping. They identify a location where they hike all day and camp at night. Here, they have their dinner, and most of the time, a bonfire is lit for the last night, where the participants interact and exchange ideas on how the whole journey was.

Gold has an additional section referred to as the Gold Residential Project. Here, the gold participants were located in a residential area outside their institution and stayed for five days and four nights. During this time, they identify a project they can participate in to give back to the community. I have seen people become quite creative, from construction projects to environmental-based projects.

During the whole period, the participants used an online platform known as an online record book to track their progress in each section. It is more of a personal journal. Upon completion, the participants are awarded a certificate signed by the current head of state at the Statehouse.

The Award is all about shaping an all-round social being. In our institution, I have seen participants being the change they want in society. Through the mentorship programmes in Muringato and Nyaribo secondary and Primary, the participants can hold the hands of the young pupils socially and academically. This has bore fruits since we have seen the performance of the pupils rise over the years. Environmental conservation has also been achieved through tree planting in the school and the Aberdare Forest, which is part of our service.

The participants acquire teamwork, resilience, and endurance through expeditions in the Aberdare ranges. Eight hours of hiking daily in the ranges will teach you that nothing comes easily in this life. It will teach you that giving up is not an option in this life.

Besides the life skills acquired through the Award, the certificate is recognized in more than 140 countries where the Award is offered. It gives the participant a competitive edge globally.

Much can be said about the Award. If you want to know more about it, it's best to experience it first-hand.

Adaptive Wear: Fashion for Disability Inclusion

By: W. Njeri Muthoni, A.A., Directorate of Gender, Disability and Equity Affairs

Fashion has always been a powerful means of self-expression, allowing individuals to showcase their personality, creativity, and cultural identity. However, for too long, the fashion industry has largely overlooked the needs of people with disabilities, failing to provide inclusive clothing options that cater to their unique requirements. This neglect not only perpetuates exclusion but also deprives a significant portion of the population of the joy and confidence that fashion can bring.

In recent years, there has been a growing movement towards inclusivity in the fashion world, with brands recognizing the importance of creating clothing accessible to everyone, regardless of their physical abilities. This shift has given rise to adaptive wear – clothing explicitly designed to accommodate the diverse needs of individuals with disabilities.

Adaptive wear encompasses various clothing options, from garments with adjustable closures and easy-to-use fastenings to items that incorporate specialized features such as magnetic closures, Velcro straps, and hidden seams.

Adaptive wear encompasses various clothing options, from garments with adjustable closures and easy-to-use fastenings to items that incorporate specialized features such as magnetic closures, Velcro straps, and hidden seams. These design elements are carefully crafted to enhance comfort, ease of dressing, and mobility, allowing individuals with disabilities to navigate their daily lives with greater independence and confidence.

One of the critical challenges in developing adaptive wear lies in understanding the varied needs and preferences of the disabled community. This is where collaboration with experts and stakeholders becomes essential. By partnering with organizations that specialize in disability advocacy and support, as well as engaging directly with individuals with disabilities, fashion designers can gain invaluable insights into the specific challenges faced by this demographic and tailor their designs accordingly.

How does this apply to Dedan Kimathi University of Technology? Our fashion and design department plays a crucial role in driving innovation and fostering inclusivity within the fashion industry. By incorporating courses or workshops focused on adaptive wear design, DeKUT can educate the next generation of fashion professionals about the importance of accessibility and empower them to create clothing that meets the needs of all consumers.

Another role that DeKUT can play in ensuring that we are part of the movement towards inclusive fashion is ensuring that the garments used by the University serve the disabled population. These garments include graduation gowns and caps and DeKUT-branded clothing. It is essential to realize the presence of people with disabilities in the DeKUT community, who should enjoy wearing these garments as much as the rest of the population. The Department of Fashion and Interior Design can go a long way in advising the making of DeKUT garments accessible to everyone.

Collaborating with the fashion department of a university offers several benefits for designers, students and people with disabilities. Designers gain access to fresh perspectives and innovative ideas. At the same time, students have the opportunity to apply their skills and creativity to real-world challenges, making a meaningful impact in the lives of people with disabilities. Furthermore, DeKUT can facilitate research and development initiatives to advance the field of adaptive wear.

In addition to fostering innovation, DeKUT can also help promote inclusivity in the broader fashion space by showcasing adaptive wear collections at student fashion shows. We must take personal responsibility to raise awareness about the importance of inclusive fashion and challenge societal perceptions of disability. This is an important of our work in fostering diversity and inclusion.

Ultimately, adaptive wear aims not only to provide functional clothing solutions but also to promote dignity, autonomy, and self-expression for people of all abilities. Through inclusion in fashion, we can create positive change and pave the way for a more inclusive and equitable future.

DEKUT ENTERPRISES COMPANY
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OFFICE OF THE MANAGING DIRECTOR

DEKUTES @5:

Celebrating Five Years of Innovation and Impact

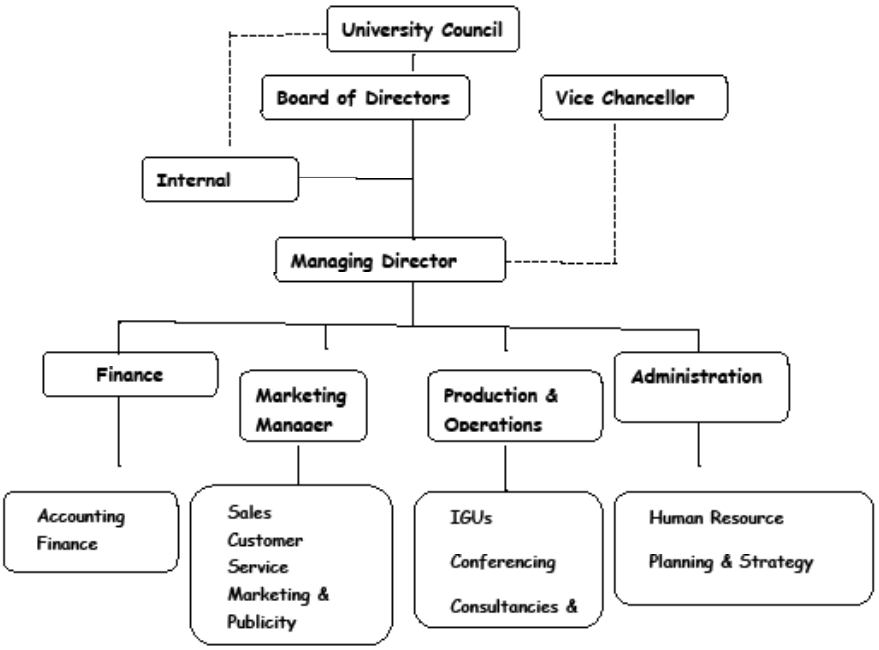
Hurray! We are 5

In the world of enterprise, milestones are not merely markers of time but reflections of dedication, resilience, and progress. It's been five years of hustle, heart, and heaps of accomplishments that have made waves in industries, lifted communities, and fired up imaginations. From our humble beginnings to where we stand today, it's been a rollercoaster ride of dedication and resilience. So, as we take a trip down memory lane, let's raise our imaginary glasses and toast to the milestones that have reshaped landscapes and touched lives. From breakthrough innovations to impactful initiatives, each step has been a testament to our shared journey. But hey, this isn't just our celebration—it's yours too! Because every click, every share, and every bit of support from you, our amazing followers, has propelled us forward. Together, we've made magic happen. So, here's five fantastic years of making a difference and exciting adventures lie ahead. Cheers to us, cheers to you, and cheers to the incredible journey that is DeKUTES @5!

Background of DeKUTES

DeKUT Enterprises Company emerged from the visionary ideals of Dedan Kimathi University of Technology (DeKUT), nestled in the heart of Nyeri County. Founded on principles of innovation, community engagement, and excellence, DeKUTES embodies the university's commitment to fostering entrepreneurship and driving positive change. Figure 1 displays DeKUTES current organogram.

Figure 1: DeKUTES Organogram



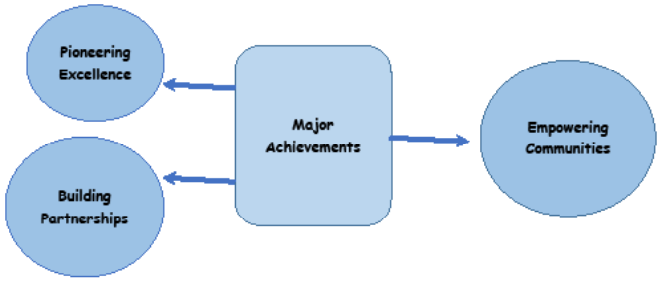
Achievements

Established five years ago, DeKUTES has rapidly become a beacon of impact within the local community and beyond. With a diverse range of value-added products and services, DeKUTES has carved a niche for itself in industries ranging from agriculture, education, hospitality and sustainability. As we continue to innovate and raise the bar, let's celebrate the milestones we've achieved together. Figure 2 gives a summary of our major achievements.
Figure 2: Major Achievements

1. Pioneering Excellence

Quality has been the cornerstone of our journey at DeKUTES. Since day one, we've been on a mission to set new standards and redefine what it means to deliver top-notch products and services.

We take pride and joy in our DeKUT Premium coffee



sourced from our vast university farm spanning 300 acres. Our coffee beans undergo a meticulous journey from cherry to cup. With selective harvesting, precise processing, and expert roasting, we ensure that every sip delivers an unforgettable experience.

Our coffee isn't just a beverage; it's a labor of love, carefully crafted to perfection. From the moment the beans are picked to the final packaging, we prioritize quality at every step of the way. Whether you prefer a medium or dark roast, whole beans or ground, we've got you covered with our range of packaging options.

DeKUT Premium coffee isn't just loved locally; it's making waves on the global stage, earning accolades from coffee enthusiasts far and wide. So, why settle for ordinary when you can experience extraordinary? They are packed in various quantities including 1Kg, 500g, 250g, 100g and 30g differentiated as either beans or ground depending on customer specifications. The visual representation in Figure 3 offers a concise overview of our coffee processing procedures.

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Figure 3: Coffee: From farm to cup



Additionally, our eco-friendly detergents are more than just cleaning agents; they're a reflection of our commitment to both cleanliness and environmental responsibility. Designed with the environment in mind, these detergents are formulated to effectively remove dirt and stains while minimizing their impact on the environment.

Imagine doing your laundry or washing your dishes knowing that every drop of detergent is not only getting the job done but also contributing to a healthier environment for you and people around you. That's the beauty of our eco-friendly detergents; they allow you to clean with a clear conscience. But how exactly do they minimize environmental impact? It's all in the ingredients. Our detergents are made from biodegradable components that break down naturally, reducing pollution and harm to aquatic life, free from harsh chemicals which can linger in the environment long after they've been washed away. Refer to Figure 4 our detergent

Figure 4: Detergent





2. Empowering Communities

At the heart of DeKUTES lies a profound commitment to community upliftment. Through our array of value-added products, we're not just meeting local needs; we're actively fostering economic growth and sustainability. For example our DeKUT Yoghurt, a delicious creation crafted from the freshest, locally sourced farm milk. Bursting with essential nutrients, this wholesome snack not only delights the taste buds but also plays a pivotal role in supporting our local dairy industry.

Our journey begins with the careful selection of premium quality milk, sourced locally; this ensures that every spoonful of our yogurt is infused with the goodness of nature, straight from the source. We take pride in the fact that we never add preservatives or harmful ingredients to our yogurt, ensuring that it remains as wholesome and natural as possible.

DeKUT yoghurt is expertly blended with a variety of unique twists like coffee and chia to produce coffee yoghurt and vanilla chia yoghurt. Other classic favorite's brands include natural yoghurt, strawberry and vanilla. Each flavor is crafted with precision, aiming to tantalize taste buds and satisfy cravings.

Every time you reach for a cup of DeKUT Yoghurt, know that you're not just treating yourself to a tasty indulgence; you're also contributing to the prosperity of our local dairy industry and promoting your health and wellness. Refer to Figure 5 to see our yoghurt.



Figure 5: DeKUT Yoghurt

We also empower local business communities and coffee farmers by providing exceptional coffee roasting and grinding services. Figure 6 shows our Coffee roasting machine and process.



Figure 6: Coffee roasting and grinding process

In our effort to curb and fight against COVID 19 pandemic, the company manufactured Face Masks, Hazmats and sanitizers to address the challenges posed by the corona Virus. DeKUTES took proactive steps by donating face masks and hand sanitizers to Nyaribo Primary and Secondary School as part of corporate social responsibility. This initiative was aimed to ensure the safety and well-being of students and staff members during these uncertain times.

Figure 7: CSR Nyaribo Primary and Secondary School

Figure 7 shows the CSR for Nyaribo Primary and Secondary School.



DeKUTES also extended its support to the DeKUT volleyball men's team by providing them with

Figure 8: CSR for DeKUT Volley ball team



uniforms and participate in DeKUT endowment fund. This gesture not only fosters team spirit but also enhances their performance and morale during sporting activities. By investing in the local community and promoting sports development, DeKUTES demonstrates its commitment to making a positive impact beyond its business operations. Figure 8 shows the CSR for DeKUT Volley ball team.

By pooling our resources and expertise, we've been able to make a tangible difference in the lives of those we serve. We've harnessed the power of collaboration to unlock new possibilities.

3. Building Partnerships

Collaboration lies at the core of our ethos, and over the past five years, we've forged meaningful partnerships that have amplified our impact. From academia to industry, from government bodies to grassroots organizations, we've united with like-minded entities to drive progress and effect positive change on a broader scale.

DeKUTES collaborates with University staffs who are professionals and practitioners in diverse fields by giving them a platform to share practical and hands-on experience. This collaboration enables DeKUTES to offer diverse consultancy services ranging from management, governance, engineering, and surveying among other consultative services that address societal issues. We also provide tailored capacity building and professional training programs to meet clients' specific skill needs.

We lay emphasis on designing and manufacturing machines to be used in food value addition processing



Figure 10: Signing of Coffee Liquor Agreement

as well as to enhance efficiency and effectiveness in service delivery. Among the equipment made was maize dryer which was installed in Kinamba, Laikipia West Constituency. This initiative, sponsored by the Laikipia County Government, aimed to revolutionize the maize drying process. By utilizing locally sourced raw materials, we engineered a solution to optimize maize drying, even in extreme weather conditions. This endeavor exemplifies our commitment to leveraging innovation to empower farmers and uplift communities across the nation. By harnessing

Figure 9: Maize Dryer



local resources and expertise, we strive to create sustainable solutions that drive positive change and contribute to agricultural prosperity on a national scale. Refer to Figure 9 for the depiction of the maize dryer.

In a strategic move to expand our market reach, DeKUTES forged an industry partnership with Mukurweini Wakulima Dairy to provide them with coffee liquor which they use to make coffee flavored yoghurt. This innovative collaboration not only elevates the flavor profile of the yogurt but also enables us to tap into a wider market segment. See Figure 10 for the signing ceremony of the agreement regarding Coffee Liquor.

DeKUT Premium coffee is brewed at the University and is also available at several renowned establishments, including Raybells Restaurant, IBIS Hotel Nyeri, Sportsman Arms Nanyuki, Safari Halt Hotel Chaka, Nanyuki Sports Club and Mama Africa Nyeri. These customers not only endorse our premium coffee but also contribute to the support of local businesses, thereby nurturing economic development within our community.

Celebrating Success

As we celebrate the five years as DeKUT Enterprises Company, we take pride in our achievements, but our journey is far from over. With each milestone, we renew our commitment to excellence, innovation, and community empowerment. We remain steadfast in our pursuit of greatness, guided by our vision and fueled by our passion.

Food Safety Awareness

By Esther.M. Macharia, Senior cateress @DeKUT



As we graduate, family, friends and relatives will prepare sumptuous meals and drinks to celebrate our significant milestone. The celebrations and merrymaking will start from the university's beautiful and well-manicured grounds, to hotels and at our homes, where cooked food and drinks will be prepared and consumed at source or be transported from the production area to a different location where the celebrations will be held, and chances of the food being contaminated are high. There is, therefore, a need to be aware of food safety issues that can turn these momentous celebrations into misery and anguish.

Over 200 types of diseases, among them cancer and diarrhoea, can be attributed to the consumption of unsafe food that carries harmful bacteria, viruses, parasites and chemical substances (WHO, 2022)). This has caused over 600 million people to fall sick every year globally, resulting in 420,000 deaths and 33 million healthy life years. World Health Organization (WHO) fact sheets show that in many countries, people use groundwater for domestic use such as drinking, food preparation, and irrigation, which, surprisingly, contains arsenic, a highly toxic chemical in its organic form that occurs naturally in this groundwater. Long-term use of such water poses a health risk to the consumers as it exposes them to arsenic, which could cause cancer, skin lesions, cardiovascular diseases and diabetes. The organization, through another fact sheet, expounds how *clostridium botulinum* produces lethal botulinum toxins resulting in blocked nerve functions, muscular paralysis resulting in human botulism due to consumption of expired and improperly processed and prepared food such as canned foodstuffs, preserved and fermented foods.

A cycle of disease, malnutrition and, in some cases, deaths that are so vicious is created through the consumption of food that is contaminated at any stage of food production from farm to fork. Such contaminants include but are not limited to *campylobacter bacterium, Escherichia coli (E.Coli),*



listeria monocytogenes salmonella, found in soil, water, vegetation, and faecal matter; dioxins (chemically related compounds known as persistent environmental pollutants (POPs), that are produced by improper disposal and burning of wastes. The cycle affects food and nutrition security, national economies, trade and tourism, population growth and attainment of sustainable development goals.

Numerous studies have been carried out that have proved the presence of unsafe food, both raw and processed, in the food market, a scenario that cannot be overlooked. This brings about the question, "**how safe is the food we consume?"** for example, Mwove (2023) conducted research on the quality and safety of ready street vended foods sold in selected locations within Thika town and found that the food vended was unsafe and a public health concern, as majority of it had numerous pathogenic micro-organisms and toxic chemical contaminants, with high viable counts of *E.Coli, Salmonella, staphylococcus aureus*, yeast and mould's, indicating how unsuitable the food was for human consumption. Notably, ready-to-eat foods were highly contaminated due to poor food safety practices and hygiene among the food vendors. Also, toxic heavy metals such as lead and cadmium, in addition to aflatoxin B1, were found to be present in cereal-based food, such as groundnuts, in quantities that exceeded the maximum recommended limits allowed by the FAO/WHO food standard programme. In another study conducted by Makau. et al. (2023), to determine the presence, concentration and effects of formalin on raw milk in Nyeri, found that 83.33% of milk sold in Nyeri municipality is adulterated, adding to the weight of how unsafe food is sold. These studies, among many others on food safety, show that in every bite of food one takes, every consumer is at a potential risk of food contamination and poisoning, leading to food-borne illness.

To be safe and free from food contamination and poisoning, exercise caution and observe the five keys to safe food recommended by the World Health Organization.

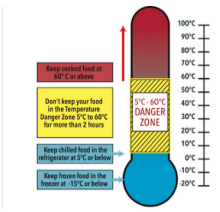
5 Keys To Safe Food



1. KEEP CLEAN- *Clean raw food, Clean hands, Clean kitchen, Clean kitchen cloths, Clean restaurant, Clean work tables and counters, Clean cooking tools, Clean serving tools, Clean environment, Clean water etc.;*



2. KEEP SEPARATE- *Separate raw foods from cooked foods; Separate red meats from white meats; separate fruits from meats; separate handling cash from handling food, etc.*



3. COOK THOROUGHLY- *Cook all foods thoroughly as heat kills germs.*

4. CORRECT TEMPERATURES- *Keep hot foods hot, serve hot foods hot, keep cold foods cold and serve cold foods cold. Avoid warm foods.*



5. SAFE WATER AND RAW MATERIALS- *Use safe treated water, get raw materials from safe and reliable sources.*

Remember that we often read about food contamination and adulteration, then we forget about it. STAY AWARE AND CELEBRATE!

Congratulations Class of 2024

PROGRAMMES OFFERED AT DeKUT

SCHOOL OF ENGINEERING
Ph.D. Mechanical engineering
Master of Science in Civil Engineering
Master of Science in Mechanical Engineering
Master of Science in Biomedical Engineering
Master of Science in Electrical and Electronics Engineering
Master of Science in Machine Tool Design and Manufacturing Engineering
Master of Science in Advanced Manufacturing &Automation Engineering
Master of Science in Industrial Engineering and Management onel
Master of Science in Telecommunication Engineering
Bachelor of Science in Electrical and Electronic Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Mechatronic Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Chemical Engineering
Bachelor of Science in (Telecommunication Information Engineering)
Bachelor of Education in Technology (Civil Engineering)
Bachelor of Education in Technology (Electrical and Electronic Engineering)
Bachelor of Education in Technology (Mechanical Engineering)
Bachelor of Technology in Building and Technology Construction
Postgraduate Diploma in Technical and Vocational Education
SCHOOL OF HEALTH SCIENCES
Bachelor of Science in Nursing (Direct Entry)
Bachelor of Science in Nursing (Upgrading)

SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
Ph.D. in Computer Science
Master of Science in Computer Science
Master of Science in Čyber Security
Post Graduate Diploma in Animation and Visual Effects
Bachelor of Science in Computer Science
Bachelor of Business Information Technology (BBIT)
Bachelor of Science in Information Technology (IT)

SCHOOL OF BUSINESS MANAGEMENT AND ECONOMICS
Ph.D. in Business Administration & Management
Master of Science in Supply Chain Management
Master of Science in Project Management
Master of Science in Business analytics
Master of Science in Economics
Master in Business Administration
Bachelor of Purchasing and Supplies Management (BPSM)
Bachelor of Commerce (BCOM)
Bachelor of Business Administration (BBA)
Diploma in Business Administration (DBA)
Diploma of Purchasing and Supplies Management (DPSM)

SCHOOL OF SCIENCE
Ph.D. in Chemistry
Master of Science in Chemistry
Master of Science in Applied Statistics
Master of Science in Leather Technology
Bachelor of Science in Leather Technology
Bachelor of Science in Actuarial Science
Bachelor of Science in Mathematics and Modeling Process
Bachelor of Science in Polymer Chemistry
Bachelor of Science in Industrial Chemistry
Diploma in Leather Technology

INSTITUTE OF HOSPITALITY AND TOURISM MANAGEMENT
Master of Science in Sustainable Tourism and Hospitality Management
Bachelor of Sustainable Tourism and Hospitality Management
Diploma in Sustainable Tourism and Hospitality Management
Certificate in Institutional Accommodation and Catering Operations
Mountaineering and Outdoor Expeditions Guiding

INSTITUTE OF FOOD BIO-RESOURCES AND TECHNOLOGY
Ph.D. in Food Science and Technology
Master of Science in Food Science and Technology
Bachelor of Science in Food Science and Technology
Bachelor of Science in Nutrition and Dietetics
Diploma in Food Science and Technology
Diploma in Coffee Technology and Cupping
Certificate in Coffee Technology and Quality Management

INSTITUTE OF GEOMATICS, GIS AND REMOTE SENSING
Ph.D. in Geomatics & Geospatial Information Science
Master of Science in Geospatial Information Systems and Remote Sensing
Bachelor of Science in Geomatics Engineering and Geospatial Information Systems
Bachelor of Science in Geospatial Information Science and Remote Sensing

GEOTHERMAL TRAINING AND RESEARCH INSTITUTE
Master of Science in Geothermal Energy Technology
Post Graduate Diploma in Geothermal Energy Technology
Bachelor of Science in Geology

INSTITUTE OF CRIMINOLOGY, FORENSICS AND SECURITY STUDIES
Master of Science in Criminology and Security Management
Bachelor of Science in Criminology and Security Management
Diploma in Criminology and Security Management

INSTITUTE OF TECHNICAL AND PROFESSIONAL STUDIES
Diploma in Building Technology
Diploma in Fashion Design & Interior Decoration
Diploma in Electrical &Electronics Engineering (Power Option)
Certificate in Building Technology
Certificate in Fashion Design and Interior Decoration
Certificate in Electrical and Electronics Engineering (Power Option)

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Level 3 (Siemens Certified Mechatronic Systems Professional)

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