



Inspiring Innovation and Leadership

KARATINA UNIVERSITY

Weekly Dispatch 3, 2023

Monday 6<sup>th</sup> February – 11<sup>th</sup> February, 2023

## THE GREEN AGENDA: OPPORTUNITIES AND

**K**aratina University, through the **Green University Committee (GUC)**, held a Webinar on **Friday, 10<sup>th</sup> February 2023** on the Green Kenya Agenda. Facilitated by **Dr. Dennis Maina**, a Member of GUC, the Webinar centered on the *'Opportunities and Challenges in Implementation of the Green Agenda'*. Dr. Maina started off by defining key terminologies to help understand the Green Agenda.

### *Understanding the Green Agenda*

First, a **Green University** is one that incorporates Environment, Curriculum and Sustainable Green Operations while a **Green University Network** is a functional network of higher education institutions that incorporate environment, climate resilience strategies and sustainability aspects in their education, training, campus operations and enhanced student engagement. The **Green Curriculum** supports global sustainability. It begins with the future in mind, designing a learning experience for students that will prepare them to lead the world towards a healthier, cleaner, more sustainable future. **Green Skills** refer to knowledge, abilities, values and attitudes needed to live in, develop and support a sustainable and resource-efficient society. A **Green Economy** is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. **Green Energy** is in infinite supply AND does not produce greenhouse gas emissions or harm the environment, while renewable energy "only" is in infinite supply (may or may not generate greenhouse gas emissions). **Green building** is purposeful construction of buildings on campuses that decreases resource usage in both the building process and also the future use of the building. The goal is to reduce CO<sub>2</sub> emissions, energy use, and water use, while creating an atmosphere where students can be

In order to attain a Green University status, though, Dr. Maina listed the following components as contributing factors; green curriculum development, awareness, energy efficiency and renewable energy, water efficiency, environmentally preferable building materials and specifications, environmental conservation and restoration, waste management (Reduce, Re-use, Recycle), locally available materials and sustainability, air quality and toxicity reduction, alternative transport, participation in green matters; conferences and networks and deployment of ICT.

### *Why a Green University?*

The Green Agenda/Economy discourse has continued to permeate in institutions and organizations. The rallying call has been the adoption of the Green Agenda in the operation of these entities. Higher education institutions in Kenya and the world over, continue to embrace this concept. The question, then, is, what is the justification for a Green University? According to Dr. Maina, this idea has been embedded in a number of policy documents and it is prudent for the idea to concept to be implemented. These policy documents guide the implementation of the Green Agenda. One such document is the **Kenya Green Economy Strategy and Implementation Plan (GESIP), 2015** whose Strategic Areas 3 and 4 push for sustainable natural resource management and promotion of resource efficiency. **The Africa Agenda 2063** articulates education (2), Agriculture (5) and Environment (7) in its goal and priority areas. In addition, the attainment of the **Sustainable Development Goals (SDGs)** is also anchored on Good Health and Wellbeing (SDG 3), Inclusive and Equitable Quality Education (SDG 4), Affordable and Clean Energy (SDG 7) Climate Action (SDG 13), Life on Land (SDG 15) and Partnerships to achieve the Goals (SDG 17).

## Karatina University in Context

Towards promoting the Green Agenda, Karatina University has adopted the '**Green Entrepreneurial University**' as its slogan and uses it in its branding. This is because of the University's location in high agricultural potential area. It has also established Green University Committee which formulated a Green University Policy to guide the Green Agenda. The University is also a member of the Kenya Green University Network where a number of higher education institutions promote the greening of universities. It has also adopted green practices, for example, the use of solar powered borehole, green competitions involving games (cycling) and innovations, awareness creation through webinars, seminars and conferences, environmental conservation by planting trees and other energy saving measures.

## Other Institutions Green Agenda

Dr. Maina articulated the steps that other institutions have taken in their Green Agenda. **Strathmore University** uses solar power for domestic needs like lighting and water pumping, developed short courses on solar energy and its applications, innovations and research in solar energy in collaboration with GIZ which has led to the establishment of a fully functional solar research laboratory and direct-use start-ups. There is also innovation of solar powered refrigerators and cold room that are used for training with potential for commercialization. Adoption of green construction designs where buildings are designed in a way to allow light penetration in all rooms during the day. It has also forged partnerships with organizations such as Agribiz and Kenya Climate Innovations Center for mentorship, funding and incubation of green innovative projects or proposals.

**Pwani Oil Limited**, on the other hand, has embraced innovative technologies like Pyrolyzers for recycling waste to make clinker. This has minimized contamination of soil and water. It has also engaged in tree planting activities and adopted good manufacturing practices which have aided in the provision of a clean, consistent and well maintained environment for finished products by limiting the exposure of products and people to safeguard against contamination.

In the case of **Bamburi Cement Limited**, the Company has launched an innovative green construction project dubbed "Houses of Tomorrow" (HoT)

in a bid to fulfil its sustainable construction agenda through low-carbon based building solutions. The 'Green Construction' theme has included water harvesting systems, water reticulation systems, solar panels to cater for lighting and water heating needs, features like large windows for maximum natural light and fresh air among others.

Institutions have also joined the Kenya Green University Network (KGUN) as participating members.

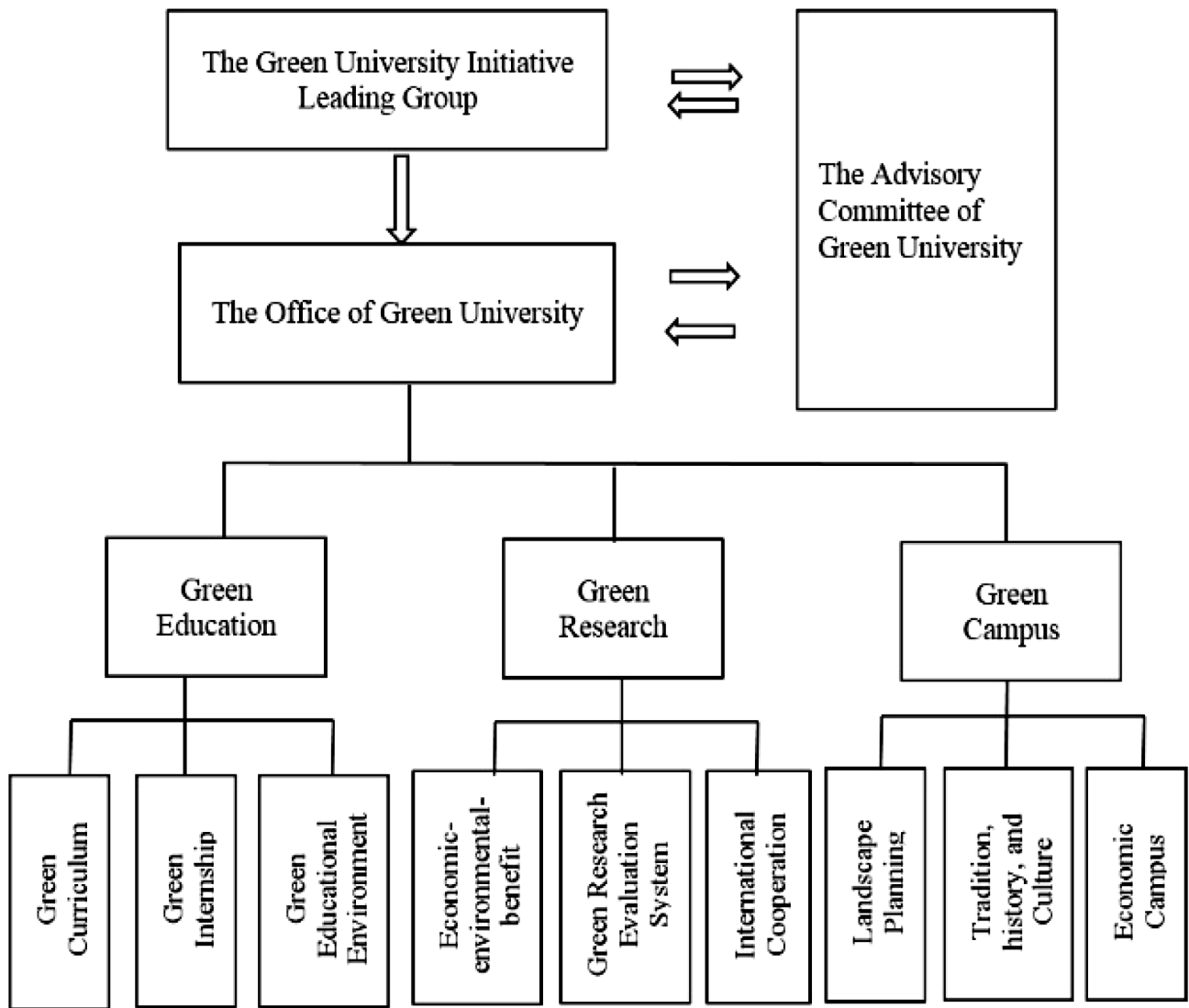
## Opportunities for KarU in the Green Agenda

Dr. Maina articulated a number of opportunities available in the Green Agenda for Karatina University. The institution can integrate green entrepreneurship in its curricula, market the institution as a Green Entrepreneurial University, conduct green research and develop green publications, hold green conferences and workshops, provide a green entrepreneurial hub for incubation, establish a green network among staff, develop short courses in green sustainable technologies such as solar, biogas, agroforestry and waste disposal including e-waste, emphasize the Green Entrepreneurial University competitions with handsome rewards and start-up seed capital to innovators (staff and students), get at least ISO 14001 (EMS) certification, use biogas from livestock waste and establish eco-friendly waste management systems.

## Challenges

Despite these opportunities, however, there exists challenges to contend with including limited funds available for green activities, limited awareness and knowledge among staff, students and surrounding community, involvement or lack thereof of stakeholders, lack of indicators to measure sustainability in higher education institutions (Standard Template), use of sustainability gauge which is still new and an uncommon practice in many Institutions, inadequate framework (policy, procedures), lack of motivation from universities to encourage green education and activities to all communities in campus, lack of construction standards and control from authorities to ensure quality and safe environment, higher maintenance costs and lack of supporting data due to limited research in the area.

## IDEAL GREEN UNIVERSITY MODEL



### WOMEN IN SCIENCE FROM KARATINA UNIVERSITY SUCCESSFULLY MENTOR SECONDARY SCHOOL GIRLS



### HUAWEI Technologies donating laptops and digital skills book to the participating schools

**K**aratina University celebrated the International Day of Women and Girls in Science (IDWGIS) on Saturday, 11<sup>th</sup>

February 2023 at St. Faustina Kerugoya Girls High School in Kirinyaga County.

More than 1500 girls from the School and five other neighbouring schools were mentored by women in science from Huawei, Karatina University and other institutions. The event was organized by the

Prof. Macharia stated that there are less than 30 percent of women in science; an issue which needs to be urgently addressed in order to raise it to at least 40 percent.

The keynote speech was delivered by Eng. Maureen Mwaniki, the Vice Director, Programs Management Organizations and Director for Women in Technology, Huawei Technology Company

Limited. She shared on what she would have loved mentors to tell her while in high school. Some of these are; nothing but the very best, do a lot of reading, study, be consistent, self-awareness, take time to know who you are, be unapologetically you, what you envision is what you become, the time is now, listen more, speak less, start from the bottom up, take time to grow. Take one step at a time. Huawei Technologies donated some basic digital skills books and laptops to aid them in learning.

Other topics ranged from Innovation in Medicine delivered by Dr. Hellen Nabiswa, a Physician and Diabetologist and Social Media Health Educator Consultant at Kenyatta National Hospital. She encouraged the students to think about innovation in order to fit in the current world. Dr. Nabiswa manages social media pages where she provides information about diabetes to her patients. Speaking on *'The Sky is no the Limit but the Beginning'*, Dr. Grace Muriithi, section head of Chemistry in the Department of Biological and Physical Sciences at Karatina University urged the students to believe in their ability, be their own persons by not following crowds, getting a mentor and learning from them while also remembering God in all they do and letting Him guide their footsteps.

Dr. Susan Mambo, a Public Health Specialist and Chairperson, Department of Environmental Health and Disease Control, JKUAT and an Alumni of Kerugoya Girls shared her life journey in Health Science. She informed the students that their mindset is the most important strength they have. She encouraged them to focus and change their mindsets concerning science courses. *'You define what you want in life. Nobody else can do that. Follow your passion. Yes, you can,'* she stated. In an eye-opening address by Dr. Margaret Kinyua, a Lecturer in Mathematics and Programme Coordinator of Bachelor of Science in Applied Statistics with Computing and Actuarial Science, Karatina University and an Alumni of Kerugoya Girls, she expounded on Mathematics as a Language.

*'Every field has its own terminologies. You have to understand the language of mathematics. It is a universal language since the terminologies are uniform all over the world.'*

*'Every field has its own terminologies. You have to understand the language of mathematics. It is a universal language since the terminologies are uniform all over*

*the world.'* She stated that Mathematics enhances the logical and creative thinking of a learner. Therefore, it was important to know where the process of mathematics starts and where it ends.

*'What do you yourself say about mathematics? Do not listen to what others say. Create your own story. Learn to communicate in the language of mathematics. Think mathematics. Speak mathematics. Do mathematics,'* she concluded.

Dr. Rose Nyambura, a Science Teacher Educator, Patron of Young Women in Science in Developing Countries-Laikipia University and an Alumni of Kerugoya Girls spoke on her lived experience and journey in science. She stated that it was important for women to be in Science, Technology, Engineering and Mathematics (STEM) fields because opportunities in STEM are evolving.

