



KeSEBAE NEWS



Newsletter of the Kenya Society of Environmental, Biological and Agricultural Engineers

VOLUME 5. NO. 9

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DEAR READER

Welcome to KeSEBAE Newsletter.

A fortnightly Newsletter touching on topical issues affecting our environment.

KeSEBAE NEWS is a Newsletter of the Kenya Society of Environmental, Biological and Agricultural Engineers (KeSEBAE)

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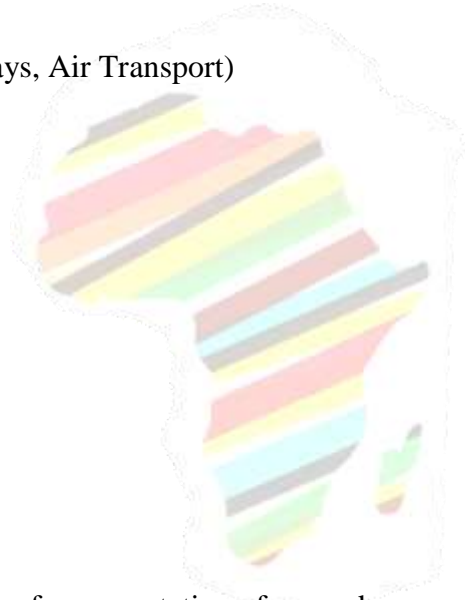
Call for Membership

About the Conference

The annual international conference for 2023, organized by the Kenya Society of Environmental, Biological and Agricultural Engineers (KeSEBAE) in collaboration with the Pan African Society for Agricultural Engineering (PASAE), is set to take place from Wednesday 6th to Friday 8th December 2023. The conference will revolve around the theme of "Engineering Agenda 2063: The Africa We Want."

Sub- Themes

- i. Seamless Connections (Roads, Railways, Air Transport)
- ii. Energy for Africa
- iii. Industrialized Agriculture
- iv. Housing
- v. Free Trade in Services
- vi. Security
- vii. Sustainable Environment
- viii. Engineering Education and Practice



Paper Submission

The conference avails an international platform for presentation of new advances and findings in diverse engineering fields. We therefore appeal to members to submit their papers. We encourage you to invite colleagues to participate in the conference and submit papers for the Conference Call for Papers.

Please submit your papers to events@kesebae.or.ke.

Key Dates:

Abstract Submission: 11 September 2023

Paper Submission: 10 October 2023

Payment Deadline: 25 October 2023



Registration Details

Members: KES 15,000(\$150)

Non-Members: KES 20,000(\$200)

Undergraduate Students: KES 2,000(\$20)

Field Visit: KES 5,000(\$50)

Virtual: KES 10,000(\$100)



Registration Links

KeSEBAE Website: www.kesebae.or.ke

Web Link: <https://kesebae.or.ke/about-us/events/conference-2023/>

PASAE: www.pasae.org.za

Contact Details

Call: 0788712156

Email: info@kesebae.or.ke

Web: www.kesebae.or.ke



Forestry engineering is a specialized field of study and practice that focuses on the sustainable management, conservation and utilization of forested ecosystems. This discipline combines principles from various scientific and engineering disciplines to address the complex challenges associated with forests and their resources. Forestry engineers play a crucial role in ensuring the responsible stewardship of our planet's forests, which are essential for biodiversity, climate regulation, and the production of valuable timber and non-timber forest products.

Forestry engineering encompasses four main branches or aspects, each of which plays a crucial role in the sustainable management and conservation of forested ecosystems.

These branches address various aspects of forest management, utilization and protection. The main branches include:

Forest Management and Planning

Forest management and planning is a fundamental aspect of forestry engineering that involves the development and implementation of strategies to ensure the long-term health and productivity of forested lands.

Key Responsibilities

- i. Conducting forest inventory and resource assessment to understand the current state of forests.
- ii. Developing and implementing sustainable forest management plans that consider ecological, economic and social factors.
- iii. Setting timber harvest schedules, monitoring forest growth and assessing the health of forest ecosystems.
- iv. Balancing the extraction of timber with the conservation of biodiversity, soil and water resources

Tools and Techniques

Geographic Information Systems (GIS), remote sensing, forest modelling and data analysis are commonly used tools in this branch.

Forest Operations and Harvesting

This branch focuses on the practical aspects of harvesting timber and other forest products efficiently and with minimal environmental impact.

Key Responsibilities

- i. Planning and executing timber harvests, including tree felling, logging and transportation.
- ii. Developing techniques to reduce soil erosion, protect water quality and minimize damage to non-target vegetation during harvesting.
- iii. Utilizing modern machinery and equipment to optimize the efficiency of forest operations.
- iv. Ensuring worker safety and adherence to environmental regulations.

Tools and Techniques

GPS technology, forest road design and forest machinery are essential tools in forest operations.

Silviculture and Reforestation

Silviculture is the science and practice of managing forest regeneration and growth to meet specific objectives, such as timber production or habitat improvement.

Key Responsibilities

- i. Planning and implementing reforestation and afforestation projects to restore and expand forested areas.
- ii. Selecting appropriate tree species, planting methods, and spacing to achieve desired outcomes.
- iii. Managing vegetation, including weeding and thinning, to promote healthy tree growth.
- iv. Conducting research to develop innovative silvicultural practices.

Tools and Techniques

Tree breeding, genetic selection and site preparation are some of the techniques used in silviculture.

Forest Ecology and Conservation

This aspect of forestry engineering focuses on understanding forest ecosystems, their biodiversity and developing strategies to conserve and protect these valuable resources.

Key Responsibilities

Studying the ecological interactions within forest ecosystems, including flora, fauna and microorganisms. Identifying and mitigating threats to forest health, such as invasive species, diseases and climate change.

Designing and implementing conservation organizations and policymakers to advocate for sustainable forest management practices.

Tools and Techniques

Ecological monitoring, wildlife habitat assessment, and ecosystem modelling are used in forest ecology and conservation.

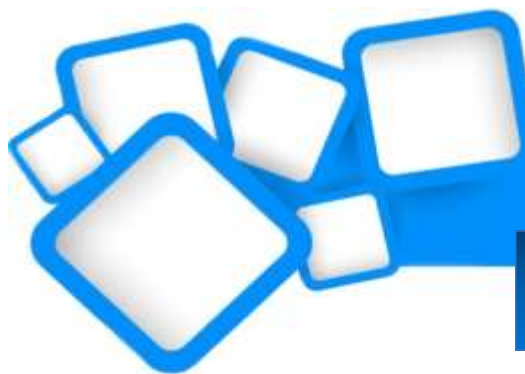
The aforementioned branches of forestry engineering work in tandem to ensure that forests are managed sustainably, providing essential ecosystem services, supporting local economies and contributing to global efforts to combat climate change. The integration of these aspects is essential for the responsible stewardship of our planet's forested landscapes.

Forestry engineering in Kenya, like many other parts of the world, is quite erratic when it comes to addressing contemporary challenges and opportunities. Several modern trends and potential future directions can be observed in the field of forestry engineering in Kenya:

- i. **Sustainable Forest Management:** The trend towards sustainable forest management continues to be a priority in Kenya. Forestry engineering is increasingly focused on developing and implementing sustainable practices that balance the need for timber production with the conservation of forest ecosystems.
- ii. **Community-Based Forest Management:** Kenya has been active in promoting community-based management initiatives. The future of forestry engineering in Kenya may involve more emphasis on involving local communities in decision-making processes, giving them a stake in the conservation and sustainable use of forest resources.
- iii. **Forest Restoration and Reforestation:** Owing to the rise in recognizing the importance of forests in climate change mitigation and adaptation, forestry engineering in Kenya is likely to see a growing focus on forest restoration and reforestation projects.

- iv. **Technology Adoption:** Modern technologies, such as Geographic Information Systems (GIS), remote sensing and drones, are becoming integral tools for forest monitoring and management in Kenya. These technologies can provide accurate data for forest inventory, monitoring illegal logging, and assessing the health of forest ecosystems.
- v. **Climate Change Mitigation and Adaptation:** Climate change poses significant challenges to Kenya's forests. Forestry engineering is expected to play a key role in developing strategies for adapting forests to changing climate conditions and maximizing their potential as carbon sinks. This may involve selecting climate-resilient tree species and implementing agroforestry practices.
- vi. **Research and Innovation:** The future of forestry engineering in Kenya is likely to involve increased investment in research and innovation. This can include developing new silvicultural techniques, breeding programs for tree species adapted to local conditions, and finding sustainable uses for non-timber forest products.
- vii. **Education and Capacity Building:** To keep pace with modern trends and challenges, there will likely be an increased focus on education and capacity building in forestry engineering. This includes training a new generation of forestry professionals with the skills and knowledge needed to address contemporary issues in forestry.

The future of forestry engineering in Kenya is expected to be shaped by sustainability, technology, climate change resilience and community involvement. The field will play a vital role in conserving Kenya's forests, addressing climate change and promoting the sustainable use of forest resources while contributing to local livelihoods and economic development.



Call for Papers

To the Next Editions of the JEAE

JEAE

Journal of Engineering in Agriculture and the Environment

The Journal of Engineering in Agriculture and the Environment (JEAE) is a Publication of the Kenya Society of Environmental, Biological and Agricultural Engineers (KeSEBAE) through which researchers in the fields of Environment, Agriculture and related fields share research information and findings with their peers from around the globe.

The JEAE Editorial Board wishes to invite interested researchers with complete work in any relevant topic, to submit their papers for publication in the next editions of the Journal.

Manuscripts may be submitted online or via email to:

Prof. Lawrence Gumbe, Chairperson, JEAE Editorial Board

Via Email: info@kesebae.or.ke or online via: https://www.kesebae.or.ke/journal/manuscript_submit.php

Criteria for Article Selection

Priority in the selection of articles for publication is that the articles:

- a. Are written in the English language
- b. Are relevant to the application of engineering and technology in agriculture, the environment and biological systems
- c. Have not been previously published elsewhere, or, if previously published are supported by a copyright permission
- d. Deals with theoretical, practical and adoptable innovations applicable to engineering and technology in agriculture, the environment and biological systems
- e. Have a 150 to 250 words abstract, preceding the main body of the article
- f. The abstract should be followed by the list of 4 to 8 "Key Words"
- g. Manuscript should be single-spaced, under 4,000 words (approximately equivalent to 5-6 pages of A4-size paper)
- h. Should be submitted in both MS word (2010 or later versions) and pdf formats (i.e., authors submit the abstract and key words in MS Word and pdf after which author uploads the entire manuscript in MS word and pdf)
- i. Are supported by authentic sources, references or bibliography

Our Expert Reviewers are Highly Regarded Globally and Provide Fast and Rigorous Review Services For additional details and online support visit: <https://www.kesebae.or.ke/journal/instructions.php> or visit our JEAE website at: <https://www.kesebae.or.ke/journal/>

CALL FOR ARTICLES TO KeSEBAE NEWS

KeSEBAE NEWS Editorial wishes to call for topical articles for publication in future editions of KeSEBAE NEWS.

Please transmit the same to the **Editor: Ezekiel Oranga** via Email: info@kesebae.or.ke

NOTE: A payment will be made to the author of each selected article



Be a KeSEBAE Member:

The annual subscription fees, admission fees and reinstatement fees for members of all grades (except Honorary and Life Members who shall pay no dues or fees) are indicated below: The annual dues are as follows:

<i>Membership Category</i>	<i>Annual Subscription (KES)</i>	<i>Admission Fees (KES)</i>	<i>Reinstatement Fees (KES)</i>
<i>Fellow</i>	5,000	1,000	2,000
<i>Member</i>	2,000	1,000	2,000
<i>Ass.Member</i>	1,000	1,000	2,000
<i>Aff.Member</i>	500	1,000	2,000
<i>Student</i>	300	100	-

Membership Renewal

Members of all grades are requested to renew their **2022 membership as follows.**

<i>Membership Category</i>	<i>Annual Subscription Fee (KES)</i>
<i>Fellow</i>	5,000
<i>Member</i>	2,000
<i>Ass. Member</i>	1,000
<i>Aff. Member</i>	500
<i>Student Member</i>	300

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<https://web.facebook.com/kesebae1/>

PAYMENT DETAILS

Bank	
Bank	Absa Bank Kenya Plc
Branch	Nairobi University Express Branch
Account Name	Kenya Society of Env. Bio. & Agric. Engineers
Account No.	2038150696
Swift Code	BARCKENX
Currency	Kenya Shillings

M-PESA DETAILS

Pay Bill No.: **4002575**
Account No: **Your Full Name**



Important Links	
KeSEBAE	https://www.kesebae.or.ke/
JEAE	https://www.kesebae.or.ke/journal/
EBK	https://ebk.or.ke/
IEK	https://www.ikenya.org/
PASAE	http://www.pasae.org.za/
Email	info@kesebae.or.ke