



# Kenya

*farmer*

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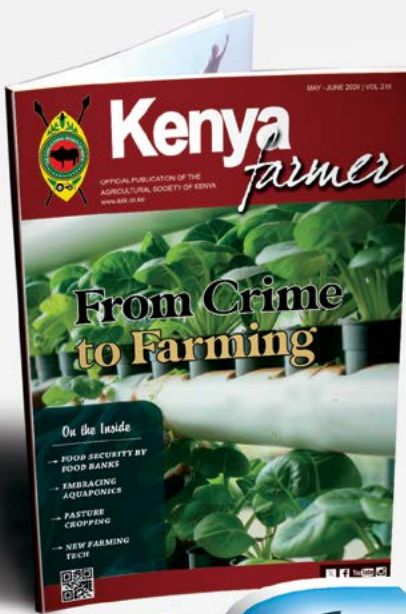
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### Editor's Note



Joseph W. Mugo, EBS  
**Editorial Board Chairman**

**Dear Readers,**

Welcome to the July/August Edition of the Kenya Farmer Journal. As we journey through the heart of this productive season, we are happy to bring you a collection of inspiring and transformative stories that showcase the innovation and resilience of our farmers and agripreneurs.

In this edition, we delve into the pioneering world of Automated Seedling Nurseries in Nakuru, a groundbreaking approach that promises to revolutionize seedling production and boost efficiency for farmers. We also highlight the remarkable story of a Nakuru farmer who has turned an abandoned quarry into a thriving agroecological farm,

demonstrating the power of innovation and determination in the face of adversity.

Agroecology takes center stage as we explore its vital role in promoting climate-smart agriculture. Learn how this sustainable approach not only enhances productivity but also protects our environment for future generations. Our feature on Farming for All emphasizes the importance of inclusivity, showcasing efforts to mainstream people with disabilities into agriculture, ensuring that everyone has a chance to contribute to and benefit from this vital sector.

Technology continues to prove its mettle, with compelling evidence that modern solutions yield better results compared to traditional farming methods. Discover how students from Machakos University are leading the charge with their smart farming solution, designed to monitor climate and provide crucial advice to farmers.

Sustainability is a recurring theme in this edition. We bring you insights on Sustainable Fish Feeds, innovative pest-repelling plants, and local initiatives that are making urban agriculture more sustainable.

Meet our Harvest Heroes, including an engineer on a mission to curb post-harvest losses, and learn how crop insurance is shielding smallholder farmers from climate chaos. Finally, uncover the hidden treasure in Kenya's sugarcane industry 'bagasse' and how it is fueling a sustainable future.

Each story in this edition reflects the dynamic spirit and ingenuity of Kenya's agricultural sector. We hope these narratives inspire you to embrace new ideas, adopt innovative practices, and continue to drive the transformation of our beloved agricultural landscape.

*Happy reading.*

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# Kenya *farmer*

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*"To all these great people, to Agri-Preneurs who will take the front line immobilizing our farmers into Agri-Preneurs making sure that farming puts money in the pocket of our farmers and resources in the economy of our economy as they supply us with food security,"*

**Patron,**  
Agricultural Society of Kenya

**H.E. Hon. William Samoei Ruto, PhD., CGH**



*"We are keen to ensure the sector is protected and it grows so that we can increase exports and farmers' earnings. Our economy starts with Agriculture and we will mobilize everybody to ensure we succeed,"*

**Deputy Patron,**  
Agricultural Society of Kenya

**H.E. Hon. Rigathi Gachagua, EGH**



*"We want to expand exports of tea, and coffee and these will ensure that we bring in more foreign currency that we are taking out or at least balance it."*

**First Vice Patron,**  
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**Hon. Mithika Linturi, CS, EGH**



# 2024 CALENDAR OF EVENTS

THEME: PROMOTING CLIMATE SMART AGRICULTURE AND TRADE INITIATIVES FOR SUSTAINABLE ECONOMIC GROWTH

| EVENT                                     | DATE                  | VENUE    |
|---|-----------------------|----------|
| Eldoret National Show                     | March 6th - 9th       | Eldoret  |
| Eastern Kenya Branch Show                 | March 14th - 16th     | Embu     |
| A.S.K Annual General Meeting              | March 28th            | J/park   |
| Y.F.C.K National Camp                     | April 8th - 12th      | Nairobi  |
| Y.F.C.K Tree Planting Day                 | May 18th              | Nairobi  |
| Mt. Kenya Branch Show                     | May 22nd - 25th       | Nanyuki  |
| Meru National Show                        | May 29th - 1st June   | Meru     |
| S.E Kenya National Show                   | June 5th - 8th        | Machakos |
| Western Kenya Branch Show                 | June 12th - 15th      | Kakamega |
| Y.F.C.K National Rally                    | June 22nd             | J/park   |
| Nakuru National Agricultural Show         | July 3rd - 7th        | Nakuru   |
| Southern Kenya Branch Show                | July 11th - 14th      | Kisii    |
| Kisumu Regional Show                      | July 24th - 28th      | Kisumu   |
| National Agricultural Teachers Conference | August 7th - 9th      | JKUAT    |
| Mombasa International Show                | September 4th - 8th   | Mombasa  |
| Central Kenya National Show               | September 11th - 14th | Nyeri    |
| Baringo Branch Show                       | September 19th - 21st | Kabarnet |
| Nairobi International Trade Fair          | September 23rd - 29th | J/park   |
| S.W Kenya Branch Show                     | October 3rd - 5th     | Migori   |
| Kitale National Show                      | October 9th - 12th    | Kitale   |
| National Ploughing Contest                | November 22nd - 23rd  | Kitale   |

# Embracing Innovation and Technology In Agriculture And Trade



**Annabel Kiriinya (Mrs), EBS**  
NATIONAL CHAIRPERSON,  
AGRICULTURAL SOCIETY OF KENYA

I am delighted to welcome you to the Nakuru National Agricultural Show, Kisii Branch Show, Kisumu Regional Show, and the National Teachers Conference. The Agricultural Society of Kenya (A.S.K) has a mandate of promoting excellence in agriculture, trade, and allied sectors through our exhibition platform countrywide.

These events provide invaluable opportunities for the exchange of information and learning of the latest technologies and innovations to advance the agriculture and trade sectors across Kenya.

The National Government is steadfast in its commitment to fos-

tering innovation and technology within these sectors. By implementing policies that encourage research and development, providing funding for agricultural innovations, and promoting digital agriculture, the National Government is creating an enabling environment for the sector to thrive. Initiatives such as research collaborations and partnerships with local and international bodies ensure that our farmers and entrepreneurs have access to cutting-edge technologies and practices.

To achieve a food-secure economy, Kenyan farmers, entrepreneurs, and stakeholders must actively embrace and utilize these innovations and technologies. This involves adopting modern farming techniques, leveraging digital tools for better farm management, and engaging in continuous learning to stay abreast of the latest advancements. Collaborative efforts among stakeholders to share knowledge and resources will be crucial in this journey towards sustainable agricultural and trade practices.

We applaud our farmers who have already taken significant steps in embracing innovation and technology. The shift towards precision agriculture, the use of mobile applications for market information, and the adoption of climate-smart agricultural practices are just a few examples of how our farmers are leading the way. These efforts not only enhance productivity but also contribute to the resilience and sustainability of our agricultural sector.

The Agricultural Society of Kenya is committed to supporting all stakeholders in embracing agricultural and trade technologies and innovations. Through our countrywide Shows and Trade Fairs, we provide a platform for showcasing the latest advancements, facilitating knowledge exchange, and fostering partnerships. We will continue to invest in these events to ensure they remain relevant and beneficial for all participants, ultimately driving the growth and development of the agricultural and trade sectors in Kenya.

Welcome to our July-August events. Let us come together to explore, learn, and advance the future of agriculture and trade in Kenya.

# Empowering Small-Scale Farmers for a Food Secure Economy



**Batram M. Muthoka, EBS**

CHIEF EXECUTIVE OFFICER,  
AGRICULTURAL SOCIETY OF KENYA

Once again, welcome to our great events: the Nakuru National Agricultural Show, Kisii Branch Show, Kisumu Regional Show, and the National Teachers Conference. These events are key platforms for fostering agricultural development and innovation.

The Agricultural Society of Kenya (A.S.K) is steadfast in addressing the evolving agricultural needs of our nation. The National government has shown commendable commitment to empowering the agriculture and trade sectors. This is evident through increased

funding, policy reforms, and the facilitation of farmer access to new technologies and innovations. These efforts are crucial in enhancing productivity and ensuring sustainable agricultural practices.

A.S.K aligns her strategies with the national government's agricultural and trade pillars by implementing programs that bolster these sectors. We continue to support policy implementation, offer training programs, and provide platforms for farmers to engage with technology and innovation. Our initiatives are designed to complement the national government efforts in achieving a robust agricultural sector that contributes significantly to the economy.

Small-scale farmers in Kenya face numerous challenges, including limited access to markets, inadequate financing, and the impacts of climate change. Addressing these challenges requires concerted efforts from the national government and industry stakeholders. By providing support such as subsidies, training, and access to credit, we can empower these farmers to achieve higher productivity and contribute to a food-secure economy.

The Agricultural Society of Kenya is dedicated to assisting small-scale farmers through our comprehensive masterplan. This includes the establishment of business incubation centers aimed at promoting SMEs businesses. These centers will provide training, resources, and market linkages, enabling farmers to scale their operations and improve their livelihoods.

We appeal to all stakeholders to join us in supporting small-scale farmers. Your collaboration and investment are vital in creating sustainable agricultural practices and ensuring food security for our nation. Together, we can make a significant impact on the lives of these farmers and the broader agricultural landscape.

The A.S.K shows will continue to serve as premier platforms for small-scale farmers, entrepreneurs, and stakeholders offering invaluable opportunities for networking, market linkages, and showcasing innovative solutions. We invite you to participate actively and take advantage of the myriad opportunities provided by the Shows and Trade Fairs.

Karibuni kwa maonyesho ya July/August.



**Dr. Perminus K. Migwi**  
BRANCH CHAIRMAN - NAKURU

## Transforming Agriculture and Trade through Modern Technology and Innovation

pivotal platform for service providers in agriculture, agribusiness, and manufacturing to showcase their products and services. Farmers have benefited from learning about the latest technologies and innovations, enhancing productivity on their farms. Traders have also had opportunities to market their products, expanding their customer base and increasing sales.

Educational institutions in the Central Rift region also leverage this event to

provide students with practical learning experiences, complementing their theoretical knowledge. This is particularly beneficial for learners under the Competency-Based Curriculum (CBC), which emphasizes practical skills.

Nakuru County and the Central Rift region, rich in natural resources, have vast potential for agricultural production, including food crops, horticultural products, and livestock. Nakuru city, with its growing population, offers a substantial market for these products. This year's theme, "Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth," aligns with the pressing issue of climate change affecting all sectors. The Show provides an opportunity for stakeholders, especially farmers, to learn about climate-smart agricultural practices. Karibuni Nakuru National Agricultural Show!

It is my pleasure to welcome you to this year's Nakuru National Agricultural Show, scheduled from Wednesday, 3rd to Sunday, 7th July 2024 at the A.S.K Nakuru Showground. Over the years, this Show has been a

# NAKURU BRANCH SHOW

**DATE: JULY 3RD-7TH | VENUE: NAKURU**

### THEME:

**Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth**

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**Kefa Onduso**  
BRANCH CHAIRMAN - KISII

## Embracing Innovation for Fast Growth

and even from the neighboring country, Tanzania.

As climate patterns evolve, the agricultural sector remains a cornerstone of our economy and is crucial for achieving Vision 2030. Embracing innovation and technology in agriculture is essential for ensuring food security and driving economic growth. This year's Kisii Show aims to enhance the agricultural value chain, boosting both yields and earnings for farmers.

Attendees will have the chance to explore the latest in farming trends and technologies designed to increase production efficiency. Innovations on display will include advanced irrigation systems, organic farming techniques, aquaculture, livestock and fish value-addition methods, and the use of drones.

The show encompasses various sectors, including agriculture, finance (banks and SACCOs), education, health, manufacturing, hospitality, value addition, research, and agrochemicals. For learners, scholars, the business com-

munity, women, and youth, we have organized exhibitions across multiple platforms. These exhibitions will enrich attendees in areas such as entrepreneurship, life skills, the dissemination of technological information, and most importantly, offer talent-nurturing opportunities, innovative hubs, and a youth village.

Throughout the show, a series of activities will take place at the arena corner, providing entertainment for everyone. These activities include performances by police bands, choirs, traditional dancers, and gospel artists, among others.

I would like to express my gratitude for the spirited teamwork and support from the Kisii County Government, the A.S.K National Office, committee members, and staff members. I would also like to acknowledge the tremendous support we have received from the government and all stakeholders, including both the public and private sectors.

Once again, I extend a warm welcome to the Southern Kenya Kisii Show. Let us join hands and commit ourselves to make the region more innovative and, most importantly, commercially oriented.

*Welcome all the Show*

# SOUTHERN KENYA BRANCH KISII SHOW

**DATE: JULY 11TH 14TH | VENUE: KISII**

**THEME:**

**Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth**



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**George Ong'undi**  
BRANCH CHAIRMAN - KISUMU

I am pleased to welcome you again to the Kisumu Regional Show from 24th to 28th July at Mamboleo Showground, a premier event highlighting the best in agriculture and trade within the Lake Region Economic Bloc (LREB)

Kisumu County has experienced remarkable growth in both the agriculture

## Celebrating Agricultural Excellence and Innovation

and business sectors. I am proud to see many farmers in the region, particularly in Nyanza and the Lake Basin, adopting modern agricultural practices. Agriculture has become a lucrative venture, drawing even youth back to farming.

This year's show, scheduled from 24th to 28th July, aims to build on this positive trend and meet the evolving needs of our attendees. We have curated a diverse array of exhibitions designed to educate and inspire all visitors.

My team has diligently assessed the needs of our stakeholders and is dedicated to delivering one of the finest shows to date. With the growing interest in agriculture and the dynamic growth across various sectors in the region, the Kisumu Regional Show is set to estab-

lish new benchmarks in promoting agricultural excellence.

In light of inflation and rising food prices, the significance of agriculture in our nation's history is more pronounced than ever. This year's show will feature innovations and solutions to the challenges farmers have faced in the past, aiming to foster resilience and productivity.

Our program is also designed to benefit business owners, students, and families. I encourage everyone to take advantage of this opportunity to gain experience, enhance their skills, and contribute to our nation's development.

I extend my sincere gratitude to both the national and county governments for their invaluable support. I also thank our major stakeholders and exhibitors for their dedication to preparing exceptional demonstrations and exhibits.

*Welcome, and enjoy the show!  
May God bless you!*

# KISUMU REGIONAL SHOW

**DATE: JULY 24TH-28TH | VENUE: KISUMU**

### THEME:

**Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth**

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# Going Tech in Seedlings Management

By Denis Otieno

**S**eedling propagation is one of the most critical stages for any farmer seeking to ensure success in production. However, a majority of farmers propagate their plants manually, leading to poor germination rate of the seeds. It is against this backdrop that some growers are now automating their nursery systems to reverse such trends.

A farm in Nakuru county is leading by example, producing quality seedlings using the latest technologies.

## State of the art nursery

Five kilometres from Naivasha Town in Nakuru County, a state of the art facility is reshaping the landscape of seedling propagation. It is the brainchild of one Elad Bouton, an Israeli who fell in love with Kenya over a decade ago. He co-founded the farm together with a friend, as he sought to solve pre and post harvest losses in farming.

"I came to Kenya 12 years ago, to participate in propagation of ornamentals and roses mainly. While I did that I got many requests from many farmers to propagate other products for them, I mean, tomatoes, cucumbers, cabbages etc. Since it requires a completely different facility and I could not do it in the other operation, so that inspired me to find partners and establish this place.", says Elad Bouton, Co-Founder of Plantech Kenya which deals with seedlings propagation.

Today, the farm which covers 2 hectares, boasts of an automated propagation nursery. One cannot help but notice the hundreds of trays with seedlings at different stages of production. The farm is propagating seedlings across different categories and species.

"We have the herbs, flowers, vegetables, fruits and tree seedlings that we



Plantech Kenya automated nursery more shots

propagate in this farm", says John Wambugu, the farm manager.

"We are making more than 200 different crops. Among those crops are tomatoes, broccoli, cut flowers", adds Elad.

## Seedlings on order

According to John Wambugu, the farm's business model is mainly to produce pre-ordered seedlings. "99% of what you can see is on orders. The farmer will come and state the kind of crop he is looking for, the variety, then advise us on the quantity required. In return we give him a quote and also advise on the timelines, because different crops have different propagation timelines", he says.

The farm has employed the use of a technology dubbed plant propagator to grow the seedlings. During the propagation, the machine is loaded with trays. Like a conveyor belt, the machine moves the trays, initially putting the most important medium needed for the seeds; peat moss. The seeds are then carefully inserted into holes formed in the peat moss and then finally irrigated. From here, they are ready for placement into the germination room.

"After they leave germinating chamber they are transferred to the greenhouse, which is customized in a way that, during the first one week they will stay under shade in order to ensure that the seeds shoot properly without stress. After this we expose them again. We have

a controlled system where our agronomists are able to come up with feeding and a spray irrigation program. They are able to give plants the right quantities of water or minerals and adequate spraying to ensure that there are no diseases or pests" John explains.

## Success Rate

Once instructions are issued for the machine to do the work at the click of a button, the entire process takes a matter of seconds. Now compared with manual propagation, this system has a number of benefits, the key one being achieving a 95% success rate in the seed germination stage.

"For us to ensure we are getting a high quality seedlings, we undertake a number of aspects into consideration; a), disease free seedling, b), well hardened seedlings, c), uniformity of seedlings and finally, d), a well developed root network" says John as he prepares to dispatch some previously ordered stock.

Elad says "We still use quite a number of workers, whom we consider to be our keys assets. This is because you need minimum of automation if you want to achieve uniformity and once you control irrigation automatically, level of fertilizer, and the water you are giving to the seedlings, then you can control the growth. So we actually automate the place only to the extent required to achieve the necessary stability, uniformity and reliability of supply of planting material."

# Turning Wasteland into a Thriving Farm



*Sylvia Kuria at her farm*

By Denis Otieno

**O**ver five years ago, a five-acre parcel of land located in Mai Mahiu, Nakuru County was in need of a farmer to work it. The farmer who took up that challenge was none other than Sylvia Kuria.

To ensure that she succeeded in turning this vast idle land into a thriving farm, she decided to shift from conventional farming methods that are impacting negatively on soils, to more sustainable farming techniques that ensure high yields while protecting the environment.

## Sustainable Farming

One of the practices she embraced was agroecology, which in simple terms means a sustainable farming approach that works in tandem with nature.

“When we talk of agroecology we are talking about elements and principles in farming that support nature. So it is not the kind of farming that is going to

bring an imbalance in nature, but one that is going to support the cycles and the natural balances of the concerned ecosystem. So we are basically farming with nature in mind” says a jovial Sylvia.

We met her at her transformed farm in Rare village. The transformation that has taken place here in terms of farming is visible. It is hard to notice that this



*Section of quarry at Rare Village in Nakuru*



*More workers at Sylvia's farm*

land was once a quarry.

#### **From quarry to plenty**

"We started the farm in 2017 when this piece of land was a quarry. This is a semi arid area and so many people have given up on farming. We have depressed rainfall, livelihood pressures are high so people resort to quarrying to make an income" reiterates Sylvia as she marvels at the changes at her farm.

She started off by planting trees on sections of this expansive farm. Today she has an estimated 3,000 trees which have completely changed the ecosystem here. She adds that she has noted more than ten species of birds at the farm since the transformation started, confirming that she has created some kind of a natural balance here.

The next step was to fix the soil, and the rest is history. "We focused on growing nitrogen fixing trees. Other practices we have done is green manuring by growing legumes for manure and when they are 4 to 5 weeks old we pluck them back into the soil. Then we also do a lot of composting. We have animals on the farm. Crop rotation is also an important aspect of our farming routine. In addition,

we also have cover crops to ensure that the soil is not bare and exposed to elements of weather like, direct rain drops, wind and sunlight that lead to erosion and loss of soil moisture"

Sylvia is now growing a range of crops thanks to these agroecological principles.

"We grow tomatoes, onions, some leafy vegetables, beans cucumbers and courgettes. We are also trying to focus on our own indigenous foods like cassava, millet....we are also growing pastures for our animals" she explains. .

#### **Agroecology policy framework**

She uses the organically produced crops for subsistence purposes and sells the rest at her shop in Nairobi. Despite the potential of agroecology to improve food systems, Kenya, like many other African countries, still lacks a coherent policy framework on agroecology. Experts are now calling for increased sensitization on agroecological practices.

"Agroecology works with nature...we don't mean that we will not use pesticides or chemicals at all but we reduce their usage gradually, just reduce this synthetic chemicals that are harmful to

the environment and have contributed to greenhouse emissions" explains Mary Irungu, Advocacy Manager at PELUM Kenya, a non profit organization in the country.

Another expert Francis Shivonje, a Policy and Advocacy Expert at Biovision Africa Trust, says the potential of agroecology remains largely untapped. "Agroecology will improve soil health and PH and increase efficiency. We are not saying inorganic fertilizer is bad in that sense, but agroecology and the allied practices can help government save part of foreign exchange up to 30% they are spending on fertilizers. How this will help smallholder farmers is in that it will reduce cost of production, because the farmer is depending on locally available inputs that they can generate at their level" he says.

According to Sylvia, the benefits of agroecological farming systems outweigh the demerits. Her message to potential farmers out there is to exercise patience and have discipline when venturing into this kind of farming.



## MAY & SEPTEMBER 2024 INTAKES

Mount Kenya University (MKU) is a chartered and ISO 9001:2015 certified University committed to a broad-based, holistic and inclusive system of education.

Applications are invited from qualified applicants to enroll in the following Certificate, Diploma, Bachelor's degree, Masters and Doctorate programmes offered in flexible modes of study; Regular (full-time), part-time and Open, Distance and electronic learning (ODEL).

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|---|--|
| DEPARTMENT OF NUTRITION & DIETETICS   |  |
| Master of Science in Nutrition and Dietetics <i>(September 2024 intake)</i> |  |
| Bachelor of Science in Nutrition and Dietetics                              |  |
| Bachelor of Science in Food Science and processing                          |  |
| Diploma in Nutrition and Dietetics  |  |
| Diploma in Food Science and processing Technology                           |  |
| Certificate in Nutrition and Dietetics                                      |  |

| DEPARTMENT OF EPIDEMIOLOGY & BIostatistics       |  |
|--|--|
| Bachelor of Science in Health Systems Management |  |
| Master of Public Health                          |  |
| Master of Health Systems Management              |  |
| Doctor of Philosophy in Public Health            |  |

| DEPARTMENT OF COMMUNITY HEALTH                      |  |
|---|--|
| Master of Science in Community Health               |  |
| Master of Science in Health Education and Promotion |  |
| BSc. Community Health                               |  |
| BSc. Health Education and Promotion                 |  |
| Diploma in Community Health                         |  |
| Certificate in Community Health                     |  |
| DEPARTMENT OF ENVIRONMENTAL HEALTH                  |  |
| Master of Science in Food Science and Safety        |  |
| Bachelor of Public Health                           |  |

| SCHOOL OF BUSINESS AND ECONOMICS  |  |
|---|--|
| DEPARTMENT OF MANAGEMENT  |  |
| Doctor of Philosophy in Business Administration and Management <i>(Thesis only)</i><br><i>Entrepreneurship; Human Resource Management; Marketing Management; Accounting and Finance Science; and Strategic Management.</i>                            |  |
| Master of Science in Procurement and Supplies Management  |  |
| Master of Arts in Public Administration and Management<br><i>Public Policy and Administration; Local Government Administration; Financial Management; Social Services Management; Community Development; and NGO Management.</i>                      |  |
| Master of Science in Project Planning and Management  |  |
| Postgraduate Diploma in Project Planning and Management   |  |
| Bachelor of Business Management<br><i>Marketing Management, Human Resource Management, Banking and Finance, Entrepreneurship, Risk &amp; Insurance Management, International Business Management, Supplies and Procurement Management, Accounting</i> |  |
| Bachelor of Procurement   |  |
| Bachelor of Arts in Public Administration<br><i>Population and Development, NGO's role in development, Political economy, Community and rural development, Gender and development, Democracy and Human rights</i>                                     |  |
| Bachelor of Office Management and Administration  |  |
| Diploma in Human Resource Management  |  |
| Diploma in Business Management  |  |
| Diploma in Maritime Transport Logistics   |  |
| Certificate in Maritime Transport Logistics   |  |
| Diploma in Supplies and Procurement Management  |  |
| Diploma in Project Management   |  |
| Certificate in Business Management  |  |
| Certificate in Human Resource Management  |  |
| Certificate in Supplies & Procurement Management  |  |

| DEPARTMENT OF ECONOMICS   |  |
|---|--|
| Master of Arts in Economics   |  |
| Bachelor of Science in Economics and Statistics   |  |
| Bachelor of Science in Finance and Statistics   |  |
| Bachelor of Economics   |  |
| Bachelor of Economics and Finance   |  |
| DEPARTMENT OF ACCOUNTING AND FINANCE  |  |
| Doctor of Philosophy in Business Administration - Accounting and Finance  |  |
| Master of Business Administration<br><i>Accounting &amp; Finance, Human Resource Management, Marketing Management, Strategic Management, Production and Operations Management, Small Business Management</i>                    |  |
| Bachelor of Commerce<br><i>Accounting &amp; Finance, Human resource management, Marketing management, Strategic management, Production and Operations Management, Purchasing and Supplies Management, Microfinance, Banking</i> |  |
| Diploma in Banking & Finance  |  |
| Certificate in Banking & Finance  |  |

| SCHOOL OF COMPUTING AND INFORMATICS                         |  |
|---|--|
| DEPARTMENT OF INFORMATION TECHNOLOGY                        |  |
| PhD. In Information Systems                                 |  |
| PhD. In Information Technology                              |  |
| PhD. In Computer Science                                    |  |
| PhD. In Knowledge Management                                |  |
| Master of Science in Information Security (Cyber Crime)     |  |
| Master of Science in Information Technology                 |  |
| Bachelor of Science in Computer Science                     |  |
| Bachelor of Science in Information Technology               |  |
| Diploma in Information Technology                           |  |
| Diploma in Computer Science                                 |  |
| Certificate in Information Technology                       |  |
| DEPARTMENT OF INFORMATION SCIENCE AND KNOWLEDGE MANAGEMENT  |  |
| Master of Science in Information Science (Digital Learning) |  |
| Bachelor of Science in Information Science                  |  |
| DEPARTMENT OF ENTERPRISE COMPUTING                          |  |
| Bachelor of Business Information Technology                 |  |
| Diploma in Business Information Technology                  |  |
| Certificate in Business Information Technology              |  |

| SCHOOL OF EDUCATION  |  |
|--|--|
| Bachelor of Education (Science)                              |  |
| Bachelor of Education (Arts)                                 |  |
| Bachelor of Education in Primary Education                   |  |
| Bachelor of Education in Special Needs (Primary Education)   |  |
| Bachelor of Education in Special Needs (Secondary Education) |  |
| Bachelor of Education in Early Childhood Studies             |  |
| Diploma in Special Needs Education                           |  |
| Diploma in Early Childhood Studies                           |  |

# Mount Kenya University



## MAY & SEPTEMBER 2024 INTAKES

|   |
|---|
| <b>Postgraduate Diploma in Education (PGDE)</b>   |
| <b>Doctor of Philosophy in Education</b>  |
| <b>Specializations:</b>   |
| <ul style="list-style-type: none"> <li>Educational Counseling Psychology</li> <li>Educational Communication &amp; Technology</li> <li>Educational Management Administration &amp; Leadership</li> <li>Educational Economics</li> <li>Educational Planning</li> <li>Educational Psychology</li> <li>Sociology of Education</li> <li>Educational Guidance &amp; Counseling</li> </ul> |
| <b>Doctor of Philosophy in Early Childhood Studies</b>  |
| <b>Master of Education</b>  |
| <b>Specializations:</b>   |
| <ul style="list-style-type: none"> <li>Educational Counseling Psychology</li> <li>Educational Communication &amp; Technology</li> <li>Educational Management Administration &amp; Leadership</li> <li>Educational Economics</li> <li>Educational Planning</li> <li>Educational Psychology</li> <li>Sociology of Education</li> <li>Educational Guidance &amp; Counseling</li> </ul> |
| <b>Master of Education in Special Needs Education</b>   |
| <b>Master of Education (Early Childhood Studies)</b>  |

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| <b>SCHOOL OF ENGINEERING, ENERGY AND BUILT ENVIRONMENT</b>         |
| <b>DEPARTMENT OF ENERGY AND ENVIRONMENTAL ENGINEERING</b>          |
| <b>MSc. Renewable Energy and Environmental Engineering</b>         |
| <b>Bachelor of Science in Energy and Environmental Technology</b>  |
| <b>Bachelor of Science in Petroleum Exploration and Production</b> |
| <b>Bachelor of Science in Real Estate Management</b>               |
| <b>DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING</b>         |
| <b>Bachelor of Technology in Computer and Electronic Systems</b>   |
| <b>Diploma in Electrical and Electronics Engineering</b>           |
| <b>Diploma in Medical Engineering</b>                              |

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|--|
| <b>SCHOOL OF SOCIAL SCIENCES</b>                                 |
| <b>Doctor of Philosophy in Counseling Psychology</b>             |
| <b>PhD in Development Studies</b>                                |
| <b>PhD in Sociology</b>  |
| <b>Master of Arts in Development Studies</b>                     |
| <b>Master of Arts in Monitoring and Evaluation</b>               |
| <b>Master of Arts in International Relations and Diplomacy</b>   |
| <b>Master of Arts (M.A) in Security Studies and Criminology</b>  |
| <b>Master of Arts (M.A) in Governance and Ethics</b>             |
| <b>Master of Arts (M.A) in Journalism and Media Studies;</b>     |
| <b>Master of Arts in Counseling Psychology</b>                   |
| <b>PhD in Religious Studies</b>                                  |
| <b>PhD in Literature in English</b>                              |
| <b>PhD in Kiswahili</b>  |
| <b>PhD in English and Linguistics</b>                            |
| <b>PhD in Law Enforcement &amp; Justice Administration.</b>      |
| <b>Bachelor of Arts in International Relations and Diplomacy</b> |
| <b>Bachelor of Arts in Development Studies</b>                   |
| <b>Bachelor of Arts in Community Development</b>                 |
| <b>Bachelor of Social Work and Administration</b>                |

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|--|
| <b>Bachelor of Arts in Security Studies and Criminology</b>  |
| <b>Bachelor of Arts in Peace Studies and Conflict Resolution</b>   |
| <b>Bachelor of Arts in Public Administration and Governance</b>  |
| <b>Bachelor of Arts in Justice and Security Studies</b>  |
| <b>Bachelor of Counselling Psychology</b>  |
| <b>Bachelor of Arts in Film and Animation Studies</b>  |
| <b>Bachelor of Arts in Mass Media and Communication;</b>   |
| <b>Options-</b>  |
| <ul style="list-style-type: none"> <li>Electronic Media</li> <li>Public Relations</li> <li>Print Media</li> <li>Advertising</li> </ul> |
| <b>Diploma In Community Development and Social work</b>  |
| <b>Diploma in Counseling Psychology</b>  |
| <b>Diploma in Journalism and Mass Communication</b>  |
| <b>Diploma in Public Relations and Diplomacy</b>   |
| <b>Diploma in Security Studies and Criminology</b>   |
| <b>Diploma in County Governance and Administration</b>   |
| <b>Certificate in Security Studies and Criminology</b>   |
| <b>Certificate in Community Development and Social work</b>  |
| <b>Certificate in Journalism and Mass Communication</b>  |
| <b>Certificate in Public Relations and Diplomacy</b>   |

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| <b>SCHOOL OF HOSPITALITY, TRAVEL AND TOURISM MANAGEMENT</b> |
| <b>DEPARTMENT OF HOSPITALITY MANAGEMENT</b>                 |
| <b>Master of Science in Hospitality Management</b>          |
| <b>Bachelor of Science in Hospitality Management</b>        |
| <b>Diploma in Hospitality Management</b>                    |
| <b>Diploma in Culinary Arts</b>                             |
| <b>Certificate in Food Production</b>                       |
| <b>DEPARTMENT OF TRAVEL AND TOURISM MANAGEMENT</b>          |
| <b>Bachelor of Science in Travel and Tourism Management</b> |
| <b>Diploma in Travel and Tourism Management</b>             |
| <b>Certificate in Travel and Tourism Operations</b>         |

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|---|
| <b>SCHOOL OF PURE AND APPLIED SCIENCES</b>                  |
| <b>DEPARTMENT OF NATURAL SCIENCES</b>                       |
| <b>PhD in Applied Entomology (Thesis Only)</b>              |
| <b>PhD in Ecology (Thesis Only)</b>                         |
| <b>PhD in Zoology/Botany (Thesis Only)</b>                  |
| <b>PhD in Conservation Biology (Thesis Only)</b>            |
| <b>PhD in Molecular Biology (Thesis Only)</b>               |
| <b>Master of Science in Bioethics</b>                       |
| <b>Master of Science in Applied Entomology</b>              |
| <b>Master of Science (Ecology and Conservation Biology)</b> |
| <b>Master of Science (Biotechnology)</b>                    |
| <b>Postgraduate diploma in Bioethics</b>                    |
| <b>Bachelor of Science in Biotechnology</b>                 |
| <b>Bachelor of Science in Applied Biology</b>               |
| <b>Bachelor of Science in Environmental Science</b>         |

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|---|
| <b>PhD in Chemistry (thesis only)</b>                               |
| <b>PhD in Natural Products Chemistry (thesis only)</b>              |
| <b>Master of Science in Chemistry</b>                               |
| <b>Master of Science in Statistics</b>                              |
| <b>Bachelor of Science in Laboratory Technology</b>                 |
| <b>Bachelor of Science in Industrial Chemistry</b>                  |
| <b>Bachelor of Science in Statistics</b>                            |
| <b>Bachelor of Science in Actuarial Sciences</b>                    |
| <b>DEPARTMENT OF ANIMAL HEALTH &amp; PRODUCTION (NAKURU CAMPUS)</b> |
| <b>PhD in Immunology (Thesis Only)</b>                              |
| <b>Bachelor of Science in Animal Health &amp; Production</b>        |
| <b>Bachelor of Science in Agriculture &amp; Rural Development</b>   |
| <b>Bachelor of Science in Animal Science</b>                        |
| <b>Diploma in Animal Health &amp; Production</b>                    |
| <b>Certificate in Animal Health &amp; Production</b>                |
| <b>Certificate in Artificial Insemination</b>                       |

### REPORTING MAY INTAKE 29TH APRIL-3RD MAY 2024 MINIMUM ENTRY REQUIREMENTS:

**PhD Programme:** At least a Master's degree in a relevant field.

**Master's degree Programme:** At least a Bachelor's degree with a minimum of second class Honors - Upper Division from a recognized University or equivalent recognized by Mount Kenya University Senate or a bachelor's Degree with at least Second class Honors lower division and a minimum of two years' work experience.

**Bachelor's degree Programme:** At least a KCSE mean grade C+ (plus) or its equivalent or Diploma in a relevant field.

**Diploma Programmes:** At least a KCSE Mean Grade of C- (minus) OR equivalent qualification

**Certificate Programmes:** KCSE D+ (plus) OR equivalent qualification.

Kindly note that different courses require relevant cluster subjects qualification for admission.

### Applications

Apply to the Registrar, Academic Administration enclosing copies of relevant academic / professional certificates. Application fee of Kshs. 1,000 for undergraduate and Kshs.2,000 for post-graduate programmes to be deposited at either; Equity Bank - **0090292435067**, Co-operative Bank - **01129279981300**, Dollar account (KCB) - **1173740309 (swift No. KCBKENX)** or Lipa na **Mpesa Pay bill No. 4075677**.

Applications can be done online or application forms can be downloaded from University website [www.mku.ac.ke](http://www.mku.ac.ke) or visit any of our campuses/centres in **Thika, Nairobi, Mombasa, Nakuru, Meru, Parklands Law Campus, Eldoret, Kakamega, Kisumu, Kitale, Kericho, Kisii, Machakos, Meru, Embu & Malindi**.

For more information about the duration and tuition fees for respective academic programmes, kindly visit [www.mku.ac.ke](http://www.mku.ac.ke) and download university prospectus or contact:

**Registrar, Academic Administration.**  
Tel: 0709 153 000, WhatsApp: 0722 999 399  
Email: [admissions@mku.ac.ke](mailto:admissions@mku.ac.ke), Website: [www.mku.ac.ke](http://www.mku.ac.ke)

# Exploring Climate-Smart Agriculture

By Mary Theuri

The increased focus on promoting climate smart farming calls for the application of significant methods of agriculture that integrate farming practices that are environmental friendly. In this case, agroecology is highly applicable because it links individual farmers, their communities, and the environment through the proposed agricultural practices.

*Agroecology is an integrated and holistic approach that includes social and ecological concepts in promoting sustainable agriculture, which is important in the Kenyan context, considering that most of the current farming systems have continued to negatively impact our ecosystem.*

As such, there remains a significant need to promote agroecology across the country to increase the likelihood of achieving positive outcomes in regards to climate smart farming.

## Promoting Agroecology in Rural Areas of Kenya

One strategy that can be applied to increase awareness of agroecology and the role it plays in promoting climate smart agriculture is collaboration among key stakeholders in the sector, including farmers and relevant institutions. Mibles Eco Life (MEL) Foundation is one such organisation, which is a Nyandarua-based non-profit company that prides itself in environmental conservation through agroecology. According to its founder and director, Mr. Benjamin Ngere, the organisation promotes agroecology through farmer training workshops, outreach activities, and relevant educational programs.

He says, "Our goal is to improve food security while ensuring that we protect the environment for current and future generations." To achieve this, he men-



Mr. Ngere at a farmers' training session

tions that the organisation is involved in habitat restoration projects, biodiversity preservation initiatives, and conservation campaigns, all which are key in safeguarding Kenya's ecosystems and natural resources. Mr. Ngere, who has an educational background in organic agriculture, points out the need for more partnerships in promoting community engagement in the context of agroecology. Following his passion for a healthy ecosystem, Mr. Ngere plays a pivotal role in working with other key companies, government institutions, and individual farmers to promote environmental conservation through agroecological and agroforestry activities. For instance, he points out that during the recent national tree-planting day in May 2024, the organisation issued out 100,000 seedlings of indigenous trees to farmers and to relevant forest institutions, with an emphasis on people incorporating the indigenous trees in their farms.

## Food Forests

During our conversation, Mr. Ngere severally mentioned food forests, which he says are a key part of the trainings that Mibles Eco Life Foundation offers to farmers and institutions. A food forest entails gardening in a way that mimics nature, where multiple layers of edible crops, herbaceous plants, trees, shrubs, and vines are grown. In the case of Mibles Eco Life Foundation, the emphasis is on indigenous trees that also play a key role in conserving the environment and have medicinal and economic values. Research indicates that establishing a food forest promotes sustainable agriculture that enhances the ecosystem, while providing healthy crops for the farmers. Mr. Ngere says, "The food forest calls for organic agricultural methods, where the applied herbicides, pesticides, and fertilizers are primarily organic, leading to a healthy ecosystem as well as promoting good health for the farmers."



*Benjamin Ngere distributing tree seedlings*

According to one farmer, Mary Wanjiku, who is a beneficiary of the training program from Mr. Ngere's organisation, she has successfully shifted to the in-

tegration of indigenous trees and food crops such as potatoes, and has since seen the economical and health benefits of this method of farming. She says, "Since I learnt the value of this method

of farming, I have encouraged more of my neighbours to follow suit, and although change is not easy, those who have started seeing the benefits are slowly joining us."

On whether this method of agriculture is applicable to people with relatively small pieces of land and those who only practice subsistence farming, Mr. Ngere says that their focus is actually on the small-scale farmers for a start, as they include more large-scale farmers in the long-run. In the end, he insists that the key is to focus on increased sensitisation through educational and training programs, hence the need for more collaborations from the major stakeholders in the relevant sectors.



*A trained farmer with seedlings ready for planting*

# Organic Approach to Pest Control for Farmers

By Emmanuel Kyengo

*Kenya's diverse agricultural landscape faces significant challenges from pests that threaten crop yields and food security. However, nature offers an elegant solution: certain plants have innate pest-repelling properties that can protect crops while promoting ecological balance. Integrating these plants into farming systems can reduce reliance on chemical pesticides, supporting sustainable agriculture.*



## Marigolds (*Tagetes spp.*)

Marigolds are popular for their vibrant flowers and ability to repel various pests. The marigolds' roots release a chemical called alpha-terthienyl, which is toxic to nematodes—a type of soil-dwelling pest that attacks plant roots. Additionally, marigolds deter whiteflies and aphids, making them excellent companions for tomatoes, beans, and potatoes.

**Usage:** Farmers can plant marigolds around vegetable plots and between rows of crops. This not only adds beauty to the fields but also creates a natural barrier against pests.



## Basil (*Ocimum basilicum*)

Basil is an aromatic herb that effectively repels mosquitoes and houseflies. The strong scent of basil disrupts the olfactory (smell) senses of pests, making it difficult for them to locate their target plants. Basil is particularly beneficial for protecting tomatoes and peppers from

various pests.

**Usage:** Growing basil alongside tomato plants can help ward off whiteflies and aphids. Basil is also a valuable herb in the Kenyan cuisine, making it a dual-purpose plant for farmers.



## Garlic (*Allium sativum*)

Garlic is well-known for its strong odor, which deters many pests, including aphids, beetles, and caterpillars. It contains sulfur compounds that act as natural fungicides and insect repellents. Garlic can be used to protect a wide range of crops, from vegetables to fruit trees.

**Usage:** Farmers can interplant garlic with other crops or use garlic extract to make a natural pesticide spray. This practice helps reduce pest populations while adding an additional crop for consumption or sale.



## Lavender (*Lavandula spp.*)

Lavender is valued not only for its pleasant fragrance but also for its ability to repel moths, fleas, flies, and mosquitoes. The compounds in lavender oil disrupt the nervous systems of pests. When insects come into contact with lavender oil, these compounds can disrupt the normal functioning of their nervous system. This disruption can lead to symptoms such as confusion, impaired movement, and eventually death. Specifically, linalool has been shown to affect the nervous system by interfering with neurotransmitter functions in insects causing paralysis or death.

**Usage:** Lavender can be planted along the borders of gardens or interspersed with crops such as cabbage and lettuce to reduce pest pressures. The dried flowers can also be used in sachets to repel insects in storage areas.



## Lemongrass (*Cymbopogon citratus*)

Lemongrass produces a citrus scent that is highly effective in repelling mosquitoes and other flying insects. The plant's essential oils are commonly used in natural insect repellents.

**Usage:** Lemongrass can be planted around homes and gardens to create a

barrier against mosquitoes. Additionally, its leaves can be harvested for use in teas and traditional remedies.



### Chilli Pepper (*Capsicum spp.*)

Chilli peppers produce capsaicin, a compound that irritates pests and deters them from feeding on crops. This property makes chili peppers useful for protecting plants from beetles, caterpillars, and aphids.

**Usage:** Farmers can grow chili peppers alongside crops prone to pest attacks, such as beans and maize. The fruits can also be harvested for culinary purposes, adding economic value.

### Integrating Pest-Repelling Plants into Farming Practices

Incorporating pest-repelling plants into agriculture offers numerous benefits beyond pest control. These plants can enhance biodiversity, improve soil health, and provide additional crops for farmers. To maximize their benefits, try the following:

- **Intercropping:** Plant pest-repelling species between rows of crops to disrupt pest life cycles and protect plants from infestations.
- **Border Planting:** Create natural barriers around fields with pest-repelling plants to deter pests from entering.
- **Companion Planting:** Combine pest-repelling plants with vulnerable crops to provide continuous protection throughout the growing season.

### Conclusion

Harnessing the natural pest-repelling properties of plants is a sustainable and effective strategy for farmers. By integrating plants like marigolds, basil, neem, garlic, lavender, lemongrass, and chili peppers into their farming systems, farmers can reduce reliance on chemical pesticides, protect crop yields, and promote a healthier environment. This approach not only safeguards crops but also supports the overall resilience and sustainability of agriculture in Kenya.

## Deploying Technology for Better Yields

By Lenah Bosibori



*Rachael Kwamboka a second year University student at Machakos University showcasing her innovation with healthy spinach leaves during this year's South Eastern Kenya National Show, her innovation is the use of polythene tubes that prevent soil erosion and weeds/Lenah Bosibori*

As more innovations in agriculture are evolving and taking course, more and more new ones are being developed mostly by students who want to solve many of the challenges farmers face and occasioned by climate change.

In Kenya weather patterns ranging from prolonged droughts in 2022-2023 to the heavy rains experience in 2024, have impacted farmers negatively. Government Spokesperson, Isaac Mwaura estimates a loss of Kshs 3.7 billion due to the floods in May of 2024.

Combining the science and the classroom skills, Rachael Kwamboka, a second-year student studying Agricultural Education and Extension has embarked on research to find solutions from new technologies to address climatic challenges.

Kwamboka showcased her latest innovation during this year's South Eastern Kenya National Show in Machakos County. Her innovation of using polythene tubes to grow vegetables is a combination of both the traditional farming and technology.

She uses polyethylene bag tube which

is then filled with soil and manure. Small holes are then inserted to drain water. Spinach seedlings are then replanted in the small holes. The nature of the soil is monitored to ensure it has enough water.

The result of this innovation is more yield compared to traditional methods of planting vegetables. According to Kwamboka, the innovation gives seven healthy leaves per plant compared only four from the traditional method.

Another advantage according to her is that the innovation is environmentally friendly. There is no soil erosion and all the nutrients are enclosed in one area not to mention freedom from weeds and no pesticides used.

Kwamboka says that she is working hard to come up with more innovations by the time she will be finishing her university education. She hopes to help transform agriculture in Kenya from its traditional ways to modern methods as advocated in this year's Agricultural Show theme of "Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth".



1

Society Deputy Patron, H.E Hon. Rigathi Gachagua during his tour of the Kalro Stand at last year's Nakuru National Agricultural Show. Looking on is the Agriculture CS Hon. Mithika Linturi, Nakuru City County Governor Her Excellency Hon. Susan Kihika, among other Society and County officials.



# Pictorial

Her Excellency Hon. Susan Kihika, A.S.K Nakuru County Patron & Nakuru City County Governor, during her tour of the CMC Motors stand at the 2023 Nakuru National Show. She was accompanied by the A.S.K Nakuru Branch Chairman, Dr. Perminus Migwi, among other Society and County officials.



2



3

Society Deputy Patron, H.E Hon. Rigathi Gachagua during his tour of the AFA Stand at the 2023 Nakuru National Agricultural Show. He was accompanied by the Agriculture CS Hon. Mithika Linturi, and other County and Society officials.



4

Kisii County Commissioner, Mr. Tom Anjare during his tour of the Kisii County stand at last year's Kisii Branch Show. Looking on is the A.S.K Kisii Branch Chairman, Mr. Kefa Onduso, among other County & Society Officials.



*Kisii County Secretary & Head of County Public Service, Mr. James Ntabo during his tour of the Kisii County Government Stand at last year's Kisii Branch Show. He was accompanied by the A.S.K Kisii Branch Chairman, Mr. Kefa Onduso and the A.S.K Kisumu Branch Chairman, Mr. George Ong'undi, among other officials.*



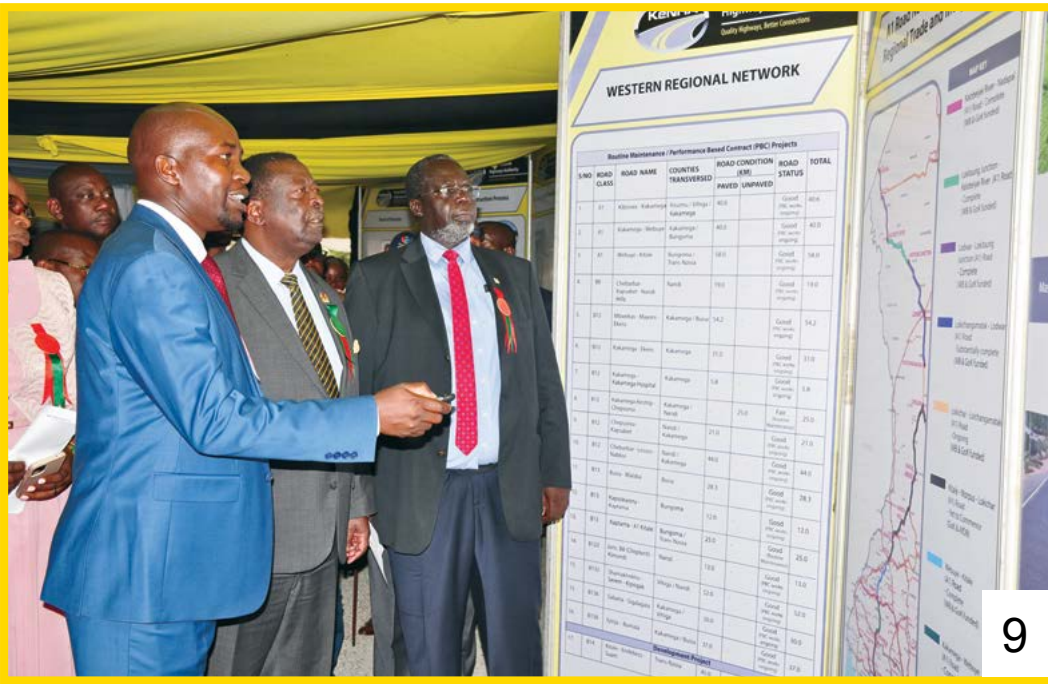
*Kisii County Commissioner, Mr. Tom Anjare during his tour of the Department of Agriculture Stand at the 2023 Kisii Branch Show. He was accompanied by the A.S.K Kisii Branch Chairman, Mr. Kefa Onduso, among other Officials.*



*The Prime Cabinet Secretary of The Republic of Kenya & Cabinet Secretary for Foreign and Diaspora Affairs, H.E. Hon. Dr. Musalia Mudavadi during his tour of the Communications Authority Stand at last year's Kisumu Regional Show. Looking on are; A.S.K Eldoret Branch Chairperson, Ms. Susan Seron, A.S.K Kisumu Branch Chairman, Mr. George Ong'undi, among other officials.*



*The Prime Cabinet Secretary of The Republic of Kenya & Cabinet Secretary for Foreign and Diaspora Affairs, H.E. Hon. Dr. Musalia Mudavadi during his tour of the Communications Authority Stand at last year's Kisumu Regional Show. Looking on are; A.S.K Eldoret Branch Chairperson, Ms. Susan Seron, A.S.K Kisumu Branch Chairman, Mr. George Ong'undi, among other officials.*



The Prime Cabinet Secretary of The Republic of Kenya & Cabinet Secretary for Foreign and Diaspora Affairs, H.E. Hon. Dr. Musalia Mudavadi when he toured the KeNHA Stand during last year's Kisumu Regional Show. He was accompanied by the A.S.K Kisumu Branch Chairman, Mr. George Ong'undi, among other officials.

9



Laikipia County Governor H.E Hon. Joshua Irungu during his tour of the Laikipia County Government Stand, Dryland Honey booth, at this year's Mt. Kenya Nanyuki Branch Show. He was accompanied by the A.S.K Nanyuki Branch Chairman, Mr. Newton Kabuthia, among other officials.

10



Laikipia County Governor, H.E. Hon. Joshua Irungu, observes the operation of a chaff cutter during his visit to the Department of Agriculture's stand at this year's Mt. Kenya Nanyuki Branch Show. Also present are Mr. Denis Kasoo, CECM of Agriculture, Livestock, and Fisheries, A.S.K Chief Executive Officer, Mr. Batram Muthoka, and other County and Society officials.

11



Laikipia County Governor H.E Hon. Joshua Irungu looking at a farm model during his tour of the Department of Agriculture Stand at this year's Mt. Kenya Nanyuki Branch Show. He was accompanied by the A.S.K Nakuru Branch Chairman, Mr. Newton Kabuthia, among other County & Society officials.

12



Meru County Governor, Her Excellency Hon Bishop Kawira Mwangaza when she toured the Meru County Government stand during this year's Meru National Show. Looking on is the Society National Chairperson, Mrs. Annabel Kiriinya, A.S.K Meru Branch Chairman, Mr. Stanley Ng'entu, among other officials.

13



Meru County Governor, Her Excellency Hon Bishop Kawira Mwangaza when she toured the Meru University Stand at this year's Meru National Show. Accompanying her is the A.S.K Meru Branch Chairman, Mr. Stanley Ng'entu, among other Society & County officials.

14



Meru County Governor, Her Excellency Hon Bishop Kawira Mwangaza during her tour of the Kenya Prisons Stand at this year's Meru National Show. Looking on is the A.S.K Meru Branch Chairman, Mr. Stanley Ng'entu, among other County and Society officials.

15



Machakos County Governor, Hon. Wavinya Ndeti, along with Society National Chairperson, Mrs. Annabel Kiriinya and A.S.K Machakos Branch Chairman Mr. Lawrence Matolo present a trophy to the Department of Agriculture Machakos County Officials at this year's Machakos National Show.

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Machakos County Governor, Her Excellency Hon. Wavinya Ndeti, visits the SMEs Development booth at the Machakos County Government Stand during this year's Machakos National Show. Also, present are; A.S.K Machakos Branch Chairman Mr. Lawrence Matolo, and other County and Society officials.

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Machakos County Governor, Her Excellency Hon. Wavinya Ndeti, during her tour of the Kenya Wildlife Service Stand at this year's Machakos National Show. She was accompanied by the A.S.K Machakos Branch Chairman, Mr. Lawrence Matolo, among other County and Society Officials.

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Kakamega County Governor, H.E Hon. Fernandes Barasa when he toured the Gicheha Farm (Tsavo Seed) Stand at the recently concluded Kakamega Branch Show. Looking on is the A.S.K Kakamega Branch Chairperson, Dr. Purity Anyanje, A.S.K Nakuru Branch Chairman, Dr. Perminus Migwi, among other officials

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Kakamega County Governor, H.E Hon. Fernandes Barasa during his tour of the Sigalagala National Polytechnic Stand at this year's Kakamega Branch Show. Looking on is the A.S.K Kakamega Branch Chairperson, Dr. Purity Anyanje, A.S.K Nakuru Branch Chairman, Dr. Perminus Migwi, among other officials.

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Kakamega County Governor H.E. Hon. Fernandes Barasa presents a trophy to the Department of Public Service & County Administration officials for winning the Best County Government Stand at the recently concluded Kakamega Branch Show. Looking on are; A.S.K CEO Mr. Batram Muthoka, A.S.K Nakuru Branch Chairman Dr. Perminus Migwi, A.S.K Kakamega Branch Chairperson Dr. Purity Anyanje, and other officials.

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# Preparedness Through Climate Monitoring

By Lenah Bosibori

Farming in Kenya is often viewed as a job for older people, with the average age of farmers being around 60. However, young people are now creating innovative solutions that not only improve farming methods but also attract more youth to the sector.

During a recent visit to Machakos County for this year's South Eastern Kenya National Show, I met Dickson Esamai, a final-year Electrical and Electronics Engineering student at Machakos University who is passionate about smart agricultural technology. Esamai, leveraging his expertise in environmental engineering, developed Robox Farm Technology.

Along with his five colleagues and Huawei Kenya, Esamai aims to graduate as an entrepreneur rather than seeking traditional white-collar jobs. They are focused on providing solutions to the climate change challenges impacting farmers. They have developed a technology that regulates farm humidity and temperature and optimizes water usage, ensuring crops receive ideal conditions for growth while conserving water resources.

"Crops require optimal climate conditions—temperature, humidity, water supply, soil quality, and sunlight—essential for growth. Our innovation addresses this need," says Esamai during an interview at Machakos Showground.

Once a farmer purchases the device, they register their details online or via Global System for Mobile communication (GSM) if they don't use smartphones. GSM allows data to be sent as text messages to any phone. The device is placed strategically on the farm, with a shade to protect it from excessive sunlight. It includes a soil sensor that measures soil pH levels.

"The system collects data from the farm and sends it to an online platform with a unique identification for each farmer," explains Esamai. "The data is then stored in a Google database for

analysis."

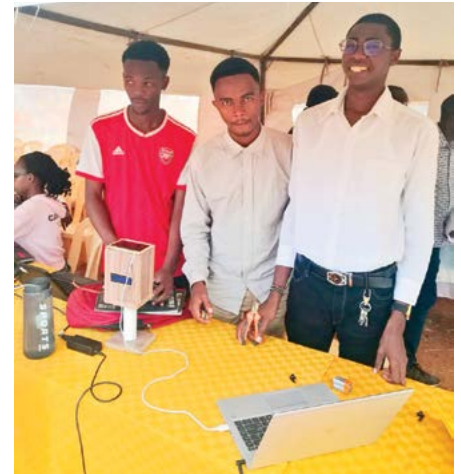
After analysis, farmers receive recommendations on the best crops to grow based on soil type, temperature, and humidity. The technology also features automated irrigation. "The sensor measures soil moisture, and if water levels are low, the pump activates for irrigation; if sufficient, it shuts off to conserve water," Esamai notes.

Despite the technology's potential to address climate change challenges, Esamai acknowledges that the high cost of sensors is a significant hurdle. The device's microcontroller, which sends data to a Google website for analysis, is crucial to its function.

For low-income farmers without internet access, there is a cheaper version that uses GSM for data transmission. "We have a version for low-income farmers who lack internet access. Data is sent via satellite communication," says Esamai.

Esamai and his team recommend their innovation to the Kenya Agricultural Livestock Research Organization (KALRO) to monitor farm performance across the country. "By placing sensors on various farms, KALRO can access real-time data and advise farmers on the best crops to grow," he explains.

Esamai believes that in this age of technology, farmers should not be planting low-yield crops when higher-yield options are available. He credits Huawei for



*Dickson Esamai in white shirt, a final year final-year Electrical and Electronics Engineering student with his university colleagues showcasing the Robox Farm technology in recent forum at Machakos University/ Photo by Dickson Esamai*

their support in developing the technology through university courses. "Huawei trained us on making these kits and using the technology," he says.

Esamai urges organizations and farmers to embrace climate-smart agriculture and partner with them for better outcomes. "By partnering with us, we can advance digital farming together," he notes.

Esamai and his team received recognition for their efforts, winning first place for the best stand embracing Information Technology and communication systems, and second place for best interpreting the show theme "Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth."



*Final-year Electrical and Electronics Engineering students celebrating the success of Dickson Esamai's innovation at Machakos University grounds/Photo by Gibson*

*In Kenya, fish farming, particularly the rearing of freshwater species like tilapia and catfish, is becoming an increasingly vital part of the agricultural landscape. This growth not only supports local food security but also offers significant economic opportunities for smallholder farmers. However, the sustainability of this burgeoning sector hinges on the development and use of sustainable fish feeds that are both environmentally friendly and cost-effective.*

### **The Importance of Sustainable Fish Feeds in Kenyan Aquaculture**

Traditional fish feeds in Kenya often rely on fishmeal and fish oil, which are not only costly but also contribute to the depletion of wild fish stocks. Additionally, the over-reliance on imported feeds can make fish farming less profitable for local farmers. Sustainable fish feeds present a solution that can reduce costs, promote environmental conservation, and support the health and productivity of farmed fish.

### **Key Ingredients in Sustainable Fish Feeds**

#### **1. Locally Sourced Plant-Based Proteins**

Kenya is rich in agricultural resources that can be utilized for fish feeds. Ingredients such as maize, cassava, sweet potato, and leguminous crops like beans and peas are abundant and can be used to produce plant-based proteins. These ingredients not only reduce dependence on imported fishmeal but also support local farmers by creating a demand for their crops.

For instance, soybeans, which are already grown in various parts of Ke-

# Affordable Fish Feeds

## *Ensures Maximum Returns in Aquaculture*

By Emmanuel Kyengo



*Fish feed*

nya, can be an excellent source of protein for fish feeds. By processing these soybeans locally, farmers can produce a high-quality protein feed that is both cost-effective and sustainable.

#### **2. Insect-Based Feeds**

Insect farming, particularly the cultivation of black soldier fly larvae, offers a promising alternative to traditional fish feeds. These insects can be fed on organic waste, such as fruit and vegetable scraps, which are plentiful in rural areas and urban markets in Kenya. The larvae are rich in proteins and essential nutrients that are suitable for feeding fish like tilapia and catfish.

Setting up small-scale insect farms is relatively low-cost and can be managed even by smallholder farmers. This approach not only provides a sustainable feed source but also contributes to waste reduction and improved sanitation in local communities.

#### **3. Aquatic Plants and Algae**

Aquatic plants like duckweed and wa-

ter hyacinth, which are often seen as invasive species in Kenyan water bodies, can be harvested and used as an ingredient in fish feeds. Duckweed, for instance, is rich in protein and grows rapidly in both natural and artificial water bodies.

Additionally, microalgae cultivation can provide a valuable source of protein and essential fatty acids. Algae farming requires minimal land and can be integrated into existing fish farming systems, making it a practical option for farmers.

#### **4. Agricultural By-Products and Fermented Feeds**

Kenya's agricultural sector produces a variety of by-products that can be used in fish feeds. For example, rice bran, maize bran, and sunflower cake are readily available and can be incorporated into feed formulations. These by-products provide essential nutrients and help reduce feed costs.

Fermentation of these agricultural



*Tilapia in a freshwater fish pond raised using fish feed*

residues can enhance their nutritional value and digestibility. Fermented feeds also promote the growth of beneficial bacteria, which can improve the gut health and growth rates of farmed fish.

#### **Benefits of Sustainable Fish Feeds**

##### **1. Cost Reduction and Increased Profitability**

By utilizing locally available ingredients, sustainable fish feeds can significantly reduce the costs associated with imported feeds. This makes fish farming more accessible and profitable for small-holder farmers, who are the backbone of Kenya's aquaculture industry.

##### **2. Improved Fish Health and Growth**

High-quality, sustainable feeds are tailored to meet the specific nutritional needs of freshwater species like tilapia and catfish. This leads to healthier fish, better growth rates, and higher yields, which in turn enhances the overall productivity and profitability of fish farms.

##### **3. Environmental Conservation and Resource Efficiency**

Sustainable feeds help reduce the environmental impact of fish farming

by minimizing the need for wild-caught fishmeal and by utilizing agricultural by-products and organic waste. This promotes more efficient use of resources and helps preserve the natural ecosystems that are vital to our country's biodiversity.

##### **4. Local Economic Development**

The development and use of sustainable fish feeds create new economic opportunities within the local community. Farmers can diversify their income streams by producing and selling feed ingredients, while local businesses can benefit from the increased demand for feed production and distribution.

##### **Challenges and Future Directions**

Despite the clear benefits, the adoption of sustainable fish feeds in Kenya faces several challenges. These include the need for technical knowledge and infrastructure to process alternative feed ingredients, as well as the initial investment required for setting up insect farms or algae cultivation systems. Additionally, raising awareness and educating farmers about the advantages

of sustainable feeds is crucial for widespread adoption.

To overcome these challenges, it is essential to invest in research and extension services that can support farmers in transitioning to sustainable feed practices. Policies that promote sustainable agriculture and aquaculture, as well as partnerships between government, the private sector, and non-governmental organizations, will be key to fostering innovation and scaling up sustainable fish feed production.

##### **Conclusion**

Sustainable fish feeds represent a vital component in the development of a resilient and thriving aquaculture sector in Kenya. By leveraging locally available resources and adopting innovative feed solutions, fish farmers can enhance their productivity, reduce costs, and contribute to environmental conservation. As the demand for fish continues to grow, sustainable feeds will play a crucial role in ensuring that aquaculture remains a viable and sustainable source of food and income for generations to come.

# Bagasse Fuels: Hidden Treasure in Sugarcane



*An upclose photo of bagasse, the fibrous material that remains after sugarcane juice is extracted*

By Pierra Nyaruai

Sugarcane is not just the primary producer of sugar in Kenya, it has also become a well known streetfood in the form of juice. For many people, its utilization stops there but a tour around Sony Sugar Company shows another fascinating facet of this crop from the grass family. In the sugar processing mill, the rhythmic hum of machinery and the occasional chime of steam being released from towering chimneys is punctuated by the steady thrum of turbines, powered not by fossil fuels, but by an unassuming byproduct that has become the backbone of the company's sustainable operations: bagasse.

Leading our tour is Chrispin Onyango, Sony Sugar's lab superintendent and a passionate advocate for bagasse utilization. "For decades, the world treated this fibrous residue as a waste product," he says, gesturing towards towering

piles of golden bagasse fibers. "But now, we've unlocked its immense potential as a renewable resource, driving our operations while minimizing our environmental footprint."

The first and most prominent use of bagasse at Sony Sugar is as a biofuel for powering the mill itself. After the

sugarcane is crushed, the bagasse is conveyed to a yard, where it is collected, dried, and fed into massive boilers, generating the steam that drives the turbines and provides electricity for the entire facility. "Bagasse has an incredibly high calorific value," Onyango explains. "By utilizing this byproduct as fuel, we've



*The bagasse yard at Sony Sugar*



*Briquettes made from bagasse at Sony Sugar Company. The briquettes are used as an energy efficient biofuel.*

significantly reduced our reliance on fossil fuels, cutting our carbon emissions and operating costs simultaneously.”

But Sony Sugar’s innovation doesn’t stop there. In a warehouse near the bagasse yard, workers skillfully compress bagasse into dense, uniform briquettes – a sustainable alternative to charcoal and firewood for domestic cooking and heating. “These briquettes burn cleaner and longer than traditional biomass fuels,” Onyango notes. “They’re also more affordable, making them a practical choice for households across Kenya while reducing deforestation.”

The circular economy extends even further into Sony Sugar’s agricultural operations. Farmers come to collect the bagasse, which they spread across the sugarcane fields as a nutrient-rich mulch, enhancing soil fertility and moisture retention while suppressing weed growth. “It’s a closed loop,” Onyango beams.

However, the potential of bagasse reaches far beyond Sony Sugar’s gates.

Across Kenya and the broader region, researchers and entrepreneurs are exploring its use as a sustainable alternative to wood pulp in the paper and packaging industries. The long, strong fibers in bagasse make it an ideal raw material for papermaking. By tapping into this byproduct, we can reduce the strain on our forests while creating economic opportunities in rural communities.

As the world grapples with the urgent need to transition towards a circular, low-carbon economy, Sony Sugar’s embrace of bagasse serves as a working example of how industries can turn waste into value. By transforming what was once considered a disposal dilemma into a multifaceted resource, the company is not only bolstering its bottom line but also contributing to Kenya’s sustainable development goals and mitigating the impacts of climate change.

Standing in front of the boilers in this enormous facility, it is easy to see that bagasse is a gift from nature. By utilizing this resource, we’re creating a virtuous

cycle that benefits businesses, communities, and the planet. It’s a win-win-win scenario that more industries should strive to emulate.”

The tour culminates at the heart of Sony Sugar’s operations, where the hum of the bagasse-fueled turbines echoes across the sprawling sugarcane fields. As plumes of steam rise into the sky, it’s a powerful reminder of the transformative potential of innovative thinking and the circular economy. At Sony Sugar, the journey towards a sustainable future is well underway, one bagasse fiber at a time.

And as Onyango gazes out over the piling mountain of sugarcane being delivered from the farms, a sense of pride washes over his face. “We’re not just producing sugar here,” he says with a smile. “We’ve pioneered a model for how industries can harmonize with nature, creating value from waste and paving the way for a greener, more resilient world.”

# The Power of Green and Red Bell Peppers

## A Vibrant Addition to Your Diet

**B**ell peppers, also known as sweet peppers or “pilipili hoho” in Kenya, are not only visually appealing but also nutritionally rich. Among the varieties, green and red bell peppers stand out for their unique characteristics and health benefits. This article explores the nutritional value, culinary uses, and health advantages of these colorful vegetables.

### Nutritional Benefits

Bell peppers are low in calories yet high in essential nutrients, making them an excellent addition to a balanced diet. Here's a closer look at the nutritional profile of green and red bell peppers:

#### Green Bell Peppers



- **Vitamin C:** Green bell peppers are a significant source of vitamin C, which is vital for immune system support and skin health. Although not as rich as their red counterparts,

parts, green peppers still contribute to the daily recommended intake of this essential vitamin.

- **Fiber:** These peppers provide dietary fiber, aiding in digestion and promoting a feeling of fullness.
- **Antioxidants:** Green peppers contain antioxidants, including flavonoids and vitamin E, which help protect the body from oxidative stress.

#### Red Bell Peppers



- **Vitamin C:** Red bell peppers are particularly high in vitamin C, offering more than 300% of the daily recommended intake per serving. This is even more than the amount found in

oranges, making red peppers a powerhouse for boosting immunity and skin health.

- **Vitamin A:** Rich in beta-carotene, red bell peppers support eye health and the immune system.
- **Antioxidants:** Red peppers are loaded with antioxidants such as carotenoids, which have been shown to reduce inflammation and the risk of chronic diseases.

### Culinary Uses

#### Green Bell Peppers



- **Salads:** Their mild, grassy flavor and crunchy texture make them perfect for fresh salads.

- **Stir-Fries:** Green bell peppers add a fresh crunch to stir-fries, pairing well with other vegetables and proteins.



- **Stuffed Peppers:** Their sturdy walls make them ideal for stuffing with grains, meats, and other fillings.

#### Red Bell Peppers



- **Roasting:** Roasted red bell peppers develop a sweet, smoky flavor, making them a delicious addition to sandwiches, salads, and pastas.

- **Sauces:** Their natural sweetness enhances the flavor of sauces and soups.



- **Raw:** Red bell peppers are sweet and crunchy when eaten raw, making them a great snack or addition to crudité platters.

### Health Advantages

Including green and red bell peppers in your diet can offer several health benefits:

**Immune Support:** The high vitamin C content in both green and red peppers strengthen the immune system, helping the body fend off illnesses.

**Eye Health:** The beta-carotene in red bell peppers is converted into vitamin A in the body, which is crucial for maintaining good vision and eye health.

**Anti-Inflammatory Properties:** The antioxidants in bell peppers, particularly in the red variety, help reduce inflammation and may lower the risk of chronic diseases such as heart disease and cancer.

**Digestive Health:** The fiber content in bell peppers supports healthy digestion and can aid in weight management by promoting a feeling of fullness.

## Conclusion

Green and red bell peppers are not only colorful additions to your meals but also provide substantial health benefits. Whether enjoyed raw, roasted, or cooked in a variety of dishes, these peppers enhance flavor, texture, and nutritional value. Next time you're at the market, be sure to pick up some green and red bell peppers to brighten your plate and boost your health.

By embracing the vibrant world of bell peppers, you can enjoy a flavorful and nutritious diet that supports overall well-being.

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# Boosting Kenya's Growth with Agro-Processing

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By Dr. P. K. Migwi

Kenya is predominantly an agricultural nation, with over 80% of its population relying on agriculture for food security and livelihood. Agriculture significantly contributes to foreign exchange through exports of tea, pyrethrum, and horticultural products like vegetables, fruits, and flowers. It is also a major source of employment, spanning the entire value chain from farm to consumer, making it a crucial sector for Kenya's economy.

Despite its potential, Kenya's agricultural sector is largely dominated by small-scale producers, especially in subsectors like dairy, tea, and cereal production. For example, smallholder dairy farmers contribute about 70% of milk production. This fragmentation makes it difficult and uneconomical for individual farmers to process and market their products efficiently. Therefore, central aggregation and agro-processing are necessary for improving efficiency and profitability.

Since independence in the early 1960s, Kenya has made various attempts at aggregation with mixed success. The tea sector, through the Kenya Tea Development Agency (KTDA), has seen significant progress, with smallholder production surpassing large-scale production. The coffee subsector also thrived through primary cooperative societies, although it later faced management and marketing challenges. The pyrethrum

sector was once successful but declined due to management issues, leading to disillusioned farmers. Recently, efforts have been made to revitalize the pyrethrum sector through timely payments and incentives.

In the livestock sector, the dairy subsector has performed well, contributing about 5% of the national GDP. However, other areas like honey and hides and skins face challenges due to small production volumes and quality standards. Despite incentives from the government, the potential for processing hides into high-quality leather products remains unrealized. However, Kenya can build on the successes in certain crops and livestock subsectors and replicate them in others, such as cereals, oilseeds, horticultural products, and goat milk.

Recognizing the constraints in aggregation and agro-processing, both national and county governments have initiated the establishment of County Aggregation and Industrial Parks (CAIPs). These parks aim to centralize the collection and processing of agricultural products to create economies of scale and access broader markets. However, implementation has faced challenges, including inadequate resources and land acquisition issues. To overcome these hurdles, the government could consider empowering the private sector and community-based organizations through incentives like tax rebates and lower im-

port duties on processing machinery.

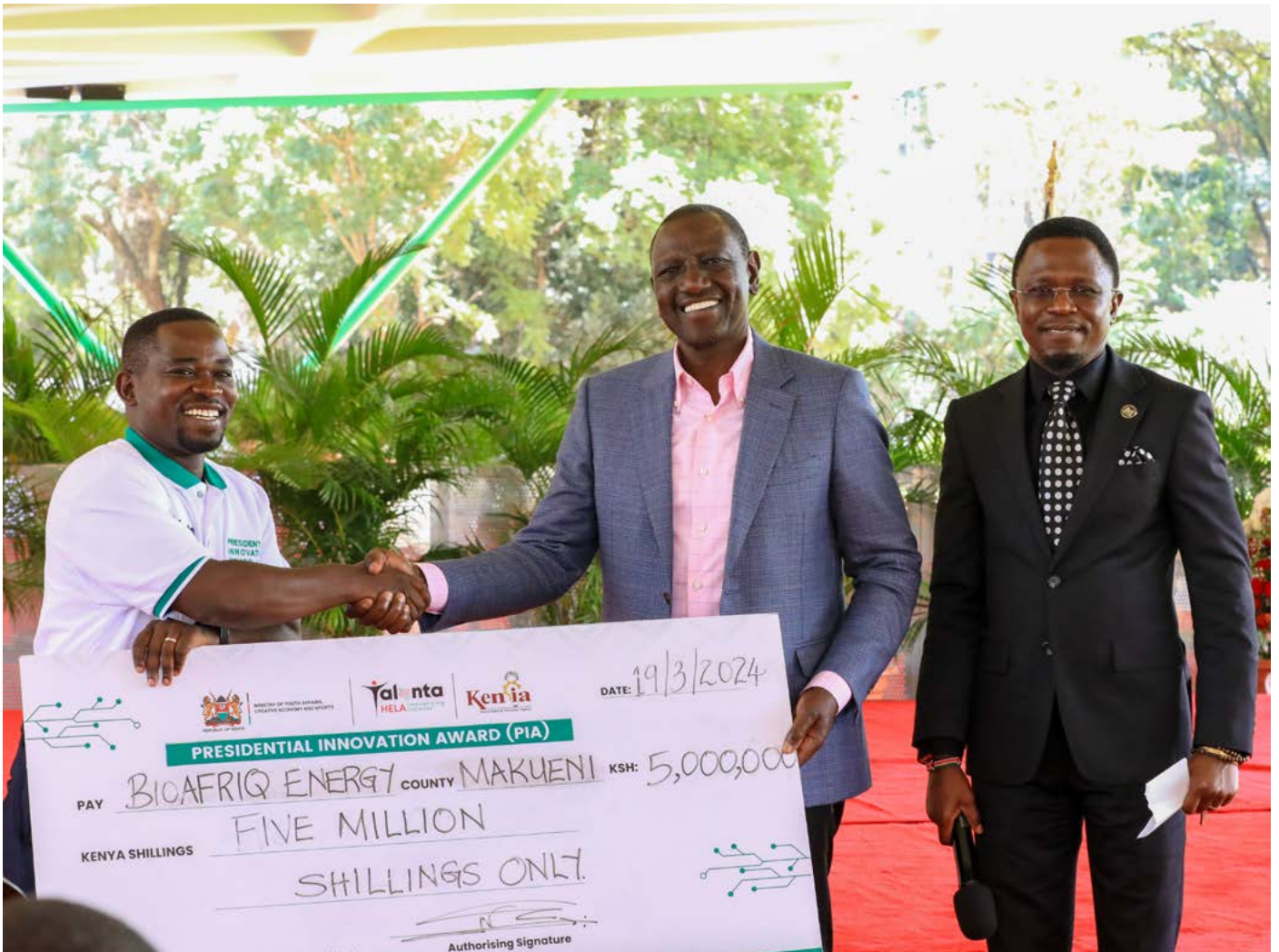
Agro-processing holds significant potential for accelerating industrialization and ensuring food security by reducing post-harvest losses. Processing extends the shelf life of perishable products, ensuring a steady supply even during low production periods. Additionally, agro-processing can generate side value chains, such as animal feed manufacturing, creating a multiplier effect across the economy.

The value chain of agricultural products starts at the farm level and involves multiple actors, including transporters, aggregators, and processors. Processing transforms raw produce into high-value products, enhancing their marketability and longevity. It also allows for product branding and the creation of byproducts that can generate additional revenue streams.

Supporting farmers in processing agricultural products, either directly or through cooperatives, can significantly improve their income. The national and county governments must continue to support these efforts to facilitate faster industrial growth. This will help Kenya achieve its vision of becoming a middle-income country by 2030, as outlined in the National Social and Economic Council Blueprint.

*(Dr. P. K. Migwi, Former Senior Lecturer, Faculty of Agriculture, Egerton University)*

# Engineer's Quest to curb post-harvest losses



By Gabriella Nashiva

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*“I received a call that I needed to make a presentation before the President at Statehouse on behalf of Bioafriq energy that were identified by KeNIA for those excelling in innovation around agriculture and food security and International Technology (IT). We emerged as the winners after we had made our presentations alongside other innovations that were showcased at the event. It was a pleasant surprise to be recognized for our efforts. When starting my company, I never knew I'd one day shake the president's hand”, Mr. Nyamai James said with nostalgic joy in his eyes.*

After successfully completing his Engineering degree at Moi university and having done some CPA courses, Mr. Nyamai went into employment as the next societal step after school. 2 years later, something began brewing inside him. He felt the need to utilize his knowledge and skills in a way that employment wasn't offering this opportunity. Slowly he started strategizing how he would better fulfill his desires. He began a hobby, he requested his parents to utilize their servant quarter in their Nairobi home to do poultry. He bought chicks, he would wake up at 5am tend to his chicks before heading out to work at 6am. After selling to friends and family for a while, he wanted to commercialize.

In 2012, he broke the news to his parents that he was quitting his job to

commercialize his hobby. They agreed. Can we agree he has special parents for African parents? He happened to share his idea with his mum and her friend, the friend connected him to a contact she had in Ngong who shaped his aspirations further. This industrious agriprenuer was doing 30,000 broilers! They quickly became friends, he asked to intern at his farm and 3months later he was moving to Machakos.

“My parents had land in Machakos, my siblings couldn't believe I was leaving the city life to become a farmer”, he said laughing heartily. In Machakos, he rapidly set up his poultry with 200 chicks, the same year he scaled to 1,000 chicks. His first challenge was the cost of feeds, so he quickly learnt how to make feeds and soon bought a machine to make

the feeds. His second challenge paused a greater question that illuminated his success path brighter. Each month Mr. James Nyamai had to buy 30 bags of charcoal to keep his little chicks warm at night. These bags would be conveniently delivered to his farm.

One time, he took a trip to visit his grandparents in Makueni. The scenic ride brought back joyful memories of his childhood. Upon arriving in his grandparent's compound, he got a rude shock! So many trees he had left when he last visited no longer existed!

"We would play fun games as kids, around the thick forest trees, it was good cheer to visit my grandparents", he sadly recalled. Almost as though his childhood was washing away right in front of his eyes. He knew he contributed to this, his charcoal supplier was in the same area. His visit was marked with determination to change the trajectory of things.

Nyamai began his research on how to make bio-mas fuel using agriculture waste to make briquettes that would substitute charcoal. In true fashion of his innovation spirit with a generous addition of engineering skills, he took a meat mincer, installed a motor on it and made the briquettes. In 2016, he realized not just his little chicks needed his solutions, but schools as well. They didn't have firewood at the time and the briquettes were timely and greatly enjoyed by the staff for their less smoke effect.

At this time, Mr. Nyamai's mum joined him in Machakos. As a new agriculture extension officer retiree, she was ambitious to have her own projects set up. A company in the industry promised ready market for a hybrid pumpkin variety they sold. By harvest time they had vanished into thin air leaving her high and dry with many huge pumpkins.

"This delicate variety couldn't handle pests, so we thought of drying the pumpkins to make flour using solar dryers. With little knowledge of the disappointment ahead of us, the dryers were only effective in sunny seasons.", Mr. Nyamai pointed out. "I was very disturbed by my mum's loss.

Around this time, I was incubated by Kenya Climate Innovation Center (KCIC) and I actively researched more on solar



*Solar powered hybrid dehydrator*

dryers. To my dismay, I found out that businesses using sun dryers slow down when it's not sunny. I had a God given idea to change that", he asserted. He pondered on how he could use biomass to generate heat for a dryer, he designed and got knowledge on how to set it up. After several trials, he achieved 60 degrees, and it was a success! He shared this feedback with KCIC and in November 2017, he registered Bioafriq energies.

It was timely for the Total Start Up awards in 2018, where out of the 800 applicants, Bioafriq was in the top 15 list. He later won the distinguished award. A year later, he patented his work with Kenya Industrial Property Institute (KIPI.) With all efforts towards reducing the size of the equipment from a container sized unit of his prototype to a smaller unit being engaged.

COVID-19 hit when we had just began moving into the market. Our first client in August 2020, a couple in the value addition business, was skeptical, but after patient thought and considerations, they purchased and opened doors for many clients including distinguished individuals in the nation.

**Let's get technical**

The drying chamber is covered in UV treated polythene to trap heat. It is attached to a heating system that burns the biomass- ensuring no carbon dioxide emission. Heat generated doesn't go straight into the drying chamber (to stop contamination) It has a heat exchange system where clean air is pumped into the system- that is utilized for drying. There are fans that ensure even circulation of the hot air. In addition, a digital temperature system to adjust to user's



*dehydration in progress*

product needs.

The Impact Bioafriq has had on post-harvest losses is massive! So far, they have installed dryers in 23 counties. They have salvaged 5,000 tones of post-harvest losses. There are 3,966 farmers who benefit from the drying services they offer through Taliana foods, a subsidiary company that facilitates farmers to dry their produce while connecting them to market through production of gluten free flour. Taliana foods won a diaspora innovation award last year for its initiative.

Employment opportunities continue to be created directly and indirectly. Bioafriq ever growing partnerships with NGOs, organization and most recently SNV partnership with arid and semi-arid areas to provide vegetable driers. The future is bright for Bioafriq energies as they look into new technology to dry black soldier flies and cereals, as requested by their clients. These should be ready in the second half of the year. Without a doubt, innovation is the future of Agriculture and agribusiness.



# South Nyanza Sugar Company Limited: Sweetening Kenya Since 1979

## Overview

South Nyanza Sugar Company Limited (SonySugar) was established in 1979 and is located in South Western Kenya, in Migori County. The Company serves fifteen thousand registered farmers, five thousand independent farmers spread out within the cane growing zones of Migori, Homa Bay, Narok and Kisii counties. We started milling on 9th April, 1981, and 43 years down the line, we continue to sweeten Kenyan foods and beverages with our premium sugar, under the sales slogan: SimplyTheSweetest!

## The Board of Directors



*Hon Jared Odhiambo Opiyo,  
Chairman Board of Directors*

The Board of Directors is chaired by Hon Jared Odhiambo Opiyo. The other directors are Theodora Gichana, Laura Abishag Matiko, Kipkoech Kirui, Erick Osenya, Humphrey N. Muhu, Mary Akoth Were, Catherine Nanjala Wangamati, and Douglas Kailanya. They outline the Company's strategy and set sound policies for the overall business performance.

## Management



*Mr. Martine Dima,  
Managing Director*

The Managing Director, Mr. Martine Dima, is leading a team of competent and committed staff to achieve the goals envisioned since the Company's inception:

- To increase national sugar production and reduce dependence on sugar imports.
- Create employment opportunities.
- Enhance regional development.

## Agriculture

The services we offer to farmers are inclined to the Bottom-up Economic Transformation Agenda (BETA), Vision 2030 and the Millennium Development Goals (MDGs). We aim at spurring up the economic growth through manufacturing, ensuring food security and promoting eco-friendly smart farming methods through:

- Recruitment for sugarcane farming
- Land development
- Supply of seed cane
- Supply of farm inputs
- Research and cane farming development
- Harvest and transport

- Training of farmers

## Contribution to National Growth

The Company offers direct employment to 1,656 employees paid through the payroll. We are also a source of livelihood to over 3,000 people and households who depend on activities related to cane and sugar production i.e. cane weeders, cane stackers, cane cutters, and tractor drivers. Every week, we inject millions of shillings into the economy of Migori, Homa Bay, Narok and Kisii counties as cumulatively captured below:

| Year                     | 2021/22     | 2022/23       | 2023/24       |
|--------------------------|-------------|---------------|---------------|
| Payment to farmers (KSh) | 1.2 billion | 1.475 billion | 1.233 billion |

## Tax Payment

An average of KSh.600 million is paid as VAT and KSh.10 million is paid annually to the county governments of Migori, Narok, Homa-Bay and Kisii as cess.

## The Product

Our product, emblazoned with the Diamond Mark of Quality, KEBS accredited and ISO certified, offers two choices to the customer;

- SonySugar White
- SonySugar Brown



SonySugar is packed in customer packs ranging from 6g sachets, 250g, 500g, 1kg, 2kg and 5kg. We also produce bulk packaging of 25kg and 50kg branded bags.

## Facts about SonySugar Brand

- SonySugar was the first locally made sugar to be launched in sachets
- SonySugar is served on local and international flights
- SonySugar –“Simply the sweetest” is our sales slogan and a registered trade mark.



- SonySugar received the Superbrands Award between 2009-2019

#### **Service Delivery**

To ensure a faster turn – around time for all services, our Service Delivery Charter provides clear information on what customers can expect and outlines procedures a client may follow in the event of product and/or service non-conformity. We offer both proactive and reactive access to information, and have established structures of resolution of customers' queries and concerns.

#### **Corporate Social Responsibility (CSR)**

SonySugar's success is measured by more than just financial targets. The company's commitment to the local raw materials goes beyond ensuring supplies to forging sustainable partnerships with farmers and the community. Strategic investments includes:-

- 800km of Roads and Infrastructure Development
- Human Capital Investment. Over 3,000 people are engaged across the entire value chain
- Community Engagement and Welfare:

- o SonySugar Medical Centre
- o Awendo Green Stadium
- o SonySugar Guest House
- o SonySugar Gym
- o Recreational Parks

- Environmental Sustainability—an ultra-modern tree nursery producing seedlings for the nucleus, staff and farmers.
- Opportunity for local suppliers and AGPO category
- Support to local security agencies, institutions and welfare groups
- Consultative engagements with key stakeholders
- Environmental sustainability efforts
- Supply of treated water to the local community

#### **The Future**

Through pursuit of a growth and diversification strategy in the current strategic plan (2024-29), SonySugar expects to be more profitable, stable and robust. The strategic direction is to move up the value chain by diversifying into products and businesses related to the current core business of sugar production.

# Crop Insurance to the Rescue of Smallholder Farmers

By Pierra Nyaruai

The cold season is just beginning in Kenya and beneath the Aberdare Hills in Nyandarua County, it is extra chilly. It is here that Samuel Mwangi surveys his three-acre potato farm with a mixture of pride and apprehension. For generations, his family has tilled these fertile lands, relying solely on predictable weather patterns and traditional farming practices to sustain their livelihood. However, a devastating blight in 2021 shattered their hopes, decimating the entire crop and leaving them grappling with financial ruin.

"It was a complete loss," Mwangi recalls, his weathered face etched with lines of anguish. "Months of hard work and investment withered before my eyes, and I was left with nothing but debt and despair. I had no choice but to dig into my savings to make ends meet. I almost did not make it to plant the next season."

Mwangi's plight is a stark reminder of the vulnerabilities smallholder farmers face in an increasingly unpredictable climate. Extreme weather events, pest infestations, and diseases can wipe out an entire season's yield, pushing these farmers deeper into poverty and food insecurity. Just this year, floods swept away fields upon fields of crops in different areas across the country. Most of them did not recover after the waters receded.

It was this harsh reality that prompted Mwangi to explore an often-overlooked lifeline: crop insurance. Once considered a luxury reserved for large-scale commercial farms, crop insurance is now being embraced by smallholders as a vital risk management tool.

"After the blight, I realized I couldn't continue gambling with my family's

livelihood," Mwangi explains. "Crop insurance provides a safety net, allowing me to bounce back from disasters and protect the investments I've made in my farm. It gives me the confidence to keep investing in agriculture without fear."

The concept of crop insurance is simple yet powerful: farmers pay a premium to an insurer, who then compensates them for crop losses due to specified perils, such as adverse weather, pests, or diseases. This financial cushion can mean the difference between complete ruin and the ability to replant and recover, ensuring food security and economic stability.

While crop insurance has been available in Kenya for decades, its adoption among smallholder farmers has been slow, hindered by a lack of awareness, affordability concerns, and mistrust in the insurance sector. However, as the impacts of climate change intensify, more farmers are recognizing the value of this risk management tool.

"Crop insurance is no longer a luxury; it's a necessity," asserts Jane, an agricultural extension officer in Nyandarua. "By spreading risk across a larger pool of farmers, insurers can offer affordable premiums that provide a lifeline during difficult times. It's a win-win situation for both farmers and insurers."

Insurers, recognizing the vast untapped market among smallholders, are innovating their products and leveraging technology to improve accessibility and affordability. Weather index-based insurance, for instance, uses satellite data and weather models to determine payouts, eliminating the need for costly on-site assessments.

Additionally, mobile money platforms and digital agriculture ecosystems are

streamlining the enrollment and claims processes, making crop insurance more accessible to farmers in remote areas.

"We're witnessing a paradigm shift," explains Peter Mwangi, an insurance industry expert. "Insurers are tailoring their products to cater to the unique needs of smallholder farmers, recognizing their pivotal role in food security and rural economies. By de-risking agriculture, we're empowering these farmers to invest more in their operations and improve productivity."

For Samuel Mwangi, the decision to embrace crop insurance has brought renewed hope and resilience. After the devastating blight, he enrolled in a weather index-based crop insurance scheme, paying a modest premium tailored specifically for smallholders.

The benefits of crop insurance extend beyond individual farmers like Mwangi. By mitigating risks and safeguarding livelihoods, this financial safety net can help stabilize rural economies, reduce food price volatility, and promote sustainable agricultural practices.

"When farmers have a safety net, they're more likely to invest in climate-smart technologies and adopt environmentally-friendly practices," explains Wanjiru. "It's a virtuous cycle that benefits both the farmer and the planet."

As the global community grapples with the challenges of climate change, food insecurity, and rural poverty, the widespread adoption of crop insurance among smallholder farmers emerges as a crucial strategy. By transferring risk to insurers, these farmers can weather the storms of unpredictable weather, pests, and diseases, ensuring a steady supply of food and a path towards economic empowerment.

# Harnessing Solar-Powered Irrigation to Empower Farmers in Rural Kenya

*In the arid landscapes of Kenya's Turkana County, where access to water is as precious as gold, a transformative initiative is reshaping agricultural practices and livelihoods: solar-powered irrigation. Against a backdrop of increasing climate variability and prolonged droughts, this innovative approach is not just a lifeline for farmers; it's a blueprint for sustainable agriculture in a changing climate.*



## **The Water Challenge in Turkana**

Turkana County, located in northwestern Kenya, faces extreme water scarcity, exacerbated by erratic rainfall patterns and rising temperatures. For generations, farmers here have struggled to cultivate crops in a landscape where water is scarce and unreliable.

## **Solar-Powered Irrigation: A Game-Changing Solution**

Enter solar-powered irrigation systems, which harness the abundant sunlight of the region to pump water from boreholes and rivers to fields. These systems use photovoltaic panels to generate electricity, powering pumps that draw water for irrigation. Unlike traditional diesel-powered pumps, which are costly and environmentally damaging, solar-powered systems offer a sustainable alternative.

## **Case Study: The Impact of Solar-Powered Irrigation**

Meet Samuel Ekai, a farmer in Lokichar village, Turkana County. Samuel has transformed his small plot of land into a thriving oasis using solar-powered irrigation. With support from local NGOs and government subsidies, Samuel installed a solar pump that draws water from a nearby river. This has allowed him to grow vegetables year-round, diversifying his income and improving food security for his family.

"Before the solar pump, we could only

rely on rainwater, which was unpredictable," Samuel explains. "Now, I can grow crops like tomatoes and watermelons throughout the year. It has changed our lives."

## **Environmental Benefits and Sustainability**

Beyond the immediate benefits to farmers, solar-powered irrigation promotes environmental sustainability. By reducing reliance on fossil fuels and minimizing carbon emissions, these systems contribute to climate mitigation efforts. Additionally, they help conserve groundwater resources, crucial in arid regions where aquifer depletion is a growing concern.

## **Challenges and Opportunities**

Despite its promise, the widespread adoption of solar-powered irrigation faces challenges. High upfront costs, technical complexity, and maintenance requirements can be barriers for smallholder farmers. Addressing these challenges requires targeted investments in infrastructure, capacity building, and financing mechanisms tailored to the needs of rural communities.

## **Government and NGO Support**

The Kenyan government, along with international organizations and NGOs, plays a pivotal role in supporting the transition to solar-powered irrigation. Initiatives such as the Kenya Climate

Smart Agriculture Project (KCSAP) provide subsidies, training, and technical assistance to farmers, empowering them to adopt sustainable practices and build resilience against climate impacts.

## **Scaling Up and Replication**

The success of solar-powered irrigation in Turkana County serves as a model for replication across Kenya and other African countries facing similar challenges. Lessons learned from pilot projects can inform policy decisions and investment strategies aimed at scaling up climate-smart agricultural technologies.

## **Conclusion**

As the sun sets over Samuel Ekai's flourishing farm in Turkana, the impact of solar-powered irrigation is undeniable. Beyond providing water for crops, it represents hope and resilience in the face of climate change. Through innovative solutions like solar-powered irrigation, Kenya's farmers are not only adapting to environmental challenges but also leading the way towards a sustainable and prosperous agricultural future.

In Turkana and beyond, the integration of solar-powered irrigation stands as a testament to the transformative power of technology and community-driven solutions in building climate resilience and securing livelihoods in rural Africa.

# Disability is Not Inability, People Living with Disabilities Show How

By Mary Theuri

*As Kenya continues to witness tremendous growth in the agriculture sector owing to technology advancement and increased interests in farming activities, there remains a gap in regards to inclusion of people living with disabilities, into agriculture. Research has shown that many people who are abled differently continue to face challenges that hinder them from fully engaging and contributing to the economy while making a living through agriculture*

Introduction of new agricultural technologies has made it easier to achieve inclusion of people with disabilities. Farming methods such as the use of hydroponics, drones, computer sensors, drip irrigation, among others, have greatly replaced the traditional ones that posed more challenges to people living with disabilities. Effective disability inclusion would require consideration of people living with both physical and intellectual (mental) challenges, and thus, there is need to increase the efforts applied in achieving this goal.

## **Inclusion at School Levels and the Positive Outcomes**

For school going children living with disabilities, it would be important to include them in any ongoing gardening projects within the school setting. With the current competency based curriculum in Kenya, the re-introduction of agriculture as a learning area in primary and junior secondary schools provides a good opportunity to involve learners with special needs and enable them to acquire key agricultural skills at an early age. Additionally, the children remain occupied with activities that keep them physically and mentally involved, thus, making it easier to curb possible disruptive behaviours that may be associated with various mental and physical conditions.

An example of the positive impacts of such inclusion programs was evident as I interacted with 26-year-old Alex Wambua, who has Down syndrome, a condition that impairs his intellectual abilities and causes him to have mild difficulties with



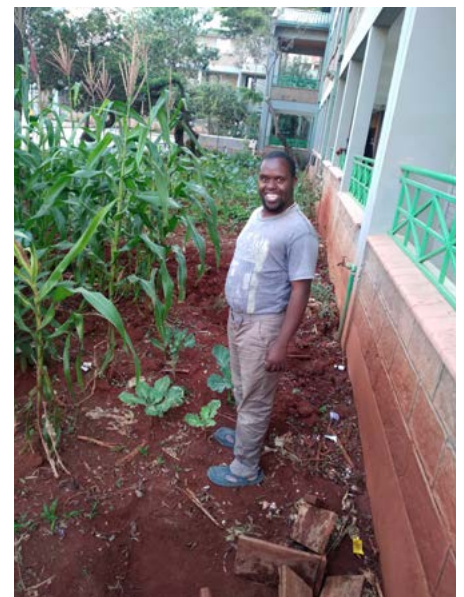
*A farmer with disability (Credit: BRAC)*

his speech. He resides in Embakasi, Nairobi, together with his parents and three siblings, he being the eldest child. Between 2016 and 2019, Alex attended one of the schools within Mukuru Kwa Njenga slums, which had a centre that catered for children with intellectual (mental) disabilities. While there, he learnt various agricultural practices, including land preparation, nursery management, planting and transplanting, spraying against pests and diseases, weeding, and harvesting, all made possible by the existence of a school gardening project that had both greenhouse and outdoor gardening. He says, "I learnt how to dig, plant tomatoes, maize, and spinach, and also to water crops, which I was happy doing."

Mama Alex happily narrates how he would come home every day and tell her about what they had learnt and done at the school garden. I noted her joy as she explains that before Alex started carrying out various agricultural activities at the school, his hands were weak and he could not even lift a twenty-litre container filled with water, in spite of being twenty years old at the time. The activities became therapeutic for him, as he was able to start performing, with ease, the activities

of daily living and to assist his mother with numerous chores.

Today, Alex has a better quality of life and performs various chores at home and in community service, as he is a volunteer at a day care centre for children living with cerebral palsy at the church he attends in his neighbourhood. While he has not had the opportunity to continue with farming, it is evident that the skills he learnt have remained with him, and as the mother



*Alex Wambua in a garden near the day care centre where he volunteers*



Alex Wambua as he tells about some of his favourite farming moments

says, are mostly applicable when visiting his grandparents' home in Makueni.

#### **Conclusion**

Alex Wambua's story and the positive impact of the involvement in agricultural activities shows the need to increase the efforts towards inclusion of people with special needs. Notably, for people with intellectual challenges, many have difficulties living independently and hence, would need others to guide them on what to do, even with the acquired agricultural skills. For those with physical and mild

intellectual disabilities, however, they can learn agricultural skills that can be of significant help in enabling them to become financially independent, attain food security, and lead a better quality of life. Therefore, as we look towards climate-smart farming, there is need for all stakeholders to pay close attention to those living with disabilities and assist them in achieving better individual and general outcomes through inclusion in agriculture.

## **Local Innovations for Homegrown Solutions**

By Gabriella Nashiva

Kenya is among the countries most severely affected by climate change, faces stark challenges, particularly in its agricultural sector. In response to these pressing issues, various adaptations have been implemented, leveraging innovations and technology to transform agriculture and mitigate the impact of climate change.

Urban farming emerges as a notable example of these innovative practices, offering a space-efficient approach to cultivating crops. This method not only addresses food security concerns but also promotes resilience in the face of climate-related challenges.

In 2018, Malasel Hamida, a dynamic figure in social, environmental, agricultural, and political spheres, initiated the "Mazingira Women Initiative" in Kibera. This grassroots movement stemmed from her unwavering commitment to environmental conservation, catalyzed by an unsuccessful parliamentary bid in 2017 that prominently featured environmental preservation in her manifesto.

Central to the initiative is the ingenious use of waste materials, such as avocado seeds and other organic matter, repurposed into valuable resources like organic fertilizer. This sustainable approach not only minimizes waste but also fosters the development of vertical gardens, which utilize recycled organic material to nurture plant growth.

The impact of these efforts is tangible. On days blessed with rainfall, the harvest from these gardens can provide sustenance for up to 500 households, underscoring the significance of community-led initiatives in fostering resilience and sustainability in the face of climate change.

"On a favorable day with rain, the garden's harvest can supply up to 500 households," explained Malasel.

This showcases the potential of community-led initiatives in fostering resilience and sustainability amidst climate change challenges.

The revenue generated from the sales is reinvested in purchasing water jerricans for irrigating the plants further enhancing the efficiency and sustainability of agricultural practices.

In addition to this, Malasel harvests rainwater, this method is one of the strategies employed to irrigate plants in the kitchen garden.

The Climate-Smart Agriculture initiative in Kenya, particularly exemplified by Malasel Hamida's "Mazingira Women Initiative" in Kibera, has significantly promoted trade initiatives for sustainable economic growth. In a country severely affected by climate change, where agricultural sectors face immense challenges, innovative solutions like urban farming have emerged as a crucial strategy.

Through the initiative, Malasel and her team have harnessed the power of urban farming, utilizing space-efficient methods to cultivate crops. This not only addresses food security concerns but also builds resilience against climate-related adversities. By repurposing waste materials like avocado seeds into organic fertilizer and employing vertical gardens, the initiative demonstrates a sustainable approach that minimizes waste while maximizing resource utilization.

Urban farming offers numerous advantages in the context of sustainable agriculture and economic growth.

For one, it provides a space-efficient so-

lution to food production, making use of available land within urban environments to cultivate crops. This not only enhances food security by bringing production closer to consumers but also reduces the carbon footprint associated with transporting food from rural areas.

Additionally, urban farming promotes resilience in the face of climate change, as it allows for the implementation of innovative techniques such as vertical gardening and hydroponics, which are less susceptible to adverse weather conditions.

Furthermore, by repurposing waste materials into valuable resources like organic fertilizer, urban farming minimizes waste and contributes to environmental conservation efforts. Overall, urban farming presents a holistic approach to addressing the challenges of food security, environmental sustainability, and economic development in urban areas.

The success of initiatives like the "Mazingira Women Initiative" highlights one of the transformative potentials of community-led efforts in tackling climate change and promoting sustainable economic growth.

By leveraging local resources, innovative technologies, and grassroots participation, these initiatives demonstrate the power of collaboration in overcoming environmental challenges while fostering resilience and prosperity within communities.

As Kenya and other nations grapple with the impacts of climate change on their agricultural sectors, stories like Malasel's serve as beacons of hope, inspiring further action and innovation toward a more sustainable and resilient future for all.

# Fan Segment

Even the hardest working farmers need a break for some fun and laughter!

*"We have neglected the truth that a good farmer is a craftsman of the highest order, a kind of artist."*

**-Wendell Berry**

## JOKES

*What do you call a pig that does karate?*

A pork chop!

*Why did the farmer ride his horse to town?*

Because it was too heavy to carry!

*What's a farmer's favorite type of music?*

Hip Hop, but only if it has a good beet!

*What do you get if you cross a robot and a tractor?*

A trans-farmer!



farm size. Both small and large farms can implement sustainable methods such as crop rotation, cover cropping, reduced tillage, and integrated pest management. Large farms may benefit from economies of scale, making it easier to invest in sustainable technologies.

**Myth:** Livestock farming is always bad for the environment.

**Fact:** While livestock farming can contribute to greenhouse gas emissions, land degradation, and water pollution, sustainable practices can mitigate these impacts. Practices like rotational grazing, improved manure management, and feed efficiency can reduce the environmental footprint of livestock farming.

## Did You Know

Did you know that bananas are berries, but strawberries aren't? Botanically speaking, berries are fruits that develop from a single flower with multiple ovaries, which applies to bananas but not strawberries.

Did you know that rice is the staple food for more than half of the world's population? It's a primary source of nutrition for billions of people, particularly in Asia.

Did you know that cotton is used in more than just clothing? Besides textiles, cottonseed oil is used in cooking and skincare products, and even the plant itself provides feed for livestock.

## Agricultural Myths Busted

**Myth:** Organic farming is always better for the environment.

**Fact:** While organic farming avoids synthetic chemicals, it can require more land and labor to produce the same amount of food as conventional farming. This can sometimes lead to higher carbon emissions and more significant habitat disruption. The environmental impact of farming depends on various factors, including farming practices, crop types, and local conditions.

**Myth:** All-natural pesticides are always safe.

**Fact:** Natural pesticides, like those derived from plants, can still be harmful to humans, animals, and the environment. For example, rotenone, a natural pesticide, is toxic to fish and other aquatic life. It's essential to use all pesticides, natural or synthetic, according to safety guidelines and recommendations.

**Myth:** You can't farm sustainably with modern technology.

**Fact:** Modern technology can significantly enhance sustainable farming practices. Innovations such as precision agriculture, renewable energy sources, and advanced irrigation systems help reduce environmental impact, conserve resources, and increase efficiency. Sustainable farming integrates traditional knowledge with modern advancements.

**Myth:** Small farms are more sustainable than large farms.

**Fact:** Sustainability depends on farming practices rather than



## Could This Be The Future Of Agriculture??

### Farm Tech Innovations

#### Autonomous Tractors

**Introduction:** Autonomous tractors are self-driving vehicles equipped with advanced sensors, GPS, and AI technology. They can perform tasks such as plowing, planting, and harvesting without human intervention.

#### Benefits:

- **Efficiency:** Operate continuously, day and night, increasing productivity.
- **Precision:** Use GPS and sensors to ensure accurate planting and cultivation, reducing waste.
- **Labor Savings:** Reduce the need for manual labor, allowing farmers to focus on other critical tasks.

**Example:** The John Deere 8R Series is a popular autonomous tractor model, capable of executing complex field tasks with minimal human oversight.

# Q & A



A Chat with Sony Sugar Company Limited MD, Martine Dima

## 1. What is the history of South Nyanza Sugar Company (SonySugar)?

**Ans:** South Nyanza Sugar Company Limited (SonySugar) was established since 1976. The first activity was land acquisition proceeded by nuclear and outgrow cane development. The factory's construction begun in 1979 and was commissioned on 9th April 1981 by the late President Daniel Arap Moi. We are located in South Western Kenya, in Migori County. The Company serves over 20 thousand farmers spread out within the cane growing zones of Migori, Homa Bay, Narok and Kisii counties.

## 2. Who owns SonySugar?

**Ans:** The company's ownership has changed over the years from Mehta Group International at inception in 1979 to Booker Agricultural International (Booker Tate Ltd.) in 1985 and reverted to a wholly Kenyan agency in in March, 2000. SonySugar is therefore listed as a State Corporation in Kenya.

## 3. What is the mandate of SonySugar

**Ans:** The Company contributes to national sugar sufficiency, save foreign exchange, create employment and contribute

to regional and national socio-economic development. Over the last three years, the Company paid over 3.5 billion shillings as cane proceeds to farmers.

## 4. Which services and support does the Company offer to farmers?

**Ans:** We offer services ranging from recruitment of farmers for sugarcane farming, land development, seedcane supply, supply of farm inputs, research and development of cane varieties, harvesting and transportation, and training of farmers.

## 5. What products and services does SonySugar offer?

**Ans:** SonySugar offers a wide array of products to meet various needs. Our primary focus is on sugar production, sugar cane development and manufacture of associated products.

## 6. Are there any by-products available for purchase?

**Ans:** SonySugar also offers valuable by-products derived from sugar production process. These include bagasse, which can be used for energy generation, as well as molasses, which has various culinary and agricultural applications. Boiler ash and press mud, beneficial for soil enrichment, are also available.

## 7. Are there any certifications or quality standards associated with

### SonySugar's products?

**Ans:** SonySugar prioritizes quality and adheres to standards. We hold certifications such as OSHA, ISO, HACCP, or organic certifications, depending on the product. Specific details regarding certifications can be found on the website or by contacting our customer service.

## 8. How can I place an order for SonySugar products?

**Ans:** SonySugar facilitates easy ordering by contacting SonySugar Sales Representatives. You can browse the product catalog on the website, select the desired items, and proceed to the online checkout process. Alternatively, we provide contact information for placing orders via phone or email.

## Contacts

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*Agriculture is...*

# KENYA'S greatest future



## **Vision**

A World Class Agricultural and Trade Forum.

## **Mission**

To promote excellence in agriculture, trade and allied sectors through exhibitions, research, technology and innovations.

## **Theme**

“Promoting Climate Smart Agriculture and Trade Initiatives for Sustainable Economic Growth”.

## **Motto**

Your leading agricultural and trade partner!

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