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Kilimo Bulletin

Driving Agricultural Transformation Through Digital Innovation

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Foreword: Cultivating a Sustainable Future for Kenya's Agriculture

As it has been said before, Agriculture is the backbone of Kenya's economy, livelihoods, and heritage. From the rolling tea plantations of Kericho to the semi-arid landscapes of Isiolo, the sector not only feeds our nation but also sustains millions of families. Today, we face challenges such as climate change, population growth, and evolving market demands. There is an urgent need to reimagine how we farm and manage resources.

This issue of Kilimo Bulletin explores the transformative journey of Kenya's agricultural sector. It highlights the groundbreaking innovations, dedicated programs, and inspiring stories of resilience shaping the future of farming. From digital tools like the KIAMIS and KilimoSTAT, empowering farmers with data, to grassroots initiatives such as the Gamachu Youth Group in Isiolo, each article reflects the vibrant and resourceful Kenyan spirit.

As we transition from dependence on imports to building sustainable local food systems, the success of our Agripreneurs, farmers, and innovators reminds us of our boundless potential. With collaboration, innovation, and commitment, we are not just responding to today's challenges—we are planting the seeds for a more resilient, inclusive, and prosperous future.

We hope this issue serves as both a celebration of progress and a call to action for all stakeholders to champion sustainable agriculture. We can cultivate a future where every Kenyan thrives.
Together.

Josephine Mbeo
Editor-in-Chief

TRANSFORMING AGRICULTURE: THE IMPACT OF THE AGRIPRENEURS MODEL

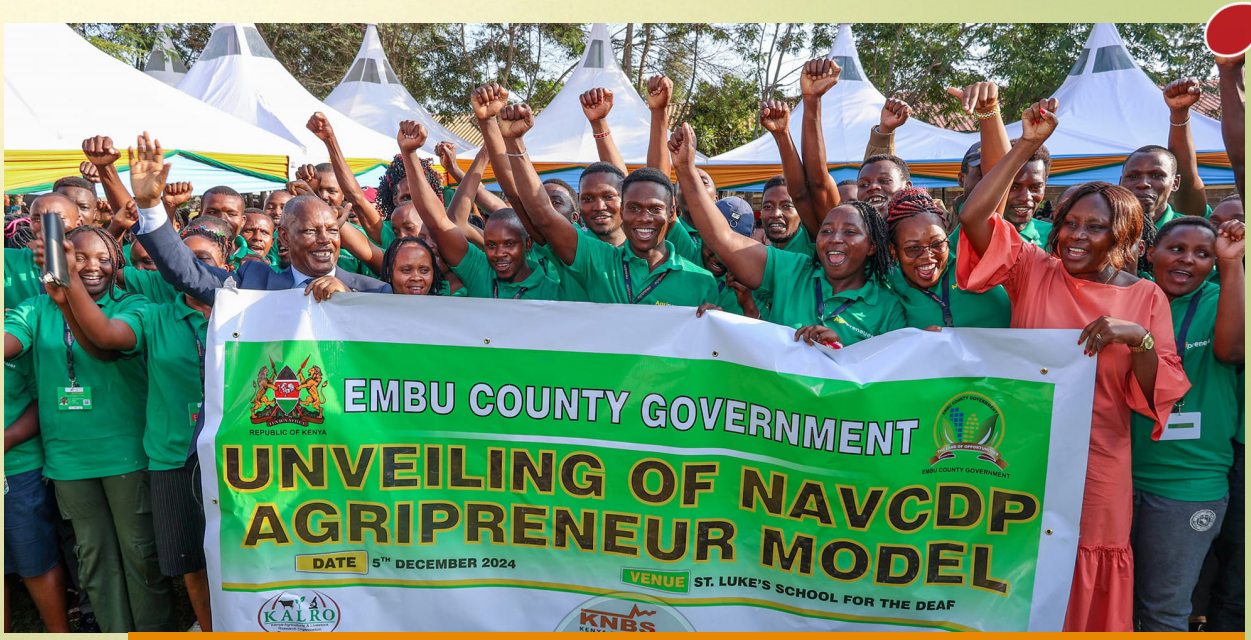
By Sharon Makena

Agriculture is a cornerstone of Kenya's economy, playing a vital role in GDP contribution, employment creation, and supporting livelihoods nationwide. However, to unlock its full potential and tackle the challenges of modern agriculture, we must harness entrepreneurial innovations and technological advancements.

One promising approach is the Agripreneurs Model, which seeks to cultivate a new generation of tech-savvy, business-oriented farmers. By leveraging the power of digitization, this model has the potential to revolutionize agriculture in Kenya, improving productivity and enhancing the livelihoods of farmers across the country.

The Agripreneurs Model is an innovative approach that blends agriculture with entrepreneurship, transforming traditional farming into a sustainable business. It encourages farmers to view agriculture as a viable enterprise, encompassing crop cultivation, livestock rearing, value addition, marketing, and processing. A key strength of this model is its emphasis on digital tools to enhance productivity, access markets, manage finances, and optimize agricultural practices, ultimately driving growth and sustainability in the sector.

The Agripreneurs Model targets young people aged 18 – 35 who are eager to engage in agriculture but often lack access to traditional resources like land and capital. Instead, it emphasizes using technology and innovation to create new opportunities across the agricultural value chain. Agripreneurs are young, dynamic individuals who see agriculture as a business. They leverage technology to boost farm productivity, access markets, and adopt sustainable practices. The Agripreneurs range from smallholder farmers to innovators running Agri-tech startups or agribusinesses, offering services like farm supplies, logistics,



marketing or tailored financial products for agricultural sector.

In Kenya, the model has gained traction over the past decade, fueled by advancements in mobile technology and a growing focus on tech in agriculture. Its growth accelerated in 2017 when the government partnered with organizations like the World Bank to promote agricultural digitization through various initiatives.

The Agripreneurs Model has become more formalized and scaled, with initiatives like the Kenya Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029 playing a pivotal role. The government is introducing digitization tools, such as e-vouchers for inputs distribution and a mobile-based extension services, to integrate technology into farming.

The model is set to expand nationwide, particularly in rural areas where most of Kenya's agriculture takes place. In recent years, government agencies, NGOs, and development partners have provided resources, training, and digital tools to empower Agripreneurs and support their efforts.

Digital agriculture in Kenya has been advanced through the Ministry of Agriculture's programs and collaborations, with support from innovations hubs and universities. These institutions provide Agripreneurs with training, incubation, and access to cutting-edge research and technology.

Kenya's agriculture faces challenges such as climate change, unpredictable rainfall, soil degradation, and limited access to financial resources and broader markets.

The Agripreneurs Model offers solutions to these challenges in agriculture by:

- Boosting Productivity: Digital tools like drones, mobile apps and farm management software help farmers track resources, make data-driven decision, and improve yields while reducing losses.
- Enhancing Market Access: Agripreneurs can reach wider markets, connect directly with buyers, and secure better prices by bypassing middleman and leveraging online platforms. This also facilitates entry into export markets, a vital source of foreign exchange.

- Improving Financial Inclusion: Mobile banking services like M-Pesa and mobile based loans provide farmers with easier access to funding, payment options and financial products, including loans, insurance and saving plans.
- Promoting Sustainability: Digital tools enable environmentally friendly practices, such as better soil, water, and pest management, reducing farming's environmental impact while ensuring long-term profitability.

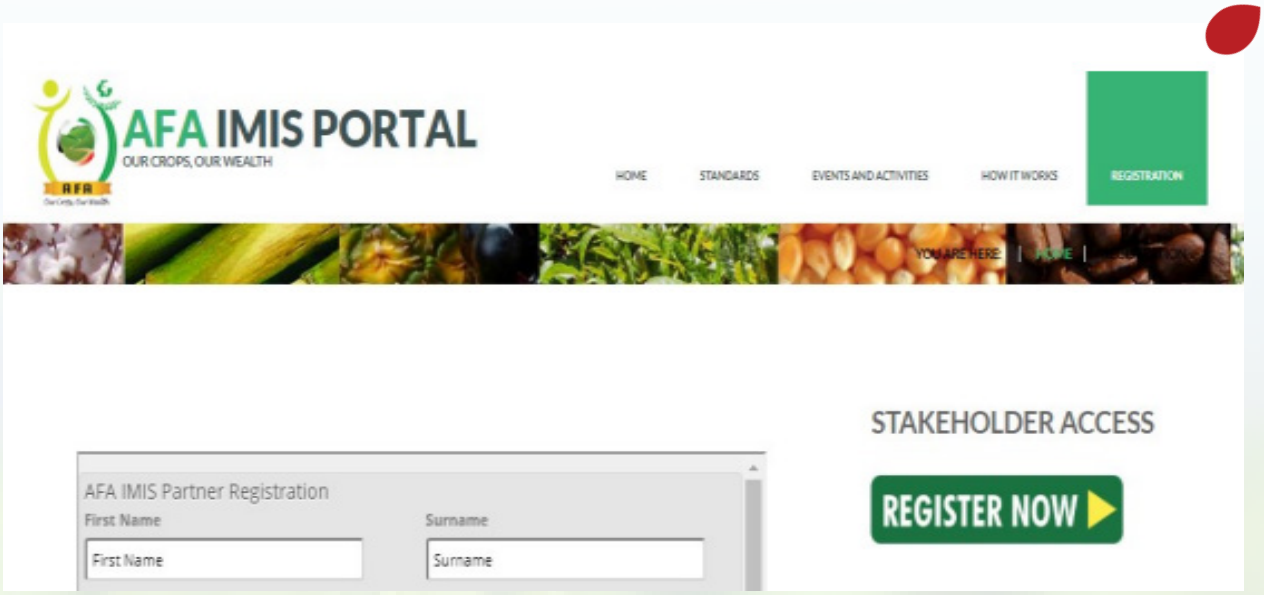
Digitization is transforming Kenyan agriculture by improving farmers access to resource:

- Farm Management Tools: Apps like AgriTrack, M-Farm, and Farm Drive help farmers track crops, soil health, weather, and get expert advice.
- E-MarketPlaces: Platforms such as Twiga Foods and M-Farm allow farmers to sell directly to consumers and wholesalers, reducing intermediaries.
- Digital Financing: Mobile platforms like FarmDrive offer credit, while Kilimo Salama provides insurance for climate risks
- Online Learning: Services like e-extension and Agrihub Kenya provide affordable training on modern farming techniques and business skills.

The KUZA (Kenya Unifies and Accelerates Agricultural Transformation) program, in collaboration with the World Bank, aims to boost Kenya's agricultural productivity through technology and innovation. It supports the Agripreneurs Model by providing digital tools; training, mentorship, and market access, helping young farmers connect with investors and grow their businesses. KUZA also offers digital plafforms for real-time market data and global access, along with financial support and partnerships with universities for cutting edge agricultural research.

The future of agriculture in Kenya is digital. Combining the Agripreneurs Model with technology offers a chance to make agriculture more sustainable and profitable. As the government supports innovation, farmers must embrace digital tools to improve production, access markets, and enhance livelihoods.

To farmers and aspiring agriprenuers: digitize your farming business by exploring programs like KUZA, using digital platforms, and embracing innovations. Technology can boost your productivity, expand your reach, and secure a successful future in agriculture. Together, let us build a thriving, tech-driven agriculture sector in Kenya.



REVOLUTIONIZING AGRICULTURE WITH DIGITAL SOLUTIONS: EXPLORING THE AFA IMIS SYSTEM

By Josemaria

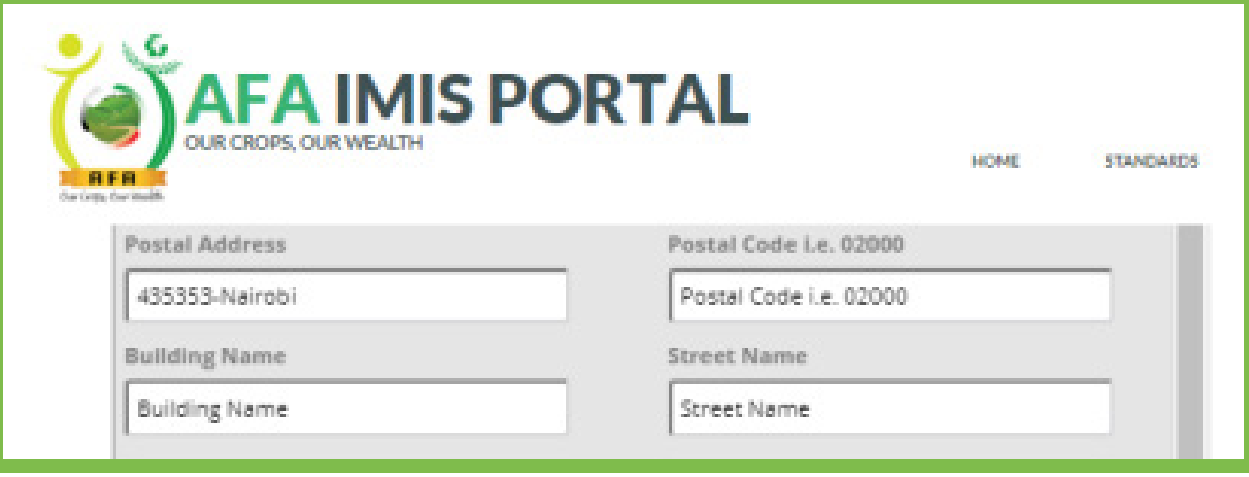
Kenya's agricultural sector is undergoing significant growth and transformation, with the Agriculture and Food Authority (AFA) leading the charge to modernize its support for farmers, traders and stakeholders nationwide.

The recent launch of the Integrated Management Information System (IMIS) marks a transformative step, streamlining financial transactions, boosting transparency, and ensuring farmers receive timely and efficient support.

For years, the agricultural sector has struggled with paperwork, delays and inefficiencies from manual processes. The AFA integrated Management Information System is changing this by digitizing and streamlining key operations, making agricultural transactions faster, simpler and more transparent.

IMIS centralizes financial management, eliminating the delays and errors common with manual processes. In the past, farmers often waited weeks or months for payments, while paper-based systems left room for inefficiencies. Now, transactions are handled securely and transparently in a fully digital environment, ensuring timely support for farmers and service providers alike.

The IMIS revolutionizes agricultural financial management by automating budgeting, payments, and reporting, enhancing efficiency and reducing risks. Farmers and suppliers benefit from real-time payments processing, ensuring funds reach them promptly, especially crucial for rural farmers relying on timely payments to reinvest in their activities.



With a reliable digital trail for every transaction, IMIS fosters accountability and builds trust among stakeholders. Farmers can now track payments and access critical financial information, giving them peace of mind and confidence to engage fully in the agricultural value chain.

The IMIS aligns with the Governments Bottom-up Economic Agenda, which aims to uplift ordinary Kenyans and build an inclusive economy. By prioritizing tools like IMIS, this agenda empowers small-scale farmers with timely payments, financial transparency and access to resources, enabling them to reinvest in their farms and contribute to grassroots-driven economic growth.

The launch of IMIS underscores Kenya's commitment to digitizing critical sectors like agriculture as part of its broader development agenda. By embracing technology, AFA is reducing costs, minimizing fraud, and improving service delivery.

IMIS sets a benchmark for innovation, showcasing how digital solutions can make agriculture more efficient, transparent, and responsive. This step paves the way for advancement across the sector, from supply chain management to crop tracking, positioning Kenya's agriculture for a brighter future.

AFA plans to roll out IMIS nationwide, ensuring all stakeholders, including farmers and suppliers, can access and benefit from its features. To support adoption, AFA will provide training sessions to help users navigate the system and unlock its full potential. Representatives will also be available to offer guidance and address any questions.

More than just a financial tool, IMIS is a transformative initiative reshaping Kenya's agricultural sector. By embracing digitization, AFA is fostering a more resilient, transparent, and prosperous industry, benefiting everyone from farm to market.

For farmers and suppliers, IMIS is more than a streamlined process, it's a step towards a more efficient and inclusive agricultural future. At Kilimo News, we see IMIS as a promising development that can drive Kenya's Agricultural sector forward, it calls on all stakeholders to support this transformation, working together to build a digitized, transparent, and productive sector that benefits farmers and strengthens the country's food security

Key Highlights:

1. IMIS Rollout: AFA introduces IMIS to streamline agricultural finances.
2. Centralized Management: Digitizes budgeting, payments, and reporting.
3. Real-Time Payments: Ensures timely payments to farmers and suppliers.
4. Support for Bottom-Up Agenda: Empowers small-scale farmers.
5. Transparency: Provides secure, trackable payments.
6. Training and Expansion: AFA will train stakeholders and expand access.
7. Agricultural Impact: Aims to build a resilient, inclusive sector.

KENYA INTEGRATED AGRICULTURE MANAGEMENT INFORMATION SYSTEM: A STEP TOWARDS SMARTER FARMING

By Dida Madina

Over the years, tracking Kenya's agricultural production and ensuring subsidies reach genuine farmers has been challenging. Without reliable data, addressing food insecurity and inefficient resource use has been difficult. To tackle these issues, a digital system that provides real-time information and connects farmers with policy makers became crucial for Kenya's agricultural sector.

Launched in 2021, the Kenya Integrated Agriculture Management Information System (KIAMIS) is a collaboration between the Government of Kenya and the Food and Agriculture Organization (FAO) of the United Nations. This digital platform aims to transform agricultural data management by centralizing and digitizing information.

KIAMIS is a specialized platform that gives farmers access to subsidized inputs, mechanization services, and credit management. It also offers e-extension services, connecting farmers with essential government services at both national and country levels. Through this system, the Government of Kenya aims to drive agricultural transformation and enhance service delivery nationwide.

KIAMIS uses Geographic Orientation (GO) mapping to collect detailed farmer data, including farm information, crop patterns, and resources. Farmers can register their farms with the help of the enumerators through the app, gaining access to real-time market trends, weather updates, and government services.

By centralizing this data, KIAMIS supports better decision-making processes and promotes sustainable agricultural growth. The platform offers farmers a one-stop solution, improving access to essential services and driving long-term productivity and food security.

The Government of Kenya, through the Ministry of Agriculture and Livestock Development, has launched the second phase of the digital platform to simplify the farmer registration process. This initiative aims to improve service delivery and boost agricultural productivity.
Recognizing the importance of data and digitization, these elements are key drivers in transforming agrifood systems to ensure food and nutrition security.

Nearly 6.4 million farmers have been successfully registered across Kenya, but there is a need to expand these efforts and register all farmers. The goal is to create a complete national farmer registry that will allow government agencies, counties, and projects to use farmer and farm data, enabling more informed and data-driven policymaking.

ICT is crucial to the success of the KIAMIS platform, supporting the growth strategy by providing farmers with information on commodity prices, enabling e-voucher systems for farm input purchases, and offering e-extension services using GIS for land mapping. These services help farmers protect productive land and establish data links with other institutions to digitalize land records and soil maps.

KIAMIS Registration Procedure -
Farmers are encouraged to register for KIAMIS portal through local enumerators by following the procedure below;

- Visit your area sub-county or county offices
- You will find KIAMIS enumerators
- Provide your details (location, personal information, and farming details)
- You will receive an SMS message confirming your registration

The KIAMIS registration exercise is currently not available in all counties. The Ministry of Agriculture and Livestock Development is in the process of recruiting and training enumerators to assist in the registration exercise. Soon, there will be a website for online registration.

KENYA AGRICULTURAL MARKET INFORMATION SYSTEM (KAMIS)

By Susan Ndirangu

How KAMIS equips the farmers to make informed decisions through market information

Kenya's economy thrives through agriculture where millions of farmers depend on the sector for their livelihoods. However, the biggest challenge for farmers in the agriculture sector is the reliability and accessibility of market information. The Kenya Agricultural Market Information System (KAMIS) was developed to bridge this gap, empowering farmers with critical data through the platform as an essential tool for decision-making capabilities and market access.

How efficient is KAMIS for farmers to access market information?

The Kenya Agricultural Market Information System (KAMIS) is a digital platform that provides farmers and other stakeholders in the agricultural value chain with up-to-date and accurate nationwide market information. KAMIS collects and disseminates insights on the local markets, market prices (wholesale and retail prices), supply volumes, and trends for various commodities across different regions in Kenya. This enables KAMIS to showcase a more transparent and competitive market environment.

What to expect on the KAMIS market information platform.

KAMIS is designed with various features that make it an invaluable resource for the agricultural sector:

1. Do you know the market prices in your town? KAMIS updates information on a Daily, weekly and monthly basis on both wholesale and retail prices of agricultural commodities nationwide. This allows farmers collect insights on specific markets in towns and counties so as to make informed choices on their produce for the best returns.

2. How can insights on market trends and supply volumes help you save money? Farmers can use this information to plan efficiently for their production cycles and understand market trends to anticipate demand, therefore avoiding gluts or shortages.

3. Interested in expanding your markets beyond national border trade? Kenya is a big player in the East African agricultural trade and KAMIS provides insights on cross-border trade. The platform provides farmers with information on commodity movement across borders that include the source and destination countries, nature of trade, and commodity volumes. This creates opportunities for farmers interested in expanding their market beyond national borders.

4. Do you know how easy it is to use the KAMIS platform from your mobile phone? The KAMIS platform is user-friendly and farmers can access the platform via mobile phones, which is crucial in rural areas where smartphones and mobile technology are widespread.

How are farmers benefiting from the KAMIS platform?

KAMIS offers farmers endless opportunities in the agricultural market landscape both locally and across borders:

1. How powerful is Information for farmers? KAMIS provides accurate and timely market information that gives farmers an upper hand for better price negotiations and market choice that offer the highest returns which boosts their incomes.
2. Do you want to cut off middlemen negotiations? Direct access to market information enables farmers to be knowledgeable on market prices through KAMIS, therefore reducing their reliance on middlemen who exploit and take advantage. This transparency enables the farmer retain more of their earnings and facilitates fairer trade practices.
3. Are you tired of prices fluctuations? KAMIS contributes to market efficiency by balancing supply and demand. Frustrations on prices fluctuations and unstable markets can take a toll on farmers, however with knowledge of current market conditions, farmers can make strategic decisions on what to plant, when to harvest and where to sell.
4. How can KAMIS revolutionize agriculture? The information provided by KAMIS is not only beneficial for farmers but also supports policymakers and stakeholders in the agricultural sector. It offers insights into market trends that can inform policy decisions, improve resource allocation, and support agricultural development programs.

What are the challenges and future prospects for KAMIS?

In rural areas some farmers have limited access to internet and digital literacy, therefore hindering some farmers from fully benefiting from the platform. Another challenge is inadequate support and resources to facilitate maintaining the accuracy and timelines of data continuously on the platform.

To address these challenges, future improvements could include partnerships with local organizations to offer training on digital tools and outreach programs to expand internet infrastructure in remote areas. Enhanced collaboration with stakeholders can also ensure that KAMIS continues to evolve and meet the needs of all agricultural players.

Why is KAMIS a transformative tool in the growth and transparency of market information?

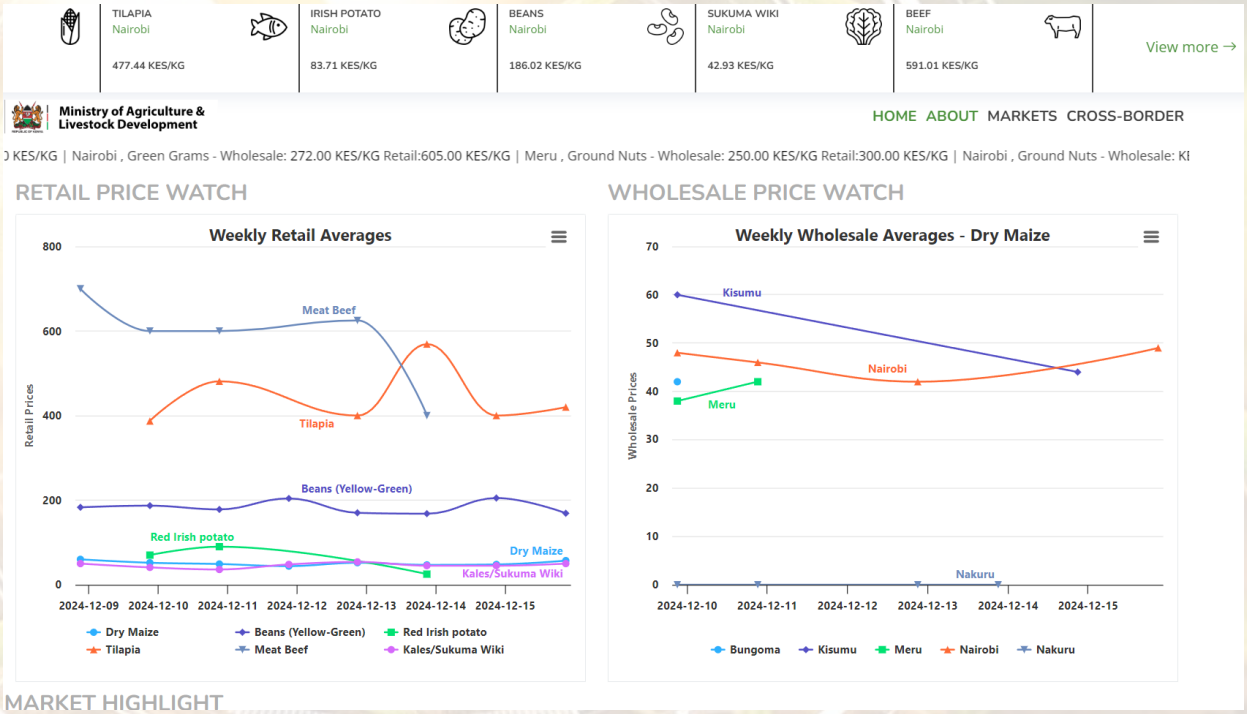
The Kenya Agricultural Market Information System (KAMIS) is a digital platform, that empowers Kenyan farmers with market information. The platform provides real-time market data, that helps farmers make informed decisions, optimize their profits, and contribute to a more balanced

and efficient agricultural market. As technology and connectivity evolves, KAMIS has the potential to further enhance the resilience and productivity of Kenya's agricultural sector, ensuring that farmers remain competitive in both local and regional markets.

Visit the KAMIS platform: https://amis.co.ke/

Looking for Real-Time Insights in Kenya's Agricultural Sector?

KilimoSTAT is Kenya's dedicated open information platform for agriculture, offering real-time insights on crops, livestock, fisheries, agroforestry, climate change, and food security. It organizes and delivers valuable statistics to empower farmers, policy makers and stakeholders with informed decision-making.



KILIMOSTAT : EMPOWERING FARMERS WITH AGRICULTURAL DATA

By Susan Ndirangu

Unlocking the Power of KilimoSTAT: Transforming Agriculture with Data

KilimoSTAT is a vital platform empowering farmers and stakeholders with actionable agricultural data. By leveraging its insights, users can optimize operations, boost productivity, and tackle market challenges effectively.

Below are key questions exploring how farmers benefit from KilimoSTAT and the value of its data-driven insights.

1. How Can Regional Data from KilimoSTAT Help Farmers Boost Productivity and Optimize Strategies

KilimoSTAT's regional data helps farmers evaluate agricultural trends, identify ideal crop-growing areas and align their plans with local conditions. Awareness on crop performance, rainfall patterns, and soil health enable efficient resource planning and higher yields.

2. How Does KilimoSTAT Help Farmers Learn from Local Strategies

KilimoSTAT's Census of Commercial and Institutional Farms and Specialty Crops (CCIFSC) provides comprehensive data on diverse agricultural practices. Aligned with global standards, it offers farmers insights to benchmark their operations and adopt innovative techniques from larger or specialized farms.

3. How Does Soko Information on KilimoSTAT Benefit Farmers?

KilimoSTAT's Soko Platform provides essential market intelligence to help farmers make informed decisions. Key features include;

- Price Search: Access wholesale and retail prices, plus supply volumes across counties and markets, to identify the best selling opportunities
- Cross-Border Trade: Explore data on trade routes, commodity origins and volumes to expand market reach
- Price Watch: Stay updated on weekly price trends to adapt sales strategies and maximize profits.

4. How Does KilimoSTAT Help Farmers Access Nationwide Agricultural Initiatives?

KilimoSTAT's dashboard highlights 17 ongoing agricultural projects across Kenya, offering insights into value chains, project status, and implementing organizations. This transparency enables farmers to stay informed, explore potential partnerships, and benefit from project outcomes that impact their communities.

5. How Does KilimoSTAT Empower Kenyan Farmers?

- Boosting Planning and Productivity: Access to regional and national data helps farmers improve their practices based on proven trends.
- Improving Market Access: Market information guides farmers in timing sales for better profits and exploring cross-border trade opportunities.
- Supporting Sustainability: Information on agricultural projects enables farmers to adopt sustainable practices and benefit from available resources and training

6. How to Stay Updated Daily with KilimoSTAT on Kenya's Agricultural Sector

KilimoSTAT offers an easy data download process, giving farmers and stakeholders quick access to crucial agricultural information. This helps them make informed decisions to boost productivity, refine market strategies and promote sustainability.

Visit the site: https://statistics.kilimo.go.ke/en/

PARADIGM SHIFT FROM FOOD IMPORTS TO SUSTAINABLE LOCAL PRODUCTION

By Kawira Githinji

Agriculture is a cornerstone of Kenya's economy, contributing 33% of GDP directly and an additional 27% indirectly through sectors like manufacturing and services. It also drives 65% of the country's export earnings and sustains the livelihoods of over 80% of Kenyans. Agriculture plays a vital role in food security, providing diverse, nutritious foods and generating income, especially for rural populations.

Under the leadership of H.E. Dr. William Samoei Ruto, the government is committed to achieving 100% food and nutrition security for all Kenyans. However, Kenya faces numerous challenges in agriculture, including climate change, high input costs, pests, and disease outbreaks in crops and livestock. A major concern is the country's dependency on food imports, currently spending nearly US$4 billion annually on staples like maize, wheat, rice, sugar, and edible oils. This reliance depletes foreign exchange reserves and stifles local job creation, while exposing the country to global supply chain vulnerabilities.

To address these challenges, the Kenyan government is focusing on reducing food imports and enhancing domestic food production. This strategy includes boosting the output of traditional export crops and increasing self-sufficiency in staple foods. By prioritizing local food production, Kenya aims to strengthen food security, reduce dependence on foreign markets, and protect the economy from global market shocks and geopolitical risks.

Kenya's agricultural transformation efforts also focus on generating income, creating jobs (especially for the youth), and supporting the manufacturing sector by supplying raw materials. The government is working with stakeholders to lower agricultural input costs, provide affordable financing, and secure markets for agricultural products. Agriculture is central to the Bottom-Up Economic Transformation Agenda (BETA), which was launched in 2022. Through BETA, the government has identified key agricultural value chains, focusing on food security, export growth, and import substitution.

The food security pillar targets staple crops like maize, potatoes, pulses, bananas, and livestock products, while export growth focuses on high-value crops like coffee, tea, fruits, vegetables, and nuts. Import reduction efforts are aimed at increasing local production of rice, wheat, edible oils, cotton, sugar, and honey.

Kenya has made significant strides in digital transformation, ranking among the top 10 countries in Africa in areas such as integrated water management, seed development, and access to financial services. The government's use of digital tools, such as the Kenya Integrated Agriculture Management Information System (KIAMIS), is enhancing agricultural productivity by improving access to data, inputs, and financing. KIAMIS has registered over 6.4 million farmers and issued millions of e-vouchers, providing farmers with access to subsidized inputs.

The government is also fostering agricultural innovation through the establishment of Agricultural Technology Innovation Centers (ATDCs) and incubation centers. These hubs focus on farm mechanization, agro-processing, and value addition technologies, creating opportunities for small and medium-sized enterprises (SMEs) to thrive. In 2023/2024, over 100 SMEs were supported, while new agricultural mechanization hubs have been established in strategic regions to enhance production efficiency.

In the livestock sector, the government has introduced strategies to enhance meat production, processing, and marketing. This includes increasing forage animal feed production, improving breeding programs, expanding livestock insurance, and strengthening meat export markets. Meat production and exports are gradually increasing, supported by a new export slaughterhouse and market diversification efforts.

The leather industry is another area poised for growth. Kenya produces an estimated 8 million pairs of shoes annually, but the demand is much higher. The government is investing in the Kenya Leather Industrial Park and promoting footwear production, aiming to increase output to 36 million pairs annually. By improving the leather value chain, the government expects to create tens of thousands of jobs and increase revenue from KSh 15 billion to KSh 120 billion by 2027.

In the dairy sector, Kenya is Africa's leading producer, with an annual milk production of 5.2 billion liters. The government has set ambitious targets, including doubling milk production, increasing exports, and raising the percentage of formally marketed milk. Key interventions include enhancing milk productivity, improving milk cooling and processing infrastructure, and promoting quality standards. The government's investment in dairy production is supported by legal and regulatory reforms, such as the Dairy Industry Bill 2024, and initiatives like the provision of subsidies for commercial concentrates, fodder, and genetics.

To tackle climate change, the government is promoting climate-smart agriculture, drought-resistant crop varieties, and sustainable soil management practices. Programs to reduce post-harvest losses, such as mobile grain dryers, are being rolled out to improve food preservation. The government is also exploring public-private partnerships to make more land available for contract farming.

The expansion of livestock insurance coverage, which rose by 85% in 2023, is helping pastoral communities manage the risks of drought and floods. This insurance supports farmers' access to essential

resources, such as animal feed, and cushions them from livestock losses.

Kenya's agricultural transformation efforts are beginning to bear fruit, with improvements in milk and meat production, the growth of agricultural exports, and the creation of thousands of jobs. However, achieving the full potential of the sector requires continued investment, innovation, and collaboration among all stakeholders.

Kenya's shift from food imports to sustainable local food production is a strategic move to ensure long-term food security, bolster economic growth, and protect against global supply chain risks. Through investments in agriculture, digital transformation, and targeted interventions across key value chains, the country is laying the foundation for a more self-reliant, resilient, and prosperous future.

TOWARDS ENDING DROUGHT EMERGENCIES (TWENDE) PROJECT – A NEW ERA INTO RESTORATION OF RANGELANDS THROUGH COMBINATION OF PHYSICAL AND DIGITIZATION TECHNOLOGY

By: Blaise Okinyi – Project Coordinator
& Festus Kiprotich and Lilian Nyachio
Edited by: Josemaria Mukiri

Rangelands degradation remains a major challenge for many communities and governments in Kenya and the Greater Horn of Africa. Poor or lack of rangelands governance systems, deforestation, climate change and overgrazing have led immerse soil erosion, diminished pastureland, resource-based conflicts, human wildlife conflicts and unimaginable loss of biodiversity.

The TWENDE Project is taking unflinching interventions to reverse/end this threat by focusing on restoring the degraded rangelands. TWENDE in the processes of Implementing priority actions for integrated land/ water management in catchments, installing community validated strategic water sources for sustainable rangeland utilization, assisting communities to formulate bylaws that are adopted by the county governments and used in the governance of the rangelands.

The project uses a number of climate smart approaches which are gender sensitive. The approaches are Community training for restoration of degraded rangelands / grassland, wetland and forest ecosystem), capacity building of the community on Farmer Managed Natural Regeneration and the management of invasive species, reforestation-tree planting, establishment of grass bulking sites and sensitization of the Pastoral communities on other climate resilient value chains such as apiculture.

TWENDE has digitized its approaches which have proved sustainable. Through ICRAF, twende uses an array of technology in mapping of the ecosystem. This is based on a Resilience Diagnostic and Decision Support Tool (RDDST) focusing on climate and land health underpinned by the Land Degradation Surveillance Framework (LDSF), which has a strong analytical framework built into it for modelling and mapping of a range of indicators of ecosystem health (e.g. soil erosion, soil carbon, infiltration capacity, vegetative cover). The project analyses data (livestock, water, conflict, sentinel sites, markets and productivity). Its impact has been identification of the most restored rangelands thus prioritizing them.

Installation of community strategic water sources is an indispensable approach towards sustainable rangeland utilization. Through WRA, SDLD has established and equipped one monitoring borehole in chyulu landscape. This critical infrastructure is used to transmit real-time and predictive data of ground water on both water quality and quantity/levels. Data collected are used as an advisory to the nearby boreholes on current status and expected water levels. This allows the community to put in place mechanisms to avoid water crisis which is often acts as a trigger for resource-based conflicts. The same data is shared with the WRUAs and other stakeholders. Through this the community gets advance information ensure that the critical water sources remain reliable and safe for long-term use.

LIVESTOCK INSURANCE PROGRAM – "DRIVE"

By Sharon Mukami

Droughts have become a growing global concern due to their increasing frequency, intensity, and duration, driven by climate change. These prolonged dry periods pose significant threats to humans, animals, and plant life. In Kenya, drought ranks among the most pressing challenges, particularly for pastoralists communities who face massive losses of livestock, their primary sources of livelihood.

To address this challenge, the Government of Kenya, in partnership with the World Bank, has launched the De-risking, Inclusion, and Value Enhancement of Pastoral Economies (DRIVE) project. This initiative aims to safeguard pastoralists from the devastating effects of drought by introducing an innovative Livestock Insurance program. Through this program, pastoralists can better manage risks, protect their livelihoods, and enhance resilience to the impacts of climate change.

The DRIVE project is a transformative regional initiative being implemented across four Horn of Africa countries: Kenya, Ethiopia, Somalia, and Djibouti. It is part of the broader Horn of Africa Initiative, which aims to build resilience to climate shocks, enhance regional trade, and strengthen value chains in the livestock sector.

The project's development objective is to improve pastoralists access to financial services for drought risk mitigation, integrate them into value chains, and facilitate livestock trade across the regions. By addressing the unique challenges faced by pastoralist communities, the project seeks to make a lasting impact on their livelihoods and resilience.

Spanning five years (October 2022 to September 2027), DRIVE is set to benefit over 1.6 million pastoralists from 2,500 pastoralist groups, helping them navigate the risks associated with drought and other climate – related challenges.

A cornerstone of the initiative is Livestock Insurance, a financial tool that protects pastoralists against the loss of livestock due to accidents, illness, disease and other unforeseen events. This insurance not only safeguards their primary source of income but also promotes financial inclusion by empowering pastoralists to access financial services and connect more effectively to local and regional markets.

Additionally, the program facilitates cross-border livestock trade and enhances the livestock value chain by mobilizing private investments. Through these efforts, DRIVE aims to modernize pastoral economies, strengthen resilience, and unlock new economic opportunities for communities across the Horn of Africa

In Kenya, there are 3 implementing partners who play a key role in the DRIVE Project, mainly: ZEP-RE, Kenya Development Corporation (KDC), State Department for Livestock Development.

ZEP-RE is the Implementer of DRIVE Component 1 of De-risking pastoral production. The project has conducted livestock insurance sales to pastoral beneficiaries on pastoralist access to financial package for drought resilience. 180,369 pastoralists have bought livestock Insurance with 649,518 Tropical Livestock Unit (TLU) Insured (TLU= Cow equivalent) insured in the process.

The project has subsidized livestock insurance premium in 21 counties at a rate of 70% - 80% where pastoralists have benefited from a total subsidy of KES 1,972,001,356 and to this end the pastoralist have paid their 20%-30% of the livestock insurance premium totaling to KES 511,468,20.

Kenya Development Corporation (KDC) is spearheading DRIVE Component 2 part 1, focusing on promoting livestock value chains through trade facilitation and private sector support. Key initiatives include: market connectivity by enhancing pastroralist access to markets by upgrading livestock quality infrastructure; Trade facilitation by improving trade infrastructure and processes and private sector engagements through de-resking investments to attract private sector participation.

To date, KDC has facilitate livestock insurance payouts totaling to KES642.46 million to pastoralist in 10 counties, including Garissa, Isiolo, Kajiado, Laikipia, Mandera, Marsabit, Samburu, Tana River, Turkana and Wajir. Overall, combined benefits from insurance premiums, enrollment bonuses, and payouts across 21 targeted counties amount to KES3.01 billion, significantly boosting pastoralist resilience and livelihoods.

State Department for Livestock Development is leading the implementation of DRIVE Component 2 Part 2, focusing on project management and daily operations. Key achievements include: stakeholder engagement through mobilizing 639 participants for stakeholder validation of Unit Areas of Insurance (UAIs) for livestock insurance; Community training, where 490 community members were trained on livestock market linkages approaches; and capacity building materials where five training guidelines and manuals on market linkage and procurement management manuals were developed.

The project targets 21 Arid and Semi-Arid Lands (ASAL) counties in Kenya, including Turkana, Marsabit, Isiolo, Laikipia, Mandera, Wajir, Garissa, Tana River, Taita Taveta, Kilifi, Kwale, Lamu, Meru (Meru North sub county), Tharaka Nithi, Samburu, Baringo, West Pokot, Narok, Kajiado, Makueni and Kitui. These counties, characterized by pastoralism, benefit from tailored drought insurance products for livestock, enhancing resilience and market linkages

SCALING UP FERTILIZER SUBSIDIES: A GAME CHANGER FOR AGRICULTURAL GROWTH

By Gladys Njoka

The Government of Kenya, through the Ministry of Agriculture and Livestock Development in collaboration with County Governments, has launched nationwide fertilizer subsidy program to support farmers and boost agricultural productivity. The program reduces the cost of high-quality fertilizer from Kshs. 3,500 to Kshs. 2,500 per bag at National Cereals and Produce Board stores across the country, making it more affordable and accessible to farmers.

This initiative is already delivering significant benefits to the agricultural sector. By reducing input costs, farmers are seeing better crop yields, which ensures a stable food supply and helps lower food prices. It is a key part of the government's efforts to strengthen food security and make farming more profitable and sustainable.

To ensure transparency and combat cartels that have disrupted fertilizer distribution in the past, the government introduced an e-voucher system. This digital platform simplifies access to subsidized inputs while ensuring accountability.

Farmers first register at the country level, where their bio-data is collected and sent to the Ministry's central servers at the Kenya Agricultural and Livestock Research Organization (KARLO) in Nairobi. After registration, farmers are trained on how to use the e-voucher system and have the necessary apps installed on their smartphones or tablets. Once trained, they receive voucher messages and are verified by local agricultural officers at the sub-country or ward level.

After successful verification, farmers receive an e-voucher with a unique code, which they present to designated agro-dealers. The dealers enter the code into their system, prompting the farmer to confirm the transaction by entering their M-Pesa PIN. This deducts 60%of the cost from the farmers' account, while the Ministry subsidizes the remaining 40% ensuring a smooth redemption process at the National Cereals and Produce Board (NCPB).

The e-voucher system also covers seeds, pesticides, post-harvest tools, and training in good agricultural practices, further boosting productivity and food security. By eliminating inefficiencies and reducing exploitation by middlemen, the program has been widely praised as a game-changer for Kenya's agricultural sector.

Farmers across the country have expressed appreciation for the government's efforts highlighting the positive impact of the subsidy on their livelihoods.

HONEY, HOPE, AND INNOVATION: THE INSPIRING JOURNEY OF THE GAMACHU YOUTH GROUP IN ISIOLO

Sharon Mukami and Dida Madina

Beekeeping is not only a profitable venture but also a driver of environmental sustainability. For the Gamachu Pastoralist Youth Group in Isiolo County, it has been transformative. Supported by the Emergency Locust Response Program (ELRP), they received beehives, training, and honey harvesting equipment through the program's Micro Project component. This support has boosted their savings and paved the way for a thriving beekeeping enterprise.

Initially, the Gamachu Youth Group focused on environmental education in Kulamawe Location but faced financial challenges. Prolonged droughts and a devastating locust invasion, driven by climate change, severely and impacted pastroralist communities, depleting fodder and livelihoods. As a youth-led Community-Based Organization (CBO), they lacked the resources to establish a sustainable business.

In June 2023, Abdullahi, the Gamachu Youth Group Chairman, discovered an opportunity through the Emergency Locust Response Program (ELRP) on a WhatsApp platform. After promptly submitting a proposal, the group was selected as beneficiaries following a rigorous vetting

and site verification. They received 10 beehives, honey harvesting equipment, and other tools in a ceremony attended by local officials including, the Country Project Coordinating Unit Chair, the Ward Administrator, the Areas Chief and the Livestock Officer. By August 2024, five beehives were colonized, yielding 20 liters of honey. The group sold the honey within two weeks, earning, Ksh 20,000 in savings. This milestone inspired them to explore their untapped potential further.

The Gamachu Pastrolist Youth Group has embraced digital tools to expand and enhance their honey business. By leveraging platforms like WhatsApp and TikTok for marketing and branding, they promote their products to a wider audience, creating a unique brand that builds trust and recognition. Their active online presence allows them to connect directly with customers, share their story, and gather feedback for improvement. As a result, they now sell their honey quickly, often within two weeks of harvesting, and have grown their customer base beyond their village.

This digital transformation has not only boosted sales but also empowered the group to achieve financial independence, proving that pastoralist youth can run a successful business and make informed financial decisions.

Beyond financial success, the Gamachu Pastoralist Youth Group's beekeeping venture contributes to biodiversity conservation by advocating for bee protection. Their determination, combined with support from ELRP and the power of digital tools, demonstrates that with the right resources and mindset, even small beginnings can lead to significant achievements.

FROM SCARCITY TO SUSTAINABILITY: HOW CHABICHA FARMERS IN ISIOLO COUNTY ARE TRANSFORMING THEIR FUTURE

By Sharon Mukami and Dida Madina

Barambate Village in Isiolo County, traditionally reliant on livestock keeping, is undergoing a transformation thanks to the efforts of the Chabicha Farmer's Group. Comprising of 10 men, 50 women, and youth, the group cultivates 5 acres of community land, growing crops for both domestic use and commercial sale. Their success is largely attributed to the rehabilitation of the Barambate Community Borehole, initially drilled under the Drought Resilience and Sustainable Livelihoods Programs (DRSLP) and later supported by the Emergency Locust Response Program (ELRP). The borehole's revitalization has alleviated water challenges and boosted agricultural productivity.

Rashid, the group's chairman, highlights the role of digitalization in their progress, particularly through the ELRP. The program funded the installation of an electric fence around the farm, providing crucial protection against wildlife and livestock.

Rashid explains, "The electric fence acts as a reliable barrier, ensuring our crops are safe, especially at night when we cannot monitor them." This simple yet effective security measure has significantly reduced crop losses, allowing the farmers to focus on growing their business.

In Barambate, technology is enhancing both farm security and economic opportunities. Farmers receive real-time updates on weather patterns, such as droughts or heavy rains, through government-issued mobile alerts, which are crucial for planning their farming activities.

Abio, the group's treasurer, shares, "We get regular messages on our phones, warning us about oncoming droughts or heavy rains." Beyond weather updates, mobile phones have become vital for communication and business. Farmers use them to connect with potential buyers, opening new markets and securing better prices for their produce. This digital connectivity is not only improving farm security but also boosting the economic prospects of Barambate's farmers.

The project also involved extending the water piping system by one kilometer, installing a 50m^3 water tank supported by 12 steel towers, and improving irrigation with five hose pipe laterals. Additionally, farmers received certified seeds, solar energy solutions, and training in governance and sustainability. Active farmer participation in decision-making ensured that the project addressed the community's specific needs.

The rehabilitation of the Barambate Borehole has led to a 40% increase in crop yields, allowing for year-round cultivation of crops, like watermelon, tomatoes, and green grams. This boost in productivity has raised farmers' incomes, enabling them to support their families, pay school fees, and invest in new ventures.

The Project has profoundly transformed the lives of Chabicha farmers, showcasing the impact of community-driven initiatives in addressing water scarcity and improving livelihoods. It serves as a model for other arid regions, emphasizing the importance of sustainable infrastructure and community empowerment in overcoming environmental challenges. Through collaboration, the Chabicha Farmer's Group has demonstrated resilience and the potential for transformative change in resource-limited environments.

SEED CERTIFICATION: THE FOUNDATION OF SUCCESSFUL AGRICULTURE

By Sharon Mukami

In today's dynamic agricultural landscape, seed certification is vital for ensuring farmers access high quality planting materials. In Kenya, the Kenya Plant Health Inspectorate Service (KEPHIS) plays a key role in maintaining these standards.

Seed certification verifies that seeds meet strict quality benchmarks, including varietal purity, germination capacity, and disease free status, while adhering to regulatory requirements. This process empowers farmers with reliable seeds, leading to healthier crops and improved yields. As agriculture embraces digitization, understanding and leveraging seed certification has never been more crucial.

The seed certification process involves rigorous steps to ensure seeds meet the quality standards outlined in the Seeds and Plant Varieties Act. Key activities include field inspections during crop growth, seed processing, sampling, testing, and licensing of seed merchants and stockists. These measures help prevent crop failures and ensure optimal yields, supporting agricultural stability and growth.

Field inspections assess crop conditions, while processing and sampling of harvested seeds remove impurities and enhance quality. Internationally accepted procedures are followed to verify germination capacity, purity and moisture content, ensuring farmers receive reliable, high performing seeds.
During the final stages of certification, seeds are tested at KEPHIS laboratories in Nakuru and Kitale. Approved seeds are labelled and released to the market under their respective seed companies, while substandard seeds receive a stop-sale order and are earmarked for disposal. To ensure consistent quality, KEPHIS conducts post-control tests and seed post-certification surveys, sampling seeds from stockists for verification.

Anyone involved in seed production, processing or marketing must register with KEPHIS as a seed merchant. This rigorous system safeguards their integrity of Kenya's seed supply, supporting agricultural productivity and food security. However, traditional manual processes face inefficiencies, high administrative costs, and traceability challenges, highlighting the need for modernization.

To address challenges in manual seed certification, Kenya is embracing digital transformation to modernize the process. Aligned with the country's economic progress goals, this initiative enhances efficiency, reduces costs, and improves traceability. Key digital innovations are already showing promises, streamlining operations and supporting agricultural growth.

1. KEPHIS Seed Certification Portal: this portal digitizes certification procedures in compliance with international standards set by the organization for economic cooperation and development (OECD) and international seed testing association (ISTA).

2. Seed Assure Platform: Developed by Cellsoft Ltd., this cloud-based platform facilitates digital seed inspections and real-time data sharing among stakeholders.
3. Integrated Export and Import Certification System (IEICS): This system, launched by KEPHIS, aims to reduce transaction costs and improve efficiency in obtaining trade plant health certificates, licenses, and permits.
4. Electronic Phytosanitary Certification Platform (ePhyto): Part of the IEICS, this platform facilitates government-to-government exchange of trade information, reducing the risk of forgeries in permits and certificates.

These digital tools have transformed the seed certification, streamlining processes and delivering significant benefits. The KEPHIS Seed Certification and Plant Variety Protection System accelerates certification issuance, enhances access to market information, improves traceability, and reduces the cost and time required for certifying plant inputs.

- Average time by traders to acquire seed certificate moved from 25 days to 3 days a total of 88% reduction.
- Seed inspectors time reduced from 29 to 1 day a 96% reduction
- Seed merchants time reduced from 36 days to 7 days an 80% reduction.
- Seed sellers time reduced from 10 days to 1 day a 90% reduction.
- Costs incurred to acquire seed certificate reduced from $39 to $3 a 92% reduction.
- The system has also made possible the tracking of certified seeds from production to the market, centralization of the seed inspection activities across the country.

The digitization of seed certification aligns seamlessly with Kenya's Bottom-Up Economic Transformation Agenda (BETA), which emphasizes agricultural transformation as a driver of inclusive economic growth. Key pillars of this agenda include:

- Agricultural Productivity Enhancement: investing in agricultural technologies, such as improved seed varieties.
- Value Addition and Industrialization: promoting the processing of agricultural products to increase farmers' incomes
- Market Access Improvement: Enhancing infrastructure and market systems to connect farmers with buyers
- Digital Transformation: Leveraging technology to streamline agricultural processes and improve efficiency

Seed certification, led by KEPHIS, plays a pivotal role in modern agriculture by ensuring farmers access high-quality seeds for optimal yields. Digitization enhances the process's efficiency and transparency, benefiting farmers and contributing to a more sustainable and secure food system. Embracing seed certification and digital innovation remains crucial for the sector's growth and resilience.

EFFECTIVE STRESS MANAGEMENT STRATEGIES IN THE WORKPLACE

By Ruth Selwe

Workplace stress is a major challenge that affects both employee well-being and productivity worldwide. In Kenya, Government employees encounter unique stressors that require urgent attention.

According to a 2022 report by the Public Service Commission of Kenya (PSC), 68% of public servant's experience moderate to high levels of stress, highlighting the need for targeted solutions to address this growing concern.

Mental health challenges, such as substance abuse, depression, anxiety, financial difficulties, and family issues, are widespread and negatively impact workplace performance. According to the Kenya Mental Health Investment Case (2021), mental health conditions cost the economy KES 62.2 billion annually.

The workplace environment is fraught with unique stressors, with heavy workloads and unrealistic deadlines being major contributors. Bureaucratic inefficiencies and complex approval processes add to employee frustration, while limited resources and staffing shortages increase workload.

Outdated technology and inadequate training further intensify these challenges, creating a difficult work environment. Additionally, work life imbalances exacerbate stress, as employees contend with long hours, weekend duties, and disruptions to their personal lives. Poor interpersonal relationships and a lack of support in the workplace further contribute to a toxic environment, intensifying stress levels for employees.

The consequences of stress extend beyond individuals, severely affecting organizational performance. Common health issues like hypertension, anxiety, and sleep disorders hinder employees' wellbeing. Stress also reduces productivity, while high turnovers rates and low morale strain resources and disrupt teamwork. This ultimately compromises the quality of delivery.

Addressing workplace stress requires both organizational and individual strategies. At the organizational level, the government should focus on redistributing workloads, offering flexible work arrangements, and improving communication. Regular stress management training, wellness programs like mindfulness and yoga, and modernizing technology are key to enhancing employee resilience. Increasing staffing levels and expanding Employee Assistance Programs (EPAs) will improve work conditions.

Promoting work-life balance is essential. Encouraging employees to take breaks, use leave, and set boundaries between work and personal life can help prevent burnout.

At the individual level, effective time management, physical activity, relaxation techniques, and strong social support are crucial for coping with stress. Building support networks and seeking professional counselling when needed can provide additional relief.

Implementing comprehensive stress management strategies will improve employee well-being and enhance public service delivery, benefiting both the workforce and the nation.

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