



# Biosafety News

*Championing for a Biosafe Nation*  
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Official Newsletter of National Biosafety Authority

**Issue No. 10**  
**October**



*Championing for a Biosafe Nation*

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**Ms. Julia Njagi, Deputy Director , Biosafety Licensing, Monitoring and Surveillance at the National Biosafety Authority(NBA) explains a point to National Assembly’s Agriculture and Livestock Committee members during their visit to the institution’s Headquarters in Nairobi.**

# Editor's Note



**Ouma Wanzala**

**Kenya's borders aren't just marks on a map. They are living systems, valves for trade, checkpoints for security, and, increasingly, the places where our food system first meets the world. The issue explains the Authority's activities at the Port of Mombasa, Malaba, Busia, Namanga, Lunga Lunga among others.**

**Dear esteemed readers,**

I welcome you to our 10<sup>th</sup> issue of the Biosafety Newsletter. In this issue we take you through the successful conclusion of the 13<sup>th</sup> biosafety conference in June in Naivasha, Nakuru County. This important event brought together various stakeholders to discuss the successes and challenges that have faced the adoption of modern

biotechnology for the last 13 years and the future of technology in the country.

The issue also looks at the progress made by Kenya in having a Genetically Modified (GM) and disease-resistant cassava placed in the market after years of research. This saw the Authority's Board of Management take time in July to visit the field trial area in Mtwapa in Kilifi County for inspection as provided for in the Biosafety Act Cap 320.

Kenya also kicked off the process of the accession to the Nagoya-Kuala Lumpur Supplementary Protocol on liability and redress on implementation of Cartagena Protocol on Biosafety. The Authority, as the leader in the sector, initiated the process that brought experts drawn from various government institutions to develop the document that has since been submitted to the Government.

The issue also delves into the issue of misinformation that continues to undermine adoption of modern biotechnology, and which has often been fueled by visuals and images that misrepresent the science and implications of genetic engineering.

Kenya's borders aren't just marks on a map. They are living systems, valves for trade, checkpoints for security, and, increasingly, the places where our food system first meets the world. The issue explains the Authority's activities at the Port of Mombasa, Malaba, Busia, Namanga, Lunga Lunga among others.

The issue also explains the important role Kenya continues to play by adoption of modern biotechnology by joining other East Africa Countries in coming up with a regional biotechnology strategy which prioritizes equitable access to biotechnology benefits, preservation of biodiversity, and public education to build trust and acceptance.

The Authority is a competent authority for biosafety, and designated as the National Focal Point for both the Cartagena Protocol on Biosafety and the Biosafety Clearing House.

Lastly, as part of our mandate on awareness creation on GMO matters, we gladly welcome any comments from our readers.

**Enjoy the read!**

## Message from the Ag. Chief Executive Officer

# Towards realization of our mandate



**Dear Esteemed Stakeholders,**

Kenya is part of the global village and through this, it has kicked off the process of the accession of the Nagoya-Kuala Lumpur Supplementary Protocol on liability and redress on implementation of Cartagena Protocol on Biosafety.

In this process, we have brought in all experts with whom we have continued to work together in realising our mandate. It is important to note that accession to the Protocol is strategic and necessary for fulfilling international obligations and strengthening biosafety governance.

The Authority is mandated to oversee the safe transfer, handling, and use of GMOs to ensure protection of human, animal health, and the environment.

The Authority appreciates various stakeholders who participated in the 13<sup>th</sup> national Biosafety Conference that brought together experts in the modern biotechnology sector. This conference was important to the Authority because it is part of its mandate in promoting public awareness and education on biosafety matters.

Further, to create more awareness among our stakeholders, the Authority participated in the Nyeri Agriculture Show whose theme was “Promoting Climate-Smart Agriculture and Trade Initiatives for Sustainable Economic Growth”. This theme emphasized sustainable practices to improve agricultural productivity, build resilience against climate change, and drive economic progress through innovative approaches in agriculture and trade.

The Authority also conducted an Internal Board Induction Training for Board members, which aimed at ensuring that new Board members are adequately informed and supported to effectively fulfill their roles and responsibilities within the Authority. The training also helped refresh and further empower the existing members to sharpen their skills. The training provided members with the necessary knowledge, resources, and skills to enable them contribute meaningfully to the board’s decision-making and strategic direction for NBA.

The induction was a critical foundation and followed the Board’s visits to NBA’s border offices of Mombasa, Namanga, Busia, and KALRO Mtwapa, an experience that allowed the Board to interact with staff, stakeholders, and witness firsthand the day-to-day operations at these key facilities.

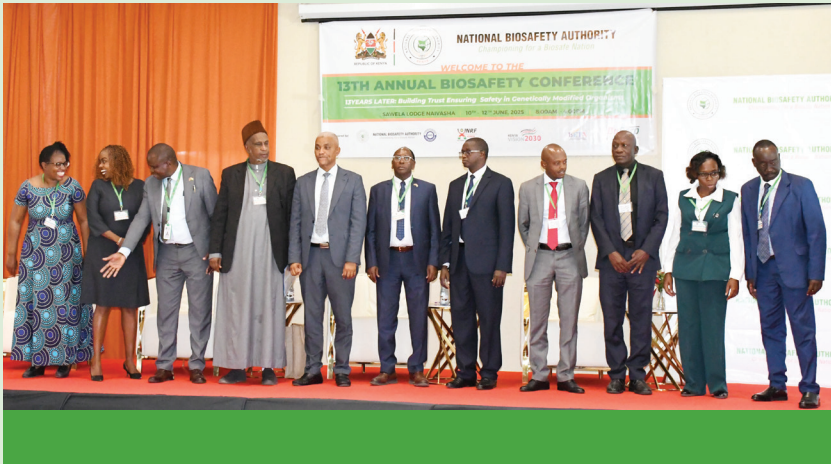
The Authority also entered into a working agreement with Kenya Revenue Authority (KRA) to enhance efficiency in sea cargo clearance.

The NBA-KRA service level agreement (SLA) for sea cargo clearance will enable the two institutions to serve their clients more effectively.

**Nehemiah Ngetich.**  
**Ag. Chief Executive Officer**

# 14<sup>th</sup> Biosafety conference set for 2026

By Ouma Wanzala



The National Biosafety Authority (NBA) has now set sight on the 14<sup>th</sup> National Biosafety Conference next year after successful conclusion of this year’s event which was held in Naivasha.

The 13<sup>th</sup> Annual Biosafety Conference themed: 13 Years Later: Building Trust and Ensuring Safety of Genetically Modified Organisms (GMOs) attracted hundreds of participants among them experts, farmers, scholars, government officials and other stakeholders.

Agriculture and Livestock Cabinet Secretary Hon. Mutahi Kagwe underscored the government’s commitment to support innovations in science and farmers in Kenya to adopt new knowledge in order to enhance food production capacities to make Kenya food secure.

“13 years later: Building trust and ensuring safety of Genetically Modified Organisms” resonates well with the government’s commitment to facilitate adoption of new technologies and innovations to transform low agricultural productivity in the country. However, these efforts

are being derailed by unending litigations that appear to derail this course,” said the Cabinet Secretary.

He noted that the government appreciates the use of modern biotechnology as a powerful tool that can support its agenda of improving productivity across value chains and at the same time building resilience to the effects of climate change.

“The agriculture sector continues to be integral in achieving Kenya Vision 2030 goals and advancing the government’s bottom-up economic transformational agenda (BETA) plan on food security,” said the Cabinet Secretary adding that the government will continue to support the Authority in its mandate to exercise general supervision and control over the transfer, handling and use of genetically modified organisms (GMOs) in order to ensure the safety of human and animal health, and the provision of an adequate level of protection of the environment.

The National Biosafety Authority was designated by the Government as the National Focal Point to the Cartagena

Protocol on Biosafety, the global biosafety regulatory framework under the Convention on Biological Diversity.

“This is to enable Kenya to be a key participant in the global biotechnology enterprise, as envisioned in the National Biotechnology Development Policy of 2006. Because of the international obligations and the need to have a dedicated agency to assess the safety of GMOs and other emerging biotechnologies, we are having discussions so that NBA remains a distinct entity due to its unique and specialized mandate,” emphasised the CS.

Some of the sub-theme for the forum were; regulatory frameworks for GMO Safety which explored the policies, laws, and institutional frameworks governing the safe development, handling, and commercialization of genetically modified organisms (GMOs).

It highlighted the role of biosafety regulations in ensuring that GMOs undergo rigorous risk assessments before approval for research, release, or consumption and the discussion covered international laws, such as the Convention on Biological Diversity and the Cartagena Protocol on Biosafety, as well as national regulatory structures that oversee compliance, risk management, and public engagement.

NBA Board of Directors Chairperson Prof Jenesio Kinyamario underscored the critical role of the Authority in exercising general supervision and control over the transfer, handling and use of genetically modified organisms (GMOs).

# Kenya embarks on accession exercise for Nagoya-Kuala Lumpur Supplementary Protocol



Members of the Cartagena Protocol Implementation Committee during their meeting at Kalro , Kandara.

**K**enya has kicked off the process of the accession to the Nagoya-Kuala Lumpur Supplementary Protocol on liability and redress on implementation of Cartagena Protocol on Biosafety.

A team of experts drawn from various government institutions and which includes; Ministry of Agriculture, State Department of Tourism and Wildlife, Office of Attorney General, Ministry of Environment and Climate Change, National Biosafety Authority, National Commission Science Technology Innovation,

National Environment Management, Kenya University Biotechnology Consortium, University of Nairobi and Biosafety Appeal Board, Ministry of Foreign affairs and Kenya Industrial Property Institute (KIPI) have already embarked on the development of a policy paper to guide the process.

National Biosafety Authority acting Chief Executive officer Mr. Nehemiah Ngetich who chairs the Committee noted that accession to the Protocol is strategic and necessary for fulfilling international obligations

and strengthening biosafety governance.

“This process is important for this Country in terms of implementing this international obligation,” said Mr. Ngetich during the Committee meeting at Kalro Kandara last week.

The Committee used the session to develop Kenya’s stance (country position paper) on accession to the Supplementary Protocol, assessed the impacts on national legislation and enforcement, reviewed outcomes from the 2024 meeting in Cali,

Colombia among others.

According to Mr. Josphat Muchiri, Ag. Director, Biosafety Research & Compliance at the Authority underscored the importance of the accession to the protocol.

He disclosed that Kenya adopted the Nagoya - Kuala Lumpur Supplementary Protocol (SP) on Liability and Redress in 2010 which entered into force on 5<sup>th</sup> March 2018. The Protocol has so far been ratified by 54 countries and in Africa, Guinea Bissau, Central African Republic, Togo, Uganda, B/Faso, Congo, E-swatini, DRC, Liberia, Mali, Nigeria, Malawi.

Mr. Muchiri highlighted various attempts Kenya has made to ratify the Protocol among them the 21<sup>st</sup> March, 2011, UNEP notification to the Permanent Secretary of the Ministry of Foreign Affairs in Kenya, about the ongoing signing for the Supplementary Protocol at the United Nations Headquarters in New York from 7 March 2011 until 6 March 2012.

On 5<sup>th</sup> March, 2012: NBA formally wrote to the PS, Ministry of Higher Education, Science, and Technology recommending the signing of the Supplementary Protocol on Biosafety and in April 2012: NBA sent a letter to the Executive Secretary, CBD supporting the signing of the Supplementary Protocol.

“On 4<sup>th</sup> February, 2014: Kenya having missed the deadline for the formal signing of the Protocol, NBA writes to PS, Higher Education, Science, and Technology, advising that there was still an opportunity to ratify the Protocol through accession. The Authority attached the required instrument

for accession, which needed to be forwarded to the Cabinet for approval. Between 2014 to 2024; No further progression on the accession to the Protocol,” said Mr. Muchiri.

Adopted as a supplementary agreement to the Cartagena Protocol on Biosafety, the Supplementary Protocol aims to contribute to the conservation and sustainable use of biodiversity by providing international rules and procedures in the field of liability and redress relating to genetically modified organisms.

The Protocol applies to damage resulting from genetically modified organism which find their origin in a transboundary movement and aims to: establish rules and procedures for liability and redress in the event of damage resulting from GMOs, ensure that response measures are taken to prevent, mitigate, or restore damage to biological diversity, taking also into account risks to human health and promote accountability, precautionary responsibility, and transparency in biosafety.

Kenya is signatory to the United Nations Convention on Biological Diversity (CBD) which it ratified on 26<sup>th</sup> July, 1994. The Convention entered into force on 29<sup>th</sup> December 1993 with three objectives: Conservation of biological diversity, sustainable use of the components of biological diversity and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

The convention has three protocols namely; the Cartagena Protocol on Biosafety (CPB) to the Convention on Biological Diversity is an international treaty

governing the movements of Genetically modified organisms (GMOs) resulting from modern biotechnology from one country to another which Kenya ratified in 11<sup>th</sup> September 2003.

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization which Kenya ratified on 7<sup>th</sup> April 2014.

Nagoya Kuala Lumpur supplementary protocol on liability and redress. The supplementary protocol was adopted in 2010 in Nagoya Japan, and has been in force since 2018. It elaborates Article 27 of the CPB by providing international rules and procedures in the field of liability and redress relating to GMOs. Kenya is not yet a Party to this protocol.

The Cartagena Protocol has been ratified by 173 countries and its objective is to contribute to ensuring the safe transfer, handling and use of genetically modified organisms that may have adverse effects on conservation and sustainable use of biological diversity, taking also into account risks to human health.

The National Biosafety Authority was established under the Biosafety Act, CAP 320 laws of Kenya, to exercise general supervision and control over the transfer, handling, and use of Genetically Modified Organisms with a view to ensuring the safety of human and animal health and provision of adequate protection of the environment. The Authority is also the designated national focal point on the implementation of the Cartagena Protocol on Biosafety.

# Misleading GMO visuals in public discourse: Why Kenya must tame GMO misinformation

By Nehemiah Ngetich

**A**doption of modern biotechnology especially Genetically modified organisms (GMOs) in the Country has been a subject of intense public debate, often fueled by visuals and images that misrepresent the science and implications of genetic engineering.

These visuals, frequently circulated on social media and other platforms, play a significant role in scrolling through a Kenyan timeline on any given day, and you'll meet the usual spectacle: Glossy tomatoes stabbed with syringes, garish "mutant" chickens, skull-and-crossbones slapped on a cob of maize.

None of these images depicts how biotechnology works, yet such pictures travel further than any risk assessment and shout louder than any press briefing. They aren't evidence; they're stage props. And they've been remarkably effective at framing the public conversation around genetically modified organisms in a negative way.

## **The images you keep seeing, and why they mislead**

Common misleading GMO imagery on social media syringes "injecting" corn falsely implies chemicals are added to food. In reality, genetic modification happens by precise DNA changes in plant cells and seeds, not by



injecting harvested crops.

Social media is full of staged or doctored “GMO” visuals. The syringe-in-tomatoes trope is a photo prop, not a lab method; genetic changes are introduced in cells via tissue culture and then bred into plants, not injected into ripe fruit. Images of “mutant” chickens are a long-running hoax, often Photoshop composites that get recirculated with misleading captions. And skull-and-crossbones maize is protest art meant to signal danger; hazard symbols are rhetoric, not scientific evidence.

It is important to note that the Government of Kenya values the safety of Kenyan and that is why it established the National Biosafety Authority (NBA) under the Biosafety Act, Cap 320 of the Laws of Kenya with the mandate to: exercise general supervision and control over the transfer, handling and use of Genetically Modified Organisms (GMOs) with a view to ensuring safety of human and animal health and provision of adequate protection of the environment. The mandate is clear; so are the procedures.

**Fear in a frame**

One viral image can outrun a 30-page brief. A hazard-sign on a glowing cob, a WhatsApp meme in the family group, a late-night radio caller, these lodge in memory and colour how new information is judged. The “syringe-in-the-tomato” trope, for instance, is a media shorthand that misrepresents gene editing as literal injection into a ripe fruit.

Kenya’s Biosafety Act established the National Biosafety Authority to regulate GMOs



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and protect human, animal, and environmental health. At the border and in the market, approvals must be checked, labels verified, and risk assessments aligned with global standards such as the Cartagena Protocol on Biosafety and Codex/WHO–FAO guidance on GM food safety.

Safety assessments focus on toxicity, allergenicity, nutritional changes, gene stability, and any unintended effects, then regulators manage the remaining risk with labelling and monitoring. It’s deliberative, not dramatic; paperwork and lab work, not syringes in produce.

**Kenya’s next move: win trust where people live**

Therefore, Kenyans have a right to know the truth with right information. If fear spreads in pictures, meet it on the same ground. A growing population,

unpredictable seasons, and persistent pests don’t wait for our debates to end. GMOs aren’t a silver bullet, but when used within Kenya’s regulations, they are one of many tools that can help stabilize yields and cut down on certain sprays. Ignoring honest questions hands the microphone to those who shout. Reclaiming it is a choice. Kenya doesn’t lack laws or laboratories. We lack a fast, human conversation that keeps pace with the feeds people read and the places they gather.

Misinformation and disinformation threaten to derail scientific progress. If public trust in biosafety systems collapses, it will not just hurt biotechnology; it will undermine Kenya’s ability to regulate any emerging technology, from artificial intelligence to synthetic biology. Biosafety is about building public confidence that science works for the people, not against them.

# Kenya Gets closer to having GM and disease - resistant cassava

By Ouma Wanzala



National Biosafety Authority acting Chief Executive officer Mr. Nehemiah Ngetich(left) together with Director Legal Service Mr. Moses Sande at the KARLO Mtwapa field trials displays Cassava tubes, one affected with disease and another one which is disease resistant.

Kenya is getting closer to having a Genetically Modified (GM) and disease-resistant cassava after years of research with now few steps pending before its released to the market.

Dr. Paul Kuria, lead researcher from Kenya Agricultural and Livestock Research Organisation (KALRO) and which is behind the project informed the Board of Directors and Management of the National Biosafety Authority during their visit to Mtwapa confined field trials that the research had proved successful.

“We are done with the research and we are only waiting for final approval for open cultivation and placement of the virus resistant cassava into the market by National Biosafety Authority and Environment and Socioeconomic Impact Assessment permit from

National Environmental Authority (NEMA) for Commercial production,” Dr. Kuria told the delegation.

He disclosed that KALRO hopes to have the variety in the market before the end of the year and called for government support noting that the new variety will address the issue of food security in the Country.

The cassava variety, developed by KALRO is resistant to cassava brown streak disease (CBSD) and will help boost production and improve the livelihood of smallholder farmers through increased income in Kenya and Uganda.

The NBA Board approved the application in June 2021 following safety assessments and public participation, in accordance with the Biosafety Act. The approval paved the way for conducting National

Performance Trials of these varieties as provided in the Seeds and Plant varieties Act before registration and release to farmers.

Dr Kuria said the improved cassava variety was developed through the VIRCA Plus Project, which was started to develop cassava that is resistant to cassava mosaic disease (CMD) and cassava brown streak disease (CBSD), with an aim of enhancing the livelihoods of smallholder farmers.

The Virus Resistant Cassava for Africa Plus (VIRCA Plus) project, is a collaborative programme consisting of virologists, plant physiologists, breeders, biotechnologists, molecular biologists, agronomists, nutritionists, regulatory scientists, communication and management.

The two diseases are a challenge to cassava production in Kenya

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Dr. Kuria



**Dr. Paul Kuria(right) explains a point to National Biosafety Authority (NBA) Board of Directors and management during a visit to disease-resistant cassava field trials at Kenya Agricultural and Livestock Research Organisation (KALRO) in Mtwapa in Kilifi County.**

and the region. While Cassava Mosaic Disease (CMD) causes crinkling of the leaves, the Cassava Brown Streak Disease (CBSD), causes browning and malformation of the edible roots.

The CBSD can result in 98 to 100 per cent loss of usable storage roots in a severe attack. These diseases are transmitted by whiteflies and by farmers sharing diseased cuttings. Luckily, For CMD, this disease has been managed through conventional breeding.

Dr Kuria disclosed that the evidence from planting the GM cassava in Uganda and Kenya demonstrated that there was sustained resistance across multiple generations and different locations.

The National performance trial were conducted at Alupe, Kakamega, Kibos, Homa Bay and Oyani in western Kenya, while in the coastal region it was at, Mpeketoni, Mtwapa, Matuga, Kikoneni and Msabaha

Confined field trials (CFT) are part of the GMO development phase that enable researchers to collect safety data that cannot be generated at the lab or greenhouse levels. They are small scale, controlled and monitored field experiments that are vital for evaluating specific genetically engineered traits, agronomic performance, potential environmental impact, and safety of GMOs.

“To exercise its mandate the Authority closely monitors activities at confine field trials to ensure compliance to the Biosafety Act of 2009. The Inspections are normally undertaken jointly with relevant regulatory authorities depending on the nature of the trial. For plants-based trials, Kenya Plant Health Inspectorate Service-KEPHIS is the relevant agency whereas Directorate of veterinary services-DVS is involved in animal-based trials (domestic),” said National Biosafety Authority Acting Chief Executive Officer Mr. Nehemiah Ngetich.

He went on: “Confined field trials prevent unintended/ accidental release of the GMOs by enforcing standard operating procedures-SOPs and protocols that ensures proper disposal of plant or animal materials as well as prevent escape of GMOs from the designated trial site.”

Mr. Ngetich further explained that inspections of CFTs safeguard public health, this is because they ensure that safety measures are taken to protect workers, the biosafety inspector/officer will ensure that all personnel handling GMOs are adequately trained on biosafety matters and are using personal protective equipment (PPEs).

Speaking during the tour, NBA Board of Directors Chairman Prof. Jenesio Kinyamario underscored the importance of the two institutions working together in supporting the government agenda of having a food secure country.

“We appreciate these efforts of coming up with diseases resistant crops and as a regulator, we have our mandate cut out clearly,” said Prof. Kinyamario.

KALRO Mtwapa Deputy Institute Director Mr. Mwalimu Katana Menza appreciated the role the Authority is playing in ensuring that Kenyans are safe by exercise general supervision and control over the transfer, handling and use of Genetically Modified Organisms (GMOs) with a view to ensuring safety of human and animal health and provision of adequate protection of the environment.

“We are ready to step up our partnership in ensuring that Kenya is food secure,” added Mr. Menza.

# Biosafety in Coordinated Border Management in Kenya

By Dr. Joseph Odongo



NBA Board members during their visit to Busia border office.

Kenya's borders aren't just marks on a map. They are living systems, valves for trade, checkpoints for security, and, increasingly, the places where our food system first meets the world. What passes through Mombasa Port, JKIA, Malaba, Busia, or Namanga ends up in millers' silos, market stalls, and family kitchens. Those same borders are also our first line of defense against risk: counterfeit goods, invasive pests, and unapproved or poorly labeled genetically modified products.

As the country moves to close its food gap, the question is no longer if GM technology will appear in our markets and fields. It already has, in the countries we import from and in the tools our scientists use. The more practical question is how we regulate, trace, and explain it without slowing legitimate trade or eroding public trust. That is

the work of Coordinated Border Management (CBM), and it is why biosafety must be built into CBM, not bolted on later.

## What CBM Is, And Why It Changed the Game

For years, border agencies worked in silos. Customs assessed duties. Port health checks food safety. KEPHIS monitored plant health. The National Biosafety Authority (NBA) inspects GMO consignments on food/feed safety. Each had a queue, a form, and a clock. The result was duplication, delay, and, at times, gaps wide enough for trouble to slip through.

CBM, championed globally by the World Customs Organization and nationally by the Border Controls and Operations Coordination Committee (BCOCC), replaces the patchwork with a single choreography: agencies share data, align inspections, and act

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**Confidence in regulation is not created in boardrooms; it is earned at the gate. When Kenyans see NBA officers working alongside other agencies, they know biosafety is a frontline reality, not a promise on paper.**

together. Done well, CBM does three things at once: Keeps compliant goods moving, targets real risks earlier, and leaves a clear audit trail that can stand up in court. For Kenya, it means fewer bottlenecks for traders, better surveillance for the state, and a more predictable experience for everyone who relies on cross-border supply.

**Where Biosafety Fits, In Practice, Not Theory**

Kenya’s Biosafety Act, CAP 320, tasks the NBA with regulating the transfer, handling, and use of GMOs to protect human, animal, and environmental health. At the border, that mandate is straightforward:

- (a) Verify that any GMO “event” is approved in Kenya and used within the terms of that approval.
- (b) Confirm that risk assessment supports safe use and that labelling meets the law.
- (c) Check alignment with Kenya’s commitments under the Cartagena Protocol on Biosafety.
- (d) Maintain an unbroken chain of custody for any samples taken and decisions made.

Without coordination, those checks can be slow or

sidestepped. With CBM, biosafety officers sit at the same table as Customs, KEBS, AFA, Kenya Wildlife Services, Department of Veterinary Services, Kenya Fisheries Services, Anticounterfeit Authority, Pest Control Products Board, Pharmacy and Poisons Board, Immigration, Kentrade, Kenya Forest Service, Ministry of East Africa Community, National Police Service, KEPHIS, and Port Health; they work from the same risk profiles; and their decisions appear in the same systems traders already use. That is how safety becomes part of speed, not an obstacle to it.

**Why It Matters—Four Plain Reasons**

- (a) Food security with safeguards:  
Kenya imports agricultural products by the shipload to bridge shortfalls. Much of it comes from countries where GM crops are common. CBM allows us to buy what we need while ensuring only approved and safe events enter our mills and homes.
- (b) Closing the door on unapproved imports:

Porous processes invite bad actors. Linking biosafety checks

to customs intelligence and pre-arrival data reduces the odds that an unapproved shipment makes it to market.

- (c) Predictability for traders:

Siloed inspections waste time and money. A one-stop CBM approach means fewer handoffs, one inspection plan, one decision, and no compromise on public safety.

- (d) Visible enforcement builds trust:

Confidence in regulation is not created in boardrooms; it is earned at the gate. When Kenyans see NBA officers working alongside other agencies, they know biosafety is a frontline reality, not a promise on paper.

The synergy between LLM agents and automated gene-editing design represents a significant milestone in the realm of molecular biology. By addressing ethical considerations, embracing transparency, and leveraging the potential of advanced AI technologies, we can pave the way for a future where gene editing is not only more accessible but also conducted with integrity and respect for ethical principles.

# EAC validates biotechnology strategy in order to overcome fragmented national frameworks that slow innovation and complicates trade

By Ouma Wanzala



National Biosafety Authority(NBA) Ag. Director Biosafety Awareness, Assessment and Collaboration Mr. Josephat Muchiri.

**K**enya has joined other East Africa Countries in coming up with a regional biotechnology strategy which prioritizes equitable access to biotechnology benefits, preservation of biodiversity, and public education to build trust and acceptance.

Kenya's National Biosafety Authority (NBA) - which is a competent authority for biosafety, and designated as the National Focal Point for both the Cartagena Protocol on Biosafety and the Biosafety Clearing House participated in the validation of the strategy which aims to harmonize biotechnology policies

and regulations to overcome fragmented national frameworks that slow innovation and complicated trade.

The East African Science and Technology Commission (EASTEKO) Executive Secretary Dr. Sylvance Okoth while addressing the delegates from Kenya, Uganda, Tanzania, Burundi, Rwanda, USA among others in Nairobi, called on the experts to look deeper into the pillars of the strategy and incorporate views presented during the workshop. "Let us help Partner States lagging behind," said Dr. Okoth during the three-day forum and who heads the Commission which is an institution of the East

African Community (EAC) with the mandate to promote and coordinate the development, management and application of Science and Technology to support regional integration and socio-economic development.

National Biosafety Authority Acting Director Biosafety Awareness, Assessment and Collaborations Mr. Josphat Muchiri underscored the importance of having a harmonized strategy.

"This 10 (ten)-year strategy, projected to run from 2026-2036, will boost crucial regional adoption of safety and implementation standards. As



Delegates from East Africa Community during the validation exercise in Nairobi.

a country we have been in the forefront of championing for this strategy,” said Mr. Muchiri.

Already Kenya has established a multi-secretarial committee for the implementation of the Cartagena protocol on biosafety, which is being led by the National Biosafety Authority as the Competent National institution on matters of GMOs.

The Biosafety Act Cap 320 mandates the National Biosafety Authority to promote awareness and education among the general public in matters relating to biosafety as well as establish a Biosafety Clearing House (BCH) to serve as a means through which information is made available to facilitate the exchange of scientific, technical, environmental, and legal information on, and experience with, living modified organisms.

The Authority has clear jurisdiction over all genetically modified organisms in Kenya, whether approved, illegal, or

unintended.

To support the implementation of the Biosafety Act, Kenya formulated several regulations, including the Biosafety (Contained Use) Regulations (2011), the Biosafety (Environmental Release) Regulations (2011), the Biosafety (Import, Export and Transit) Regulations (2011), and the Biosafety (Labelling) Regulations (2012). These regulatory instruments comprehensively govern aspects of genetically modified organism (GMO) research, release, commerce, and consumer information. Additionally, Kenya has developed guidelines pertaining to risk assessment, facility certification, genome editing, and GMO testing. Laboratory quality and biorisk management standards such as ISO 20387:2018 for biobanking and ISO 35001:2019 for biorisk management are being implemented through the Kenya National Accreditation Service (KENAS).

Kenya has approved trials for genetically modified crops like banana, cassava, yam, and sorghum at KALRO, with Bt cotton cleared for commercial use and limited trials for Bt maize and virus-resistant cassava. Genetically modified food aid is allowed after safety checks, and seven genome editing projects have been approved to improve crop traits.

The East African Community (EAC) envisions a transformative future where biotechnology drives socio-economic development, food security, healthcare, environmental sustainability, and industrial growth across its Partner States from 2026/27 to 2036/37.

This Regional Biotechnology Strategy, developed by the East African Science and Technology Commission (EASTECO), aims to guide the safe, secure, and responsible use of innovative biotechnological tools and products, harmonizing policies

and fostering collaboration to maximize benefits while mitigating risks.

“Biotechnology as a critical enabler for the Fourth Industrial Revolution, with the EAC Treaty emphasizing Science, Technology, and Innovation (STI) as pillars for regional integration and development. EASTECO coordinates STI initiatives to support socio-economic progress across all eight Partner States, with development partners collaborating closely under its facilitation,” reads the strategy.

The Strategy aligns with major international frameworks including the United Nations 2030 Agenda for Sustainable Development, African Union’s Agenda 2063, Africa CDC’s biosafety and biosecurity strategy, and the EAC Vision 2050.

The frameworks collectively underscore biotechnology’s role in eradicating hunger, promoting health, ensuring environmental stewardship, and fostering unity and prosperity in East Africa.

International agreements governing biotechnology, such as the World Health Organization’s biosafety guidelines, the Convention on Biological Diversity and its Cartagena and Nagoya Protocols, WTO agreements including TRIPS and SPS, and other treaties, provide essential ethical, legal, and operational standards that the Regional Strategy embraces to ensure responsible biotechnology use.

The Regional Strategy emphasizes biosafety protocols to protect humans, environment, and economy from biological risks and biosecurity measures to

prevent misuse of biotechnology, especially considering dual-use concerns like bioterrorism.

Ethical considerations, particularly in human gene editing, gene drives, artificial intelligence (AI) and synthetic biology, are addressed through regulatory frameworks, public participation, and oversight committees to ensure informed consent, respect for biodiversity, and equitable benefit-sharing.

The EAC aims to harmonize biotechnology policies and regulations to overcome fragmented national frameworks that slow innovation and complicated trade.

Burundi has been a party to the Convention on Biological Diversity since 14 July 1997, a signatory to the Cartagena Protocol on Biosafety since 31 December 2008, and to the Nagoya Protocol since 23<sup>rd</sup> June 2014 while the Democratic Republic of Congo (DRC) is a signatory to the Convention on Biological Diversity, the Cartagena Protocol on Biosafety, and the Nagoya-Kuala Lumpur Supplementary Protocol.

Others are: Rwanda which joined the Convention on Biological Diversity in 1995 and ratified the Cartagena Protocol in 2002 and the Nagoya Protocol in 2014. In February 2023, it implemented a Biosafety Law to regulate LMOs/GMOs, aiming to protect biodiversity, human health, and address socio-economic concerns. Somalia joined the Convention on Biological Diversity on December 10, 2009, as its 193<sup>rd</sup> Party. It later acceded to the Cartagena Protocol on Biosafety on July 26, 2010, becoming the 160<sup>th</sup> Party that

October during the International Year of Biodiversity and the Protocol’s tenth anniversary.

South Sudan joined the United Nations Convention on Biological Diversity (CBD) in February 2014 but has not yet acceded to the Cartagena Protocol on Biosafety or the Nagoya-Kuala Lumpur Supplementary Protocol, though both processes are ongoing.

Tanzania joined the Cartagena Protocol on Biosafety in March 2003, with the Vice-President’s Office serving as the National Biosafety Focal Point and providing data to the Biosafety Clearing House. The country ratified the Nagoya-Kuala Lumpur Supplementary Protocol in 2018.

Uganda ratified the Convention on Biological Diversity in 1993 and later joined related protocols. The National Biotechnology and Biosafety Policy was adopted in 2008, but while the UNCST Act provides temporary regulation, it does not offer comprehensive oversight or support commercialization.

# NBA in briefs

Compiled by Ouma Wanzala

## New Board members join the Authority



**Dr. Lucy Jepchoge Rono**



**Prof. Kennedy Otieno Awuor**

**D**r Lucy Jepchoge Rono and Prof. Kennedy Otieno Awuor have joined the Board of National Biosafety Authority (NBA).

This follows their appointment by Education Cabinet Secretary Julius Ogamba.

Dr. Rono will serve the board for a period of three years effective August 25<sup>th</sup> 2025 and the appointment is per section 6(1) (g) of the Act which requires the Cabinet Secretary to appoint a member with financial expertise.

Prof Awuor appointment was as per section 6(1)(f) of the Biosafety Act and was effective 15th August 2025.

The two now replaces Dr. Daniel Njoroge and Mohamed Haji Hussein whose term came to an end in July.

Dr. Lucy Jepchoge Rono is an Associate Professor of Finance at Moi University with over 31 years of extensive management and academic experience across both the public and private sectors.

She has served in key leadership roles including Head of Department, Associate Dean, and Dean in the School of Business and Economics at Moi University and has supervised numerous postgraduate students, mentored young scholars, and contributed to curriculum development for several universities.

Her scholarly contributions focus on finance, women’s empowerment, financial literacy, and gender studies, with numerous publications in high-impact international journals. She has successfully led and collaborated on various international research and consultancy projects, including grants funded by the Norwegian Government, the Ministry of Finance in Uganda, and the WWF/EACREEE. Beyond academia, Dr. Rono brings a wealth of practical experience from her earlier career in the insurance and pensions industry, where she managed pension portfolios and championed trustee training and financial

management.

Dr. Rono is a member of the Kenya Institute of Management, the Academy of Global Business Advancement, and actively participates in community development through the Catholic Diocese of Eldoret, where she has served in various strategic planning and leadership roles.

Prof Awuor is an associate professor in the department of mathematics, school of pure and applied sciences.

He holds a PhD and a masters of sciences in applied mathematics from Kenyatta University, He is also a holder of a Bachelor’s degree in Education (science) from the same University.

He teaches Mathematics to undergraduate and masters students. His area of specialization is applied mathematics. His research interest is in the numerical stimulation of fluid flow in an enclosure.

## NBA-KRA deal on service level agreement (SLA) for sea cargo clearance



National Biosafety Authority (NBA) acting Chief Executive officer Mr. Nehemiah Ngetich(right) and Ms. Winfred Kinyua(left), an assistant Manager at the Kenya Revenue Authority (KRA) responsible for Customs and border Control display a signed agreement on enhancing efficiency in sea cargo clearance at NBA Headquarters in Nairobi.

**N**ational Biosafety Authority (NBA) and Kenya Revenue Authority (KRA) have signed an agreement that will see the two institutions work together to enhance efficiency in sea cargo clearance.

NBA acting Chief Executive officer Mr. Nehemiah Ngetich and Ms. Winfred Kinyua, an assistant Manager at the Kenya Revenue Authority (KRA) responsible for Customs and border Control signed the deal during a meeting at NBA Headquarters in Nairobi.

The NBA-KRA service level agreement (SLA) for sea cargo clearance will enable the two institutions to serve their clients effectively.

“The development of this Agreement (SLA) has been a journey that has taken over two years, and today marks a significant milestone, not just for the National Biosafety Authority but also for Kenya and all government entities involved in trade facilitation. The greatest beneficiaries of this achievement will be the traders, who are the backbone of our economy,” said Mr. Ngetich.

He noted that the agreement is a testament to what collaborations can achieve and had been developed in partnership with 24 government

agencies, NBA being one of them, and powerfully embodies the ‘one government approach’ in facilitating trade in line with international frameworks such as the World Trade Organization (WTO).

“The SLA clearly outlines the National Biosafety Authority’s crucial role and specific timelines for efficient sea cargo clearance, a position thoughtfully developed through extensive internal consultations. The Authority welcomes the decision to establish a Joint Administrative Committee (JAC). This committee, bolstered by other integrated platforms, will be an invaluable source of feedback, empowering us to continuously refine and enhance our service delivery,” added the acting chief executive officer.

He appreciated the team that was involved in the development of the important reference framework under the leadership of KRA.

“I look forward to its full endorsement to become a tool that will drive transformative change within the trade ecosystem,” observed Mr. Ngetich.

On her part, Ms. Kinyua appreciated the partnership noting that the agreement will ease trade in the region.

NBA has achieved major milestone in automation of its services as all customer-facing services related to GMO applications and related functions have been fully automated via the e-Citizen and KENTRADE platforms.

The Authority also decentralized its services to key border points such as Mombasa, Busia, Namanga, Malaba, Lunga Lungu, and Taita Taveta and plans are underway to expand further into other entry points, including Moyale and Isebania, to strengthen its regulatory oversight.

The Authority is established under the Biosafety Act, CAP 320 with the mandate to exercise general supervision and control over the transfer, handling and use of genetically modified organisms with the aim of ensuring safety of human and animal health and provision of an adequate level of protection of the environment.

## NBA to support tree planting initiatives

National Biosafety Authority (NBA) stepped up efforts in environmental conservation by participating in tree planting exercises in various schools across the Country.

Among the beneficiaries of the programme were Simwoto Boys High School, in Keiyo South in Elgeyo Marakwet County, Moi Girls Kamangu High school in Kiambu County.

At Simwoto High School, the

Authority supported the planting of 1,000 trees while at Moi Girls Kamangu a total of 2,500 trees were planted. The Authority also extended the initiative to three schools in Busia County where a total of 5,000 trees were planted at Busende Primary School, Mufafwa Primary School and St. Mary's High School Mundika.

The Authority's acting Chief Executive officer Nehemiah Ngetich lauded the exercise saying it will

ensure that the Country achieves target forest cover by 2032.

"We are proud to be part of this exercise that is being spearheaded by the national government led by H.E President Dr. William Ruto to have 15 billion trees planted by 2032," said Ngetich.

He disclosed that the Authority as part of the initiative has already planted trees in a number of Primary schools in Meru County, Nairobi County and Kiambu County.



# PICTORIALS



NBA Staff follow proceedings during Board Induction training in Machakos County.



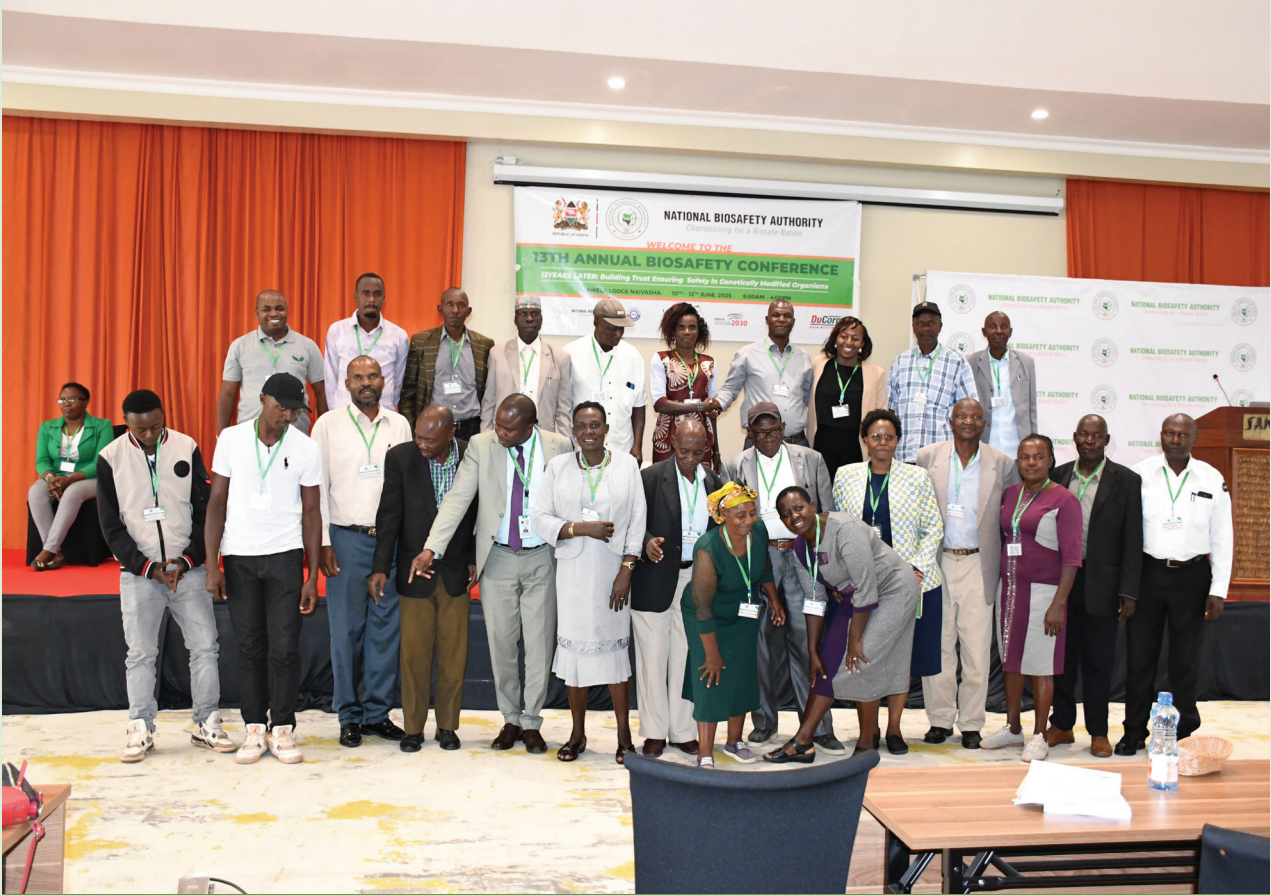
A participant signs visitors book at the National Biosafety Authority stand during the Nyeri Agricultural Show.



National Biosafety Authority and Moi Girls Kamungu , in Kiambu County during a tree planting exercise. The Authority is supporting various learning institutions in conversation of environment. A total of 2,500 tree seedlings were planted at the Institution on 30th June 2025.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



**Secretary Administration, Ministry of Agriculture during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.**



**Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.**



National Biosafety Authority (NBA) Busia Office Head Dr. Joseph Odongo (Scouts attire) and Assistant County Commissioner Busia municipality Mr. Calvin Mong'are and representatives from Kenya Forest Service during 5000 trees planting drive at Busende primary school, Muyafwa primary school and St. Mary's high school Mundika.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



Participants during the 13<sup>th</sup> National Biosafety Conference in Naivasha, Nakuru County.



NBA staff during the 22<sup>nd</sup> Standard Chartered Marathon in Nairobi as part of Corporate Social Responsibility(CSR).



The National Assembly's Agriculture and Livestock Committee members during their visit to the Institution's Headquarters in Nairobi.



National Biosafety Authority staff during PC evaluation for the Financial Year 2024/2025.

## Editorial Team

Nehemiah Ngetich, Ouma Wanzala, Dr. Joseph Odongo, Leah Wanjiru.

The Authority welcomes brief comments, articles or news on topical issues.

The Authority reserves the right to edit/shorten articles and to decide whether to publish them.

You may email the articles to: [info@biosafetykenya.go.ke](mailto:info@biosafetykenya.go.ke)

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