



**EAST AFRICAN COMMUNITY
EAST AFRICAN LEGISLATIVE ASSEMBLY**

COMMITTEE ON AGRICULTURE, TOURISM AND NATURAL RESOURCES

**REPORT OF THE COMMITTEE ON THE ASSESSMENT OF POLICIES AND LAWS
ON GENETICALLY MODIFIED ORGANISMS (GMOs) IN
THE EAC PARTNER STATES**

4TH TO 9TH FEBRUARY 2024

EAC PARTNER STATES

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Acronyms

BT – Cotton	Bacillus Thuringiensis Cotton
BT – Maize	Bacillus Thuringiensis Maize
CBD	Convention on Biological Diversity
CFT	Confined Field Trial
COMESA	Common Market of East and South Africa
CPB	The Cartagena Protocol on Biosafety
DNA	Deoxyribonucleic acid
DRC	Democratic Republic of Congo
EAC	East African Community
EACJ	East Africa Court of Justice
EALA	East African Legislative Assembly
EASTECS	East African Community Science and Technology Commission
GDP	Gross Domestic Product
GMOs	Genetically Modified Organisms
LMO	Living Modified Organism
N-KL SP	Nagoya-Kuala Lumpur Supplementary Protocol
REMA	Rwanda Environmental Management Authority
RICA	Rwanda Inspectorate, Competition and Consumer Protection Authority
RNAi	Rwanda has carried out the Ribonucleic Acid interference (RNAi)
RSS	Republic of South Sudan
UNCST	Uganda National Council for Science and Technology
URT	United Republic of Tanzania
ARDP	Agriculture and Rural Development Policy
GM	Genetically Modified
GDP	Gross Domestic Production
GE	Genetic Engineering
STI	Science Technology and Innovation
NEMA	National Environmental Management Authority
MWE	Ministry of Water and Environment
NBC	National Biosafety Committee
IBC	Institutional Biosafety Committee

1.0 INTRODUCTION

1.1 The EAC Agriculture and Food Security Objectives

The objective of the East African Community (EAC) Treaty on cooperation in agriculture and rural development is the achievement of food security and rational agricultural production. Besides, the EAC Agriculture and Rural Development Policy (EAC ARDP) aims at attaining food security through increased agricultural production, processing, storage and marketing. The Policy further recognizes the importance of eliminating hunger and ensuring sustainable food security within the region as a necessary step to poverty eradication and a stimulus for rational agricultural development and realization of the aspirations of the Treaty.

Notwithstanding that the EAC region has a huge potential and capacity to produce enough food for consumption and a large surplus for export to the world market, it is still affected by food shortages and pockets of hunger. Among the notable challenges to the production of sufficient food in the EAC include:

- a) low and unstable production and productivity occasioned by overreliance on rain-fed agricultural production systems;
- b) low usage of agriculture production enhancing inputs such as artificial fertilizers, improved seeds, agrochemicals and veterinary drugs; and
- c) inappropriate and low adoption of production technologies by farmers due to weak research, extension services and farmers' linkages.

GMOs is one of the available technologies used to increase food production and productivity in the world.

1.2 Genetically Modified Organisms (GMOs)

The Cartagena Protocol on Biosafety to the Convention on Biological Diversity defines GMOs which are also known as Living Modified Organisms (LMOs) to mean any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology. The Protocol also defines modern biotechnology to mean the application of *in vitro* nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles or fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

It is reported that biotechnology has played a great role in increasing global crop production and productivity in a sustainable way and also by conserving biodiversity. The influence of GM crops showed an increase in productivity; even though the profitability was higher in developed countries than developing countries. New genetically modified crops are being developed in order to reduce the use of agricultural inputs such as pesticides and artificial fertilizers.

However, there has been debate all over the world on the benefits and negative impacts of GMOs. The debate has caused countries to adopt various strategies to control, or manage GMOs including limiting their availability within their territories; while others allow them with strictly or less control. Companies and institutions involved in developing GM food claim that benefits outweigh risks, with assurances that detailed tests are carried out before GMOs are released commercially. They further claim that GMOs will revolutionize food production, making agriculture more efficient and thereby helping to solve the world's food crisis. Modified to withstand disease and pests, the new crops are a dream come true for farmers in constant battle with natural enemies. Stronger crops need less chemicals like pesticides and herbicides - themselves a significant environmental problem.

Based on the need to have food security in the EAC region as provided for by the Treaty, and the ongoing global debate on the need to embrace GMOs, the Committee on Agriculture, Tourism and Natural Resources decided to undertake an assessment of policies and laws of the Partner States of Burundi, Kenya, Rwanda, South Sudan, Uganda and Tanzania with regard to GMOs from 4th – 9th February, 2024. The Democratic Republic of Congo was still finalizing her election process which took place in December 2023 during the undertaking of this activity, therefore the Committee decided to undertake a similar activity in DRC in the future.

2.0 THE OBJECTIVES OF THE ACTIVITY

The objectives of the activity were to:

- a) assess policies and laws of Partner States on GMOs; and
- b) make appropriate recommendations to the Council of Ministers.

3.0 THE METHODOLOGY

In carrying out this activity, the Committee employed various methods, which included the following:

- (a) Review of literature on the GMOs;
- (b) Administration of a 10-questions standardized checklist with the subsequent requested information from the six Partner States (The general situation of food production in the Partner States; Partner States policies on GMOs; Laws and regulations of the Partner States on GMOs; The research undertaken in the Partner States on GMOs; The need of GMO's food products in the Partner States; Contribution of GMOs food products in the Partner States (if allowed); Companies registered in the Partner States dealing with GMOs; How are GMOs food products managed/controlled in the Partner States; Opinion on whether EAC Partner States should harmonize their policies and laws on GMOs; and What EAC should do with regard to GMOs).
- (c) Dividing the Committee into three Sub-Committees to enable engagement with as many stakeholders as possible within the allocated time:
 - (i) Kampala, Uganda and Kigali, Rwanda;

- (ii) Bujumbura, Burundi and Dodoma, United Republic of Tanzania (URT); and
- (iii) Juba, South Sudan and Nairobi, Kenya.
- (d) Meetings and interactions with various stakeholders from both public (Ministries responsible for EAC Affairs; Agriculture and Food Security; Livestock; Health; Environment and Natural Resources; Trade and Industry; Science and Technology; Agricultural Development Research Institutions; Commissions for Science and Technology; Food and Nutrition institutions; Consultancy and Research Institutions); and private/civil society organizations (Farmers' organizations; Seed Companies and Traders; Food Security and Nutrition Organizations; Environment Organizations; Animal Keeping Organizations) in the capitals of the aforementioned six Partner States. The list of the institutions participated in the activity in each Partner States is attached as Annex 1 to this report.

4.0 FINDINGS OF THE ACTIVITY

This section presents the detailed findings from the six Partner States, the interaction with the East African Community Science and Technology Commission (EASTECO) and a summary of findings from Partner States.

4.1 FINDINGS FROM THE SIX PARTNER STATES

During the six-day assessment of policies and laws of the six Partner States on GMOs, the Committee gathered information based on the 10 questions standardized checklist. The findings obtained are presented in tables 1 and 2 below.

Table 1: Reports from the Republic of Burundi, Republic of Kenya and the United Republic of Tanzania

SN	Information needed from Partner States	Reporting Partner States		
		Republic of Burundi	Republic of Kenya	United Republic of Tanzania
1	<i>General situation of food production in the Partner State</i>	Food production is 100% based on conventional crop production	<ul style="list-style-type: none"> i. The growth of the agriculture sector in Kenya has not matched the food requirements of the country. ii. The most commonly produced staple food are maize, rice, wheat, potatoes, beans and animal products. iii. The Kenya's population is set to 	<ul style="list-style-type: none"> i. Tanzania produces enough food with surplus based on data for crops, animals, and fisheries for the last five years. ii. Agriculture sector contributes up to 26.2% of the GDP and employs 75% of the labour force. iii. The sector provides 65% of the raw material to industries. iv. The production is mostly conducted by smallholder farmers (69%) in rural areas. Among food and cash crops cultivated includes maize,

			<p>increase to 60 million people by 2030.</p> <p>iv. Projections suggest that future population and economic growth will require more than doubling of current food production</p>	<p>cassava, sweet potatoes, sorghum, millet, rice, bananas, pulses, cotton, cashew and wheat.</p> <p>v. Contribution of agriculture in food security for five years consecutively has been more than 100% and export of agricultural crops has contributed foreign currency of about 1.38 billion in Tanzania Shillings.</p>
2	<i>Policies of the Partner State on GMOs</i>	<p>Burundi has no policy on GMOs, however neither the production nor use is not allowed.</p> <p>Burundi party to the Cartagena Protocol on Biosafety.</p>	<p>i. The National Biotechnology Development Policy of 2006 is the specific policy on GMOs for Kenya.</p> <p>ii. Kenya ratified the Cartagena Protocol on Biosafety - (2000 & 2003).</p>	<p>There is no specific policy on GMOs in the URT. The following policies address some aspects of GMOs:</p> <p>i. The National Environmental Policy, 2021.</p> <p>ii. The Agriculture Policy, 2021.</p> <p>iii. The National Biotechnology Policy, 2010.</p> <p>iv. The National Livestock Policy, 2006</p>
3	<i>Laws and regulations of the Partner State on GMOs</i>	<p>Burundi do not have specific law on GMOs but there are some provisions on GMOs as follows:</p> <p>i. Draft Bill on Biosecurity.</p> <p>ii. National Biosecurity, 2006 Framework.</p> <p>iii. National Biodiversity Strategy and Action Plan 2013-2020.</p> <p>iv. Draft Bill on the Organization of Research</p>	<p>The specific GMOs law in Kenya is the Biosafety Act, No. 2 of 2009.</p> <p>Other laws are</p> <p>i. The Biosafety (Contained Use) Regulations (2011).</p> <p>ii. The Biosafety (Export, Import and Transit) Regulation (2011).</p> <p>iii. The Biosafety (Environmental Release) Regulations (2011).</p> <p>iv. The Biosafety (Labeling) Regulations (2012).</p> <p>The following institutions and their</p>	<p>No specific law for GMOs. However, the following laws and regulations provide some regulations on GMOs.</p> <p>i. The Environmental Management Act, 2004.</p> <p>ii. The Environment Management (Bio-safety) Regulations 2009 Revised, 2016.</p> <p>iii. The Animal Disease Act, 2003.</p> <p>iv. The Animal Grazing Land and Animal Feed Resources Act, 2010 (Amendment No. 1 of 2020).</p> <p>v. The Seeds Act, 2003.</p> <p>vi. The Fisheries Act, 2003.</p> <p>vii. The Seeds Regulations, 2007</p>

		in Burundi of 2023.	<p>laws also contribute to the development and management of GMOs in Kenya:</p> <ul style="list-style-type: none"> i. The National Biosafety Authority ii. Department of Public Health. iii. Department of Veterinary Services. iv. Kenya Bureau of Standards. v. Kenya Plant Health Inspectorate Services. vi. National Environment Management Authority. vii. Pest Control Products Board. viii. Pest Control Products Board. ix. Kenya Industrial Property Institute. x. Kenya Agricultural and Livestock Research Organization. 	
4	<i>Researches undertaken in the Partner State on GMOs</i>	No research reported in Burundi	<p>40 research projects approved in Kenya from 2010 to date. Some were completed, others are still ongoing while some were terminated or did not take place because of financing problems.</p>	<ul style="list-style-type: none"> i. GMO Researches in Agriculture through the implementation of the bio-safety policy instruments, key achievements registered include the establishment of the institutional framework on the bio-safety issues. ii. Strengthening national capacity on scientific research and development through the upgrading of several Genetic Engineering (GE) laboratories Research Institutions. iii. The ongoing laboratory research on cassava genetic

				<p>transformation for the longevity of cassava virus resistance at Mikocheni Agricultural Research Institute in Dar-es-Salaam.</p> <p>iv. Research to test trans genetic water efficient maize in confined Field Trial; and a Confined Field Trial (CFT) research to test trans genetic maize with staked events MON 87460 and MON 810 reduction of yield loss under limited water conditions and resistance of stem borer pests at Makutupora Agricultural Research Institute in Dodoma.</p>
5	<i>Need of GMOs food products in the Partner State</i>	GMOs food products are not needed in Burundi	<p>Kenya established the need for GMOs food products. It is producing the BT₁ Cotton and they planned to start producing BT Maize. However the production of BT maize is yet to start because of the court which suspended the introduction of BT maize until the court gives the final decision on the matter. Several individuals filled petitions in the courts of Kenya and at the EACJ for the purpose of stopping the production and importation of GMO food products in Kenya.</p>	<p>i. For the past 15 years, Tanzania has been producing sufficient food for domestic consumption and exportation, e.g. in 2022/23 the country's food self-sufficient ratio was 114%.</p> <p>ii. In addition, production of GMO food products requires skilled human resources with specialized knowledge and infrastructure fit for the purpose, which for the time being are inadequate.</p> <p>iii. Furthermore, the production of GMO food products requires awareness for the society to adopt the technology.</p> <p>iv. In view of the above reasons, Tanzania needs more time to conclude its research on GMO's food products.</p>

¹ BT Cotton plants contain one or more foreign genes derived from the soil-dwelling bacterium, *Bacillus thuringiensis*; thus, they are transgenic plants.

			Kenya is of the view that it needs to use technology to produce sufficient food for her population.	
6	<i>Contribution of GMOs food products in the Partner State (if allowed)</i>	GMOs food products are not allowed in Burundi	No GMOs food production because of the court order. Only BT cotton produced in Kenya	GMOs food products are not allowed in URT
7	<i>Companies registered in the Partner State dealing with GMOs</i>	There is no company registered in Burundi for GMO	One company dealing with BT. Cotton is registered in Kenya	There is no company registered in Tanzania for GMOs
8	<i>How GMOs food products managed/controlled in the Partner States</i>	GMOs are not allowed therefore not controlled. However, there are mechanisms to control GMOs products for research.	Kenya have laws and regulations on how to control GMOs products, but their effectiveness is not known because the said laws and regulations have not been applied since the production of BT. Maize was stopped by a court order.	GMOs food products are not allowed, however the Bio-safety Regulations 2009 “Revised in 2016” provides control mechanism for GMOs food products in Tanzania.
9	<i>Opinion on whether EAC Partner States should harmonize their policies and laws on GMOs</i>	<ul style="list-style-type: none"> i. Harmonization should commence with stakeholders’ consultation. ii. Meanwhile Burundi is ready and willing to discuss with other Partner States to adopt what is necessary to the people. 	<ul style="list-style-type: none"> i. Kenya do not advise the harmonization of policies and laws because the previous attempts (at EAC and COMESA) failed due to regional sovereignty geopolitics. ii. Also, Partner States are at different stages of biotech policy, legal, regulatory and institutional development. 	While observing the sovereignty of each Partner State on issues pertaining to GMOs, harmonization of the common issues in policies and regulations should be considered.
10	<i>Opinion on what EAC</i>	i. Harmonize Partner States	i. EALA is invited to lead the initiative	i. Build capacity in research, infrastructure and workforce

	<p><i>should do with regard to GMOs</i></p>	<p>legal framework on GMOs;</p> <p>ii. Enhance biotechnology infrastructure and skilled staff on GMOs;</p> <p>iii. Support National Commissions/ Councils of Science Technology and Innovation (STI) to enable them play their role of regulating the Science Technology and Innovation Sector;</p> <p>iv. Invest and strengthen generation of knowledge to facilitate EAC Partner States to make informed decisions on the use of GMOs; and</p> <p>v. Establish EAC Research Centers of Excellence in Biotechnology.</p>	<p>that will support Partner States to develop/review their national biosafety regulatory frameworks which will facilitate the safe deployment of modern biotech.</p> <p>ii. EAC should learn from Ethiopia. The latter revised her earlier prohibitive biosafety proclamation to allow adoption of biotech crops for food security and industrialization.</p>	<p>that will enhance appropriate handling and safe use of GMOs.</p> <p>ii. Harmonize regional policies, laws, regulations and guidelines on GMOs.</p> <p>iii. Develop regional comprehensive policies, laws, regulations and guidelines informed by research.</p> <p>iv. Undertake more comprehensive and inclusive process which will provide more time for partners to participate and engage with their diverse stakeholders including farmers who may require sensitization about the potential impact of GMOs.</p> <p>v. Involve private sector and development partners in mobilizing resources for research, communication with communities and other relevant sectors.</p> <p>vi. Prepare coping strategies for adaptation, mitigation resilience against challenges related to climate changes, rapid increase in the human population, emerging pests and diseases, low production efficiency and advances in science and technology that may require the use of GMOs technologies.</p>
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Source – Interaction with the Partner States visited

Table 2: Reports from the Republic of Rwanda, Republic of Uganda and the Republic of South Sudan

SN	Information needed from Partner States	Reporting Partner States		
		Republic of Rwanda	Republic of Uganda	Republic of South Sudan
1	<i>General situation of food production in the Partner State</i>	<ul style="list-style-type: none"> i. Rwanda is a densely populated country with a population of 13.2 million (2022) and the size of 26,338 Km², half of which is used for agriculture. ii. The agriculture sector contributes 25% of the Gross Domestic Production (GDP) iii. According to the latest food security study (2021), 79.4% of Rwandan households are food secure. iv. The challenges facing food production include climate change, low productivity, low yielding breeds, and insufficient infrastructure, post-harvest losses, limited access to financial services, limited market linkages and value addition, as well as limited research and development outputs. 	<ul style="list-style-type: none"> i. Uganda has 45 million people, 72% of whom are engaged in agriculture. ii. The main agricultural production is small scale. iii. The (bio-based) primary commodities include agriculture, fisheries, aquaculture and livestock, forestry, food industry, forestry industry, bioenergy and biofuels and the major food crops produced in Uganda include bananas, cassava, sweet potatoes, millet, sorghum, corn, beans, groundnuts and coffee. 	<ul style="list-style-type: none"> i. South Sudan has a huge arable land suitable for agriculture, however only 4% of the land is used for agriculture. ii. Insecurity and inadequate infrastructure are some of the impediments to crop production. iii. RSS has many livestock and fish products but they do not contribute significantly to food security in the country. iv. Most food is imported from EAC Partner States and other countries beyond EAC.

2	<i>Policies of the Partner State on GMOs</i>	<p>There is no specific policy on GMOs in Rwanda. However, the following policies provide for some aspects of GMOs:</p> <ul style="list-style-type: none"> i. The National Agriculture Policy. ii. The National Science, Technology and Innovation Policy. <p>Also, Rwanda is party to the Convention on the Biological Diversity and its Habitat (CBD) and the Cartagena Protocol on Biosafety to the CBD.</p>	<p>There is no specific policy on GMOs in Uganda. However, Uganda has put in place the following policies which address some aspects of GMOs:</p> <ul style="list-style-type: none"> i. The National Biotechnology and Biosafety Policy, 2008. ii. The National Drug Policy, 1993. iii. NEMA Policy (1994). iv. National STI Policy 2009. v. Uganda Food & Nutrition Policy 2003. vi. National Agriculture Policy 2003. vii. National Forestry Policy 2001. viii. Uganda Wildlife Policy 2014. <p>Uganda is also party to:</p> <ul style="list-style-type: none"> i. The Convention on Biological Diversity (CBD); ii. The Cartagena Protocol on Biosafety (CPB) on the CBD; and iii. The Nagoya-Kuala Lumpur Supplementary Protocol (N-KL SP) on Liability and Redress (N-KL SP). 	<p>There is no specific policy on GMOs in RSS. However, the Draft Seed Policy includes a section on the genetically modified organisms (GMOs).</p> <p>Also, the National Biodiversity Strategy and Action Plan (2018-2027) mentions GMOs as one of the issues under consideration, even though, there is no policy directive or proposed action to be undertaken.</p>
3	<i>Laws and regulations of the Partner State on GMOs</i>	<p>Rwanda enacted the Law N° 025/2024 of 16/02/2024 governing biosafety. This is a new law passed in December 2023 and gazetted on 21st February 2024.</p> <p>The following</p>	<ul style="list-style-type: none"> i. In 2017, the Parliament of Uganda passed the National Biotechnology and Biosafety Bill. The Bill was returned by the President with a number of comments for reconsideration. ii. The Parliament reconsidered and passed the Bill titled “Genetic Engineering 	<p>There is no specific law on GMOs in RSS.</p>

		<p>institutions engages in regulation of some aspects of GMOs in Rwanda</p> <ul style="list-style-type: none"> i. Rwanda Environmental Management Authority (REMA) ii. Rwanda Inspectorate, Competition and Consumer Protection Authority (RICA) iii. Rwanda Food and Drug Authority (RFDA) 	<p>Regulatory Bill”, 2018.</p> <p>iii. The second Bill was not assented to by the President because his previous comments were not fully addressed.</p> <p>On the other hand, there are other laws that may apply to GMOs including the following:</p> <ul style="list-style-type: none"> i. The Seeds and Plant Act, 2006. ii. The Biofuels Act, 2018. iii. The National Drug Act, 1993. iv. The Animal Diseases Act, 1918. v. The Industrial Property Act, 2014. vi. The Plant Variety Protection Act, 2014. vii. Plant Protection and Health, Act, 2015. viii. The Forestry and Tree Planting Act, 2003. ix. The National Environment Act, 2019 <p>The following institutions engages with some aspects of GMOs:</p> <ul style="list-style-type: none"> i. Uganda National Council for Science and Technology (UNCST). ii. National Environment Management Authority (NEMA). iii. Ministry of Water and Environment (MWE). iv. National Biosafety Committee (NBC). v. Institutional Biosafety Committee (IBC) under the line Ministries (Ministry of health, 	
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			Ministry of trade, Ministry of Justice and constitutional affairs. vi. Institutional Ethics Review Committees	
4	<i>Researches undertaken in the Partner State on GMOs</i>	<p>i. Rwanda has carried out the RiboNucleic Acid interference (RNAi) virus resistant cassava varieties project.</p> <p>ii. Rwanda secured a permit and is looking for resources to start trials on potato GMOs resistant to late blight (<i>Phytophthora infestans</i>).</p> <p>There are other research projects undertaken in agriculture and livestock using other biotechnology methods apart from GMOs</p>	<p>More than 17 confined field experiments of genetically modified crop were approved since 2017. To date, successful experiments have been conducted for different traits in:</p> <p>i. Banana: for increased pro-Vitamin A and Iron, bacterial wilt disease resistance, nematode and weevil resistance, black sigatoka resistance.</p> <p>ii. Cassava: Resistance to brown streak disease, resistance to mosaic disease, and resistance to whiteflies.</p> <p>iii. Sweet potato: resistance to viruses.</p> <p>iv. Soybean: tolerance to herbicides.</p> <p>v. Cotton: insect resistance to cotton ball worm and herbicide tolerance.</p> <p>vi. Maize: insect resistance and drought tolerance (resistance to water stress)</p> <p>vii. Livestock: Anti-tick vaccine</p> <p>viii. Potato: resistance to late blight disease</p>	No research reported by RSS
5	<i>Need of GMOs food</i>	Rwanda sees the need to adopt	Stakeholders in Uganda were divided: some	Although RSS does not produce enough

	<i>products in the Partner State</i>	GMOs food products to ensure food security and for industrial development subject to their strong control mechanisms	wanted the GMOs food products to be allowed in Uganda, others opposed while some called for stringent regulation	food, people are still hesitant to adopt GMOs food products because of the risks associated with them. The people of RSS prefer to utilize their arable land and animals to have food sufficiency without GMOs
6	<i>Contribution of GMOs food products in the Partner State (if allowed)</i>	Before the coming into force of the new biosafety law (on 21 st February 2024), GMOs food production was only allowed in confined field trials for research purpose.	Local production and distribution of GMOs food products is not allowed, except for research purposes only.	GMOs food products are not allowed in RSS
7	<i>Companies registered in the Partner State dealing with GMOs</i>	No company registered for GMOs in Rwanda	No company registered for GMOs in Uganda	No company registered for GMOs in RSS
8	<i>How GMOs food products managed/controlled in the Partner States</i>	The new enacted law puts in place control mechanisms to ensure the safe use of the living modified organism. The law also establishes key institutions to administer the GMOs management system. Since the law is still new, its effectiveness will be observed during its application.	In 2003, the government of Uganda approved the importation and use of processed food products (including nutrient-rich preparations) from GMOs. Uganda has National Guidelines for Containment: for Regulation of Research with Genetically Modified Organisms and Microbes.	No law for the control of GMOs food products in RSS.

9	<i>Opinion on whether EAC Partner States should harmonize their policies and laws on GMOs</i>	All the stakeholders called upon the EAC to adopt a harmonized position on GMOs to avoid spill-over effects of the measures taken at the domestic /national Partner State level, include their potential adverse effects on the intra-EAC regional trade. The EAC position should be mindful of the challenges to food security in many years to come and the need to embrace safe biotechnology solutions.	Stakeholders in Uganda support the harmonisation of GMOs policies and laws in the EAC.	No need to harmonize because RSS has not yet exhausted her potentials in non GMOs food production
10	<i>Opinion on what EAC should do with regard to GMOs</i>	Spearhead the harmonization of laws and policies in the EAC.	<p>Stakeholders who support GMOs recommended the EAC to develop a Regional Biosafety and Biotechnology Policy Framework to harmonize general administration, governance, a common GMOs approval and risk assessment system for both national and trans-national transactions, required infrastructure development, enhance research and development of science, technology and innovation that support GMOs.</p> <p>Stakeholders who are against GMOs recommended for EAC to</p>	To undertake further research and studies to address all negative issues raised concerning with GMOs.

			undertake further research by independent individuals, awareness creation and to urge Partner States to opt for the establishment of functioning national and regional food reserves.	
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Source – Interaction with the Partner States visited

4.2 FINDINGS FROM EASTECO

Although this activity focused on policies and laws of Partner States, the Sub Committee which was in Rwanda decided to seek for insight information from the EASTECO on the work they have conducted around GMOs. During the interactive meeting, EASTECO informed the Committee that it has developed the EAC Bio-economy strategy which was adopted by the Sectoral Council on Education, Science and Technology, Culture and Sports in 2022 and is now being implemented. The Strategy is anchored on four thematic areas; namely (i) Food security and sustainable agriculture, (ii) health and well-being, (iii) Biobased Industrial Development and (iv) Sustainable Energy.

EASTECO further informed the Committee that it plans to develop the EAC Regional Biotechnology and Biosafety Policy in the next financial year (FY 2024/2025).

4.3 SUMMARY OF THE FINDINGS

Arising from table 1 and 2 above, the Committee made the following summarized findings:

4.3.1 General Situation of Food Production in the Partner States

The Committee found that there is generally food insufficiency in the EAC Partner States. The United Republic of Tanzania reported to have sufficient food production. On the other hand, there is growing population and a continuous decline in yields of production of food in all Partner States.

4.3.2 Partner States Policies on GMOs

The Committee found that it is only the Republic of Kenya that has specific policy on GMO. For other Partner States, some issues of GMOs are mentioned or guided by other policies which mainly focus on control of GMOs.

4.3.3 Partner States Laws and Regulations on GMOs

The Republic of Kenya and the Republic of Rwanda have specific laws for GMOs (Biosafety laws). The Republic of Uganda is in the process of enacting a specific law on GMOs as the Parliament is considering comments made by the President on the previous versions of the Bill. In all Partner States some aspects of GMOs are regulated by other laws especially on environment.

4.3.4 Research undertaken in the Partner States on GMOs

Most Partner States reported to have undertaken research on GMOs. Some of the researches projects are completed, others are ongoing while others stopped because of lack of funds. However, some stakeholders are of the view that there is need for research by independent researchers to avoid possible interference from various interested groups.

4.3.5 The need of GMOs food products in the Partner States

The Republics of Kenya, Rwanda and Uganda reported the need to adopt GMO food to ensure food security and industrial development. The Republic of Kenya was ready to adopt BT maize, but the process was stopped by a court order. The Republic of Burundi, URT and RSS reported that there is no need for GMOs food products at the moment.

4.3.6 Contribution of GMO food products in the Partner States

At the moment, there is no Partner State that allows GMOs food products. However, the Republic of Uganda approved the importation and use of processed food products (including nutrient-rich preparations) from GMOs. Moreover, with the recent enactment of a law in Rwanda and if the court order in Kenya is lifted, it is possible that we are going to have GMOs food products in EAC.

4.3.7 Companies registered in the Partner States dealing with GMOs

Emanating from the current Partner States' policies and laws on GMOs only one company is registered in Kenya that engage with BT Cotton.

4.3.8 How GMOs food products managed/controlled in the Partner States

The Republics of Kenya and Rwanda have legal framework in place for the management/control of GMO food products, however their effectiveness is not yet known because they are not yet enforced.

4.3.9 Opinion on whether EAC Partner States should harmonize their policies and laws on GMOs

Generally, Partner States are looking for harmonized policies and laws on GMOs in the EAC. The challenge is that only Kenya has a specific policy and a law in place. Rwanda has a law as well.

4.3.10 What EAC should do with regard to GMOs

All Partner States are looking forward to EAC to spearhead the undertaking of independent studies, harmonization of policies and laws and promotion of intra EAC

trade. It is the responsibility of EAC to ensure that Partner States work together on this matter. The EASTECO is planning to develop the EAC Regional Biotechnology and Biosafety Policy in the next financial year (FY 2024/2025). It is important to involve Partner States right from the beginning to ensure that the policy is owned by all Partner States.

5.0 OBSERVATIONS

The Committee made the following observations:

- i. GMOs are part of the bigger area of biotechnology which include first generation (fermentation, tissue culture), the second generation (molecular markers) and the third (modern) generation (genetic engineering and gene editing);
- ii. The conventional crop production is still the dominant method of food production in all Partner States. However, this mode of food production is facing a number of challenges including climate change, increased crop and animal diseases, diminishing arable land due to increase in population and the continuing low yields of agricultural products;
- iii. There is still disagreement among the stakeholders in all Partner States as it is all over the world on whether GMO food products should be adopted. One of the causes of debate is the disagreement among scientists all over the world on the benefits and negative effects of GMOs;
- iv. There is a misinformation and confusion on what are GMOs and misunderstanding on their benefits and negative impacts;
- v. Partner States have different policies and positions with regard of GMOs;
- vi. The existence of different policies and laws on GMOs among Partner States will definitely have a negative effect on the intra EAC trade;
- vii. EAC Partner States have enough scientists who can undertake research and studies which will help the Community to make informed decision and prepare its position on GMOs;
- viii. Various stakeholders including small and large scale farmers, seed companies, traders and consumers have different interests and fears about GMOs;
- ix. There is no networking forum for researchers working on GMOs in different Partner States;
- x. While a number of research are conducted in the Partner States there is a problem in the dissemination and access to the research findings;
- xi. One of the major concerns about GMOs is their possible adverse effect on the indigenous/local seeds;
- xii. Partner States should put efforts in preserving, developing and improving the indigenous/local seeds.

6.0 RECOMMENDATIONS

Based on the above findings and analysis, the Committee recommends to the Assembly to urge the Council of Ministers to:

- i. Direct Partner States to undertake research on GMOs for the purpose of addressing all the fears and concerns raised by different stakeholders;

- ii. Direct Partner States to finance research undertaken in their respective countries instead of depending on multinational companies and other development partners;
- iii. Direct Partner States to disseminate correct, reliable and understandable information to all stakeholders on GMOs including the findings from research already completed;
- iv. Direct Partner States to take into account interests and fears of all stakeholders including small and large scale farmers, seed companies, traders and consumers;
- v. Direct Partner States to protect indigenous/local seeds and develop them for enhanced productivity;
- vi. Direct the EAC Secretariat and Institutions to coordinate researchers in undertaking joint research and sharing of research findings on GMOs; and
- vii. Direct the EAC Secretariat to spearhead dialogue among Partner States to discuss all issues relating to GMO for the purpose of reaching to a common position that will lead to harmonized policies and laws in the EAC.

7.0 CONCLUSION

The assessment of policies and laws of the EAC Partner States on GMO attracted interesting debate among stakeholders which broaden the Committee's understanding and knowledge on the subject matter. There are still disagreements among the stakeholders on the benefits and risks associated with GMOs. This situation poses challenges to policy makers and legislature in coming with policies and laws on GMOs. This calls for further research and public awareness to enable the Community reach a common position.

8.0 ACKNOWLEDGEMENTS

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The Ministries responsible for EAC Affairs of the Partner States visited played a great role in coordinating and mobilizing the participation of stakeholders during this activity. The Committee is thankful to their continued support to the Assembly.

Moreover the Committee appreciates the efforts put by all stakeholders who participated and contributed their views and provided insights to the Committee which enabled it to accomplish this activity.

9.0 ANNEXES

- i. List of institutions from all Partner States participated in this activity.
- ii. Benefits and risks associated with GMOs.
- iii. Pictures showing GMOs and non-GMO crops.
- iv. List of research projects approved in Kenya.