

STOCKTACKING OF

# BIOTECHNOLOGY

&

# BIOSAFETY



STATUS UPDATE IN RELATION TO COMESA REGIONAL HARMONIZATION GOAL



2023



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## ABBREVIATIONS

ASARECA	Association for Strengthening Agricultural Research in Eastern and ... Central Africa
BCH	Biosafety Clearing House
COMESA	Common Market for Eastern and Southern Africa
CPB	Cartagena Protocol on Biosafety
CBD	Convention on Biological Biodiversity
FAO	Food and Agriculture Organization
GM	Genetically Modified
GMO	Genetically Modified Organisms
ISAAA	International Service for the Acquisition of Agri-biotech Applications
LMOs	Living Modified Organisms
NBFs	National Biosafety Frameworks
PBS	Program for Biosafety Systems
RABESA	Regional Approach to Biotechnology and Biosafety Policy in Eastern . and Southern Africa
UNEP-GEF	United Nations Environment Program- Global Environment Facility
USDA	United States Development Agency



The International Service for the Acquisition of Agri-biotech Applications (ISAAA) is a nonprofit making international network founded in 1990 to facilitate the acquisition and transfer of agricultural biotechnology applications and knowledge-sharing for the benefit of resource-poor farmers in the developing world.

ISAAA has three network centres: AfriCenter in Nairobi, Kenya, the South East Asia Center in Los Banos, the Philippines and AmeriCenter in Cornell University, Ithaca, New York.<http://africenter.isaaa.org>



The Program for Biosafety Systems (PBS) is managed by the International Food Policy Research Institute and supports partner countries in Africa and Asia in the responsible development and safe use of agricultural biotechnology. PBS is funded by the U.S. Agency for International Development.  
[www.pbs.ifpri.info](http://www.pbs.ifpri.info) Website: [www.actesacomesa.org](http://www.actesacomesa.org)

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# COMESA



Common Market for Eastern and Southern Africa

## BACKGROUND

In order to enhance the operationalization of Common Market for Eastern and Southern Africa (COMESA) Member States' biotechnology and biosafety policy implementation plan, PBS supported the review and updating of a brief on the status of biotechnology and biosafety policies in the COMESA region. The review covers the introduction and testing of GMOs, trade in GM products and access to food aid with GM content. Although most countries in the COMESA region drafted national biosafety frameworks under the UNEP-GEF Biosafety Project in 2006, only 10 countries in the region have stand-alone biosafety laws. They include: Eswatini, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Seychelles, Sudan, Tunisia and Zambia. Notably, some countries including Kenya and Eritrea have instituted bans on importation of GM foods, while majority of the rest continue to trade in and consume GM-based products.

COMESA strives to promote regional economic integration through trade and investment. The success of this important goal depends to a large extent on the harmonization of policies, laws and regulations affecting trade in the 19 COMESA member states. Agriculture forms the backbone of the economies of member countries. An estimated 80% of the population in member countries depends on agriculture for their livelihoods. Furthermore, agriculture accounts for more than 32% of the COMESA gross domestic product and provides 65% of the raw material for industry. The harmonization of biotechnology and biosafety policies within COMESA is therefore, not only desirable but will be indispensable if free trade, especially of agricultural commodities, is to be achieved.

## OBJECTIVES OF THE ASSESSMENT

To document the current status of biotechnology and biosafety in COMESA countries with respect to:

1. Biotechnology and Biosafety policies
2. Biosafety Laws or Bills
3. Biosafety implementing regulations and
4. Any other legislation that may have clauses on biotechnology and biosafety.

The assessment was based on information available in the public domain e.g. in the BCH and is not intended for legal interpretation or opinion on compliance with referenced legislation and regulations.

## WHY BIOSAFETY FRAMEWORKS FOR COMESA MEMBER COUNTRIES?

All COMESA countries are signatories to the Cartagena Protocol on Biosafety (CPB), a binding international agreement under the Convention on Biological Biodiversity (CBD). They are therefore bound by the provisions of the Protocol which requires countries to establish biosafety procedures for transboundary movement, transit, handling and use of all living modified organisms that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health (Article 4). COMESA member countries have at least initiated the process of development of biotechnology/ biosafety policies and biosafety frameworks with the aim of ensuring biotechnology is harnessed safely in the context of the members' development priorities. The United Nations Environment Programme's - Global Environment Facility (UNEP-GEF) was initiated to support countries establish National Biosafety Frameworks (NBFs), promote information sharing and collaboration to assist capacity-building for

domestication of the Protocol.

According to UNEP-GEF, main components of a comprehensive Biosafety framework include:

- A government policy on biosafety, often part of a broader policy on biotechnology;
- A regulatory regime for biosafety which could include Acts and regulations;
- A system for handling of notifications or requests for consents to undertake biotech related activities;
- A mechanism for monitoring and inspections; and,
- A system for public information and participation.



UPDATED COMESA MEMBER STATES'  
BIOTECHNOLOGY AND BIOSAFETY REGULATORY  
STATUS AS AT SEPTEMBER 30, 2021

**BURUNDI**



TOTAL AREA

**27,834**km<sup>2</sup>

POPULATION

**11,890,784**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

MEMBER STATE	BURUNDI
Member State Population and main staple/food/ cash crops	Burundi's population is currently at 11,890,784 (Worldometers.info). According to F.A.O, the main staple food crops are banana, cassava, sweet potato and beans, while the main cash crops include coffee, tea, cotton and sugarcane.
Biotechnology Policy status and year	A Draft National Biosafety Framework, 2006 exists (BCH)
Biosafety Bill or Law and Year	<p>An explicit Biosafety Law isn't in place, however, Loi n°1/08 du 23 avril 2012 portant organisation du secteur semencier (Law n ° 1/08 of 23 April 2012 on the organization of the seed sector) may be useful for some aspects of biosafety regulation such as</p> <ul style="list-style-type: none"> <li>• Intentional introduction into the environment (AIA)</li> <li>• Handling, transport, packaging, and identification</li> <li>• Transboundary movement (import/export)</li> <li>• Illegal transboundary movements</li> <li>• Unintentional transboundary movements and emergency measures</li> <li>• Human and/or Animal Health</li> </ul> <p>Source: BCH</p>
Implementing Regulations	This law determines the operating regime of the seed sector. Article 31, for example, stipulates that the import and marketing of genetically modified seeds and plants requires prior authorization by law. A label clearly indicates that the variety has been genetically modified
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None

MEMBER STATE	BURUNDI
Any Trade in GM products?	According to F.A.O (2016), the country allows imports of GM food or feed upon authorization Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=BDI">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=BDI</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main export destinations: DR Congo, Uganda, Egypt, Tanzania, Sudan, Somalia, Kenya, Rwanda <b>Main export products:</b> Coffee, tea, wheat flours Source: <a href="https://oec.world/en/profile/country/bdi">https://oec.world/en/profile/country/bdi</a>
Main agricultural imports and countries sourced	Main source countries: Kenya, Tanzania, Zambia, Uganda, Rwanda, South Africa, Egypt, Morocco <b>Main import products:</b> Wheat, Malt, Rice, Cereal flours Source: <a href="https://oec.world/en/profile/country/bdi">https://oec.world/en/profile/country/bdi</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# COMOROS



COMOROS



TOTAL AREA

**1,861**km<sup>2</sup>

POPULATION

**869,601**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

**GM  
CROPS**

**NONE**

MEMBER STATE		COMOROS
Member State Population and main staple/food/cash crops		Comoros' population stands at 869,601 (Worldometers. Info) Main food crops: Coconuts, Bananas, Cassava Main cash crops: vanilla, cloves, and ylang ylang (Globalsecurity.org)
Biotechnology Policy status and year		Draft National Biosafety Framework, 2006 Source: BCH
Biosafety Bill or Law and Year		There isn't an explicit biosafety law, but the Plant Protection of 2006 (Loi sur la protection des végétaux, 2006) may govern aspects of biosafety Source: BCH
Implementing Regulations		<ul style="list-style-type: none"> <li>• Intentional introduction into the environment (AIA)</li> <li>• Transboundary movement (import/export)</li> <li>• Pharmaceuticals</li> <li>• Confidential Information</li> <li>• Transit</li> <li>• Contained use</li> </ul> Source: BCH
GM Crops Approved and Years		None
GM crops under CFT as approved by National Biosafety Committee or Authority		None
Any Trade in GM products?		According to F.A.O (2018) may import GM food or feed and there is no authorization process Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COM">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COM</a>
Access to Food aid with GM content?		No surveillance, therefore, it is not clear whether the country has had (Low Level Presence/ Adventitious Presence (LLP/AP) in the last 10 years  Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COM">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COM</a>

MEMBER STATE	COMOROS
Main agricultural exports and destinations	Main destination countries: Madagascar, Tanzania, Mauritius, Benin, Sudan Main products: Cloves, vanilla, coffee, cinnamon, tropical fruits Source: <a href="https://oec.world/en/profile/country/com">https://oec.world/en/profile/country/com</a>
Main agricultural imports and countries sourced	Main source countries: Madagascar, South Africa, Mauritius, Morocco, Tanzania, Kenya, Egypt Main products: Rice, wheat flours, onions, wheat, dried legumes, cassava, potatoes Source: <a href="https://oec.world/en/profile/country/com">https://oec.world/en/profile/country/com</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



DEMOCRATIC REPUBLIC OF

# CONGO



DEMOCRATIC REPUBLIC OF

**CONGO**



TOTAL AREA

**2,344,885**km<sup>2</sup>

POPULATION

**89,561,403**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

**GM  
CROPS**  
**NONE**

MEMBER STATE	D.R CONGO
Member State Population and main staple/food/cash crops	The population of the D.R Congo stands at 89,561,403 (Worldometers. Info) Main staple food crops: Cassava. Maize, beans (Harvestplus.org) The main cash crops include coffee, palm oil, rubber, cotton, sugar, tea and cocoa (Department of Commerce, United States Government ( <a href="https://www.trade.gov/country-commercial-guides/democratic-republic-congo-agriculture">https://www.trade.gov/country-commercial-guides/democratic-republic-congo-agriculture</a> ))
Biotechnology status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project)
Biosafety Bill or Law and Year	There isn't an explicit biosafety act, but Loi N° 11/009 du 09 Juillet 2011 Portant Principes Fondamentaux Relatifs a la Protection de L'Environnement (Law N° 11/009 of July 09, 2011 on Fundamental Principles Relating to the Protection of the Environment) and Loi portant Principes Fondamentaux sur la Protection de l'Environnement, 2011 (Law on Fundamental Principles of Environmental Protection, 2011) may serve for a number of biosafety regulations
Implementing Regulations	Section 5 of the Law on Fundamental Principles of Environmental Protection, 2011, mainly in its articles 62 and 63 some measures concerning GMOs, particularly: - Risk assessment and management - Intentional introduction into the environment (AIA) - Transboundary movement (import/export)
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	According to F.A.O (2019), the country may import GM food or feed and there is no authorization process Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COD">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=COD</a>

MEMBER STATE	D.R CONGO
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destinations: Zambia, Namibia, Egypt, South Africa, Morocco, Kenya, Benin Main products: Cocoa, Coffee, Perfumed crops, Vegetable saps, Palm oil Source: <a href="https://oec.world/en/profile/country/cod">https://oec.world/en/profile/country/cod</a>
Main agricultural imports and countries sourced	Main source countries: Zambia, Rwanda, Namibia, Kenya, Cote d'Ivoire, Burundi, Morocco, Egypt, Eswatini Main Products: Rice, wheat, wheat flours, corn meal and pellets, malt, onions, cereal flours, corn, dried legumes Source: <a href="https://oec.world/en/profile/country/cod">https://oec.world/en/profile/country/cod</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# DJIBOUTI



**GM  
CROPS**

**NONE**

**DJIBOUTI**



TOTAL AREA

**23,200**km<sup>2</sup>

POPULATION

**988,000**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

<b>MEMBER STATE</b>	<b>DJIBOUTI</b>
Member State Population and main staple/food/cash crops	Djibouti's population currently stands at 988, 000 (Worldometers. Info) Main food crops: Dry beans, maize and tomatoes Main cash crops: Dates, Coffee ( <a href="https://djibouti.opendataforafrica.org/doqlnxe/djibouti-agriculture-sheet">https://djibouti.opendataforafrica.org/doqlnxe/djibouti-agriculture-sheet</a> )
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project)
Biosafety Bill or Law and Year	None
Implementing Regulations	None
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	According to F.A.O (2016) the country allows imports GM food or feed upon authorization Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=DJI">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=DJI</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: Egypt, Nigeria, Kenya, South Africa, Madagascar, Main products: Dried legumes, Coffee, soybeans, Oily seeds, Insect resins, Cereal flours, Perfume plants Source: <a href="https://oec.world/en/profile/country/dji">https://oec.world/en/profile/country/dji</a>

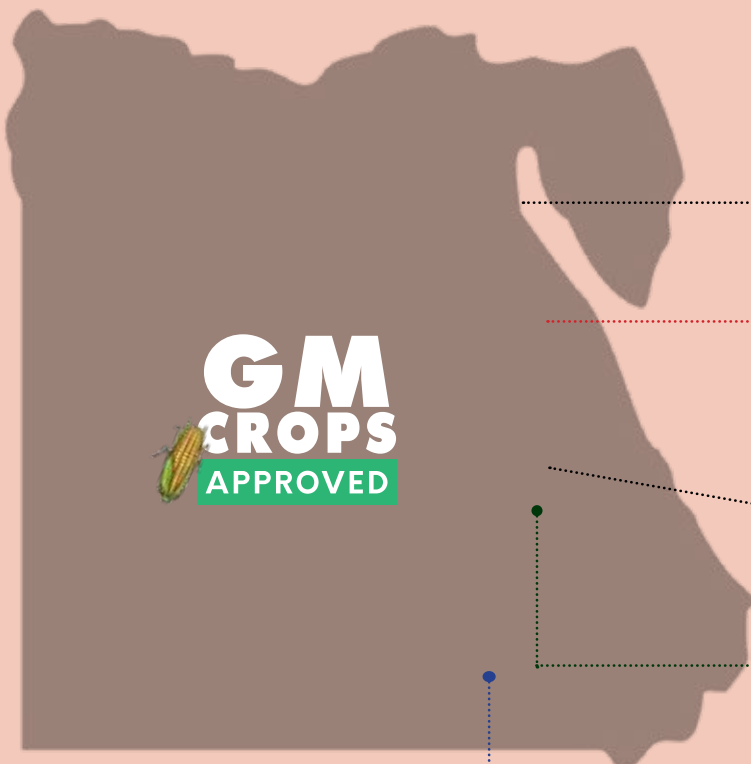
MEMBER STATE	DJIBOUTI
Main agricultural imports and countries sourced	Main source countries: Morocco, South Africa, Egypt, Kenya, Main products: Rice, Wheat, Wheat flours, dried legumes, corn, sorghum, tropical fruits, citrus, tea Source: <a href="https://oec.world/en/profile/country/dji">https://oec.world/en/profile/country/dji</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# EGYPT

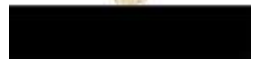




**GM**  
**CROPS**  
**APPROVED**



# EGYPT



TOTAL AREA

**40,000** km<sup>2</sup>

POPULATION

**102,334,404**

IMPORTS



BIOTECHNOLOGY

**2017**

POLICY STATUS & YEAR

**BIOSAFETY BILL**

**2006**

OR LAW & YEAR



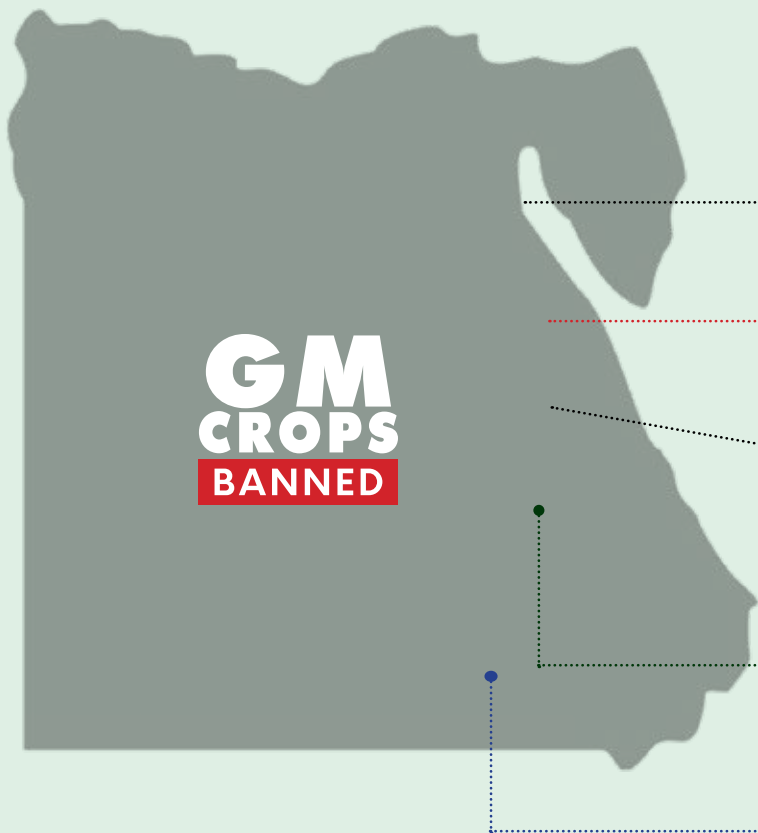
MEMBER STATE	EGYPT
Member State Population and main staple/food/cash crops	<p>The population of Egypt stands at 102,334,404 (Worldometers.Info).</p> <p>The main staple food crops are wheat, maize, tomatoes, rice, potatoes, oranges, onions</p> <p>The main cash crops are sugar cane, sugar beet and cotton (<a href="https://www.statista.com/statistics/1063560/egypt-main-crops-by-production-volume/">https://www.statista.com/statistics/1063560/egypt-main-crops-by-production-volume/</a>)</p>
Biotechnology Policy status and year	<p>Memorandum of Understanding on the detection of GMOs between the EEAA and Cairo University, 2017</p> <p>Memorandum of Understanding on the detection of GMOs between the EEAA and Ministry of Health, 2017</p> <p>Memorandum of Understanding on the detection of GMOs between the EEAA and City of Scientific Research and Technological Applications, 2017</p> <p>Source: BCH</p>
Biosafety Bill or Law and Year	<p>Draft Biosafety Law for Release of Genetically Modified Products, 2006</p> <p>Source: BCH</p>
Implementing Regulations	<p>Implementation of national obligations under the CPB pursuant to Article 2.</p> <p>The regulations apply to the intentional release of all living modified organisms into the environment and aims at ascertaining safety to the environment, human health and other elements of safety as referred to in various articles of the Cartagena Protocol on Biosafety</p> <p>Source: BCH</p>
GM Crops Approved and Years	<p>Insect Resistant maize, 2010- research and commercialization was halted due to lack of a biosafety act in the country</p>
GM crops under CFT as approved by National Biosafety Committee or Authority	<p>None</p>

MEMBER STATE	EGYPT
Any Trade in GM products?	<p>According to F.A.O (2019) the country allows imports GM food or feed upon authorization, and so long as the country of origin also consumes the products as food and feed</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=EGY">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=EGY</a></p> <p>According to USDA reports, the country imports about 8.8 million metric tons (MMT) of corn and 2 MMT of soybeans annually, largely sourced from the United States and other markets that openly commercialize genetically-engineered (GE) varieties.</p> <p>Source: <a href="https://www.fas.usda.gov/data/egypt-agricultural-biotechnology-annual-1">https://www.fas.usda.gov/data/egypt-agricultural-biotechnology-annual-1</a></p>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	<p>Main destination countries: Libya, Morocco, Algeria, Tunisia, Sudan, Kenya, Ethiopia, Nigeria, South Africa, Australia, New Zealand</p> <p>Main Products: Citrus, onions, potatoes, wheat flours, grapes, other fruits, frozen fruits and nuts, frozen vegetables, dried legumes, soybean oils, seed oils</p>
Main agricultural imports and countries sourced	<p>Main source countries: Algeria, Australia, Zambia, New Zealand Sudan, Kenya, Libya, South Africa, D.R Congo, Morocco, Tunisia</p> <p>Main products: Wheat, corn, soybeans, dried legumes, rice, tea, apples and pears, coffee, palm oil, seed oils, soybean oil</p>
Key Biotech Challenges	Lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# ERITREA





**GM  
CROPS  
BANNED**

**ERITREA**



TOTAL AREA

**117,600 km<sup>2</sup>**

POPULATION

**3,546,421**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2017**

OR LAW & YEAR

MEMBER STATE	ERITREA
Member State Population and main staple/food/cash crops	The population stands at 3,546,421 (Wordometers. Info). The main food crops are sorghum, barley, teff, maize, wheat, fruits and vegetables The main cash crops are cotton, coffee, sisal ( <a href="https://mpr.ub.uni-muenchen.de/10317">https://mpr.ub.uni-muenchen.de/10317</a> )
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project) Source: BCH
Biosafety Bill or Law and Year	Proclamation No. 179/2017. The Eritrean Environmental Protection, Management and Rehabilitation framework Source: BCH
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety Source: BCH
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	According to F.A.O (2018) the country does not import any GM food or feed (banned). Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ERI">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ERI</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	No available data
Main agricultural imports and countries sourced	No available data
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# ESWATINI



# ESWATINI



TOTAL AREA

**17,363** km<sup>2</sup>

POPULATION

**1,160,164**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2020**

OR LAW & YEAR

**GM**  
**CROPS**  
APPROVED 

MEMBER STATE	ESWATINI
Member State Population and main staple/food/cash crops	<p>The population of Eswatini stands at 1,160,164 (Worldometers. Info)</p> <p>The main staple foods include maize, legumes, sorghum, horticultural crops</p> <p>The main cash crops include sugarcane, cotton, citrus and woodpulp (<a href="https://www.ccardesa.org/eswatini">https://www.ccardesa.org/eswatini</a>)</p>
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project)
Biosafety Bill or Law and Year	Biosafety Act of 2012, amended in 2020
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety
GM Crops Approved and Years	Insect Resistant (Bt) Cotton, 2018
GM crops under CFT as approved by National Biosafety Committee or Authority	Confined Field Trials of Bt hybrid cotton containing Cry 1Ac gene (Event-1) developed by JK Agri Genetics Ltd, 2016
Any Trade in GM products?	<p>According to F.A.O (2019), the country allows imports of GM food or feed upon authorization. Most GM food commodities are imported from the Republic of South Africa (RSA)</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SWZ">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SWZ</a></p>
Access to Food aid with GM content?	<p>The country has not faced any LLP/AP situations in the last 10 years</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SWZ">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SWZ</a></p>
Main agricultural exports and destinations	<p>Main destination countries: Nigeria, South Africa, Kenya, Mozambique, Botswana, Namibia</p> <p>Main products: Citrus, bananas, vegetable saps, tropical fruits, other vegetables, processed cereals</p>

MEMBER STATE	ESWATINI
Main agricultural imports and countries sourced	Main source countries: South Africa, Mozambique, Zimbabwe, Senegal, Egypt Main products: Corn, rice, wheat, spices, dried legumes,
Key Biotech Challenges	Low human and infrastructural capacity, low public awareness, negative perception and heightened activism against the technology





# ETHIOPIA



# ETHIOPIA



TOTAL AREA

**1,104,300** km<sup>2</sup>

POPULATION

**120,300,000**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2020**

OR LAW & YEAR



MEMBER STATE	ETHIOPIA
Member State Population and main staple/food/cash crops	<p>The population of Ethiopia stands at 114,963,588 (Worldometers.Info)</p> <p>The main staple food crops of Ethiopia include: teff, wheat, maize, sorghum, and barley (IFPRI)</p> <p>Interestingly teff is also the major cash crop of Ethiopia followed by coffee, flowers, khat, cotton and sorghum (<a href="https://www.trade.gov/country-commercial-guides/Ethiopia">https://www.trade.gov/country-commercial-guides/Ethiopia</a>)</p>
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project)
Biosafety Bill or Law and Year	Biosafety Proclamation No. 655/2009, revised in 2015
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety
GM Crops Approved and Years	<p>Bt cotton, 2018 (<a href="https://apps.fas.usda.gov/newgainapi/api/report/">https://apps.fas.usda.gov/newgainapi/api/report/</a> )</p> <p>Bt maize, 2022</p>
GM crops under CFT as approved by National Biosafety Committee or Authority	<p>Insect resistant and drought tolerant Water Efficient Maize for Africa (WEMA) maize, 2018 (<a href="https://apps.fas.usda.gov/newgainapi/api/report/">https://apps.fas.usda.gov/newgainapi/api/report/</a>)</p> <p>Enset resistant to bacteria wilt disease is also in the CFT</p>
Any Trade in GM products?	<p>According to F.A.O (2018) the country allows imports GM food or feed upon authorization.</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ETH">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ETH</a></p> <p>According to reports by USDA, the country imports processed agricultural products such as soybean and corn oils, as well as breakfast cereals containing GE ingredients. The country also imports GE-cotton (a non-food commodity) from India and the United States.</p> <p>Source: <a href="https://www.fas.usda.gov/data/ethiopia-agricultural-biotechnology-annual-2">https://www.fas.usda.gov/data/ethiopia-agricultural-biotechnology-annual-2</a></p>

MEMBER STATE	ETHIOPIA
Access to Food aid with GM content?	The country being a one of the largest recipients of food aid in Africa allows some food commodities like corn-soy blend (CSB) which are GE products for school feeding and humanitarian program under a special waiver Source: <a href="https://www.fas.usda.gov/data/ethiopia-agricultural-biotechnology-annual-2">https://www.fas.usda.gov/data/ethiopia-agricultural-biotechnology-annual-2</a>
Main agricultural exports and destinations	Main destination countries: Egypt, Kenya, South Africa, Nigeria, Cote d'Ivoire, Ghana, Malawi Main products: Coffee, other oily seeds, cut flowers, dried legumes, ground nuts, soybeans ( <a href="https://oec.world/en/profile/country/eth">https://oec.world/en/profile/country/eth</a> )
Main agricultural imports and countries sourced	Mains source countries: Egypt, South Africa, Kenya, Morocco, Tunisia, Rwanda Main products: Wheat, wheat flours, malt, rice, dried legumes, sorghum, cereal flours, corn, sowing seeds ( <a href="https://oec.world/en/profile/country/eth">https://oec.world/en/profile/country/eth</a> )
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology, and limited financial investments, need for stewardship training and efforts for the adopting farmers





**KENYA**



# KENYA



TOTAL AREA

**582,646** km<sup>2</sup>

POPULATION

**53,771,296**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2009**

OR LAW & YEAR

**GM  
CROPS**  
APPROVED



MEMBER STATE	KENYA
Member State Population and main staple/food/cash crops	<p>Kenya's population stands at 53,771,296 (Worldometers.Info)</p> <p>The main staple food crops are maize, wheat, rice, potatoes, green grams, and beans</p> <p>The main cash crops are tea, cut flowers, coffee, tobacco, cotton, sisal, pyrethrum, cashewnuts</p> <p>Source: <a href="https://www.agricultureauthority.go.ke">https://www.agricultureauthority.go.ke</a></p>
Biotechnology Policy status and year	Kenya National Biotechnology Development Policy, 2006 (BCH)
Biosafety Bill or Law and Year	The Biosafety Act No.2 of 2009 (BCH)
Implementing Regulations	<p>The Biosafety (Contained Use) Regulations, 2011</p> <p>The Biosafety (Import, Export and Transit) Regulations, 2011</p> <p>The Biosafety (Environmental Release) Regulations, 2011</p> <p>The Biosafety (Labelling) Regulations, 2012</p> <p>Genome editing regulating guidelines, 2023</p> <p>Source: BCH</p>
GM Crops Approved and Years	<p>Bt Cotton- Commercial cultivation, 2018</p> <p>Insect resistant Mon 810 maize- Limited environmental release with conditions, 2016</p> <p>Virus Resistant Cassava for Africa (VIRCA) cassava resistant against cassava brown streak disease (CBSD)- Environmental release, 2021.</p> <p>Source: BCH</p>
GM crops under CFT as approved by National Biosafety Committee or Authority	<p>Drought tolerant and insect resistant stacked events (TELA) maize</p> <p>Insect resistant maize</p> <p>Biofortified sorghum. Source: BCH</p>

MEMBER STATE	KENYA
Any Trade in GM products?	<p>No. After a decade-long ban on the importation of genetically modified (GM) foods, the Kenyan government issued a cabinet memo allowing trade, importation, and cultivation of GM crops. However, this decision was met with a series of court cases, resulting in an injunction on importation. As a result, the importation of GM crops was effectively halted, causing a setback to the government's plans in this area.</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=KEN">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=KEN</a></p>
Member State Population and main staple/food/cash crops	<p>Kenya's population stands at 53,771,296 (Worldometers.Info)</p> <p>The main staple food crops are maize, wheat, rice, potatoes, green grams, and beans</p> <p>The main cash crops are tea, cut flowers, coffee, tobacco, cotton, sisal, pyrethrum, cashewnuts</p> <p>Source: <a href="https://www.agricultureauthority.go.ke">https://www.agricultureauthority.go.ke</a></p>
Biotechnology Policy status and year	Kenya National Biotechnology Development Policy, 2006 (BCH)
Biosafety Bill or Law and Year	The Biosafety Act No.2 of 2009 (BCH)
Implementing Regulations	<p>The Biosafety (Contained Use) Regulations, 2011</p> <p>The Biosafety (Import, Export and Transit) Regulations, 2011</p> <p>The Biosafety (Environmental Release) Regulations, 2011</p> <p>The Biosafety (Labelling) Regulations, 2012</p> <p>Source: BCH</p>
GM Crops Approved and Years	<p>Bt Cotton- Commercial cultivation, 2018</p> <p>Insect resistant Mon 810 maize- Limited environmental release with conditions, 2016</p> <p>Virus Resistant Cassava for Africa (VIRCA) cassava resistant against cassava brown streak disease (CBSD)- Environmental release, 2021.</p> <p>Source: BCH</p>

GM crops under CFT as approved by National Biosafety Committee or Authority	Drought tolerant and insect resistant stacked events (TELA) maize Insect resistant maize Biofortified sorghum. Source: BCH
Any Trade in GM products?	YES. The ban on importation of foods derived from GM technology was lifted <a href="https://nation.africa/kenya/news/gmo-food-now-legal-in-kenya-after-cabinet-lifts-ban-3971466">https://nation.africa/kenya/news/gmo-food-now-legal-in-kenya-after-cabinet-lifts-ban-3971466</a>
<b>MEMBER STATE</b>	<b>KENYA</b>
Access to Food aid with GM content?	The importation of foods derived from GM technology is allowed, however, the cabinet decision of lifting the ban is currently in court pending . <a href="https://www.kenyans.co.ke/news/82190-court-sets-date-gmo-case-hearing">https://www.kenyans.co.ke/news/82190-court-sets-date-gmo-case-hearing</a>
Main agricultural exports and destinations	Main destination countries: Uganda, Tanzania, Rwanda, Egypt, D.R Congo, South Sudan, Somalia, Ethiopia Main products: Tea, cut flowers, coffee, tropical fruits, legumes, other nuts Source: <a href="https://oec.world/en/profile/country/ken">https://oec.world/en/profile/country/ken</a>
Main agricultural imports and countries sourced	Main source countries: South Africa, Egypt, Uganda, Tanzania, Eswatini Main products: Wheat, rice, corn, sorghum, dried legumes, sowing seeds, ground nuts, apples and pears Source: <a href="https://oec.world/en/profile/country/ken">https://oec.world/en/profile/country/ken</a>
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology, and limited financial investments, need for stewardship training and efforts for the adopting farmers



## LIBYA



TOTAL AREA

**1,800,000** km<sup>2</sup>

POPULATION

**6,871,292**

IMPORTS



<b>MEMBER STATE</b>	<b>LIBYA</b>
Member State Population and main staple/food/cash crops	The population of Libya stands at 6,871,292 (Worldometers.Info). The main staple food and cash crops are wheat, barley, potatoes, onions, tomatoes, watermelons, oranges, dates and olives (USDA 2014)
Biotechnology Policy status and year	No stand-alone biosafety policy
Biosafety Bill or Law and Year	No explicit Biosafety bill, but Law No.15/2003 on Protection and Improvement of Environment governs biosafety matters.
Implementing Regulations	Transboundary movement (import/export), Public awareness and participation, Contained use, Human and/or Animal Health, LMOs for direct use as food, Intentional introduction into the environment (AIA), Handling, transport, packaging and identification, LMOs for direct use as feed, LMOs for processing (BCH)
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	No data
Access to Food aid with GM content?	No data
Main agricultural exports and destinations	Main destination countries: Egypt, Tunisia, Morocco Main products: Rice, other vegetables Source: <a href="https://oec.world/en/profile/country/lby">https://oec.world/en/profile/country/lby</a>
Main agricultural imports and countries sourced	Main source countries: Egypt, Tunisia, Morocco, South Africa, Other Africa Main products: Wheat, barley, rice, other nuts, coffee, apples and pears, corn, wheat flours Source: <a href="https://oec.world/en/profile/country/lby">https://oec.world/en/profile/country/lby</a>

**MEMBER STATE****LIBYA**

Key Biotech Challenges

Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# MADAGASCAR



## MADAGASCAR



TOTAL AREA

**5827,041**km<sup>2</sup>

POPULATION

**27,691,108**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2012**

OR LAW & YEAR

MEMBER STATE	MADAGASCAR
Member State Population and main staple/food/cash crops	The population of Madagascar stands at 27,691,018 (Worldometers. Info) The main staple food crops are rice, cassava, maize and sweet potatoes ( <a href="https://www.yieldgap.org">https://www.yieldgap.org</a> › Madagascar) The primary cash crops include vanilla, cloves, coffee, cotton, cocoa, sugarcane, and sisal.
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project) Source: BCH
Biosafety Bill or Law and Year	Décret n°2012- 833 portant attributions des organes de la biosécurité à Madagascar (Decree No. 2012- 833 relating to the powers of the biosafety bodies in Madagascar) Source: BCH
Implementing Regulations	Public awareness and participation, Human and/or Animal Health, Competent National Authorities and National Focal Points, Intentional introduction into the environment (AIA), Socio-economic considerations, Risk assessment and management, Handling, transport, packaging and identification, Illegal transboundary movements Source: BCH
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	None
Access to Food aid with GM content?	According to F.A.O ( 2019) the country has faced LLP/AP situations in the last 10 years, concerning importation Bt maize Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MDG">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MDG</a>
Main agricultural exports and destinations	Main destination countries: South Africa, Mauritius, Morocco, Kenya, Comoros, Ghana, Ethiopia Main products: Vanilla, cloves, other fruits, vegetable saps, dried legumes, ground nuts Source: <a href="https://oec.world/en/profile/country/mdg">https://oec.world/en/profile/country/mdg</a>

MEMBER STATE	MADAGASCAR
Main agricultural imports and countries sourced	Main source countries: South Africa, Mauritius, Egypt, Seychelles, Mauritius, Mozambique, Tanzania Main products: Rice, wheat flours, wheat, malt, vanilla, vegetable saps, sorghum Source: <a href="https://oec.world/en/profile/country/mdg">https://oec.world/en/profile/country/mdg</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# MALAWI





**MALAWI**



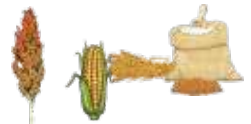
TOTAL AREA

**118,480 km<sup>2</sup>**

POPULATION

**19,129,952**

IMPORTS



BIOTECHNOLOGY

**2007**

POLICY STATUS & YEAR

**BIOSAFETY BILL**

**2002**

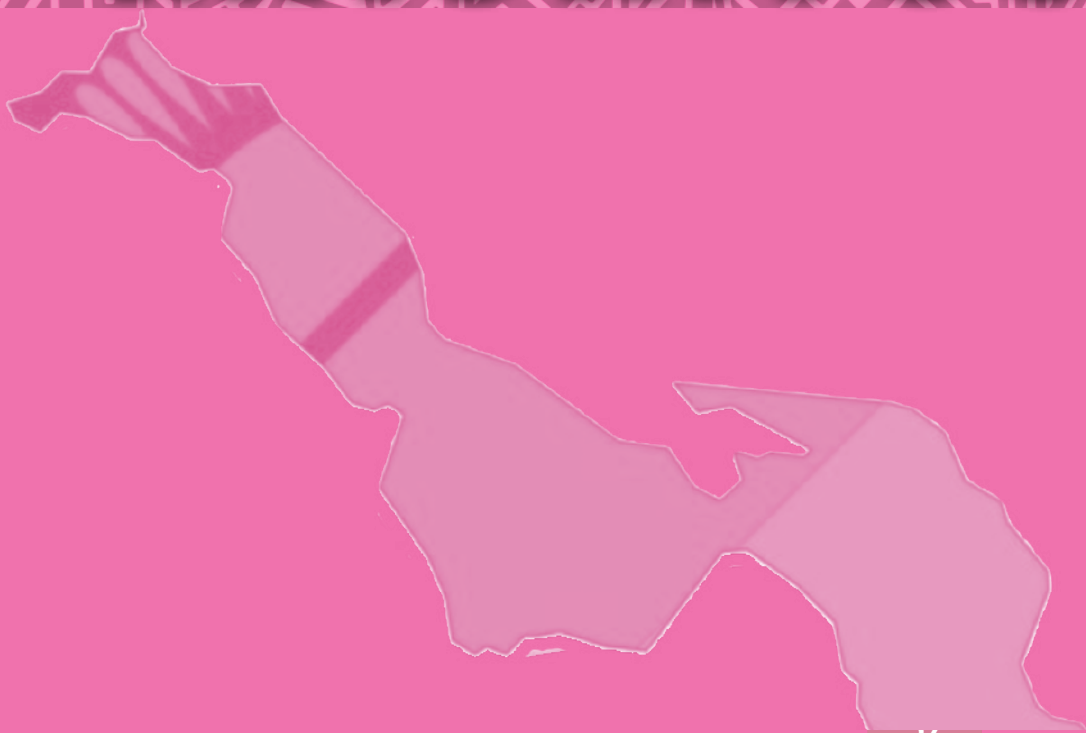
OR LAW & YEAR

MEMBER STATE	MALAWI
Member State Population and main staple/food/cash crops	The population of Malawi stands at 19,129,952 (Wordometers.Info) The main staple food crops are maize, cassava, sweet potatoes and sorghum The main cash crops include sugarcane, tea, cotton, and coffee Source: <a href="https://ideas.repec.org/p/ags/midcwp/58558.html">https://ideas.repec.org/p/ags/midcwp/58558.html</a>
Biotechnology Policy status and year	Has a stand alone biosafety policy Source: <a href="http://isaaa.org">Isaaa.org</a>
Biosafety Bill or Law and Year	Biosafety Act 2002 and Biosafety implementing regulations approved in 2007 Source: BCH)
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety Genome Editing implementing guidelines 2022
GM Crops Approved and Years	Commercial cultivation of insect resistant (Bt) cotton, 2019
GM crops under CFT as approved by National Biosafety Committee or Authority	Insect resistant cowpea Bunchytop virus resistant banana Bunchytop virus resistant plantain banana Source: <a href="http://isaaa.org">Isaaa.org</a>
Any Trade in GM products?	According to F.A.O (2021), the allows imports GM food or feed upon authorization. Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MWI">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MWI</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: Egypt, South Africa, Zimbabwe, Tunisia Main products: Raw tobacco, tea, raw sugar, dried legumes, other nuts, soybeans Source: <a href="https://oec.world/en/profile/country/mwi">https://oec.world/en/profile/country/mwi</a>

MEMBER STATE	MALAWI
Main agricultural imports and countries sourced	Main source countries: South Africa, Zambia, Tanzania, Kenya, Mozambique, Zimbabwe Main products: Wheat, rice, corn, malt Source: <a href="https://oec.world/en/profile/country/mwi">https://oec.world/en/profile/country/mwi</a>
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology, and limited financial investments, need for stewardship training and efforts for the adopting farmers



# MAURITUS





MAURITUS



TOTAL AREA

**2,040** km<sup>2</sup>

POPULATION

**1,271,768**

IMPORTS



BIOTECHNOLOGY

**NONE**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2006**

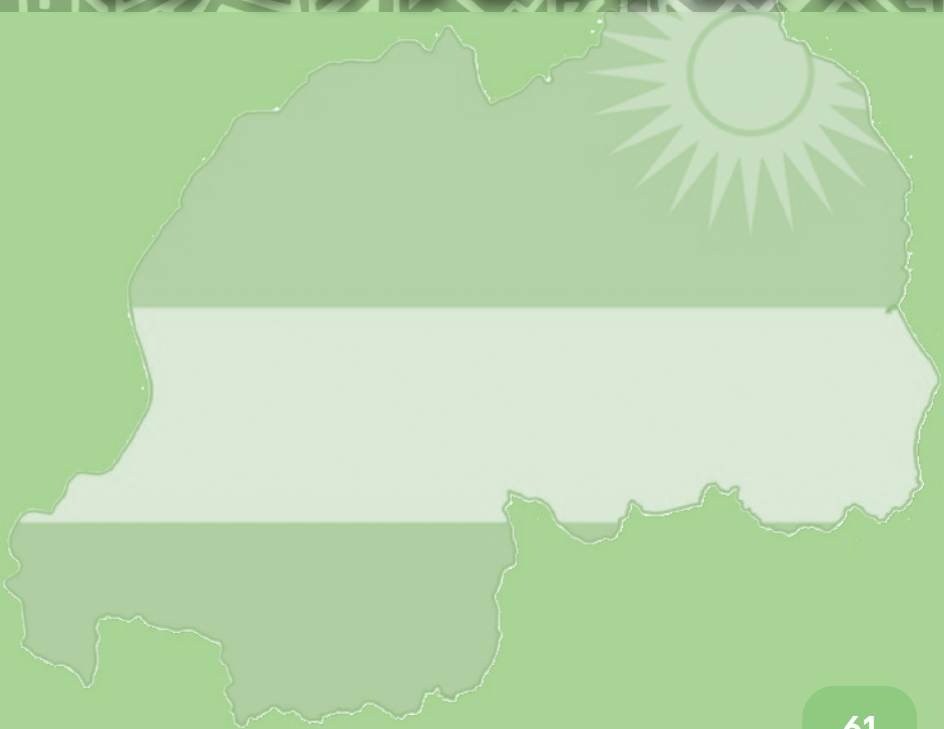
OR LAW & YEAR

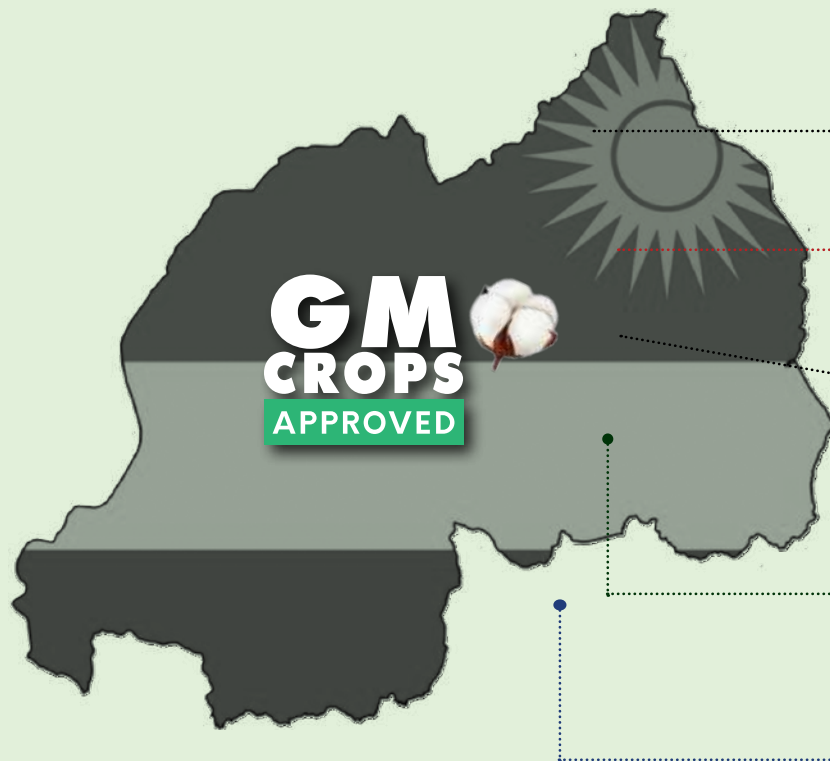
MEMBER STATE	MAURITIUS
Member State Population and main staple/food/cash crops	The population of Mauritius stands at 1,271,768 (Worldometers.Info) The main staples food and cash crops are sugarcane and rice ( <a href="https://www.ifad.org/en/web/ioe/-/Mauritius">https://www.ifad.org/en/web/ioe/-/Mauritius</a> )
Biotechnology Policy status and year	No stand-alone policy Source: Isaaa.org
Biosafety Bill or Law and Year	The Genetically Modified Organisms Act 2004 – Mauritius The Plant Protection Bill 2006 (BCH)
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety Transboundary movement (import/export), Contained use, Intentional introduction into the environment (AIA), Transit Source: BCH
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	Sugarcane
Any Trade in GM products?	According to F.A.O (2018), the country may import GM food or feed and there is no authorization process Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MUS">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=MUS</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: South Africa, Zambia, Madagascar, Zimbabwe, Kenya Main products: Raw sugar, vanilla, rice, fruits, corn Source: <a href="https://oec.world/en/profile/country/mus">https://oec.world/en/profile/country/mus</a>

MEMBER STATE	MAURITIUS
Main agricultural imports and countries sourced	Main source countries: South Africa, Namibia, Seychelles, Madagascar, Egypt, Eswatini, Kenya Main products: Rice, Wheat, Vanilla, Corn, dried legumes. onions Source: <a href="https://oec.world/en/profile/country/mus">https://oec.world/en/profile/country/mus</a>
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology, and limited financial investments, need for stewardship training and efforts for the adopting farmers



# RWANDA





**RWANDA**



TOTAL AREA

**26,798 km<sup>2</sup>**

POPULATION

**12,952,218**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**NONE**

OR LAW & YEAR

<b>MEMBER STATE</b>	<b>RWANDA</b>
Member State Population and main staple/food/cash crops	The population of Rwanda stands at 12,952,218 (Worldometers.Info) The main staple foods are Bananas, plantains, cassava, beans, maize, sweet potatoes, wheat and rice, while the main cash crops are tea and coffee ( <a href="https://www.fao.org › rwanda ›">https://www.fao.org › rwanda ›</a> )
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project) (BCH) Draft GMO Regulatory Framework. 2005 (BCH)
Biosafety Bill or Law and Year	No Biosafety law yet
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	Virus resistant Cassava, 2020
Any Trade in GM products?	According to F.A.O (2017) the country does not import any GM food or feed (banned). Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=RWA">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=RWA</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: D.R Congo, Uganda, Burundi, Kenya, South Sudan, Ethiopia Main products: Coffee, tea, rice, wheat flours Source: <a href="https://oec.world/en/profile/country/rwa">https://oec.world/en/profile/country/rwa</a>
Main agricultural imports and countries sourced	Main source countries: Kenya, Tanzania, South Africa, Cameroon, Egypt, Uganda Main products: Rice, wheat, corn, cassava, groundnuts, malt Source: <a href="https://oec.world/en/profile/country/rwa">https://oec.world/en/profile/country/rwa</a>
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology and limited financial investments





# SEYCHELLES



SEYCHELLES



TOTAL AREA

**459** km<sup>2</sup>

POPULATION

**98,347**

IMPORTS



BIOTECHNOLOGY

**2005**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2016**

OR LAW & YEAR

**GM  
CROPS**

**NONE**

MEMBER STATE	SEYCHELLES
Member State Population and main staple/food/cash crops	The population of Seychelles stands at 98,347 (Worldometers. Info) The main staple crops are Coconuts, vegetables and bananas Nuts and fruits are the main cash crops (F.A.O)
Biotechnology Policy status and year	Draft National Biosafety Framework, 2005 (BCH)
Biosafety Bill or Law and Year	Animal and Plant Biosecurity Act 2014 (BCH) Environment Protection Act 2016 (BCH)
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety (BCH) The objective of the Environment Protection Act is to provide protection to biological diversity, public health from adverse effects of introduced Genetically Modified organisms. Regulations in the Environment Protection Act apply to introduction of GMOs that may pose risks to the general environment, biological diversity and human health.
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	No data
Access to Food aid with GM content?	No data
Main agricultural exports and destinations	Main destination countries: Zambia, Mauritius, Madagascar, South Africa, Cote d' Ivoire Main products: Bananas, nuts, dried fruits, cinnamon Source: <a href="https://oec.world/en/profile/country/syc">https://oec.world/en/profile/country/syc</a>
Main agricultural imports and countries sourced	Source countries: South Africa, Mauritius, Egypt, Tunisia, Madagascar, Kenya Main products: Rice, vegetables, wheat flours, citrus, corn. Source: <a href="https://oec.world/en/profile/country/syc">https://oec.world/en/profile/country/syc</a>

MEMBER STATE	SEYCHELLES
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# SUDAN





SUDAN



TOTAL AREA

**1,886,068** km<sup>2</sup>

POPULATION

**43,849,260**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2010**

OR LAW & YEAR

<b>MEMBER STATE</b>	<b>SUDAN</b>
Member State Population and main staple/food/cash crops	The population of Sudan stands at 43,849,260 (Worldometers.Info) The main staple and food crops are cotton, sesame, peanuts, sugarcane, dates, citrus fruits, mangoes, coffee, and tobacco (F.A.O)
Biotechnology Policy status and year	Draft National Biosafety Framework, 2006 (Developed under the UNEP-GEF Biosafety Project) Source: BCH
Biosafety Bill or Law and Year	National Biosafety Law 2010 (BCH)
Implementing Regulations	The objective of this Act is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health (BCH)
GM Crops Approved and Years	Approval for environmental release of one transgenic Bt cotton variety (Seeni 1) containing Cry 1A gene developed by Chinese Academy of Agricultural Science, 2012 Approval for environmental release of two Bt cotton hybrids expressing Cry 1Ac gene (Event 1) for commercial planting developed by JK Agri Genetics, India, 2015
GM crops under CFT as approved by National Biosafety Committee or Authority	Insect resistant (Bt) cotton
Any Trade in GM products?	According to F.A.O (2021), the country allows imports GM food or feed upon authorization. Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SDN">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SDN</a>
Access to Food aid with GM content?	The country has faced LLP/AP in the last 10 years Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SDN">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SDN</a>

MEMBER STATE	SUDAN
Main agricultural exports and destinations	Main destination countries: Egypt, Kenya, Tunisia, Nigeria, Senegal Main products: oily seeds, ground nuts, insect resins, forage crops, sorghum, dried legumes Source: <a href="https://oec.world/en/profile/country/sdn">https://oec.world/en/profile/country/sdn</a>
Main agricultural imports and countries sourced	Main source countries: Egypt, Kenya, South Africa, Rwanda, Morocco, Tunisia Main products: Wheat, dried legumes, rice, tea, sorghum Source: <a href="https://oec.world/en/profile/country/sdn">https://oec.world/en/profile/country/sdn</a>
Key Biotech Challenges	Low public awareness, negative perception and heightened activism against the technology, and limited financial investments, need for stewardship training and efforts for the adopting farmers





# SOMALIA



SOMALIA



TOTAL AREA

**825,052** km<sup>2</sup>

POPULATION

**43,849,260**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2010**

OR LAW & YEAR

**GM  
CROPS**  
**NONE**

MEMBER STATE	SOMALIA
Member State Population and main staple/food/cash crops	The population of Somalia stands at 15,893,222 (Worldometers. Info) The main staple food and cash crops are bananas, sugarcane, sorghum and corn (F.A.O)
Biotechnology Policy status and year	No policy on biosafety
Biosafety Bill or Law and Year	No law on biosafety
Implementing Regulations	None
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	According to F.A.O (2018), the country may import GM food or feed and there is no authorization process Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SOM">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SOM</a>
Access to Food aid with GM content?	There's no monitoring in the country, and therefore no data concerning LLP/AP in the last 10 years Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SOM">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=SOM</a>
Main agricultural exports and destinations	Main destination countries are Kenya, Cote d'Ivoire, Senegal, Morocco, Nigeria, Egypt Main products: Oily seed, insect resins, citrus, processed cereals Source: <a href="https://oec.world/en/profile/country/som">https://oec.world/en/profile/country/som</a>
Main agricultural imports and countries sourced	Main source countries are Kenya, Egypt, South Africa, Burundi, Rwanda, Eswatini Main products: Rice, wheat flours, dried legumes, sorghum, corn, tea Source: <a href="https://oec.world/en/profile/country/som">https://oec.world/en/profile/country/som</a>

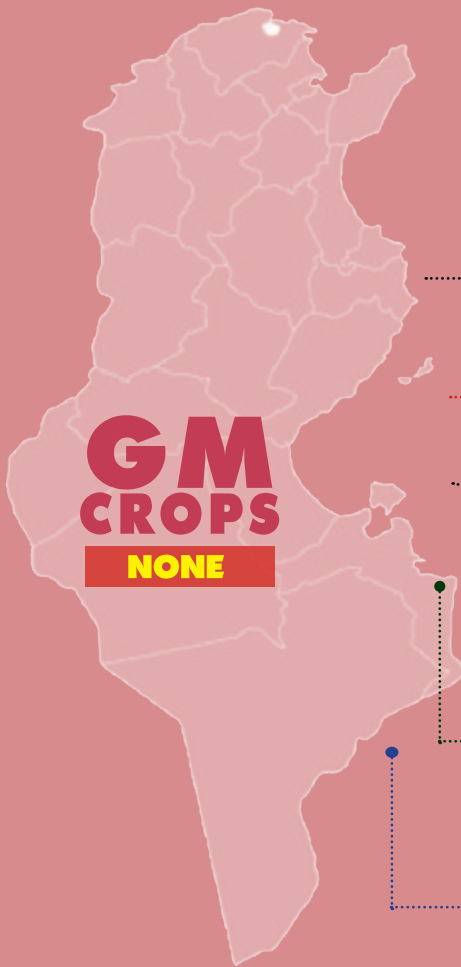
MEMBER STATE	SOMALIA
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments





# TUNISIA





TUNISIA



TOTAL AREA

**163,610** km<sup>2</sup>

POPULATION

**11,818,619**

IMPORTS



BIOTECHNOLOGY

**NONE**

POLICY STATUS & YEAR

BIOSAFETY BILL

**2015**

OR LAW & YEAR

MEMBER STATE	TUNISIA
Member State Population and main staple/food/cash crops	The population of Tunisia stands at 11,818,619 (Worldometers.Info) The main staple crops are wheat, barley, olives, dates and fresh fruits (FAO)
Biotechnology Policy status and year	No stand alone biosafety policy
Biosafety Bill or Law and Year	Projet de la loi sur la biosécurité en Tunisie, 2015 (Bill on biosafety in Tunisia) (BCH)
Implementing Regulations	All functions pursuant to the Cartagena Protocol on Biosafety (BCH)
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	According to F.A.O (2019), the country does not import any GM food or feed (banned). Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=TUN">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=TUN</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: Libya, Algeria, Morocco, Egypt, Cote d'Ivoire Main Products: Tropical fruits, tomatoes, dried vegetables,pepper, citrus. Source: <a href="https://oec.world/en/profile/country/tun">https://oec.world/en/profile/country/tun</a>
Main agricultural imports and countries sourced	Main source countries: Algeria, Egypt, Morocco, Libya, Sudan, Cote d'Ivoire Main crops: Wheat, soybeans, corn, barley, coffee, sowing seeds, potatoes Source: <a href="https://oec.world/en/profile/country/tun">https://oec.world/en/profile/country/tun</a>

**MEMBER STATE****TUNISIA**

Key Biotech Challenges

Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# UGANDA





**GM  
CROPS**  
**NONE**

UGANDA



TOTAL AREA  
**241,038** km<sup>2</sup>

POPULATION  
**45,741,007**

IMPORTS

Two small illustrations: a single ear of yellow corn on the left, and a woven basket filled with yellow produce, possibly corn or beans, on the right.

BIOTECHNOLOGY  
**2008**  
POLICY STATUS & YEAR

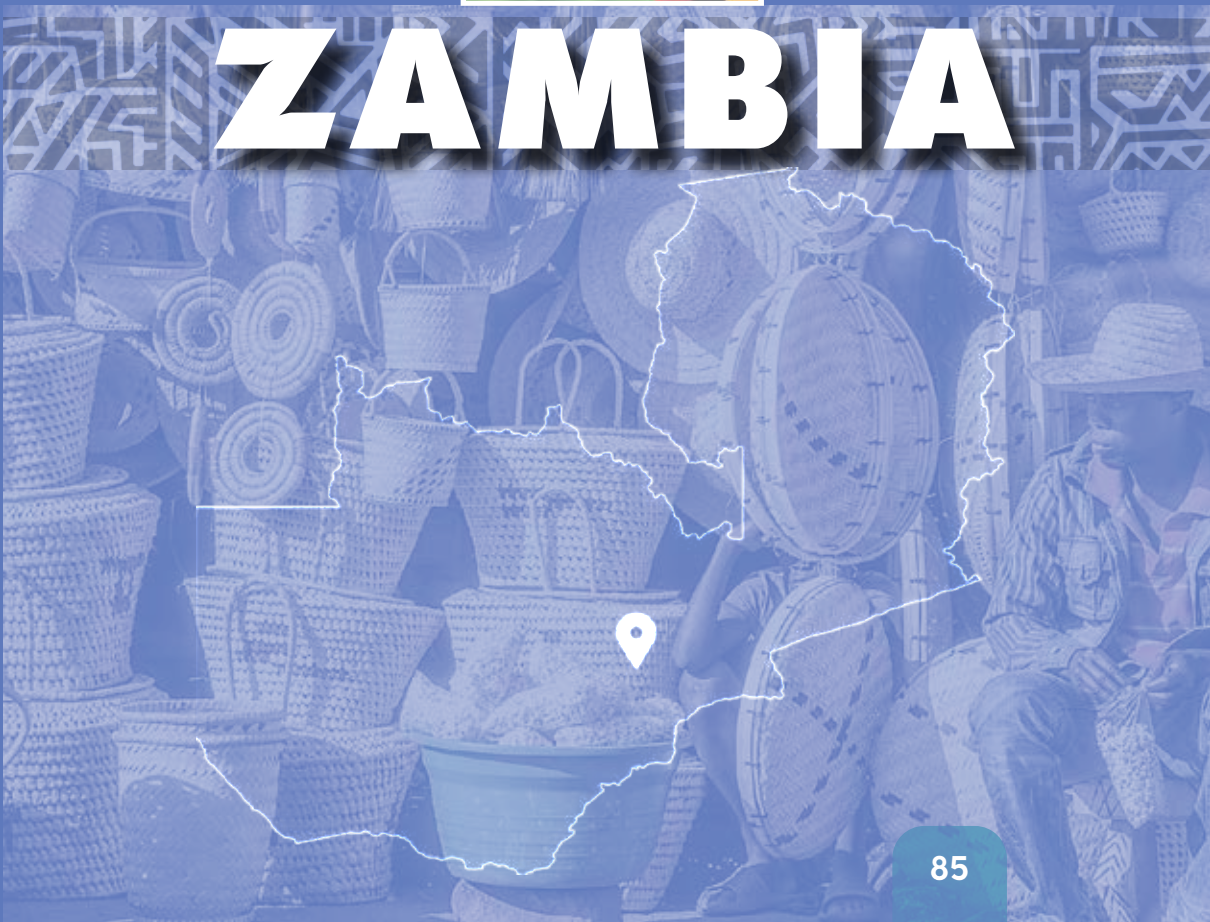
BIOSAFETY BILL  
**NONE**  
OR LAW & YEAR

MEMBER STATE	UGANDA
Member State Population and main staple/food/cash crops	The population of Uganda stands at 45,741,007 (Worldometers.Info) The main staple food crops are plantains, cassava, maize, sweet potatoes, millet, sorghum, beans, and groundnuts The main cash crops are coffee, cotton, tea, and tobacco (FAO)
Biotechnology Policy status and year	National Biotechnology and Biosafety Policy 2008 (BCH)
Biosafety Bill or Law and Year	No biosafety Act yet, but National Environment Act 2019 acts in place (BCH) In November 2018, the Parliament of Uganda passed the Genetic Engineering Regulatory Bill, 2018. The Bill seeks to provide mechanisms to regulate the use of biotechnology and genetically modified organisms in Uganda. The Genetic Engineering Bill, 2018 is a revision of the Biotechnology and Biosafety Bill, 2012 that had been passed by the August House in October 2017 but was not assented to by the President. The President sent the Bill back to Parliament, requesting several revisions including: the Bill's title; provisions on patent rights on indigenous farming products; and provisions for sanctions for scientists who mix GMOs with indigenous crops and animals.
	However, following Parliament's passing of the revised Bill and sending the bill for assent, in August 2019, the President again wrote to the Parliament of Uganda, for the second time rejecting the bill reiterating concerns on, intellectual rights, liability, benefit sharing and administrative arrangement. Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=UGA">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=UGA</a>
Implementing Regulations	The National Environment Act 2019 provides for prescription of guidelines and regulations for management of genetically modified organisms (BCH)
GM Crops Approved and Years	None

MEMBER STATE	UGANDA
GM crops under CFT as approved by National Biosafety Committee or Authority	Xanthomonas Wilt (BXW) bacteria resistant bananas Parasitic nematode resistant bananas Biofortified bananas Cassava Brown Streak Disease (CBSD) resistant bananas Nitrogen Use Efficient Rice Nitrogen Use, Water Efficiency and Salt Tolerance stacked events (NUWEST) rice Late blight disease resistant potato Source: Isaaa.org
Any Trade in GM products?	The country may allow imports of GM food or feed upon authorization Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=UGA">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=UGA</a>
Access to Food aid with GM content?	None
Main agricultural exports and destinations	Main destination countries: Kenya, Rwanda, Burundi, Morocco, Zambia, Egypt, South Africa Main products: Coffee, oily seeds, dried legumes, vanilla, cut flowers, tea Source: <a href="https://oec.world/en/profile/country/uga">https://oec.world/en/profile/country/uga</a>
Main agricultural imports and countries sourced	Main products: Wheat, Rice, coffee Main source countries: Kenya, Rwanda, Ethiopia, Sudan, South Africa Source: <a href="https://oec.world/en/profile/country/uga">https://oec.world/en/profile/country/uga</a>
Key Biotech Challenges	Low human and infrastructural capacity, low political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# ZAMBIA



ZAMBIA



TOTAL AREA

**752,614** km<sup>2</sup>

POPULATION

**18,383,955**

IMPORTS



BIOTECHNOLOGY

**2005**

POLICY STATUS & YEAR

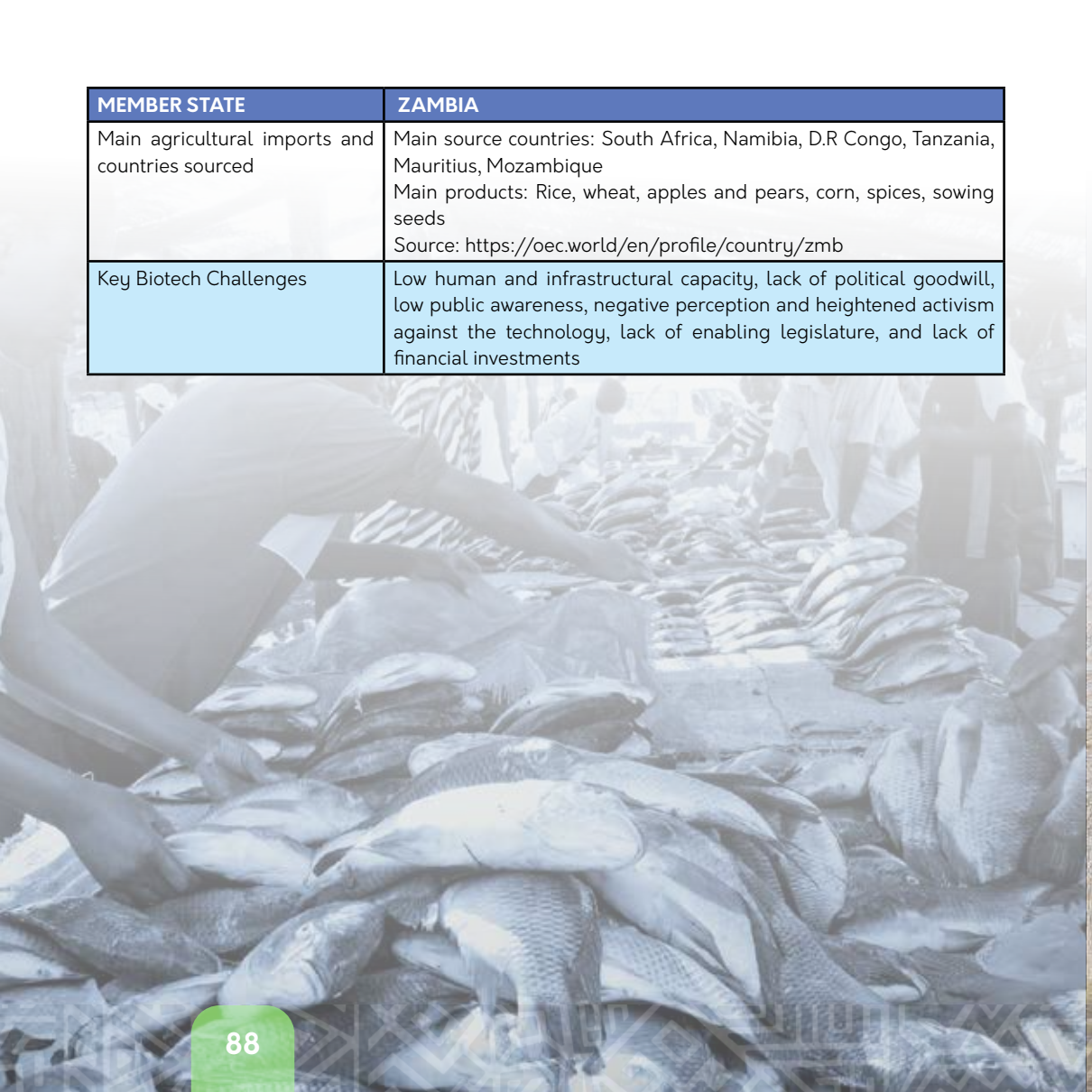
BIOSAFETY BILL

**2007**

OR LAW & YEAR

**GM  
CROPS**  
**NONE**

MEMBER STATE	ZAMBIA
Member State Population and main staple/food/cash crops	The population of Zambia stands at 18,383,955 (Worldometers.Info) The main staple food crops are maize, legumes, cassava, sweet potato and fingermillet The main cash crops include: Cotton, tobacco and sugarcane Source: FAO
Biotechnology Policy status and year	National Biotechnology and Biosafety Policy, 2005 (BCH)
Biosafety Bill or Law and Year	The Biosafety Act, 2007 (BCH)
Implementing Regulations	This Act applies to the import, development, export, research, transit, contained use, release or placing on the market of any genetically modified organism whether intended for release into the environment, for use as a pharmaceutical, for food, feed or processing, or a product of a genetically modified organism (BCH)
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None
Any Trade in GM products?	The country allows imports of GM food or feed upon authorization, for example: -Approval of the import and/or use of the LMO(s), maize, without conditions -Approval for Bt-176 maize use as food (BCH)
Access to Food aid with GM content?	The country has not faced any LLP/AP situations in the last 10 years Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZMB">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZMB</a>
Main agricultural exports and destinations	Main destination countries: Namibia, D.R Congo, South Africa, Egypt, Malawi, Zimbabwe Main products: Corn, cut flowers, oil seeds, coffee, soybeans, dried legumes Source: <a href="https://oec.world/en/profile/country/zmb">https://oec.world/en/profile/country/zmb</a>



MEMBER STATE	ZAMBIA
Main agricultural imports and countries sourced	Main source countries: South Africa, Namibia, D.R Congo, Tanzania, Mauritius, Mozambique Main products: Rice, wheat, apples and pears, corn, spices, sowing seeds Source: <a href="https://oec.world/en/profile/country/zmb">https://oec.world/en/profile/country/zmb</a>
Key Biotech Challenges	Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments



# ZIMBABWE



ZIMBABWE



TOTAL AREA

**390,745** km<sup>2</sup>

POPULATION

**14,862,924**

IMPORTS



BIOTECHNOLOGY

**2006**

POLICY STATUS & YEAR

BIOSAFETY BILL

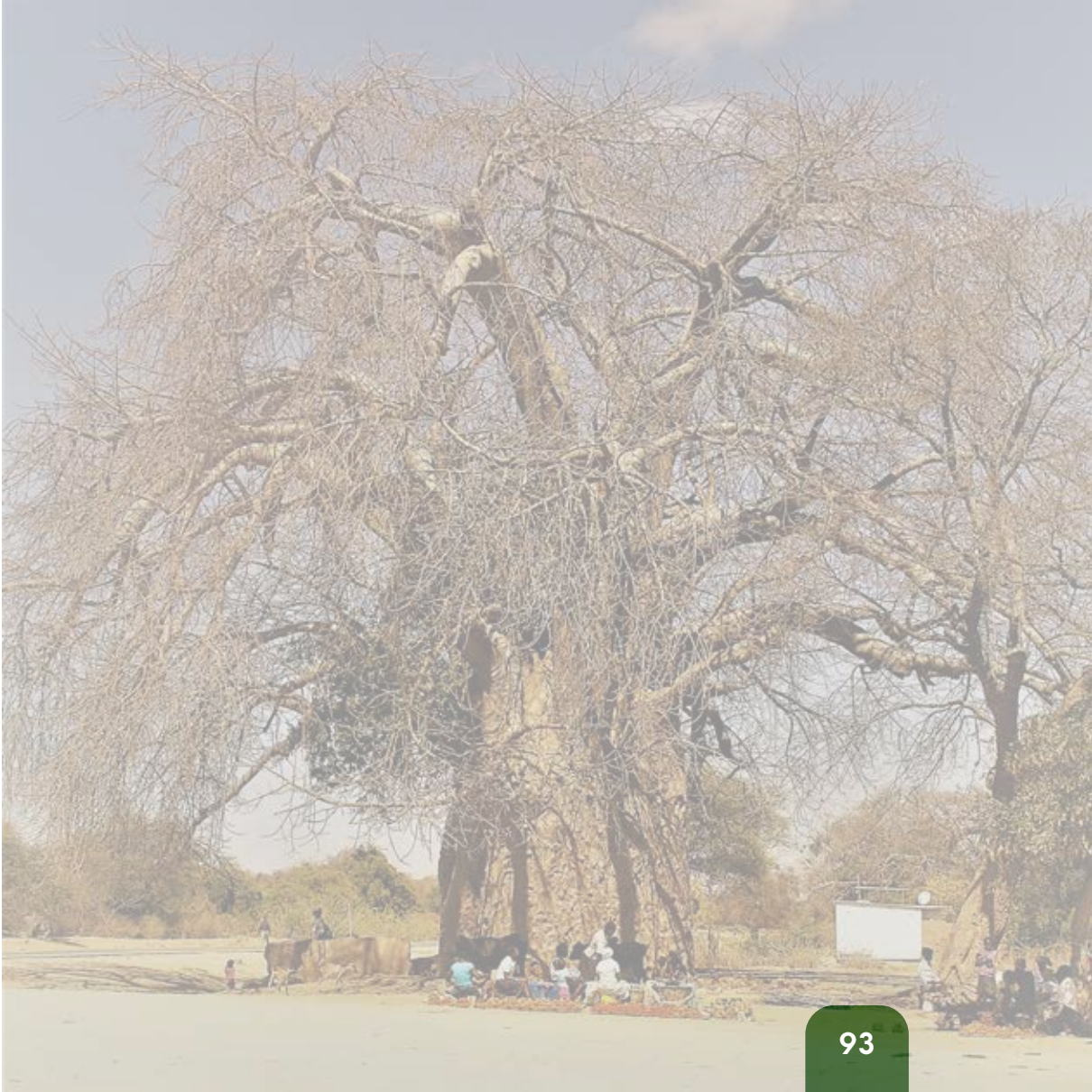
**2018**

OR LAW & YEAR

**GM  
CROPS**  
**NONE**

MEMBER STATE	ZIMBABWE
Member State Population and main staple/food/cash crops	The population of Zimbabwe stands at 14,862,924 (Worldometers. Info). The main staple food crops are maize, soybeans and wheat, while tobacco, cotton and cut flowers are the country's cash crops (FAO)
Biotechnology Policy status and year	Has a stand-alone policy on biotechnology Source: Isaaa.org
Biosafety Bill or Law and Year	National Biotechnology Authority Act of 2006 [Cap14:31] National Biotechnology Authority (Food, Feed, Food and Feed Additives and Seed) (Import, Export and Transit) Regulations, 2018, Statutory Instrument 157 of 2018. National Biotechnology Authority (Genetically Modified Food and Feed) (Labelling), Regulations, 2018, Statutory Instrument 159 of 2018.
	National Biotechnology Authority (Agricultural Biotechnology Products), Regulations, 2018, Statutory Instrument 160 of 2018. Source: BCH
Implementing Regulations	Transboundary movement (import/export), Simplified Procedure, Capacity-Building, Public awareness and participation, Contained use, Human and/or Animal Health, Competent National Authorities and National Focal Points, Information Sharing, LMOs for direct use as food, Intentional introduction into the environment (AIA), Transit, Unintentional transboundary movements and emergency measures, Socio-economic considerations, Pharmaceuticals, Confidential Information, Risk assessment and management, Liability and redress, Handling, transport, packaging and identification, Illegal transboundary movements, LMOs for direct use as feed, LMOs for processing Source: BCH
GM Crops Approved and Years	None
GM crops under CFT as approved by National Biosafety Committee or Authority	None

MEMBER STATE	ZIMBABWE
Any Trade in GM products?	<p>According to F.A.O (2018), in times of severe drought, when non-GMO grain cannot be secured for food, the country may allow the importation of GMO grain. Such imports are transported and milled under the supervision of the National Biotechnology Authority (NBA)</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZWE">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZWE</a></p> <p>According to USDA report, due to a continued maize production below the consumption demand, the country it lifted restrictions on the importation of GE corn late in 2019. As a result, South Africa increased corn exports to Zimbabwe too such an extent that Zimbabwe emerged as South Africa's main corn market in the 2019/20 MY (May 2019 to April 2020).</p> <p>Source: <a href="https://www.fas.usda.gov/data/zimbabwe-grain-and-feed-annual-2">https://www.fas.usda.gov/data/zimbabwe-grain-and-feed-annual-2</a></p>
Access to Food aid with GM content?	<p>Yes. The country has faced LLP/AP situations in the last 10 years</p> <p>Source: <a href="https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZWE">https://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=ZWE</a></p>
Main agricultural exports and destinations	<p>Main destination countries: South Africa, Mozambique, Zambia, Botswana, Kenya, Malawi</p> <p>Main products: Citrus, tea, nuts, legumes, tropical fruits, cut flowers</p> <p>Source: <a href="https://oec.world/en/profile/country/zwe">https://oec.world/en/profile/country/zwe</a></p>
Main agricultural imports and countries sourced	<p>Main source countries: South Africa, Mauritius, Zambia, Mozambique, Botswana, South Africa</p> <p>Main products: Wheat, rice, corn, dried legumes, soybeans, wheat flours</p> <p>Source: <a href="https://oec.world/en/profile/country/zwe">https://oec.world/en/profile/country/zwe</a></p>
Key Biotech Challenges	<p>Low human and infrastructural capacity, lack of political goodwill, low public awareness, negative perception and heightened activism against the technology, lack of enabling legislature, and lack of financial investments</p>





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