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Required Report - public distribution

Date: 11/21/2016

GAIN Report Number:

Mozambique

Agricultural Biotechnology Annual

Biotechnology in Mozambique

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Report Highlights:

Mozambique is now in a position to start research trials of Genetically Engineered (GE) agricultural crops, after the Council of Ministers approved amendments to the Biosafety Regulations at the end of 2014. For the 2016/17 planting season, the Water Efficient Maize for Africa (WEMA) project plans to begin its GE drought and insect resistant corn trial, after an approval was granted by the Mozambique government. Post visited the trial site in Chókwè, Gaza province, and found it ready for planting.

SECTION I: EXECUTIVE SUMMARY

Mozambique's agricultural sector is characterized mainly by farming; about 80 percent of its estimated 25 million people are active in farming. Of the 80 percent in agriculture, only 10 percent are involved in commercial farming and the remaining are subsistence farmers. Over 80 percent of the total cultivated area is used for the production of staple food crops for self-consumption, including cassava, corn, rice, sorghum and pulses.

Mozambique's exports of agricultural, fish and forestry products to the United States were valued at US\$26 million in 2015, a 20 percent increase from the previous year, due to an increase in the exports of tree nuts. Cashew nuts (US\$17.7 million or two-thirds of the total agricultural exports to the United States), sugar cane (US\$8.0 million), and tobacco (US\$0.3 million) were the major items exported to the United States.

Mozambique's imports of agricultural, fish and forestry products from the United States decreased by 46 percent to US\$10 million in 2015. The decrease in imports was due primarily to a decline in soybean oil imports. Soybean oil (US\$3.0 million), poultry products (US\$1.3 million) and wheat (US\$1.1 million) were the major products imported from the United States by Mozambique in 2015.

Mozambique has a Regulation on Biosafety related to the management of "Genetically Modified Organisms" (Decree no. 6/2007, of April 25) updated in late 2014. Mozambique has not yet started production and commercialization of GE products. However, approved trials of GE drought and insect resistant corn are expected to start in the 2016/17 planting season.

SECTION II: PLANT AND ANIMAL BIOTECHNOLOGY

CHAPTER 1: PLANT BIOTECHNOLOGY

PART A: PRODUCTION AND TRADE

(a) PRODUCT DEVELOPMENT

Currently, there is no GE product development taking place in Mozambique. However, Mozambique is a partner country in the Water Efficient Maize for Africa (WEMA) project funded by the Gates and Buffett Foundations. The first trial is expected to be planted in the 2016/17 growing season. Post estimates that in the next five years, Mozambique may begin commercializing GE corn. It is also foreseen that GE cotton field trials could start within the next few years.

(b) COMMERCIAL PRODUCTION

No commercial production of GE crops is currently taking place in Mozambique. Nevertheless, the country has appropriate legislation in place. The revised Biosafety Legislation also clarifies the process of import, export and transit of GE products which includes specific requirements for testing samples, grain import for human consumption, and quarantine measures.

(c) EXPORTS

Mozambique is not exporting any GE crops. However, exports will be regulated by the newly approved Decree. The regulation establishes production sites, transport, identification and labelling.

(d) IMPORTS

Mozambique does allow for the import of GE crops intended for direct use as food, feed or for processing but requires pre-authorization from the National Biosafety Authority.

(e) FOOD AID RECIPIENT COUNTRY

The import of GE products for food aid is generally authorized. However, any GE food grains imported need to be processed prior to distribution to the final recipients of food aid to avoid utilization as seed. Mozambique is a United States food aid recipient country. Under Food for Progress and McGovern Dole Food for Education programs, the country receives corn soy blend (CSB) for school feeding projects from the United States and soybean cooking oil, and wheat for monetization under Food for Progress.

(f) TRADE BARRIERS

Post has not identified any additional biotechnology-related trade barriers that may negatively affect U.S. exports, nor potential to do so. Therefore, there are no biotechnology related trade barriers that negatively affect United States exports to Mozambique.

PART B: POLICY

(a) REGULATORY FRAMEWORK

The government of Mozambique acknowledged the contribution that modern biotechnology can make to meet critical needs for food and nutritional security. At the same time, the government also recognized that the development of modern biotechnology needs to go hand-in-hand with appropriate regulations in order to maximize the benefits while minimizing potential risks.

It is within this context that the Parliament of Mozambique ratified the Cartagena Protocol on Biosafety in 2001(Resolution no. 11/2001, of December 20th) and created the inter-institutional National Biosafety Working Group (GIIBS - Grupo Inter-Institucional Sobre Bio-Segurança) to coordinate the process of developing a National Biosafety Framework for Mozambique. The Ministry of Science and Technology was designated to serve as the National Biosafety Authority. This process culminated in development of the Draft National Biosafety Framework (NBF) published in 2005. The draft NBF was further refined through a public consultation process that led to the development of a consolidated document which served as basis for the Decree no. 6/2007, of April 25, containing the Regulation on Biosafety related to Management Regulation.

The objective of the regulation was to establish domestic legislation aimed at regulating GE activities in Mozambique to ensure adequate protection of the environment, biological diversity, and human health. The approval of Decree no. 6/2007 by the Council of Ministers constituted an important landmark towards establishment of an enabling environment for safe and responsible application of modern biotechnology in Mozambique.

Currently, GIIBS is tasked to co-ordinate biosafety activities in Mozambique. The Ministry of Science and Technology is the national competent authority and chair of GIIBS. GIIBS consists of representatives from seven ministries, including:

- Ministry of Science & Technology
- Ministry of Agriculture & Food Security;
- Ministry for Coordination of Environmental Affairs;
- Ministry of Health;
- Ministry of Industry and Trade;
- Ministry of Fisheries & Inland Waters; and
- Ministry of Economy and Finance

The GIBS meets on a quarterly basis and representatives from public and private entities and experts may be invited to the meetings. The GIBS is empowered to:

- Advise the government in decision making on safe transfer, handling and use of GE products;
- Coordinate the development and updating of rules that adequately address the country's sustainable development objectives, consistent with the Cartagena Protocol on Biosafety;
- Produce periodic technical reports on the status of the biotechnology and biosafety in Mozambique;
- Ensure the exchange of biosafety information at the national, regional and international levels;
- Promote public awareness and education programs on biotechnology and biosafety at a national level;
- In collaboration with other relevant entities, evaluate the biosafety component in the

applications, proposals and projects related to activities involving GE, based on risk assessment reports, inputs from the public and any other socio-economic considerations;

- Establish technical and scientific requirements for GE development and trials;
- Promote short-, medium- and long term training programs on biotechnology and biosafety; and
- Ensure the monitoring and evaluation of the enforcement of the Regulation.

The Essence of the Mozambique Biosafety Regulation

Mozambique Biosafety Regulation is made up of seventy four articles, covering all aspects of biosafety related to the management of GE crops. The object of it is described in the second article stating that "The present regulation establishes Biosafety norms and mechanisms of control of authorization of import, export, transit, research, liberation to the environment, management and use of Genetically Modified Organisms and its derivate, resulted from modern Biotechnology, contributing to the human health safety and environment and, particularly to the conservation of the biological diversity". By saying this, Mozambique is included in the few African countries that formally authorize any activity with GE products.

The Process to obtain the Authorization

The Mozambique Biosafety Regulation determines the norms and processes for public and private sector intending to acquire authorization to manage GE products in the country. The process includes application, ministerial dispatch, public advertisement of the decision, and proof of technical and financial competence.

Risk Management Evaluation, Confidentiality, Information Fidelity and Responsibility

Previously this chapter left all liability aspects to the investor. It now states that the evaluation of risk of GE products resulting in a permit for import, export, transit, research, release to the environment, management, and use of GE products needs to comply with technical and scientific requirements defined by the National Biosafety Working Group (GIIBS - Grupo Inter-Institucional Sobre Bio-Segurança) and be approved by the National Biosafety Authority. This chapter also covers information fidelity, accidents and responsibility. GIIBS can interact with the operator.

(b) APPROVALS

No plants or crops have been approved or registered in Mozambique for cultivation, import or export. However, the first GE corn trial has been approved and post foresees further approvals in the next few years.

(c) STACKED EVENT APPROVALS

Mozambique's Biosafety Legislation does not indicate how it will handle stack event approvals.

(d) FIELD TESTING

With the approved Decree, Mozambique Biosafety Regulation allows public and private sector to pursue research of GE crops. This activity is also subject to prior application, field and greenhouses inspection, confined research project submission and monitoring measures, and risk control. The first confined trial is expected to start in the 2016/17-cropping season.



Figure 1: Mozambique's first GE trial site ready for corn seed

(e) INNOVATIVE BIOTECHNOLOGIES

Not Applicable.

(f) COEXISTENCE

There is no specific guideline for coexistence and Mozambique does not have a national organic standard in place.

(g) LABELING

Compulsory labeling of GE products or food containing GE ingredients is necessary based on the Mozambique Biosafety Legislation. However, most imported food products are not necessarily inspected.

(h) MONITORING AND TESTING

There is no system in place for testing and monitoring of GE products.

(i) LOW LEVEL PRESENCE POLICY

There is currently no low level presence policy in Mozambique.

(j) ADDITIONAL REGULATORY REQUIREMENTS

According to the Mozambican Biosafety Legislation, there are no additional product and/or seed registration requirements, beyond GE crop approval, prior to use. Re-registration is not required.

(k) INTELECTUAL PROPERTY RIGHTS

The last two chapters of the Mozambican Biosafety Regulation discuss confidentiality and intellectual property and public participation and access to information. It protects research information and intellectual property while foreseeing public participation and information access.

(1) CARTAGENA PROTOCOL RATIFICATION

The Parliament of Mozambique ratified the Cartagena Protocol on Biosafety in 2001(Resolution no. 11/2001, of December 20th) and created GIIBS to coordinate biosafety activities in Mozambique.

(m) INTERNATIONAL TREATIES/FORA

Mozambique is a signatory member of *inter alia*:

- The Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization (WTO-SPS)
- Codex Alimentarius Commission (Codex)
- International Plant Protection Convention (IPPC) of the Food and Agricultural Organization (FAO)

(n) RELATED ISSUES

There are no other issues related to plant biotechnology that are not captured under the current headings.

PART C: MARKETING

(a) PUBLIC/PRIVATE OPINIONS

Most people in Mozambique are not aware about biotechnology. However, among scientists and the government there is general support for it.

(b) MARKET ACCEPTANCE/ STUDIES

If Bt cotton and drought tolerant corn seed become available, post does not foresee any rejection from the subsistence and commercial farmers, as the farmers have requested this technology for a long time. At this moment, post is not aware of any marketing studies on GE products conducted in Mozambique.

CHAPTER 2: ANIMAL BIOTECHNOLOGY

PART D: PRODUCTION AND TRADE

(a) PRODUCT DEVELOPMENT

At the moment, there is no GE or genome edited animals (and/or clone) under development in

Mozambique.

(b) COMMERCIAL PRODUCTION

Mozambique does not commercially use or produce any livestock clones, offspring clones, GE animals, or products derived from animal biotechnologies.

(c) EXPORTS

Mozambique does not export GE animals, livestock clones, or products from these animals.

(d) IMPORTS

Mozambique does not import GE animals, livestock clones, or products from these animals.

(e) TRADE BARRIERS

Post has not identified any additional biotechnology-related trade barriers that may negatively affect U.S. exports, or have the potential to do so.

PART E: POLICY

(a) REGULATORY FRAMEWORK

N/A

(b) INNOVATIVE BIOTECHNOLOGIES

N/A

(c) LABELING AND TRACEABILITY

N/A

(d) INTELLECTUAL PROPERTY RIGHTS (IPR)

N/A

(e) INTERNATIONAL TREATIES/FORA

N/A

(f) RELATED ISSUES

There are no other issues related to animal biotechnology that are not captured under the current headings.

PART F: MARKETING

(a) PUBLIC/PRIVATE OPINIONS

N/A

(b) MARKET ACCEPTANCE/STUDIES

There are no market acceptance studies on Animal Biotechnology in Mozambique.