# Mozambique sees GMO crops as way to reduce poverty, achieve food security

Mozambique is exploring the use of biotech crops to boost food security following its successful field trials of genetically modified (GM) corn.

Since 2017, Mozambique has been conducting field trials of GM corn under the Water Efficient Maize for Africa (WEMA) project. Known now as TELA maize, the drought-tolerant, insect-resistant Bt corn variety has shown resistance to the stem/stalk borers that are considered one of corn's most deadly pests. Bt corn has also shown promising resistance to the destructive fall armyworm pest, which continues to endanger Africa's food security.

Though TELA maize has yet to be commercialized and made available to farmers in Mozambique, the country is already looking to introduce other biotech crops.

"In addition, Mozambique is considering using innovative biotechnologies in product development, such as disease diagnoses on animals (Newcastle disease) and plants (cassava, tomato viruses) and biofortified crops, like orange sweet potatoes," the annual agricultural biotechnology report published by the United States Department of Agriculture's (USDA) Foreign Agriculture Services (FAS) and the Global Agricultural Information Network (GAIN), noted.

"Animal genetic improvement, biodiversity studies on forestry and poultry studies are other innovative biotechnologies that Mozambique is considering," added the report, which was published last month.

The WEMA varieties in Mozambique are being developed through a public-private collaboration between the International Maize and Wheat Improvement Center (CIMMYT) and government research institutions in seven African nations: Mozambique, Kenya, South Africa, Tanzania, Uganda, Ethiopia and Nigeria. WEMA/TELA is intended to support food security in sub-Saharan Africa by developing drought-tolerant and pest-resistant corn varieties through the use of biotechnology and conventional breeding.

The GAIN reported noted that the project is in line with the Mozambican government's agricultural strategy to augment agricultural production and productivity with the use of modern technologies.

The report went on to state that the government of Mozambique "acknowledges the contribution that modern biotechnology can make to meet critical needs for food and nutritional security" and "is committed to adopting new agricultural technologies to reduce hunger and poverty by increasing agricultural production. The government understands that this is only possible if the country adopts new agricultural technologies, including biotechnology.

"At the same time, the government also recognizes that the development of modern biotechnology needs to go together with appropriate regulations in order to maximize the benefits while minimizing potential risks," the report observed. Mozambique has had biosafety regulations in place since 2007.

Mozambique currently allows the import of GM crops intended for direct use as food, feed or for processing, with approval from the National Biosafety Authority. Some food products imported from South

Africa do contain genetically modified ingredients.

Achieving poverty reduction and food security through improved agricultural practices is a major initiative in Mozambique, where 80 percent of the approximately 29 million residents engage in active farming for their livelihood and about 64 percent of the population is food insecure. In the southern part of the country, the prevalence of food insecurity reaches 75 percent. Up to 55 percent of the population lives in poverty, and 40 percent of the citizens are undernourished. Mozambique also experiences frequent natural disasters, including droughts and floods. Between 1994 and 1996, droughts impacted about 1.5 million people in the southern and central parts of the country, while about 2 million people were negatively impacted by floods in 2000.

Members of the public in Mozambique expect the planned introduction of GM crops will help the country deal with the challenges of plant pests and diseases and boost food security. GM corn, for example, can increase yields by up to 50 percent, according to a research conducted by the Mozambique Agricultural Research Institute.

However, the USDA/GAIN report raised concerns that “public opinion shows a total lack of knowledge about genetic engineering and biotechnology in general” and noted that “widespread awareness through outreach programs and capacity building among civil society and subsistence farmers is required.”

Celso Laice, Mozambique’s permanent secretary at the Ministry of Science and Technology, recently disclosed that Mozambique is working with other countries engaged in GM research to share experiences of both successes and failure, so as to adopt best practices.

“Publicizing the results of activities involving GMOs is one of the aspects covered by the regulations on biosecurity approved in a government decree of November 2014,” he said.

Laice also offered reassurances that the National Biosecurity Authority is working with other stakeholders to ensure “activities involving GMOs are undertaken in a safe and responsible manner” for the benefit of all Mozambicans.

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