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East Africa: South Africa Leads in GM Crops as EA Lags Behind

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12 April 2010

Nairobi — Despite being hailed as a possible answer to the nagging problem of food insecurity, genetically modified crops have yet to be adopted by East African countries on a large scale.

With reduced requirements for farm inputs and increased yields per unit area, genetic engineering, a modern form of biotechnology, could transform the sector by significantly reducing production costs and consequently lowering food prices.

Experts say biotechnology can address some challenges facing agricultural production including drought, declining farm sizes, low soil fertility, weeds, pests and diseases as well as expensive inputs.

However, the region still lags behind the rest of Africa where the technology has been adopted for the commercial growing of maize, soybean and cotton.

Latest figures indicate that South Africa leads the rest of the continent with a cultivated area of up to two million hectares.

Other countries where the new technology is catching on fast are Burkina Faso, which already has 115,000 hectares of cotton and Egypt with 1,000 hectares of maize.

According to the 2009 Report on Global Status of Biotechnology/ Genetically Modified Crops prepared by the International Service for the Acquisition of Agri-Biotech Applications (ISAAA), China, Brazil, Argentina and India are the top producers of genetically modified food crops in the world.

The head of biotechnology research at the Kenya Agricultural Research Institute Simon Gichuki said all East African countries are currently conducting field trials.

Besides genetic engineering, other forms of biotechnology include tissue culture and molecular characterisation.

"We are still at the stage of getting technology and most countries in the region are at the initial stages of research before commercialisation," added Charles Waturu the director of Kari's Thika research station.

Apart from making agriculture a cheaper venture for farmers and lowering food prices for consumers, the production of genetically modified crops would reduce the amount of pesticides and other chemicals released into the environment.

Dr Waturu explained that for biotechnology cotton, farmers only need to spray their crops thrice, instead of the 12 times required for normal crops.

The enhanced output per unit area cultivated would also reduce the need to clear forests to open up new farmland.

Yet despite these benefits, East African countries are still dragging their feet in adopting the commercial production of genetically modified crops.

This arises from concerns over safety of genetically modified food crops, fears over its impact on gene flow and biodiversity as well as ownership of property rights.

The ISAAA report however dismisses these fears, saying genetically modified food is safe, its cultivation conserves biodiversity through co-existence and only targets specific organisms.

Although the Biosafety Act that provides the legal and institutional framework for the adoption of modern biotechnology was assented into law in Kenya over a year ago, it is yet to be operationalised.

The acting chairperson of the National Biosafety Committee, Miriam Kinyua, said that for the Biosafety Act to function it must have its regulations gazetted.

"It has been a challenging task for the committee but we have gone through all regulations. We are now waiting for a stakeholders meeting to approve them," Prof Kinyua said.

However, the absence of the regulations, this does not hamper biotechnology research.

This is anchored in several legislations including the Science Act, Kari Act and other regulations on seeds, plant health and quarantine.

"What we do not have are regulations to take the technology from confinement to farmers' fields, commercialise it," Dr Gichuki said.

Apart from the laws, adoption of biotechnology is also hampered by insufficient funding of research by governments.

In Kenya, for instance, many biotechnology studies on disease resistant sweet potatoes, cassava and insect resistant maize have ground to a halt at different stages due to lack of funds.

However, Dr Gichuki insists that this does not mean that there is no political will to support adoption of modern biotechnology.

"Political will was demonstrated by the passing of the Biosafety Act and the official opening of biosafety laboratories by the president. There is government funding but it is not enough," he said, adding that most biotechnology activities across the world are private sector led and are motivated by profits since the public sector has other consideration.

Dr Gichuki estimates the cost of carrying out a complete study on a crop at \$20 million.

"Private firms take up such projects if it is a high value crop since they are assured of recovering their money," he said.

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