THE REPUBLIC OF UGANDA

Biotechnology will transform our economy and our health

The National Biotechnology and Biosafety Bill must be enacted without further delay

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The President of Uganda, H.E. Yoweri Kaguta Museveni, started this process in February 2003 when he set up the AYUME Committee to determine Uganda's position on GM foods. Later in 2003, the President commissioned the National Biotechnology Laboratory at Kawanda in 2003. Thereafter the Government of Uganda started supporting biotechnology research and development of the policy and legal environment. In the last 15 years, the Government has committed more than 20 billion Uganda Shillings toward building human and infrastructural capacity to use modern biotechnology. In 2008, the President opened the first private biotechnology laboratory, Agro-Genetic Technologies (AGT).

The Biotechnology and Biosafety Policy was approved by Cabinet in 2008 from which an implementing law was drafted and tabled in Parliament in February 2013. Consultations have been conducted by Parliament with all key stakeholders and a comprehensive report tabled in November 2013. In addition, a lot of sensitization has been done by different stakeholders focusing on MPS, farmers, religious leaders, media actors, women leaders, and the youth. Consensus from the consultations is that this law is necessary NOW. During the last World Food Day celebrations on 16th October 2015, at Kyembogo in Kabarole district, the President urged lawmakers to support passage of this important law to facilitate the work of our scientists to solve the challenges faced by our farmers.



H.E. Y. K. Museveni viewing through a microscope after officially opening the National Biotechnology Center at Kawanda, 2003.

But why do we need a biosafety law now?

1 Our farmers continue to suffer tremendous economic losses and food insecurity resulting from manageable stresses such as pests, diseases and drought including those shown in the pictures below.

National scientists at NARO have identified use of various measures including crop management and use of quality seed some to address these problems. Biotechnology has been identified as the best solution for some of the very difficult challenges in crops like banana bacterial wilt, viruses in cassava, drought in maize and rice.

These products are awaiting a law to move the products to farmers.



LEFT: Bacterial wilt diseased banana causing Uganda an estimated annual loss of over 600 billion Shillings. Right: Bacterial wilt resistant banana tested at NaCRRI, Kawanda



LEFT: Brown streak diseased cassava causing Uganda an estimated annual loss of over 50 billion Shillings. Right: Brown streak resistant cassava tested at NaCRRI, Namulonge

2 The Government has already licensed more than 50 medical preparations (drugs) and more than 10 test kits derived from genetic modification techniques. The most common examples include insulin for managing diabetes, Hepatitis B vaccine, growth hormones, ARVs for management of HIV. Research is also ongoing on HIV vaccines using genetic modification.



Left: Diabetics medicine developed using GM technology. Right: HIV vaccine developed using GM technology

3 Over 10,000,000 farmers, extension workers, NGOs, civil society, community and religious leaders, scientists, youth, educators, regulators and policy makers appreciate the relevance and urgency of the law to regulate use of biotechnology and its products in the country.

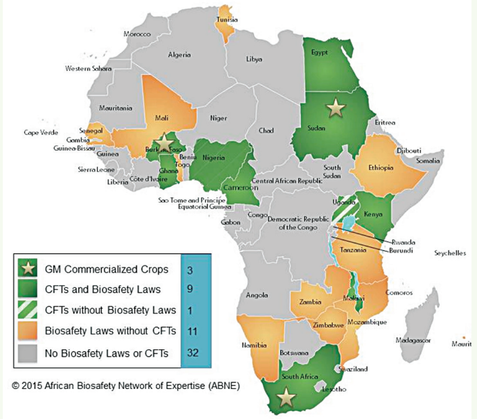


Hon. MPs listen carefully to a farmer as she explains symptoms of banana bacterial wilt disease in Masaka district, February 2015



Part of the Laboratory building

5 Uganda is the only country in Africa carrying out biotechnology research in the absence of a law, yet we have the largest number of crops under testing including banana, cassava, maize, potato, rice and sweetpotato.
Our neighbors and major trading partners have put in place laws and regulations to regulate use of modern biotechnology products.
These products will soon enter our country in an unregulated manner. For instance the Government of Kenya in February 2016 approved GMO maize to be used.



Map of Africa showing Countries that have Biosafety Laws (Green and orange highlights)

4 Our Country has invested in developing biotechnology capacity across sectors for regulation and application. The country has trained specialized scientists and build infrastructural capacity to use biotechnology tools to transform agriculture, health, industry and manage our environment.



Young scientists that are training in biotechnology research and development, Oct 2015

Common concerns associated with GM crops

1. **Are approved GM crops and foods safe for human consumption?**
Yes. The World Health Organization (WHO), Food and Agriculture Organization (FAO), American Medical Association (AMA), European Food Safety Association and a broad range of other scientists agree that GM foods currently on the market are as safe as the non-GM foods.

2. **Will GM crops lead to loss of indigenous biodiversity?**
With or without the use of biotechnology products, our biodiversity is being lost due to climatic stresses, diseases and pests requiring farmers to opt for new varieties. As such, Government has established several gene banks and community seed banks to preserve our indigenous biodiversity.

3. **Can GM crops be replanted by farmers?**
Yes. The GM technology per se does not prevent seed from growing again.
Other breeding tools like hybrid technology are the ones that recommend buying of new seed every year. If GM technology is used for clonally grown crops like banana, cassava and sweetpotato then the issue of buying new seed per year does not arise.

4. **Will Uganda's agriculture be controlled by big seed companies?**
Uganda has a free economy and in the case of GM seeds, farmers will choose what works for them. The National Agricultural Research Organisation (NARO) has in the past 22 years released more than 1000 varieties of different crops for farmers and continues to develop different varieties options desired by the farmers.

5. **Are we already consuming GMOs products in Uganda?**
Yes. There are foods, beverages and drugs in our supermarkets, shops and pharmacies that contain GMOs ingredients.

All these products are imported from elsewhere unregulated and we are consuming them. The National Biosafety law and its implementing regulations are intended to provide this regulatory framework.



The Label shows that this cereal product contains 90% GM Maize. This photo was taken in one of Uganda's Supermarkets

Our prayer to Members of Parliament and responsible Ministers

Uganda must enact the National Biotechnology and Biosafety Bill without any further delay. This law will provide for adequate regulatory mechanism such that the public and consumers are protected from any potential risks from biotechnology use while benefits of this technology are optimized. This can only be achieved through enacting a law that regulates every player in the biotechnology sector.

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