

# Kenya Approves Biosafety Law

David Wafula, PBS-Kenya

After rigorous and extensive stakeholder consultations since 2002, the Kenyan Parliament overwhelmingly passed the Biosafety Bill on December 9, 2008. The Bill was supported by Cabinet ministers and other parliamentarians who debated it from a highly informed perspective. The Bill is a fundamental instrument to comply with requirements of the Cartagena Protocol on Biosafety and safeguard Kenyans against unintended use of genetically modified organisms (GMOs) especially transboundary movements. Minister for Agriculture William Ruto said that “The benefits arising out of the Bill are enormous. It gives this country a comprehensive and coordinated manner in which to tap benefits from research and enhance self sufficiency in food production”.

The law seeks to facilitate responsible research and commerce in GM products through a transparent science-based and predictable process. Contributing to the debate, Minister for Higher Education, Science and Technology Sally Kosgey stressed “We should not be afraid of science or be afraid to move forward. The country

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is struggling for food and we want to get our scientists not to live in Geneva and elsewhere, but to have the protection of the law and do research here in their own country”. In her concluding remarks and vote of thanks Dr. Kosgey cautioned the media against sensationalizing matters of national interest but instead to consult and cover issues objectively and in a balanced manner.

In recognizing her efforts, Minister for Lands James Orengo said “I just want to note the able manner in which the Minister has piloted this Bill through the three stages, and the mode of consensus that has been achieved during the debate in the House.

I believe that if some of us can follow her footsteps, business in the House will be undertaken very expeditiously.”

The bill was signed into law by President Mwai Kibaki on Feb. 12, 2009 and once gazetted, modalities of establishing the National Biosafety Authority (NBA) will be initiated to steer regulatory approvals and decision-making in moving on-going confined field trials of GM insect-resistant cotton, maize and other products to the next level of commercialization. The passing of the Bill is a major milestone because of the strategic importance of Kenya in Africa and the international community.

The country now joins the ranks of other African countries that have enacted biosafety laws including Cameroon, Tanzania, Malawi, Mauritius, South Africa, Burkina Faso, Namibia, Mali and Zimbabwe. In September 2008, the government launched a five-year National Biotechnology Awareness Strategy (BioAWARE-Kenya) as a mechanism for improving public understanding and awareness of biotechnology through dissemination of accurate, timely and balanced information.

## EDITORIAL:

# Kenya Biosafety Law-Congratulations!

**Theresa Sengooba, PBS**

The Parliament of Kenya recently passed a Biosafety Law to regulate and guide research and development in modern biotechnology. We congratulate the people of Kenya on this achievement and look forward for resourceful and responsible application of modern biotech for the benefit of this country and beyond. Other countries in the region ought to emulate Kenya in this endeavour. Mali also recently approved its Biosafety laws and joined other African countries including South Africa, Mauritius, Malawi, Zimbabwe, and Zambia that have enacted laws to govern research and deployment of modern biotech. Tanzania already has a law on modern biotech that is incorporated into its NEMA Act. Uganda is in the process of finalizing its Biotech bill following endorsement of the Biotech policy in April 2008.

It is critical to have Biosafety laws for the different countries in the eastern Africa region because trade and other informal movements of agricultural products go beyond country borders. For instance, seed produced in Uganda is traded in Tanzania, Rwanda, Sudan and DR Congo among others. Similarly, Uganda imports large quantities of seed from Kenya, notably maize and vegetable seeds. Food grain trade between Uganda and other countries in the region is widespread. Control of transboundary movement of such products can only be regulated through enabling laws that protect scientists, traders and consumers alike as well as promote the safe use of the technologies.

Uganda's cabinet last year approved a National Biotechnology and Biosafety Policy but a law is needed for effective application of this policy. The policy, under Section 5.3, mandates the government of Uganda to enact a law for its implementation. The law will clearly spell out the institutional mandates, functions and administrative roles for effective and safe application of biotechnology in the country's development. The benefits of emerging technologies can only be realised when guiding laws are formulated to promote capacity building and the judicious use of these technologies. Modern biotechnologies have documented benefits that Uganda is positioned to enjoy but all efforts in this regard will be fruitless unless proper legislations are formulated and implemented.

# WEMA research underway in Africa



**Maize field under severe drought stress, losses can reach 100%. Photo Courtesy of Godfrey Asea**

**Herbert Oloka, PBS**

The National Agricultural Research Organisation (NARO) has begun research on drought tolerant maize. The project dubbed 'Water efficient maize for Africa' is spearheaded by the African Agricultural Technology Foundation (AATF) and is a collaborative venture among public research institutions and private companies. Kenya, Tanzania and South Africa are the other countries where the research will be conducted.

The project was conceived after severe droughts affected maize production (that supports a third of Africa's population) in several countries in the past 10 years.

The WEMA team will use both conventional breeding methods and biotechnology tools in developing drought tolerant maize varieties. The varieties are to be given to farmers free of royalties. Other key partner institutions are National agricultural research systems in Kenya, South Africa, and Tanzania; International Maize and Wheat Improvement Centre (CIMMYT), and Monsanto. The project is funded by the Bill and Melinda Gates Foundation and the Howard G. Buffet Foundation who have pledged US \$ 47m for this research. The first varieties, from conventional breeding techniques, are expected after six to seven years while the transgenic varieties may be available after 8 years depending on the success of the technology as well as regulatory factors.

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Dr. Godfrey Asea the principal investigator for the project in Uganda expects a boost in maize production of over 10% as it would provide insurance against crop failure. In Uganda, the research will be conducted in the districts of Kasese and Sembabule, that experience periodic drought.

# Farmer reaps from tissue culture bananas

## PBS

"I now make an additional three million shillings annually from my banana garden" Said Mr. Festo Musoke, a farmer from Mukono district, central Uganda. Mr. Musoke was sharing his experiences with other farmers, scientists, policy makers, regulators and journalists during a recent biotechnology forum in Kampala. He is the first beneficiary of tissue cultured bananas in the district and has been cultivating them for over four years.

The workshop, organised by Uganda National Council for Science and Technology (UNCST), Uganda National Farmers Federation (UNFFE), African Agricultural Technology Foundation and Program for Biosafety Systems, enabled farmers to interact directly with key biotechnology scientists and stakeholders in Uganda.

Farmer representatives from all over the country attended the workshop and many requested the scientists to disseminate information on biotechnology to them as they receive conflicting information from different sources. The forum focussed on tissue culture but farmers were able to voice their concerns about biotechnology in general. Tissue culture is a biotechnology tool that can be used to mass propagate disease free planting materials of various crops including banana, a staple among millions of Ugandans.

The lack of legislation on biotechnology was identified as a major limiting factor in the development and deployment of safe modern biotech products in the country. The farmers challenged Members of Parliament to hasten the Biosafety Bill formulation to protect farmers and research scientists, "...bring it up as private members bill if the government is delaying.." added Mr. Chebet Maikut, a farmer from Kapchorwa.

Hon. Olive Wonekha, Chairperson Parliamentary Committee on Agriculture, Animal Industry and Fisheries, said that efforts in biotechnology should be linked to current global challenges such as rising food prices. Biotechnology should be geared to address some of these issues as people will appreciate its role in the country.

The workshop also celebrated the first anniversary of the Open Forum on Agricultural Biotechnology in Africa (OFAB) and was graced with the presence

of Prof. Eucharia Kenya, from University of Nairobi. Prof. Kenya urged Uganda to set biotechnology goals as a nation in its development plans.

Hon. Frank Tumwebaze the president of UNFFE, informed farmers that the federation is currently working on mechanisms to distribute biotechnology related information to farmers in the country. This, he added, will enhance understanding of modern biotechnology so that farmers can make informed decisions. UNFFE is aiming at linking scientists directly to farmers to address some questions regarding biotechnology that may arise.



**Mr. Festo Musoke**



**Farmers observe a banana tissue culture plantlet.**

*Photo courtesy of Edward Tujunirwe*

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the Bt cotton study.

The resource persons included experienced scientists and regulators from Uganda and the USA. Participants were trained in various aspects of confinement including the need for biotechnology regulation, material confinement, standard operating procedures, contingency planning and management and communication of CFT activities. Jeff Stein, a Biosafety specialist from the Donald Danforth Plant Science Center, said CFTs are

essential in developing GM crops that are adapted to local conditions and such trials can be performed safely and routinely by enforcing proper material and genetic confinement measures. Participants also heard experiences from the banana CFT at Kawanda presently in the second year of study. A team from Malawi, consisting of regulators, scientists and environmentalists also attended the training as the Malawi government recently approved GM cotton trials to be conducted in the country.

# Biotech corner opens at the Parliament Library

**Olive Nabukonde**

A biotechnology information corner has been established within the Uganda Parliamentary Library. The corner will stock books and other relevant documents on the subject. The bulk of the materials are expected to come from within the country, the region and Africa in general. Ugandan scientists and the International Service for the Acquisition of Agri-biotech Application (ISAAA) - Africa Centre based in Nairobi have already donated a wide range of books, published papers, manuals, leaflets, etc. to initiate this information resource.

Given the atmosphere of heightened expectations and misgivings about biotechnology, particularly the genetically modified organisms (GMO), the government of Uganda has to work within its national framework and international laws to draw up regulations and guidelines on a range of issues, which include the following:

1. Research involving GM materials and products; 2. Importation of GM food products; 3. Industrial and food crops that may be GM. How can government regulate GM crops to minimize risks if there are any? And what should be the government's strategy on research in GM technology for crops and industrial development? These and other issues related to research and development of biotechnology have to be decided by the competent authority under the

guidance of government policies and regulations. Before parliament begins debate on the Biotechnology and Biosafety Law, members require accessible and accurate information so that they can enhance their knowledge on the subject and debate from an informed position.

The first consignment of books and other reading materials were handed over to Mr. Innocent Rugambwa, Director, Library and Research Services, Parliament of Uganda, by Dr. Theresa Sengooba, Regional coordinator PBS - East Africa, on behalf of ISAAA. Mr. Rugambwa appreciated the contribution by ISAAA saying the Biotech Corner was timely and will make an excellent reference point for the concerned Members of Parliament.

Dr. Sengooba said the donation of Books on Biotechnology follows a series of Open Forums on Agricultural Biotechnology organized by Uganda National Council for Science and Technology, PBS and other stakeholders to further the public understanding of the science and research on biotechnology. The Forums are held monthly and bring together Members of Parliament, representatives of the civil society, researchers, farmers, development partners and students from institutions of higher learning. The biotech corner will be regularly updated with new and additional materials from various sources.

## Biotech News

## Italy approves GM Field Trials

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"A glimmer opens, after ten years of darkness, for field trials of biotech crops." This is how a leading farm weekly magazine, "Agrisole" starts its press release, announcing the approval of the biotech field test protocols by the State-Regions Conference—a special body of representatives from the federal government and each of the 20 Italian regions that addresses issues of mutual interest. The path to this approval has not been easy. For a number of years, both public and private institutions have not been allowed to conduct research on biotech crops in Italy.

By law, approval must first come from a special committee of ten members, comprised of two representatives from the Ministry of Agriculture, two from the Ministry of Environment, and six from the regions, followed by approval of the State-regions Conference.

In 2007, the Ministry of Agriculture passed a Ministerial decree, endorsed by the special committee, approving protocols to re-start biotech field trials, which had been stopped for a number of years. But the decree was opposed by the Minister of Environment, Alfonso Pecoraro Scanio, who also was the leader of Italy's Green party.

Last August, the new Minister of Environment, Stefania Prestigiacomo, endorsed the above protocols, which were then approved by the State-Regions Conference. The Ministerial decree is now waiting for the final signature from Minister of Agriculture Zaia, after which it will be published in the Official Gazette. Although Zaia has publicly maintained a strong opposition to agricultural biotechnology, most observers expect him to sign the decree.

Nine protocols were approved; one each for kiwis, citrus, sweet cherries, strawberries, corn, egg plants, olives, tomatoes, and grapes. The decree leaves it up to each region to develop implementing regulations, including the authority to adopt even more restrictive measures than the original protocols in order "to reduce the risk of contamination." Although most Italian regions have declared themselves to be "GM-free," some regions appear open to the biotech trials, including Lombardy, Veneto, and Emilia-Romagna—all located in northern Italy.

The nine protocols all include stringent measures to prevent any "contamination" to conventional agriculture. Examples of these measures include the required use of anti-birds nets over GM kiwi-trees, a minimum distance of 1,000 meters between biotech and conventional corn fields, hand harvesting of biotech corn, and, in some cases, sterilization of the soil and incineration of the residues. Furthermore the trial fields must remain idle for up to three years following the trials.

While the approval of these protocols may be seen by many pro-biotech observers as a positive step, most Italian scientists remain skeptical about the actual significance of his decree. In their view, too many constraints exist to make field tests practical. In fact, many research centers have abandoned agricultural biotechnology research because there is little likelihood that any farm in Italy will be able to benefit from such research any time soon. On the other side, environmental groups have protested against the approval of the protocols, reiterating their concerns about the possible contamination.



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