Common concerns associated with introduction of GM crops in Uganda

1. Impact of GM Crops on human health:

- 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.
- But we need our Government to regulate to ensure that all foods (GMOs or non-GMOs) on the market are safe to eat.
- The proposed Biosafety law will ensure that modern biotechnology products are tested and deemed fit for human consumption.

2. Impact of GM Crops on indigenous bio-diversity:

- Our indigenous seeds are part of bio-diversity and our heritage and are very critical for our current and future survival.
- Under the proposed law, *no activity involving biotechnology shall be conducted if it poses any significant threat to our environment, livelihoods, bio-diversity, or health*.
- With or without the use of biotechnology products, our diversity is being lost due to climatic stresses, diseases and pests requiring farmers to opt for new varieties. As such, Government has established some gene banks and community seed banks.

3. Mixing of GM pollen with non-GM crops in neighbouring farms:

- Cross pollination within a crop species is a natural phenomenon and happens for crops such as maize that naturally is cross pollinated. It does not happen for crops such as rice, banana, cassava, millet, and beans.
- The regulatory system will not approve environmental release of biotechnology products that have negative impact on other plants. Coexistence of different kinds of crops has been accomplished through zoning, sensible farming practices may also be considers to cater for different regional preferences.
- Our *Constitution*, the supreme law in the country, under *Article 50* guarantees any person the power to seek redress from courts of law if they believe any right or freedom has been infringed.

4. Multinational control of the seed industry:

- Our farmers must never be compelled to procure any particular type of seed and the government has ensured through the years that farmers have adequate choice on varieties for each crop.
- The National Agricultural Research Organisation has in the past 27 years released more than *1000 varieties of different crops for farmers* and continues to conduct conventional research for farmers.

- Farmers always have the right to save their seed for subsequent seasons and the science of genetic modification does not forbid seed saving. The hybrid technology is what recommends buying of new seed every year.

5. GM crops result in development of resistant weeds to chemicals:

- This is true for herbicide tolerant GM crops especially in environments where herbicide use was originally not a common practice. Increase in glyphosate-resistant weeds have been reported in Brazil, Australia, Argentina and Paraguay.

- For sustainable agriculture, using an integrated weed management system that including timely application of herbicides is still more efficient than ploughing and tilling the soil, and is less environmentally damaging (Gilbert, 2013[a]).

- The proposed law mandates the regulators to conduct a cost-benefit analysis before environmental release of any herbicide tolerant GM crop.

6. GM crops will have negative impacts on beneficial insects like bees:

- Prior to release of GM crops with insecticidal effects, a safety assessment is conducted to determine their impact on various beneficial insects.

- Effect of Insect resistance GM crops on beneficial insects is less than application of broad spectrum pesticides because their effects is more specific.

- Use of insect resistant GM crops has resulted in less application of broad spectrum pesticides thus increase in insect biodiversity in GM crop fields (Lu *et al*., 2012[b]).

7. The proposed law does not cover labelling of GMOs:

- The proposed law provides for labelling/product identification.

- The Committee on Science and Technology has further made recommendations to clarify labelling of products of biotechnology.

- Special labelling of food is required if a food allergen is introduced, the nutritional content is changed or there is any other substantial changes to the food's composition.

8. Biotechnology or GM technology is not a panacea or magic bullet

- No single technology or activity can indeed remedy all farming challenges. *An integrated approach is needed that will address production constraints including supply of good seed, water and soil management, improved post-harvest handling and marketing and* among others.

- Biotechnology is one of many tools used to provide better seed or planting materials.

- NARO is very aware that biotechnology or GM technology is not a panacea for all our challenges and it continues to implement several approaches in curbing farming challenges.

[a] http://www.nature.com/news/case-studies-a-hard-look-at-gm-crops-1.12907

[b] http://www.nature.com/nature/journal/vaop/ncurrent/abs/nature11153.html?message-global=remove

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