

WORKSHOP REPORT

“STRENGTHENING UNDERSTANDING OF BIOTECHNOLOGY AMONG STAKEHOLDERS IN UGANDA”



**ORGANIZED BY PROGRAM FOR BIOSAFETY SYSTEMS (PBS) AND UGANDA
NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY (UNCST)**

**HELD AT LAKE VIEW HOTEL, MBARARA
24-25TH MAY 2007**

31ST MAY 2007

Background

Biotechnology is making contributions to medicine, energy, foods, chemicals, materials, waste control, environmental management and agriculture. Application of agricultural biotechnology can help increase the nutritive-value and productivity thus reducing malnutrition, food insecurity and poverty within Uganda. Substantial achievements are being recorded with this technology in some developing and developed countries and Uganda cannot simply ignore such developments. However the global debate about biotechnology has made it very controversial which has left many stakeholders unclear and undecided particularly on the subject of genetically modified organisms (GMOs). It is therefore important for Uganda to bring all stakeholders on board as we analyze, communicate and advance biotechnology application in this country.

This workshop was organized by Program for Biosafety Systems (PBS) a USAID funded project and Uganda National Council on Science and Technology (UNCST) to contribute towards addressing the above challenge. The aim of the workshop was to strengthen the capacity of journalists and extension workers to communicate and advise on biotechnology in a more confident and credible manner to the public. The workshop targeted 50 participants including journalists, extension workers and farmer leaders from Mbarara, Bushenyi, Ntungamo, Rukungiri, Kisoro, Kabaale, Kasese, Kabarole, Bundibugyo, Kyenjojo, Kibale, Hoima, Masaka and Rakai districts.

Specific Objectives

1. Enhance the knowledge capacities on biotechnology with a focus on the status and its relevance in Uganda;
2. Provide an opportunity to discuss benefits and concerns about biotechnology;
3. Provide an opportunity for interaction of media and scientists; and
4. Enhance skills of communicating biotechnology.

Expected outcomes

1. Critical mass of well informed journalists and extension workers on biotechnology established.
2. Credible biotechnology reporting increased.
3. Relationship between scientists and media improved.
4. Newspaper articles.

Opening Session

Ms. Beatrice Byarugaba, the Mbarara District Production Officer chaired the opening and the first session. In her remarks she welcomed participants to Mbarara and she hoped that by the end of the workshop the fears the participants had about biotechnology will be cleared so that they can competently disseminate information about the technology. Barbara Mugwanya on behalf of Program for Biosafety Systems (PBS) and Uganda National Council for Science and Technology (UNCST) welcomed participants to the workshop and gave a brief on the workshop objectives and expected outcomes. Introduction of participants were made by name and the institutions they represented.

Presentations Sessions

Presentations were made according to the Program (Annex 1). Participants visited the Mbarara Agricultural Research and Development Centre (ARDC) where they were shown the banana germplasm conservation field. This helped to clear one of their major concerns, which was loss of biodiversity due to biotechnology adoption.



Participants at Mbarara ARDC: Banana germplasm conservation ex situ

Follow-on discussions:

General Biotechnology

1. Is there natural genetic modifications? *No, genetic modification is a result of human intervention.*
2. There is need to differentiate between biotechnology and GMOs. Currently people are comfortable with utilizing biotech tools such as artificial insemination and tissue culture, the controversy come with GMOs.
3. What is Nanotechnology? *Nanotechnology is the technology of building devices at molecular level. Nanotechnology is not biotechnology.*
4. Is there capacity building during conducting of research on biotechnology? *Yes, a lot of M. Sc., PhD and post doctoral training are going on at the different laboratories.*
5. How are farmers supposed to handle the new responsibilities that come with new technologies such as biotech? *Farmers will have to be trained on the cost-benefit implications and other requirements, and then they will decide whether to adopt the technology.*

Human health Biotechnology

6. Isn't there a likelihood of genes moving from the food to human beings? *There is no likelihood because during digestion the genes are degraded just like any other protein.*
7. What are the effects of GMOs on natural immunity of animals and humans? *In most cases GMOs such as vaccines help the body to develop immunity.*
8. Is it true that genetic engineering is responsible for HIV and that it was developed to wipe out Africans? *That is not true because the first cases of HIV were reported in gay Americans and the virus is thought to have originated from has been found in wild chimpanzees living in southern Cameroon.*

Crop Biotechnology

9. You said that there are no GM crops grown in Uganda, then where are the GM crops developed in Kawanda tested? *The GM crops developed in Kawanda are still at laboratory level. However, there are some GM bananas that are imported from Belgium that will arrive in Uganda next week. These GM bananas are going to be tested under confined field trials in Kawanda.*

10. Why are you importing GM bananas, why not develop them from Uganda? *The GM bananas that are going to be imported were transformed by a Ugandan during his PhD studentship at Katholieke Universiteit Leuven (KUL) in Belgium. The cultivars are not Ugandan so we are going to import the technology to see if it works in Uganda. If it works then we shall transfer it to the popular East African Highland banana cultivars. We have the capacity to do this technology transfer.*
11. The current banana hybrids that are being distributed to farmers are not tasty, why don't you transfer to them the genes responsible for taste? *This is part of the banana improvement plan.*
12. Is yellow-fresh sweet potato distributed in Uganda a GM products? *No*
13. Won't the introduction of GM maize cause loss of the indigenous germplasm? *No, this is because germplasm conservation is already being done here at country level, in Zambia at regional level and in CIMMYT Mexico at international level.*
14. Do you need to buy seed every season when growing GM crops? *Yes and no. In case the GM crop is a hybrid seed crop then you have to buy seed. If it is a composite seed or vegetatively propagated crop then no.*
15. Is it possible to conduct tissue culture in less sophisticated conditions? *Perhaps, but I could suggest that you consider obtaining materials at stages that allow for easy packaging from the laboratories, then you wear them and sell to farmers for field planting.*
16. Feeding on organic food results in longer life so why not advocate for this? *This is not true, longer life is attributed to laughing a lot and eating a lot of vegetables. If it was true then all people who can afford could be eating organic food. Even in Europe organic food only constitutes less than 1% of the supermarkets.*
Organic farming is a situation where you put seed in the soil, apply compost or manure and never use any pesticides. Can we feed this country on organic farming? No. My advice is that a few farmers tap in the organic food market niche, but we consider other farming technologies for ensuring food security in the country.

Animal Biotechnology

17. Is there research to utilize the gene for swine fever resistance found in wild pigs? *Yes, sourcing for disease resistance always starts from the wild. There is on-going research at NALLRI*

Biosafety

18. Doesn't the delay in having a biosafety law make Uganda vulnerable to illegal importation of GMOs? *Yes it does and we have tried very hard to sensitize the policy-makers on this so that they put in place functional biosafety regulatory system.*
19. There is no function IP Protection in Uganda, will this not affect biotech adoption in the country? *Yes and no. If GMOs are produced from here then it will not affect the adoption. However, lack of IP Protection makes it very difficult for scientists to access foreign technologies.*

Communication

20. Since the inauguration of the Kawanda Biotech Centre, certain NGOs have been going around the region disseminating information about how bad biotechnology is, what took you so long to come and sensitize the public because the misconception is high? That is why we are here now. However, it is important to note that every technology starts with opposition e.g. mobile phones.
21. Just like anti-GMO activists do, proponents of GMOs should facilitate the media to disseminate information about the benefits of biotechnology so that there is a balance in information flow.
22. In order to ensure dissemination of biotech using mass media communication, there is need to target the heads of media houses who decide what is printed or aired-out. We have tried to do this but they always send representatives.

23. Please provide us with a contact for Kachwekano Tissue Culture lab so that we can start interacting with them. Dr. Imelda Kashaija - Mobile No: 256 0772 465070, kachwekanoardc@yahoo.com and Dr William Wagoire - Mobile No: 256 772 469815, wwagoire@infocom.co.ug
24. Can scientists find a way of simplifying the terminologies of biotech so that it is easy for us to disseminate the information at grassroot level? We are trying.
25. There is need for an outreach centre at each biotech research institute and UNCST. There is an outreach centre at UNCST and NARO contributes to it.

Closing

During the closing participants were provided with information materials on various issues of biotechnology including posters on "Understanding Biotechnology". Participants also took off time to evaluate the workshop (Annex 2). The workshop was adjourned at 12.30 pm.

Annex 1:

Program

Day 1: May 24th 2007

Chairperson: DAO Mbarara

8.30 – 9.00	Registration	Julie Namazzi
9.00 – 9.15	Welcoming remarks and Introductions	UNCST
9.15-9.45	Opening statement	LC V, Mbarara
9.45-10.30	Overview of Biotechnology and Biosafety	Barbara Mugwanya
10.30-11.00	COFFEE/TEA BREAK	
11.00 – 11.45	Biotechnology in Medicine	Dr. Thomas Egwang
11.45 – 12.30	Biotechnology in Crops	Dr. Yona Baguma
12.30 – 1.30	LUNCH BREAK	
2.00 – 5.00	Visit Mbarara ARDC	Dr. Steven Byenkya

Day 2: May 25th 2007

Chairperson: DAO, Bushenyi

8.30-9.15	Biotechnology in livestock	Dr. John Enyaru
9.15 – 10.00	Communicating biotechnology	Lilliane Barenzi
10.00 – 10.30	COFFEE/TEA BREAK	
10.30 – 12.00	Group Discussion of key Concerns and Messages	Moderator: Henry Kimera
12.00 -1.00	Presentation of Group work	
1.00 – 1.30	Wrap up and way forward	DAO, Masaka
1.30-2.00	LUNCH BREAK	

Annex 2

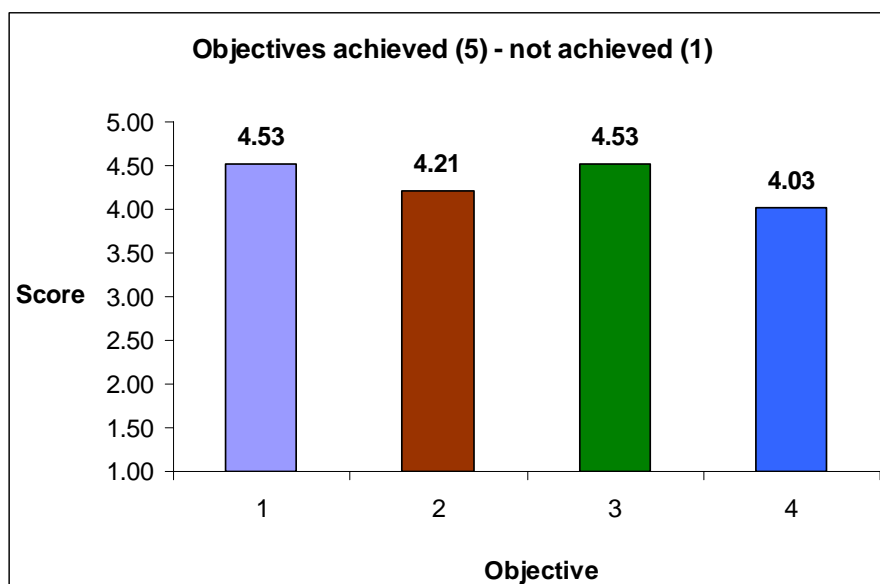
Evaluation Report

On the final day of the roundtable, an evaluation form was handed out to those present, and completed by a representative sample of 38 participants making 80% representation. The results are summarized below.

A. General	<p>In general, how would you rate the meeting?</p> <p><input type="checkbox"/> Excellent – 32% (14)</p> <p><input checked="" type="checkbox"/> Good – 68% (30)</p> <p><input type="checkbox"/> Average</p> <p><input type="checkbox"/> Fair</p> <p><input type="checkbox"/> Poor</p>	<p>On balance, would you say that the meeting's objectives were achieved?</p> <p><input checked="" type="checkbox"/> Yes – 95% (42)</p> <p><input type="checkbox"/> Partially – 5% (2)</p> <p><input type="checkbox"/> No</p>
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B. Objectives

The objectives of the Food Safety Workshop are listed below. The scale ranges from 1 (*the objective has not been achieved*), to 5 (*the objective has been achieved*).



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C. Presentations and Content

3 most useful session

- Overview of Biotechnology and Biosafety (17)
- **Biotechnology in Crops (19)**
- Biotechnology in livestock (9)

3 least useful session

- Biotechnology in Medicine (3)
- Visit Mbarara ARDC (4)
- Communicating biotechnology (4)
- **None (27)**

D. Strengths and weaknesses

Strengths

- General Organization (6)
- **Knowledgeable presenters (24)**
- Use of simple language (4)
- Participants selection (4)
- Provision of hand-outs (5)

Weaknesses

- **Short time allocated (26)**
- Participants should have included heads of media houses (3)
- Use of hard terminologies (4)

E. Additional topics What additional topics?

- Coexistence with organic farming
- **Environmental biotech (6)**
- Food Safety Issues

F. Comments Please use the space below to write down any additional comments r suggestions you might have

- **Strategies for disseminating the information through media (10)**
- Information should be disseminated regularly up-to at district level (8)
- Need for translated information for farmers (6)
- Refresher courses will be useful from time to time (4)
- Please target NGOs who are actively promoting the negative image of biotech e.g. Action-Aid (4)
- Workshops should also target secondary teachers (3)

Annex 3

Participants for Western Uganda

	Name	District	Designation	Contact
1	Buhinja Florence	Mbarara	Reporter New vision/Orumuri	0712743139 florence.buhinja@gmail.com
2	Mulindwa Sulayiman	Hoima	Agricultural Officer	0782547585 sulamuli@yahoo.com
3	Lubowa Joseph	Rakai	District Farmers' Coordinator	0772529862
4	Tumushabe Alfred	Mbarara	Journalist-Monitor	0712415525 tumushabealfred2004@yahoo.com
5	Vumiria Collins	Radio West	Chief News Editor	0772491816 vumiria@yahoo.com
6	Kasimbazi Joseph	Fort Portal	Ass. Head of marketing	kashjoseph@yahoo.com
7	Jeninah Tumushabe	Bushenyi	District Agricultural Officer	0712859914 tumushabejen@yahoo.com
8	Bugira Kamuhanda Charles	Kisoro	Chairman Farmers' Association	0774858979
9	Dr Thomas Egwang	Kampala	Med-biotech Laboratories Limited	0774655071 doublestrand2000@yahoo.com
10	Byabakama Charles	Rukungiri	Chairperson-Rukungiri District Farmers Association	0772625687
11	Natukunda Naome	Rukungiri	Coordinator-Rukungiri District Farmers Association	0782506268 natsnaome@yahoo.com
12	Anyine Fred	Mbarara	District Information Officer	0772324620 anyinefred@yahoo.com
13	Togo Kasoro	Kabarole	Marketer-Program Development (Voice of Tooro)	0752693531 kastogo@yahoo.com
14	Davis Rwamuhumba	Hoima	Journalist-Liberty FM/ Business Devt Manager	0782877259/0755 877259 davisrwam04@yahoo.com
15	Kirungi Moses	Hoima	Journalist-Liberty FM	Floribert21@yahoo.com 0782352456
16	Kakooko. I. Serapious	Bundibugyo	Chairman-District Farmers Organisation	0772669475

17	Kasangaki. C. B	Hoima	Coordinator-District Farmers Association	kasangaki@hotmail.com 0772608080
18	Akatwijuka Rogers	Kabale	District NAADS Coordinator	0772670508 akarogerz@yahoo.co.uk
19	Ssebadduka Richard	Masaka	District NAADS Coordinator	0752657800 ssebaddukarichard@yahoo.co.uk
20	Ssendi Walakaira Richard	Masaka	Chairpaerson-Farmers Fora	0752514971
21	Mutazindwa francis	Mbarara	Editorial Manager-Vision Radio	0772445091 mutaz_f@yahoo.co.uk
22	Ausi Balyesiima	Hoima	Deputy station Manager-Radio Hoima	0772362103 ausibalyesiima@yahoo.com
23	Dr Yona Baguma	Wakiso	Senior Research Officer	0772930185 ybaguma@naro-ug.org
24	Fred Turyakira	Mbarara	Reporter-Orumuri	0772888665 turyakira@gmail.com
25	Kipura Zalot	Kasese	Coordinator-Kasese District Farmers Assoc	0782443675 zkipura@yahoo.co.uk kasesedfa@yahoo.com
26	Masika Annet	Kasese	Sub/county NAADS Coordinator	0772938699 masannet75@yahoo.com
27	Muhenda Patrick Agaba	Kyenjojo	District NAADS Coordinator	0772658285 patricmuha@yahoo.com
28	Ndoleriire. A. R	Kabarole	Livestock Improvement Officer	0772514524
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30	Raymond Baguma	Mbarara	Bureau Chief-The New Vision	0782312136 rbaguma@gmail.com
31	Kasirye Sserwanga Richard	Mbarara	Ass Stations Manager-Greater African Radio	0772388240 richsseru@yahoo.co.uk
32	Yebangire Alex	Bushenyi	Coordinator-Bushenyi District Farmers Assoc	0782338660 yebalex@yahoo.com
33	Byarugaba Birungi Beatrice	Mbarara	District Production Officer	0772592050 byarubeatrice@yahoo.com
34	Moses Mutegyeki	Mbarara	Field Officer-Mbarara District Farmers Assoc	0782709030

35	Dr Senyonga Sebastine	Kiruhura	District NAADS Coordinator	0772875088/ 0712602838 senyongasebastine@yahoo.com
36	Bagahizi Jildus	Kisoro	Coordinator-Kisoro District Farmers Assoc	0772450009
37	Tumuryamye Alex	Rukungiri	Journalist-Radio Rukungiri	0782392086
38	Dr John C.K. Enyaru	Kampala	Assoc-Professor, Makerere University	0772220007 jenyaru@sci.mak.ac.ug
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50	Muhangi Sedrach	Mbarara	Field Officer	0752403776
51	Ndyanabo Peter	Kyenjojo	Field Adviser	0752407344
51	Barenzi Lilliane	Kampala	PBS, Communication Consultant	lbarenzi@monitor.co.ug 0782 731558
52	Julie Namazzi	Kampala	Research Assistant, MUK	0782 725273
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