



# PELUM UGANDA

## Workshop Report

On

## Seed Security and Genetically Modified Organisms (GMOs)

Prepared by: Sarah Mujabi Mujuzi and Moses Mulumba  
(Workshop Facilitators)

11<sup>th</sup>-12<sup>th</sup> May 2010  
Ministers' Village Hotel- Ntinda



## Table of Contents

Background and Rationale .....	2
Session Proceedings .....	3
Workshop Methodology .....	4
Participants' Fears and Expectations.....	4
Likes.....	4
Dislikes .....	5
If one had power to change something in the agricultural sector .....	6
Overview of the Seed Sector.....	7
The role of seed in agricultural development and farmer's livelihoods .....	7
The Evolution of Seed Sector .....	8
The trade and profit dynamics of the seed sector.....	9
Traditional seed management practices and seed banks .....	9
Issues arising:.....	9
Reactions.....	14
Seed-Related Policies.....	14
Observation, Recommendations and Conclusions.....	16
Plans of Action by Members .....	17

## Background and Rationale

PELUM Uganda appreciates that seeds are critical inputs to farmers because they are the first link in the food production chain. Whereas the small scale farmers who form the biggest proportion of the farmers on the planet had control over seed time immemorial, the trend is quickly changing. The control of seed is moving to multi-national companies, just because science has discovered potential means of increasing food production to match the growing demand from a quickly growing population. Multi-national companies have taken advantage of the changing world trade environment to invest in bio-technology to produce Genetically Modified Organisms (GMOs).

Whereas literature indicates benefits from use of GMOs, critics of the technology worry about the fact that it ignores social and environmental effects which are longer lasting affect large communities, and yet the biggest proposition of benefits accrue to the multinational companies as profit. Moreover, the science associated with seed and seed manipulation is not fully understood by many. This creates an information gap that makes decision making very irrational on part of farmers, farmer advisors, national planners, policy makers and pro-poor policy advocates. Against this background and the spirit of “Networking for a greener Africa”, this workshop was organized for PELUM member organizations with the following objectives:

- a) To enhance members' knowledge on seed security for food security
- b) To sensitize members on seed science, bio-technology and bio-safety and their implications to the small scale farmer and to sustainable agriculture
- b) To enhance knowledge of the existing seed related policies and draw a collective policy action on seed security and GMOs in Uganda.

It was hoped that the workshop shall enhance capacity of member organizations and their affiliate small holder farmers in seed security, seed saving, and management and multiplication practices.

## Session Proceedings

This is a report of the workshop proceedings for day 1 (11<sup>th</sup> May 2010). The workshop schedule for the day started at 8:30am, ending at 5:00pm. Day 1 was attended by 25 participants of whom 12 were females and 13 were males from 21 member organizations. Welcome remarks were given by the

Country Coordinator PELUM Uganda, followed by self introductions so that members got to know each other. The workshop was officially opened by the Chairperson of PELUM Uganda, with a call to members to uphold the theme “Networking for a greener Africa”. The Country Coordinator PELUM Uganda gave an overview of the workshop, highlighting the need for member organizations to have a common stand on GMOs and take a decision on how to handle advocacy on seed security in order to contribute to national food security.

### **Workshop Methodology**

The presentation was participatory in nature with a mix of presentations and discussions including feedback on a number of issues. The participants had the opportunity to express their views on the issues presented before power point slides were displayed on the areas of focus. The PowerPoint slides had been made available for distribution to the participants.

### **Participants’ Fears and Expectations**

Participants were requested to write on sheets of papers from their note books answering the following questions;

- What one likes most
- What one does not like
- What if one had power, what would she /he change in the agricultural sector.

The following were the responses as presented by the participants;

#### **Likes**

- Seeing farmers empowered
- Abuse
- Reading, health, happy people, flexibilities and freedom to be creative and talk
- Farmers to get money from their products
- Seeing other people live in peace
- Facilitators to be straight to the point
- Time management
- Active participation

- When farmers get what is worth of their effort
- My family
- Meeting new friends
- Having fun with friends
- Seeing my daughter
- Peace
- Being with my friends
- Learning new things
- When my objectives are met at the end of the day
- Being real and faithful to oneself
- Lively presentations
- God is merciful
- Respect
- Having people with positive thinking around me
- Beautiful theories

### Dislikes

- Hypocrites
- Leaders taking advantage of the poor
- People who do not take their work serious
- Disappointment with marketing
- Lack of respect for people
- 70% of the people do not like farming
- Poor leadership in all government structures and lack of commitment from people
- High production costs verses the low market prices for agricultural products
- Lack of government intervention in market regulation of food markets
- Poor time management
- Lack of respect to one another
- When one speaks false about me
- When farmers are never considered important
- Being annoyed

- When things are not done the way I expect
- Things that drag
- Noise
- People under looking my opinion
- Pretence
- Long and dull presentations
- Too many workshops and less actions

### **If one had power to change something in the agricultural sector**

- Put strict laws for wetland and forest dwellers
- The way policy in agriculture sector is implemented
- Eliminate organizations that give farmers inputs that are counterfeits
- Deal with collective marketing and contract production and marketing
- Distribute the planting materials to small scale farmers
- Agriculture policies and financing methods
- Ask everybody to know more about farming
- Change the policy of allowing multinational companies to put our rich spices to waste
- Regulate the agricultural markets by subsidizing
- Weather patterns
- Make agriculture sector number one before defense
- I would stop the trainings and provide seedlings or incentives to the farmers
- Funding in the agriculture sector
- Channel NAADS funds through proven and established NGOs.
- Change the way NAADS operates (policy)
- Empower Small Scale Farmers with skills in advocacy and subsidies
- Change policies
- Less talk, much action

## Overview of the Seed Sector

### The role of seed in agricultural development and farmer's livelihoods

This session aimed at getting a common understanding of the component of food security under discussion (seed), and its economic importance to the farmer. This session focused on key concepts and how they are understood by various participants. The key concepts discussed with participants included "SEED", "DEVELOPMENT" and "LIVELIHOODS". Participants had varied understanding of the concepts although there were commonalities in their definitions.

Seed was defined as:

- Propagation
- Multiplication
- A future meal
- Fertilized ovum
- A life and the food helps life to start
- A by product of an animal or a plant put aside for continuity

By consensus, participants agreed that seed is the beginning of life, therefore a critical input that has precedence over other inputs in the agricultural sector.

#### Development

Participants acknowledged the following about development:

- A positive change in a person's life and/or environment.
- Can be observed from an economic, social, physical and political perspective.
- Should be self driven and defined.
- The need to develop should be intrinsic rather than extrinsic (increases sustainability).
- There are universal definitions of development, with measurable indicators and performance measures based on agreed benchmarks like MDGs (Millennium Development Goals).

## Livelihoods

Participants agreed that livelihoods can be defined as the ability of an individual or family to access the basic human needs (food, shelter, clothing, health and education). Therefore according to participants, one cannot talk about livelihoods without talking about income. In addition, this accessibility to basic needs should not be one-off (irregular) but sustainable.

On exploring the role of seed in agricultural Development and farmer's livelihoods, the presentation (copy attached) provided farmers with shared insights over how critical the issue of seed is, if any development will take place in the agricultural sector.

The discussion highlighted that the quality, availability and accessibility to seed determines the quality, availability and accessibility of food. All campaigns and projects that aim at developing agriculture and ensuring food security and ending hunger should not keep a blind eye to seed because according to the meeting, seed security is food security

The participants rated this particular session at 8, 9,8 and 9, out of 10.

## **The Evolution of Seed Sector**

This particular presentation aimed at preparing the participants to appreciate the state of seed today and its future from an historical point of view. By looking back and reflecting on how the sector has evolved to date gave us a better judgment on prevailing issues as well as appreciating the developments with respect to the farmer who should be the chief custodian of this critical input.

The presentation made both as a text and a power point focused on the evolution of power over seed, the development and entrance of various players including Government, the various players and the roles they play in the sector, how Government control of the sector and its role regarding policy and gender equity issues in the evolving sector influence productivity of the sector.

## The trade and profit dynamics of the seed sector

The presentation and discussion aimed at opening up to the participants the untold story behind the evolution of the seed sector. Profit and trade dynamics are the driving factors, which must be well understood before engaging in policy advocacy on seed. It is also important to identify the power holders behind the evolving practices and mushrooming policies governing seed. The presentation was also relevant to act as a bridge between this session and the session to come on policies. The discussions went in-depth on the role of multinationals in seed trade and how they are driving the evolution including research and policy.



## Traditional seed management practices and seed banks

This session was participatory, with members sharing widely about the traditional practices and reasons why those practices were as so to those crops. It was an interactive session full of learning from each other.

Between each of the presentations, short question and answer sessions were held, to ensure that participants understood and engaged in the discussion before another presentation was made.

### Issues arising:

1. It was agreed that the seed sector has actually evolved. The critical changes range from change in custodianship of seed from the farmers to seed companies, through keeping /saving seed to buying seed from the input dealers every season, to control of seed by national bodies like the

Uganda Seed project and finally by Multinational companies. The Seed sector has also evolved in such a way that today there are fewer indigenous compared to introduced and bred crop varieties, which is a sign of deterioration in number of varieties that farmers have available for taking care of diversification and nutritional variety.

2. A question was raised as to why Uganda had established a National Seed Project in the early 1980's, and participants were made to understand that at that time, Govt wanted it to be responsible for breeding, multiplication, distribution of seed and to maintain the genetic diversity that was inherent in Uganda. It was also understood that many introduced varieties are treated in the same way as indigenous varieties and that they do not all require to be bought every season from the shop.
3. The discussion on trade and profit in the seed sector led to a great understanding that although everybody needs to eat every day, it is better to sell or deal in seed other than selling food. The learning followed the understanding that you cannot get food before producing it, and you need seed to do that. Control over seed is therefore crucial because the seed controller is the most likely controller of food. At this point it was learned that Monsanto had a vision to "Control the food market, crush all competitors and collect all the profits" which made the participants understand that as they invest in increased food production through seed production, they drive the research agenda more to their benefit than for the social good.
4. An exploration of seed management practices revealed that several seed selection, production, storage and sharing practices are deeply embedded in the cultures of different regions of Uganda. This was shared in pictures from file. Exploration of the reasons for particular practices was made based on the file photos shared. For example maize was seen to be kept tied upside down above the fireplaces, which exposes it to smoke constantly during the period it is under storage. It was found that the practice keeps away weevils, protects the cob from rodents, allows limited aeration which keeps physiological activity of the germ low, maintaining seed viability. In beans, it was said that they are smeared with mud to distract humans from consuming the seed, but also keeps seed protected from pest. In some cases as is used instead of mud, and in this case the eye of the bean is the target during smearing.

5. A concern was raised that “organic farming” had not been handled as a topic in this session and yet in there also seed management is crucial. It was agreed that the objectives of the session did not allow specialization regarding seed management practices for all farming methods individually. However it was agreed that what had been discussed already, starting from evolution of the seed sector through trade and profit dynamics of the sector, affect organic farming in the same way as they do to other forms of farming i.e conventional farming and high tech farming. Moreover, given the strict requirements and regulations that govern the organic products market niche, it is critical for actors in that niche to take critical steps to ensure that the new events do not penetrate the market to the disadvantage of others.
6. The issue of community seed banks, in-situ and ex-situ seed storage approaches were discussed briefly, because what is still commonest is seed storage at household level. Larger seed companies have the onus to decide on approaches to use in seed protection and yet maintain affordable prices and the qualities that their client’s demand of the seed supplied.

The 3<sup>rd</sup> session was a discussion about seed varieties, biotechnology and bio-safety in the event of Genetically Modified Organisms (GMOs) and how that is likely to or affects the small holder farmers.

This session was aiming at arousing understanding of the above terms that so many people use interchangeably causing a lot of misunderstandings and confusing both self and the farmers. Understanding of these terms and processes that bring forth to them is critical for any person’s involvement in seed related advocacy

A short overview of the background of bio-technology was made, highlighting that the discrepancy between the demand for food by the growing world population and the food production levels on the planet creates a gap that has not been bridged by conventional seed breeding methods, leading to rampant hunger and food crisis in different parts of the world. It was also pointed out that whereas the statement made above was true, it was not the entire explanation for the world food crisis since the green revolution technologies that were successfully used to increase food security in the Indian sub-continent, did not yield similar results in Africa. Other factors like food distribution channels,

systems, infrastructure and controls, in the different socio-economic settings, and the world driven by an agenda of profit makers greatly influence utility of seed to yield adequate food secure communities.

A short exploration of basic seed science was made, with the in-depth description of different seed varieties; made in attempt to differentiate Hybrids from conventional, open pollinated crops and GMOs. Participants were keen about understanding the difference between GMOs and “improved” varieties. Facilitators took time to explain that “improved” originated from an English word meaning “to make better”. So in seed science it is used to indicate that there are some modifications that are considered to have made the particular seed variety superior to its original parental lines. This could be with respect to production potential, disease or pest resistance or other quality in that line. So GMOs are improved varieties, just like are the “hybrids” and “composite” varieties. What differs is the process that is used to improve the variety, and that the process determines the product's name. For example some GMOs are trans-genic (bio-technology involving transfer of genes from organisms of different species) whereas others are not.



A long discussion of the potential positive and negative effects of the GMOs on small holder survival strategies was held. It was noted that benefits of GMOs may be numerous, but they go to a few

people. On the other hand, the negative effects which follow social, economic and environmental issues potentially affect a large number of people (communities). For example when GMO characteristics are transferred through pollination to organic farmers' fields or when they cross pollinate wild relatives, the effect cannot be under estimated. The full paper that was provided as part of reading materials to the participants contained a detailed description of the bases for strong criticism of GMO as a technology that is not safe for human use. Fear of the unknown is crucial on the side of the environment and human health, Intellectual Property rights are crucial to ownership and control of the seed and the varieties, which has till now been with the farmers and research and development being driven by multinational companies that are profit oriented is crucial. This session was concluded with agreement that a case by case analysis of the risks and benefits attached to the GMO ought to be made before small holder farmers get involved in use and interaction with that seed. The detailed paper had guiding questions to make that type of weighting, even though they are not standard questions but they provide a guide.

Given that national protection against introduced species is the mandate of governments, a study of the bio-safety issues regarding GMOs was made. It was understood that bio- safety rules and regulations address the safe handling and containment of infectious microorganisms and hazardous biological materials, with the intention to confine bio-hazards and to reduce the potential exposure of the laboratory workers, people outside the laboratory and the environment to potentially infectious agents. There are four bio-safety levels, with level one (1) involving exposure only to infectious agents that do not ordinarily cause human disease, and level four (4) involving exposure to exotic infectious agents that pose high risk of life threatening disease and can be transmitted as an aerosol (in air) and for which there is no vaccine or therapy. Consequently, for each level of bio safety, different measures are taken to protect the humans. Bio-security (a familiar term to discussions of bio-safety) was understood to be containment measures required for a given microorganism based on the inherent capability of the microorganism to be used adds a bio-weapon against humans, animals and plants. It was observed that biological agents most useful to terrorists might also be the most likely to cause disease in humans, animals and plants. Bio-safety beyond the laboratory must be handled by policies and laws of a country.

## Reactions

1. Participants were concerned that it is not possible to tell GM products in any other way apart from depending on the labeling, which is mandatory to the producer.
2. Participants were also stunned to understand that the Cartagena Protocol that regulates distribution and introductions of GMOs into different countries covers the crops but not the processed products of those crops, and that for a country to reject a consignment, it must use science based assessment of the environment risk. This makes rejection difficult and a long expensive process.
3. Participants were encouraged to read more about GMOs and bio-technology to get updated, because this would help the different organizational to take decisions on way forward from an informed point of view.
4. It was clear that whoever drives the research agenda has objectives that may not necessarily be pro-poor. The session was also informed that in Kasese, Monsanto supported a project involving products developed by that company (not GMOs though), and that after getting back their cost of investment, the product(s) was left for use as a public good. Although it would be a welcome idea for Monsanto's show of good will, the fact that it is only the company that knows their size of investment and profit they want, decide when it is covered, and to what extent the product becomes a public good irrespective of its potential negative impacts that are only observed in the long run, the deal is still considered "raw" for the public. However, this taught us that each developing country ought to address Intellectual property Rights, bio safety regulations and build capacity for research and development.

## Seed-Related Policies

(National Bio-technology and Bio-safety Policy, Indigenous Knowledge Policy, Anti Counterfeits Policy, Draft National Seed Policy, and Plant Breeders' Bill ).

The presentation created an understanding of the various policy documents including the sectoral policies, the national development plan, the sector strategic plans and legislation. There was a focus on the environment in which these policies apply with specific reference to the current debate on intellectual property protection amidst the importance of protecting farmer's rights. The presentation also discussed the issues of biodiversity protection, indigenous knowledge, anti counterfeiting laws

and the laws on Plant Variety Protection. It highlighted a number of challenges where the participants can make input to protect farmers' rights including advocacy strategies and engagement of policy makers.

The presentation contextualized the concept of farmer's rights and indicated how critical it is for policy and legislative processes. It indicated that the concept of Farmers' Rights resulted from debates in the Food and Agriculture Organization (FAO) that started in the early 1980s concerning the development of privately held intellectual property rights over plant genetic resources. It highlighted that this concept aims at rewarding the world farmers for their contribution to agro-biodiversity provides them the incentives to continue nurturing, sustainably utilizing and making available these resources for future generations.

The presentation made a couple of slides on the National Development Plan 2010/11 – 2014/15. It indicated that during the plan period, the investment priorities of the government will be in a number of areas including facilitating availability and access to critical production inputs especially in agriculture and industry. It was noted that the development approach of the NDP intertwines economic growth and poverty eradication and focuses on changing from a predominantly peasant low income country within 30 years. The presentation indicated that the national development plan identifies agriculture as a key sector contributing to exports, employment and food security but wondered how responsive it is to issues of farmer's rights.

The presentation made a review of the various policies and laws with implications of seeds and farmer's rights. It singled out the Indigenous Knowledge policies which it criticized for its inconsistency in light of the need to protect indigenous knowledge but at the same time over-emphasize the relevance of scientific proof in validating the indigenous knowledge. The presentation further discussed the confusion with the anti-counterfeit legislation and policies where counterfeiting is equated with intellectual property rights. The presentation also criticized the proposed Plant Variety protection Bill which is purported to focus on the fact that new plant varieties are afforded legal protection to encourage commercial plant breeders to invest the resources; labour and time needed to improve existing plant varieties. This approach was criticized for neglecting farmer's rights with emphasis placed on protecting the private rights of plant breeders.

It was indicated that Breeders are usually companies that pay research institutions to propagate new hybrid seed varieties. Hybrid seeds are bred artificially to improve the characteristics of plants, such as yield, appearance and disease resistance. This implies that, if the bill is passed by the parliament, the protection of breeders' rights is likely to further increase the availability of hybrid seeds on the market. As this happens over time, certain forms of traditional seeds will become scarce, threatening the biodiversity of the country and the region as well as the financial viability of farming for the rural poor.

## **Observation, Recommendations and Conclusions**

Throughout the workshop, there was a lot of interest in learning about policy issues and their implications on seeds and agriculture as a sector. Although the participants had some knowledge on some of the seed and policy issues, the knowledge is abstract and they had a number of questions on the various areas of policies. They were particularly interested in understanding the policy formulation processes. There is a gap in appreciation of the global debate especially on protection of private rights at the expense of small farmers. It appeared like it was the first time for some of the participants to encounter the policy issues relating to seed and other agricultural issues.

In conclusion, this workshop provided a good start for the engagement of members of PELUM into policy related advocacy. A series of other sessions of seed policy issues are critical, they need to be more empowered in appreciating the debate and rationale of many of the policies and how these impact on their work. Sharing of developments at the national level, regional and global levels will be critical in keeping the PELUM members updated to the various policies.

Whereas the power point presentation prepared and used during the sessions was a guide to the discussion, the detailed paper gave a description of the terms herein and used examples to illustrate the points at times.

It was concluded that:

- The application of technology to agriculture creates great challenges as well as opportunities. It serves as a provider of food and livelihood, but also a source of social and economic stability, and a dynamic interaction between human beings and the ecosystem.

- Depending on the GM crops developed, the process used and how they are used, the GM crops could lead to increases or decreases pesticide use, enhancement or degradation of agro-ecosystems or the loss or conservation of bio-diversity. The specific impacts of any GM crop depend on the interaction of its ecological function and natural history with the ecosystem, and the ecosystems within which it is embedded.
- Decisions concerning GM products must be made from a well informed point of view, taking care of the human right to food, the growing world trade agreements and objectives of the multinationals, and the political, social and ecological contexts and implications of the introductions.

## Plans of Action by Members

Participants were required to write their plan of action as per the program of the day.

Their plan was to dwell on what they will do as an MO, what can be done together with PELUM and what should be proposed to Government.

<b>Name of MO</b>	<b>To be done at MO level</b>	<b>To be done together with PELUM</b>	<b>To be proposed to Govt as policy proposal</b>
ORUDE	Train communities about GMOs Encourage them to use indigenous seeds	Advocate for the rejuvenation of Indigenous seed at threat of extinction Advocate for Policies that protects farmers and the country from the effects of GMOS	
AFARD	Sensitize farmers on the dangers of GMOs Encourage them to	Provide a platform for MOS to raise voices on issues of seed security	Guard against the future of this country and put a clear policy that protects farmers

	<p>grow traditional seeds</p> <p>Giving them information on the advantages of indigenous seeds that outweigh the disadvantages in the long run.</p> <p>Encourage seed banking and individual seed storage.</p> <p>Engage in LG advocacy at district and sub county level on indigenous seeds. Engage the district production section to take the matter as a priority</p>		<p>right to seed than those that encourage the right of MNC</p>
UEEF	<p>Document traditional practices</p> <p>Create awareness on fake seed and such technologies like terminator genes</p> <p>Train farmers on various organic</p>	<p>Conduct research on current seed varieties used by farmers</p>	<p>Increase the budget for agriculture</p> <p>Consult farmers other than imposing on them seed varieties</p> <p>Create regional seed banks</p> <p>Work closely with NGOs to develop the</p>

	technologies Avail farmers with market information		sector Strengthening the regulations of seeds especially incoming
IRDI	Raise awareness among farmers about seed security Promote use of ecologically friendly seed storage technologies Encourage the use of locally available seeds Continue with sustainable agriculture practices	Engage Government to formulate farmers centered IPR policies Increase awareness of policy makers on the impact of GMOs to people and the environment Document and disseminate indigenous ways of seed storage and preservation	
A2N- U	Support and encourage farmers to develop community seed systems	Build and strengthen the capacity of MOs on seed security issues	Provide a conducive policy environment for farmers to enjoy their right to seed and strengthen community seed systems
AAIU	Create awareness on seed policies and traditional means of seed preservation Engage in advocacy work and provide a platform for raising farmers voices	Engage in advocacy for better seed policies Ensure that farmers preserve the seeds for the future Build capacity of MOS to engage in policy advocacy and capacity building for	Come up with farmer centered policies on agriculture and seed that protect the right of farmers

		farmers in the area of seed	
YARD	Train farmer sin sustainable agriculture	Advocate for the use of ecologically friendly ways of producing and storing of seeds	
JIDDECO	Support framers to develop seed protection associations Support farmers to preserve indigenous seeds Engage in seed advocacy Conduct research and disseminate findings to educate MOS and policy makers Educate MOS on seed security issues	Enact conducive seed related policies and monitor their implementation	

Whereas, some member organizations did not document what they intended to do after the training, it is evident from the presentations of the few that the training will yield desirable outcomes in actions. It is also evident that given the vulnerability of the small holder farmers, member organizations must pro-actively build farmers' capacity to understand the trade dynamics in the seed sector, the national policies on the same, and the potential influence the combinations may have on survival, productivity and livelihoods improvement for them and for the future generations.

The participants identified the following policies for advocacy actions;

- The plant variety bill
- The biotechnology and bio-safety policy
- Indigenous Knowledge policy

***The Thematic Committee on Sustainable Agriculture proposed a meeting in the first week of June, but this would subject to confirmation from the Country Desk.***