



## STUDY BRIEF

November 2018

# Challenging Seed Industrialization in Uganda

**A rare view of the seed sector:** Small-scale farmers building resilience through farmer managed seed systems

## Summary

The agricultural sector is of vital importance for the development of Uganda. They are first and foremost the source of all food and agricultural production. Seeds are genetic resources and carry plant genetic diversity. Smallholder farmers play an important role in Uganda's food systems, with some estimates showing that they meet up to 80 percent of the population's food needs. The bulk of farming in Uganda is still mainly done by smallholder farmers and it is clear from previous studies that Farmer Managed Seed Systems (FMSS) stands out as the most reliable and affordable source of seeds for the vast majority of smallholder farmers.

Smallholder farmers are preserving and promoting local and traditional seeds in their respective districts. The promotion of FMSS has also seen many smallholder farmers coming up to be part of the process of reviving the use of locally generated seeds in the community. FMSS have encouraged seed sharing among smallholder farmers in the community and hence creating unity among the farming community. The study results depicts that there has been little support given by the government in promoting FMSS through funding and technical support. Findings from the study reveal that seed is an important vehicle for improving agricultural output, and major development goals such as food security, sustainable rural development and poverty reduction. The right of farmers to save, use, exchange and sell farm-saved seeds and other propagating materials is a central component of Farmers' Rights as enshrined in the FAO Treaty on Plant Genetic Resources for Food and Agriculture. Results from the analysis also show that there is insufficient support for farmer seed systems and this is evident with the policies and laws that are being developed and passed by government.

## Introduction

This Study Brief is based on the ESAFF Uganda's study on Assessing Farmer Managed Seed Systems (FMSS) in Uganda which represents a first attempt at comprehensively analyzing farmer managed seed systems in Uganda, as well as assessing its effectiveness in addressing seed challenges in the country. The study brief summarises the report, its findings and recommendations.

Seeds have long been a part of the cultural heritage of different societies in Uganda, seeds are an integral part of many rituals, ceremonies and festivals that celebrate the cycle of birth, life and death. The practice of seed saving has been a cornerstone of farming communities that made agriculture their way of life. Seeds are very instrumental inputs that determine development of agriculture among other factors. Quality seed is a key input for agriculture with an immediate effect on agricultural production and productivity. The study showcases and unpacks FMSS by presenting an understanding on how Farmer Managed Seed Systems (FMSS) work in Uganda and how it relates with other components of farmer systems. The study also present case studies of FMSS to challenge the current narrative on seed and ultimately influence policy and also aimed at cultivating buy in for FMSS amongst CSOs and policy makers.

The study followed a multi-method design and these were both qualitative and quantitative. The study targeted local smallholder farmers, CSOs and other organisations that are working with smallholder farmers, and selected officials from the local governments from Gulu, Amuria, Hoima and Iganga district. The choice of the methodology was to eliminate the gaps in existing pool of literature and contribute to literature on farmer managed seed systems. The choice was useful in generating suggestions

and recommendations. Triangulation of both qualitative and quantitative techniques for data collection was used in the study. During data collection, confidentiality and consent of participants were considered. During the study, privacy of the participants were protected.

## **Sources of seeds, acquisition forms and culture**

According to the FGD in Gulu, Amuria and Iganga districts, smallholder farmers use both the locally preserved seeds for example beans and sweet potatoes and hybrid seeds given by either the government or the private partners for example cassava and maize seeds. However in Hoima district, the smallholder farmers only use the local seeds that they multiply and store for themselves. Result shows that majority of seeds in all the districts is own seed that the farmers keep and they plant in the next planting season. Seed conservation in all the districts is done in sacks or polythene bags, kitchen, community seed banks, containers and granaries. The study also indicates that farmers are very free to access the seeds in the community without any special law hindering them. In all districts, the exchange of seeds is done by consensus where the two parties agree to what they both are interested in hence sharing or exchanging the seeds freely. Result shows that in the past decades smallholder farmers used to exchange indigenous seeds among themselves especially women and passed on from generation to generation. Those who had granaries would store seeds for the next season but it started disappearing because of the use of pesticides and hybrids. Some seeds which were planted for ceremonies disappeared when some of the ceremonies were not performed anymore. Alternatively smallholder farmers purchase seeds from the market.

According to testimonies from respondents, the roles children play within the seed system includes helping in the seed preparation for example removing of the hard shell of groundnuts while women play the roles of being custodians of seeds because they know when to plant, what to plant and how to select seeds. Men's roles in the seed system includes helping on issues like selecting sites and or seeds for planting or decision making, opening land where seeds are to be planted. Men also help in identification and preservation of seeds.

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***Women are the most important people in the seed system in our area because they control and store seed. If a woman doesn't have her own seed, she is powerless. It's that simple.”***

***Male farmer, FGD, Hoima district.***

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***Though am still preserving our traditional seeds, they also have challenges with this changing climate that really need to be addressed.”***

***Male farmer, FGD, Hoima district.***

The result shows that seed is important for food, for sale in order to educate the children and for cultural ceremonies for example giving birth to twins, when one builds a new house, introduction ceremonies. Seeds like millet and simsim are used for feeding mothers who have just given birth to be strong and healthy. In Hoima district, people use Nkole (greens) to prepare food for in-laws for certain functions like introduction, seeds for example simsim are used while making rituals to the ancestors, millet is used when babies are born and it is placed on the umbilical cord to fastens healing and finally mothers who have just given birth eat millet to gain energy and also increase on their blood.

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***I can openly say there are no laws here when it comes to exchanging of seeds because for me the crops that I planted last season I just went and got it from "can kwiya goro" (a group of farmers) and I was given freely and no condition was attached to the seeds that I was given. So you see how we are free to get seeds here in our village”***

***Male farmer, FGD, Hoima district.***

## **Involvement in farmer managed seed system and its challenges**

Smallholder farmers use the local seeds because they are healthy and do not contain the chemicals, sweet and nutritious and very natural, resistant to some weather shocks and climatic changes and can be used as medicine. Local seeds can be replanted for a number of seasons, very tolerant to weed infestation, very good nutritive value, very easy to store, local seeds are resistant to disease and pest. Local seeds are very easy to access as they are found within the community and are affordable in terms of the prices. On the downside, the study found that the local seeds produce low yields, have a very long maturity period, for example cassava, pigeon peas, sorghum ("abiri" species), there is little documentation and dissemination of information of locally preserved seeds in the community as most of them have disappeared, there is the problem of storage of the local seeds for example beans, ground nuts, sorghum and maize as they can easily be destroyed by weevil and there is scarcity of locally conserved seeds as well as inadequate market for some of the locally produced seeds.

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***Without seeds, there is no life and of which the main source of seed is the informal seed sector which deals with local seeds so it needs not be wiped off and thus there is need for the protection of the local seeds”***

***Small-scale farmers, Hoima district involved in the study narrated that;***

Findings show that the reasons that push smallholder farmers to buy the hybrid seeds is the commercialization of agriculture where the farmers plants mostly for sale, hybrid seeds yields faster than the local seeds and in good quantity, the coming up of the private seed dealers like equator seeds, Victoria seeds and Mukwano that provide market for the harvests as well as the informative, excessive and attractive advertisements makes most smallholder farmers to adopt the hybrid seeds and also ignorance among smallholder farmers in dealing with the local seeds.

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***Government is focused on wealth creation and one can't create wealth with local or traditional seeds because they take long yet yield less. Farmers need to be introduced to seeds that will economically empower them not those that will keep them in poverty like local seeds.”***

***Government Official stated that;***

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***With constant engagements there will be improvement in quality and access to the local seeds in the community since seed is very important in food security of rural households because these indigenous seeds are drought resistant and local seeds don't need to be sprayed since chemicals destroy seeds diversity and are cancerous.”***

***Small-scale farmer, Gulu district involved in the study acknowledged that;***

On the issue of knowledge on seed management, smallholder farmers involved in the study testified to having a bit of knowledge on how to manage the local seeds but more knowledge is mostly needed for seeds of sorghum, cassava, maize, millet and beans and they wanted to explore some new crops like garlic and ginger. There are existing seed sharing network between farmers in Hoima district and those in Buliisa district. Unlike Hoima and Gulu district, findings show that most smallholder farmers in Iganga and Amuria district are not very much engaged in seed exchange as farmers are used to receiving free seeds from government and buying seed from the market or friends. There are also some Non- Government Organisations (NGOs) that are promoting farmer managed seed systems through building capacity of smallholder farmers to multiply seeds and create seed banks for mostly local seeds using models that promote FMSS. In Hoima district, local communities are being facilitated to revive the local seeds through organizing

internal exchange visits and organizing farmers' dialogues. These actions have helped smallholder farmers to conserve some of the local seeds hence promoting FMSS and the organizations have also provided reading materials about seeds and they have also facilitated smallholder farmers to map existing local seeds of indigenous, organic farming using organic pest control and disease control. Smallholder farmers envisioned the need to move away from using pesticides and the hybrid seeds promoted by private sectors, researchers and government under NAADS. Women started working together as they developed a habit of sharing seeds and as a result, farmers have also revived making traditional granaries for storing variety of seeds for planting in the next season. These actions have contributed to improved knowledge among the community in preservation and planting of seeds like millet, sorghum, cassava, sweet potatoes, groundnuts, beans, peas, bananas, maize, rice and soya beans. However some crops that smallholder farmer didn't consider priority in the FMSS include pigeon peas, yams, "lamola" and "kali". As a result of promoting FMSS, smallholder farmers in all districts have been able to promote seed varieties and traditional farming and they gained appreciation from respective district officials. FMSS have encouraged seed sharing among smallholder farmers in the community and hence creating unity among farmers.

There has been little support by the government in promoting FMSS through funding and technical support, monitoring, supervision and sensitization since government mainly looks at modernization of agriculture that focuses on improved seeds and hybrids for example OWC. Smallholder farmers attitudes towards local seeds is low as most farmers think the government will penalize them if they do not accept the hybrid seeds from government. There is also a challenge of fake seeds in the community which makes it difficult for farmers to differentiate between good quality seeds and fake seeds. Reluctance by young men and women to take on this initiative of FMSS was a challenge. Smallholder farmers stated that the policies tends to favor commercial farmers and scientists who are pushing on for agriculture biotechnology and also geared by cooperation and powerful seed traders because of their interests and they also feel like government policies are market oriented rather than promoting community seed security and

sovereignty. Smallholder farmers also feel like the local issues are not well streamlined in the national policy whereby the current farmers unions, cooperative societies are the only ones favoured by the policies. Findings have also shown that farmer groups and farmer associations plays a greater role in the seed sector but they are always under looked by the government and instead the government promotes the private companies and multinationals.

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***Smallholder farmers play major roles in multiplying seeds hence contributing to seed preservation and provide storage for the different varieties of seeds and ensuring that other farmers get seeds ready for the planting seasons”***

***Local Government Leader, Gulu district said;***

There are also few development partners/NGOs working with smallholder farmers to promote FMSS and address the seed challenges in the different communities. The study shows that government programmes like OWC has negatively influenced FMSS in the different districts since it mostly promote seed distribution rather than promoting FMSS and in all districts, none of the district has a law promoting FMSS since most agriculture policies despise FMSS. A local leader from Iganga district noted that FMSS may be playing a big role in the agriculture sector but in the long run they will be rendered useless because of the current modernization in the seed sector.

# Discussion and Conclusions

## Impact of treaties, laws and policies on FMSS

The seed sector in Uganda is characterized by the formal and informal systems that are co-existing. The farmer managed seed system which in this case is considered as the informal system is responsible for 85% of seeds planted in Uganda. In FMSS, seed is sourced mainly from farm-saved seed from previous season's crops and community based seed multiplication and dissemination though the system is unregulated. Findings from the study reveal that seed is an important vehicle for improving agricultural output, and major development goals such as food security, sustainable rural development and poverty reduction. The right of farmers to save, use, exchange and sell farm-saved seeds and other propagating materials is a central component of Farmers' Rights as enshrined in the FAO Treaty on Plant Genetic Resources for Food and Agriculture of the FAO (the FAO Treaty).

The importance of seed in agriculture has made seed an issue in national and international policies and without seeds, there is no harvest, no food, and no life. The development of policy and regulatory frameworks affecting seed systems shows a disconnection between parallel policy processes on the one hand and between policies and everyday agriculture on the other. The 1991 Convention made the farmers' privilege explicit by allowing member states to specify crops for which the re-using of farm-saved seed on the same farm would be allowed which rules out any transfer of seed through sale, barter or gift among farmers. The Seeds and Plant Act, 2006 and the draft National Seed Policy do not address the right of farmers to use, exchange, and sell their saved seeds. The Seed and Plant Act 2006 is a legal framework that provides for the promotion, regulation and control of plant breeding and variety release, multiplication, conditioning, marketing, importing and quality assurance of seeds and other planting materials. The Act aims at increasing the productivity, profitability, and sustainability of cropping systems. The Act recognizes and protects the rights of breeders to varieties that they develop and promotes the supply of good quality seed and planting materials; however, it does not recognize farmers' rights. The challenge for policymakers is to create policies and laws that support each of these various seed systems where they are most effective (Louwaars et al., 2012; FAO, 2015). Even where seed policies recognize farmers' seed

systems, seed laws may concentrate entirely on the formal seed systems, ignoring their potential impact on farmer managed seed systems.

Furthermore according to the policies and laws of Uganda, The selling of farmer saved seed on the market is illegal unless it goes through the process of being quality declared and this also makes the seed market not legally accessible for most farmers who would have multiplied seeds of local varieties that are rare and unique. Quality Declared Seed (QDS) has been introduced to reduce the use of home-saved seeds as a transition into the formal seed system for the major food and cash crops. This will contribute to the disappearance of most of the indigenous seeds that aren't a focus of the seed companies and government since seed sharing is put of conservation. Studies have also shown that both the public and private suppliers are unable to provide adequate seeds according to the demands in the market. This justifies the need for development and promotion of farmer managed seed system.

## Influence of public and private institutions and organisations on FMSS

The government of Uganda started being involved in the seed sector in 1968 with the guidance of Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) as a seed multiplication scheme and became operational in 1970 with support from Overseas Development Agency (ODA) (ISSD, 2015). Government has played different roles in the sector including registration of other actors, seed certification, sector regulation, quality assurance/standards and research and policy formulation. The National Agricultural Research Organization (NARO) runs public breeding programmes for major crops, and is responsible for the production of breeders' seed and early generation seed. The National Agricultural Advisory Services (NAADS) through Operation Wealth Creation (OWC) facilitates access to seed and planting materials for smallholder farmers. The Crop Protection Department of MAAIF is in charge of seed company licensing, variety release and cataloguing; import and export regulations; and seed quality assurance. The National Plant Genetic Resources Centre (PGRC) is responsible for ensuring genetic diversity and conservation in Uganda. The public sector has mainly been concerned with major food crops, such as maize, beans and cassava while for cash crops like cotton and coffee, they support the private

sector, but also intermediary and more informal seed systems. The government program of free seed distribution to farmers distorts market dynamics and negatively impacts the seed distribution networks.

Results also show that there is insufficient support for farmer seed systems through the policies and laws that are being developed and passed by government. Government has mainly focused on empowering the formal seed system that focuses on breeding, producing and selling seed that is certified by the National Variety Release Committee (NVRS). Government hasn't taken steps to monitor or control the farmer managed seed system by enacting government policies and regulations that focus on informal seed systems that left the informal seed system to be guided by indigenous knowledge and standards. There are many NGOs in Uganda that are actively doing seed work with smallholder farmers at different levels. Most of these organizations are using different models and most of them aren't sharing any information among themselves. They are engaging smallholder farmers in different ways including working with farmers to influence seed related policies, distribution of seed to farmers, building capacity of smallholder farmers in seed multiplication and quality managements, empowering smallholder farmers in local seed business, carrying out research on seed and building linkage between government institutions dealing with seed and the smallholder farmers which led to access of quality seeds by smallholder farmers.

## **Seed knowledge and management**

Seeds have long been a part of the cultural heritage; seeds are an integral part of many rituals, ceremonies and festivals like birth, life and death. The practice of seed saving has been a cornerstone of farming communities that made agriculture their way of life. The study shows that it's only the elderly that had knowledge about lost seeds varieties and on how seed was preserved and how seed should be preserved. The introduction of the improved seed varieties eroded the diversity of some indigenous seeds as smallholder farmers moved away from saving and exchanging seeds with their neighbours and families, to buying seeds from the market. This led to the loss of their indigenous knowledge on systems related to farmer managed seed systems. Women smallholder farmers have ever since played a very important role in seed management though this intimate knowledge that they possess is

often devalued by some community members, educated researchers and government institutions. The food insecurity situation has also affected the progress of farmer managed seed systems among smallholder farmers. Control, ownership and affordability of seeds are of crucial importance to the food security and resilience of smallholder farmers. This level of food insecurity in some communities has made smallholder farmers adopt to fast growing seeds that are released by research organization rather than some local seeds that they are keeping in their seed systems which will soon lead to the extinction of indigenous seeds. The food insecurity situation has also caused smallholder farmers to be trapped in government's solution of adoption and use of modern agricultural technology which include seeds.

## **Pressures of climate variability on farmer managed seed systems**

The changes in climatic conditions which is associated with increased frequency of extreme weather events influence the whole crop system, i.e. rainfall patterns and dynamics hence leading to hazardous events like droughts, floods, pest and disease outbreak. This leads to a direct impact on crop production practices like field preparation, planting and other general field management practices. Changes in climatic conditions influenced the cropping cycle, field preparation, planting and field management practices, and subsequently the expected yield and drought cycles seem to have shortened to every 2-3 years instead of 5-7 years in the past. Farmer managed seed systems have not been recognized for the contribution to climate change adaptation yet farmer managed seed systems are repositories of local genetic diversity that is often adapted to prevailing climate conditions but it has proven to be useful in contributing to community based strategies for adaptation to climate change. Seed sector actors are discrediting local seed and farmer managed seed system by promoting climate resilient varieties some few smallholder farmers testified that they're depending on seed varieties from government or from the market because they are said to be climate resilient varieties but it has led to the diminishing levels in quantity and quality of crops.

## Conclusion

The agricultural sector is of vital importance for the development of Uganda. It is undergoing a process of transition to a market economy, with substantial changes in the social, legal, structural, productive and supply set-ups, as is the case with all other sectors of the economy and adding to the growing body of evidence, this study points to significant contribution of FMSS in the national seed system in Uganda. Further, it sheds light on the importance of preserving FMSS in achieving seed security and sovereignty of smallholder farmers. Seed is an essential element in crop production, representing a valuable resource that is important in sustaining the supply of food. Seed is also essential for rural development and poverty reduction hence the need to appreciate FMSS as the solutions to the availability and access to quality seed.

## Recommendations

**There is need to strengthen the capacity of smallholder farmers that are engaged in saving seeds to value and protect these local genetic resources and related knowledge. This will greatly contribute to the conservation and recovery of local plant species and varieties maintained by smallholder farmers.**

**Build capacity of community seed banks to strengthen their technical and managerial expertise in alignment with the policies governing seed in the country. More farmers should be encouraged to develop QDS seed hence promoting the practices of community seed entrepreneurship that may lead to increasing the availability of local seeds and also lead to the appreciation of the contribution of FMSS to seed sector.**

**There is need to promote the documentation of local and indigenous seed varieties in the country and their contribution to food sovereignty and nutrition under the farmer managed seed system. Widely sharing such information may lead to practice and policy change in favour of FMSS.**

**There is need for smallholder farmers, farmer organizations and CSO to display collective efforts in safeguarding agricultural biodiversity and associated cultural values and knowledge. This can be achieved through disseminating and promoting the results realized by smallholder farmers involved in FMSS.**

**Different stakeholders should do more in valuing and rewarding smallholder farmers with successful initiatives in FMSS. This should motivate other groups to come up and promote it.**

**More research is needed to be done in the area of FMSS sustaining in the changing climatic conditions which has increased smallholder farmers dependence on private seed companies.**

**There should be support for smallholder farmers technically and financially to organize themselves to be able to exchange knowledge and experiences, and strengthen their organizational capacity in managing and promoting farmer managed seed systems.**



## Brief About Us and Our Seed Work

The formation of Eastern and Southern Africa Small-Scale Farmers' Forum (ESAFF) in 2002 was a direct response to the need to create a forum where Small Scale Farmers (SSFs) are able to deliberate on and voice their concerns. The Forum was established to bring together small scale farmers into a social movement to build common aspirations, learning and linkages. ESAFF Uganda is a small scale farmer-led advocacy movement formed to facilitate processes through which small scale farmers' development concerns can be solicited, articulated and ultimately addressed through local, national and regional policies and programmes. ESAFF Uganda works to enhance the SSFs ability to make informed decisions and participate meaningfully in development processes. ESAFF Uganda is having memberships in 30 districts and is part of a bigger network of small scale farmers' organizations in other 14 countries in eastern and southern Africa.

ESAFF Uganda promotes Farmer Managed Seed Systems (FMSS) because it addresses issues related to seed security and sovereignty of smallholder farmers. Smallholder farmers have since been advocating against laws/policies that prevent farmers from saving or exchanging seed hence undermining the farmers' rights or seed sovereignty. ESAFF Uganda has been implementing Community Managed Seed Security model (CMS) with eight modules mainly aimed at providing farmers with a practical, harmonized and systematic approach of promoting community-led seed security. To further promote FMSS, ESAFF Uganda established Farmer Field Schools to improve access to Plant Genetic Resources (PRG). ESAFF Uganda continues to advocate against the introduction of GMO seeds/plants in Uganda, non-farmer friendly seed research, seed market takeover and any other law or policies that undermine small-scale farmers' seed rights.

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The full report and other information documents are available on our website: <https://www.esaffuganda.org/publications>

The main report "The Real Seed Producers" is available online at: <https://www.grain.org/e/6035>  
and <https://afsafrica.org/category/publications-resource/>

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[www.esaffuganda.org](http://www.esaffuganda.org)

### Eastern and Southern Africa Small Scale Farmers' Forum (ESAFF) Uganda

P.O BOX 34420 Kampala - Uganda

Telephone: +256 414 699 623

Email: [coordinator@esaffuganda.org](mailto:coordinator@esaffuganda.org)

Facebook: ESAFF Uganda

Twitter: @ESAFFUG

YouTube Channel: ESAFF Uganda