

# Local seed businesses in Uganda: a market-oriented approach towards community seed production

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## Abstract

The integrated seed sector development (ISSD) programme aims to improve food security and economic development by providing smallholder farmers with sustainable access to quality seed of superior varieties. The specific objective of the programme is to create a vibrant, pluralistic and market-oriented seed sector in Uganda.

The ISSD programme in Uganda focuses on establishing functional, commercially sustainable local seed businesses (LSBs), and on helping public sector organizations provide efficient and effective services to seed sector operators at national and local level. The programme works with 30 LSBs in three geographical areas in Uganda. The first year of intervention, 2013, concentrated on markets, marketing, quality seed production and access to inputs and services (mainly foundation seed). In the first season of 2013 (2013A), 16 local seed businesses were able to procure input<sup>9</sup> seed for 196 hectares. In the second season, 2013B, the planted area increased to 287 hectares, and the number of groups that purchased input seed increased to 23 groups. The shortage and high cost of foundation seed at the national agricultural research institutes are hampering the expansion of acreage planted. However, institutional buyers, such as the National Agricultural Advisory Development Services (NAADS), as well as farmers, have shown interest in buying seed from the LSBs.

The fact that LSBs have closer ties to farmers than commercial companies, and are recognized by local authorities and the NAADS, motivates farmers to buy seed from LSBs. Nonetheless, rumours of fake and poor quality commercial seed have made some farmers reluctant to buy seed in general. LSBs could build on social relationships to strengthen trust amongst their customers, and show that they are reliable sources of good quality seed.

The most profitable seed is that which has a high commercial value, such as hybrid maize, and is produced by commercial seed companies. LSBs serve a much more local market. The added value for LSBs to produce seed with lower commercial value is their proximity to farmers and the opportunity to serve niche markets (low volumes of seed, or seed that is too bulky for seed companies to be profitable).

The concept of community seed production as a market-oriented LSB supports the sustainable production of quality seed and enhances food security. However, in order to be successful the concept needs a favourable national policy environment, access to inputs for quality seed production, and consumer confidence in the seed produced by LSBs.

## 1. Introduction

In Uganda, the following four seed systems have been identified: farmer-saved seed systems; community-based seed systems; seed produced by private seed companies; and closed value chains, in which processors obtain seed, loan it to farmers, and then buy the produce back from the farmers after the growing season. Examples of closed value chains are coffee and sunflower. Figure 1 provides an overview of the characteristics of each of these seed systems.

In Uganda, 13% of the cultivated area is planted with seed from commercial seed companies (Gareeba-Gaso and Gisselquist 2012), 70% of which is planted with maize seed. The remaining 87%

<sup>9</sup> Input seed is defined as either foundation seed obtained from a national agricultural research institute, or certified seed that is obtained from seed companies and used to produce seed for selling on to farmers.

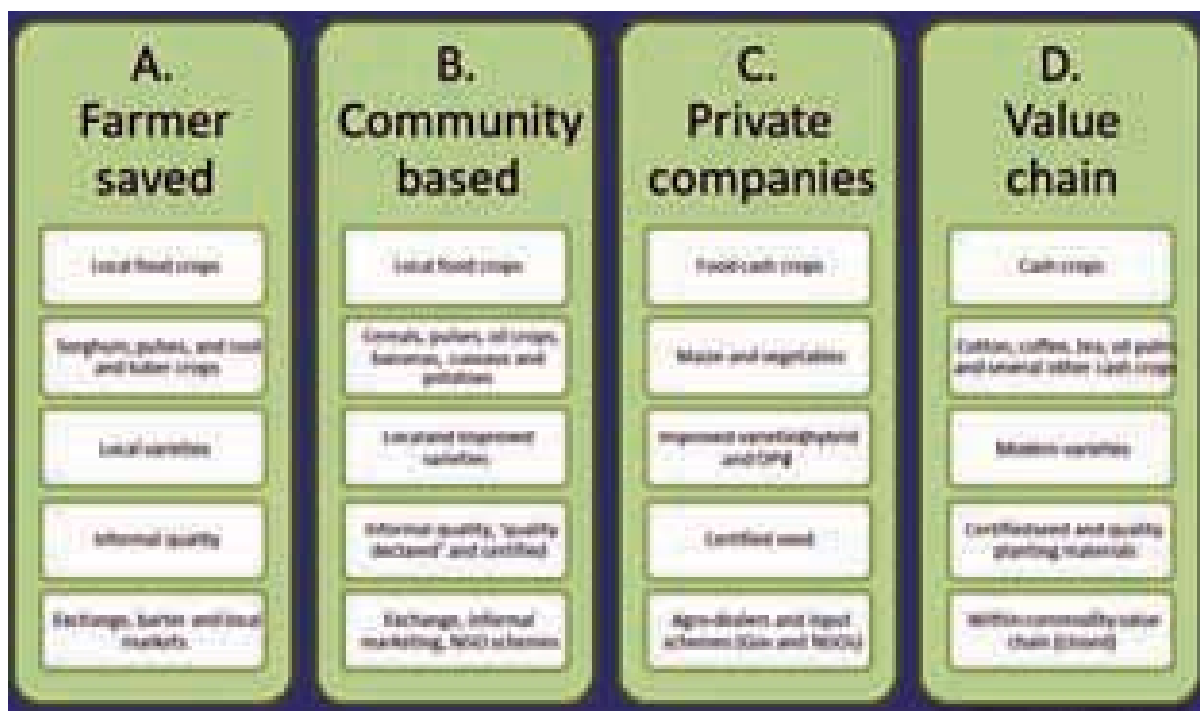


Figure 1. Overview of seed systems in Uganda.  
Source: ISSD Uganda, 2012

of cultivated land is served by the informal seed system, which includes farmer-saved seed and community seed production schemes. Most commonly, seed that is produced by seed companies includes hybrid maize and rice seed, while farmer-saved seed and community-based seed production include pulses, tubers, oil crops and cereals. Figure 2 provides an overview of the crops grown in the three agro-ecological zones in which the programme is active (Northern Uganda, Southwestern Uganda and Northwestern Uganda). The major crops that farmers grow include beans, maize, groundnut and cassava. The diversity of cropping patterns in the zones generates a demand for good quality seed in relatively small quantities.

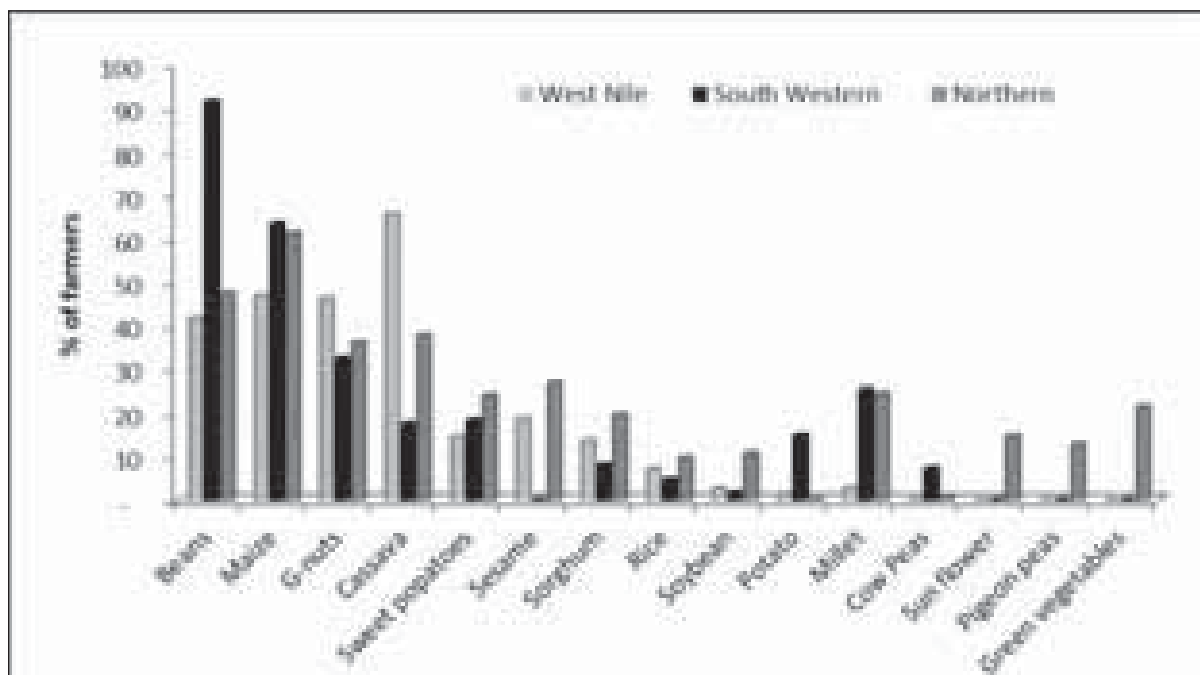


Figure 2. Crops grown in three agro-ecological zones in Uganda.  
Source: ISSD, 2013

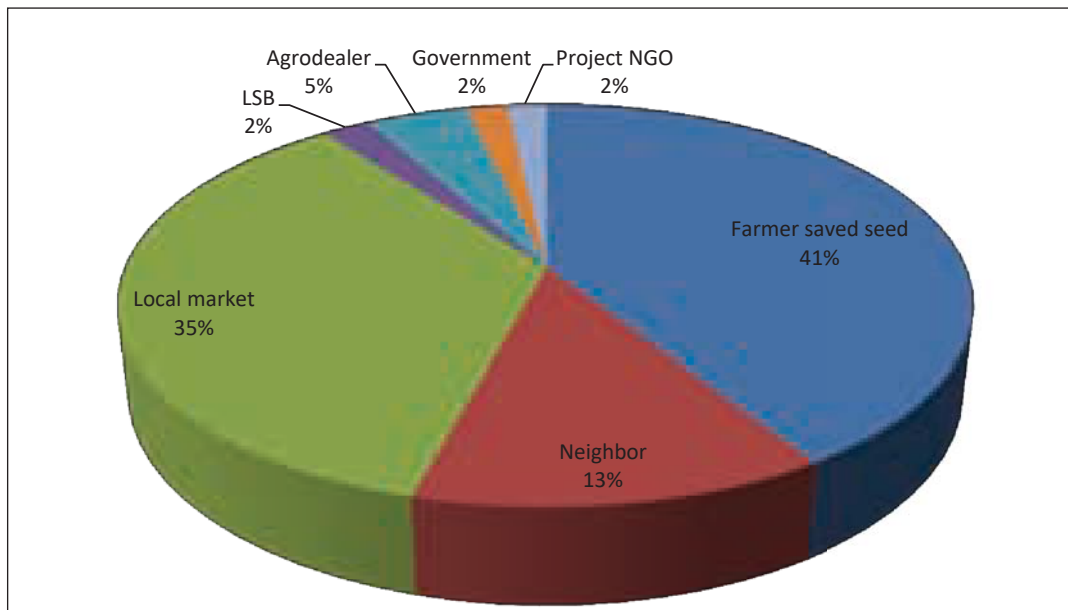


Figure 3. Farmers' seed sources in Northern Uganda, Southwestern Uganda and West Nile  
Source: ISSD, 2013

Figure 3 shows how farmers access seed for planting; the figure is based on interviews with 905 farmers in the three areas in which the programme is active. Farmer-saved seed constitutes the largest proportion of seed used by farmers. Farmer-saved seed, in addition to seed obtained in local markets or from neighbours, covers about 89% percent of the quantity of seed planted. These three sources together represent the informal seed system, while seed obtained from agrodealers, or provided by non-governmental organizations (NGOs) or government programmes, is considered to be within the formal sector. The LSBs are at the interface between the formal and informal seed systems, comprising features of both systems.

## 2. Project objectives

The Government of Uganda (GoU) prioritizes agricultural development as playing a key role in the country's economic growth and in poverty reduction. The GoU aims to increase production and productivity levels in agriculture. Many stakeholders in the agricultural sector mention the limited availability of, and access to, high quality seed as being one of the main obstacles to increasing production and productivity levels. To address this issue, the Centre for Development Innovation at Wageningen University and Research centre (Wageningen UR) designed the integrated seed sector development concept and program.

The overall objective of this four-year program is to improve food security and economic development through integrated seed sector development (ISSD), providing smallholder farmers with access to quality seed. More specifically, ISSD aims to create a vibrant, pluralistic and market-oriented seed sector in Uganda. To achieve this, the program works towards establishing functional local seed businesses, and fosters the development of an enabling environment for seed sector operators at national and local level. This second component of the program focuses on a number of key issues at national and local level that hamper the development of the seed sector, including the quality assurance of seed produced; access to foundation seed; and the integration of the informal seed systems in seed policies and bills. These issues are addressed through multi-stakeholder processes, dialogue and innovation projects.

### 3. Methods and approaches

ISSD works with 30 LSBs in three agro-ecological zones in Uganda: West Nile (Northwestern Uganda), Northern Uganda and Southwestern Uganda. During the first year, the program focused on markets, marketing, quality seed production and access to inputs and services (mainly basic seed).

The first phase (September 2012–December 2014) is currently focusing on 30 LSBs; the second phase of the program (January 2015–June 2016) aims to increase the number of LSBs to 130 through partners adopting the LSB approach. By the end of the program these farmers' groups will be producing and marketing quality seed of locally preferred crops and varieties in local markets, and will be operating as local businesses. They will be technically better equipped, commercially sustainable and able to create linkages with service providers. The ISSD programme focuses on crops that enhance food security and on varieties that are locally adapted and preferred by farmers.

A diagnostic study was carried out in 2012 for each of the farmers' groups; the groups were scored according to factors critical for LSBs to function successfully as commercially sustainable enterprises. These factors, which were defined at the start of the program, are as follows: market, marketing, unique product, consumer feedback mechanisms, access to finance, access to inputs and services, quality seed production, governance and land. In 2013, the program focused on market, marketing, quality seed production and access to inputs and services, with an emphasis on basic seed. A seed expert and an agribusiness expert based at the Zonal Agricultural Research and Development Institute (ZARDI), in collaboration with ZARDI staff, are providing training and mentoring support to the groups in these areas. The programme does not supply free hand-outs and/or start-up material as most of the marketing activities that are implemented by development projects in Uganda stop functioning as soon as the project ends, because the farmers' groups are not required to invest in their own businesses. However, in the ISSD program, once a group has shown serious interest in cultivating seed and has produced seed on a minimum of eight hectares (annually) they can apply for a small infrastructural grant. The group needs to contribute 25% of the requested amount.

### 4. Progress and results to date

Initially, most groups expected the program to purchase inputs for them, even after extensive awareness raising on the concept of local seed business. This delayed the process of mobilizing resources in the first season (2013A). However, the limited availability of foundation seed for certain varieties from the agricultural research centres was also a limiting factor that contributed to the low acreage planted (Table 1).

Table 2 provides an overview of the area planted and the volume of seed produced and sold. Almost all the seed harvested was sold either to farmers in the neighborhood, seed companies, or National Agricultural Advisory Development Services programs. A number of LSBs save a proportion of seed for planting grain in the next season, for their own home consumption.

**Table 1. Number of LSBs and area planted for seed production**

	Southwestern Uganda		Northern Uganda		West Nile		Total	
	2013A	2013B	2013A	2013B	2013A	2013B	2013A	2013B
No. of LSBs producing seed	6	7	7	6	3	10	16	23
Area planted with seed (in hectares)	64	81	118	155	15	51	196	287

Source: ISSD, 2013

**Table 2. Amount of seed produced and sold by LSBs in the 2013A season**

Crop	Acreage planted (in hectares)	Quantity of seed produced (in metric tons)	Quantity of seed sold (in metric tons)	Remarks
Cassava	105	152	143.5	
Beans	37	21.3	17.3	harvest not fully recorded
Rice	32	2.6	64.7	harvest not fully recorded
Soybean	13	5.6	5.6	
Sesame	6	3.8	3.8	
Groundnut	2	2.0	0	
Potato	1	5	2.5	

Source: ISSD, 2013

Farmers, the National Agricultural Advisory Development Services (NAADS) and government extension services are interested in procuring quality seed produced by LSBs. Some LSBs have already sold seed to neighboring farmers. The distance to agro-input dealers and the fact that farmers find it difficult to identify quality seed are major factors impacting the sale of seed produced by LSBs.

## 5. Key factors influencing the success and commercial sustainability of LSBs

### 5.1. Access to inputs and services

The program began late 2012, with the selection of group members and the implementation of diagnostic surveys. Although ISSD made it very clear from the onset of the program that groups would not receive foundation seed to start up their enterprise, the groups still expected to receive such materials. This, together with the lack of funds provided by the groups, resulted in the low acreage of seed planted and, consequently, low productivity in the first season, 2013A. The groups also recognized the lack of availability of foundation seed, and the distance between the source of foundation seed and their fields.

### 5.2. Quality seed production

Preliminary seed testing results showed that the quality of seed produced in Southwestern Uganda meets the germination, purity and moisture content required to be registered as certified seed in Uganda. Field inspections, conducted by breeders from the National Agricultural Research Organization (NARO), were also able to confirm the quality of seed being produced by local seed businesses. Internal quality control is guaranteed by a quality control committee, consisting of group members. The ZARDI agronomist and seed expert also play a role in making sure that quality seed is produced. The ISSD programme is in the process of holding discussions with the government about recognizing seed produced by LSBs as standard seed, and developing a quality assurance mechanism that meets the requirements of quality seed production, while taking into consideration the nature of the LSB.

### 5.3. Markets

Lack of information concerning markets, farmer demand and released varieties makes it difficult for seed producer groups to define what their market is. Currently, they simply produce seed and then market what they have produced, creating a risk of unsold seed when the supply does not meet the demand criteria of farmers.

## 5.4. Marketing

The main advantage of LSBs is their proximity to the farmers they serve. A cost-benefit analysis of seed production shows that it is a more profitable enterprise than grain production for the same crops. For example, farmers who produce bean seed can take home 2.4 million Ugandan Shillings (UGX) per hectare, after valuing all labor, whereas for bean production they would make a loss if they took into consideration all their (home) labor costs. Local seed stakeholder meetings show that farmers and government extension services are interested in quality seed produced by LSBs. Seed produced in the first season of 2013 was sold to neighboring farmers and there is evidence that the LSBs have been reinvesting the profits in their seed enterprise. The distance to agro-input dealers and the fact that farmers find it difficult to identify quality seed are the major factors affecting the sale of quality seed produced by LSBs.

## 6. Discussion

Sustainability of this form of community seed production depends on access to required inputs, recognition of the informal seed system under the Seed Act, and being able to understand and act upon the market demand. The presence of counterfeit seed in the market has deterred farmers from buying quality seed and reduced consumer confidence in commercial seed. The fact that LSBs have closer links to the farmers than commercial companies, and that they are recognized by the sub-county governments and NAADS, motivates farmers to buy from LSBs. At the same time, rumours concerning fake and poor quality commercial seed have made farmers generally reluctant to buy seed.

There is a discord between the food security aim of the program and its business perspective, as the most profitable seed is that which has a high commercial value, such as hybrid maize, which is produced by seed companies. However, the added value for LSBs to produce seed with lower commercial value is their proximity to farmers and the possibility of entering niche markets (low volumes of seed, or seed that is too bulky for seed companies to be profitable).

In summary, for the LSB approach to be a successful way of increasing farmers' access to quality seed, it does not only depend on the entrepreneurial spirit of the farmers' groups, their ability to control the quality of the seed they produce, and their ability to address market needs. An enabling environment for LSBs is essential for success and includes:

- a conducive policy environment and the enforcement of policies and seed regulations;
- access to good quality foundation seed to guarantee the genetic purity of seed produced by LSBs;
- external quality assurance mechanisms to increase consumer confidence in the institutional parties that will distribute the seed to those farmers based further away from the LSBs;
- farmer confidence in quality seed, and in the benefits of their farming systems, to promote an increase in the uptake of quality seed in the country;
- access to credit and inputs, foundation seed or class-1 certified seed, which are needed to operationalize the LSBs;
- proximity to agro-input dealers and other seed company outlets, ensuring LSBs can get a market share; in the long run, agrodealers may play an important role in providing complementary agricultural inputs, such as pesticides and fertilizers, to farmers.

## 7. Conclusions

The concept of community seed production as a market-oriented LSB provides potential for sustainable quality seed production and enhanced food security. However, in order to be successful, the concept requires a favorable national policy environment, access to inputs for quality seed production, and consumer confidence in the seed produced by LSBs.

## 8. References

**Gareeba-Gaso E** and **Gisselquist D**. 2012. Operationalization of the non-ATAAS component of the development strategy and investment plan. Final analytical report on seeds and planting materials. Uganda: Ministry of Agriculture, Animal Industry and Fisheries; Government of Uganda.

**ISSD**. 2012. ISSD briefing notes, September 2012. *In* Uganda seed sector assessment (available at: [www.wageningenur.nl/en/show/Integrated-seed-sector-development-in-Africa.htm](http://www.wageningenur.nl/en/show/Integrated-seed-sector-development-in-Africa.htm)).

**ISSD**. 2013. Access to seed: household survey report (Draft). Wageningen UR, Wageningen, the Netherlands: Centre for Development Innovation.

**Louwaars NP** and **De Boef WS**. 2012. Integrated seed sector development in Africa: A conceptual framework for creating coherence between practices, programmes, and policies. *Journal of Crop Improvement*, 26:39–59.