

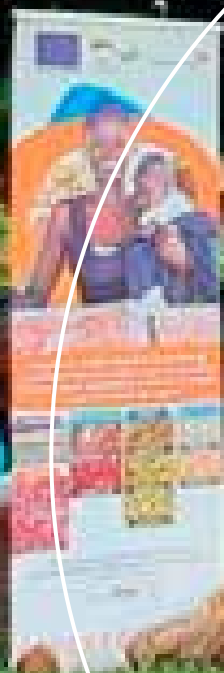
# Local seed business: Learning from experiences on farmer-based seed production in Uganda

FNS-REPRO study visit, 31 October – 3 November 2023

Christine Kawuma Menya, Marja Helen Thijssen, Tony Ngalamu, Geoffrey Otim and Patrick Oyee



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Wageningen Centre for Development Innovation  
Wageningen, March 2024

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Report WCDI-24-322

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Christine Kawuma Menya, Marja Helen Thijssen, Tony Ngalamu, Geoffrey Otim and Patrick Oyee, 2024. *Local seed business: Learning from experiences on farmer-based seed production in Uganda; FNS-REPRO study visit, 31 October – 3 November 2023*. Wageningen Centre for Development Innovation, Wageningen University & Research. Report WCDI-24-322. Wageningen.

The Food and Nutrition Security Resilience Programme (FNS-REPRO) focuses in South Sudan on the development of a robust, inclusive, sustainable and resilient seed sector, to enhance the resilience of the agricultural sector as a whole. A group of experts from various organizations in South Sudan visited Uganda to learn from farmer groups that produce quality declared seed as a business. Participants looked into conditions and opportunities for establishing similar groups back home. They then formulated a number of key actions. Participants concluded that when the right conditions are created, farmer groups are carefully selected and trained in all aspects of seed business, and farmers get the appropriate support, the approach can make a considerable contribution to directly increasing farmer access to quality seed and indirectly increasing food security and farmer incomes. The study visit was organized by ISSD Uganda, in collaboration with Wageningen University & Research.

Het Food and Nutrition Security Resilience Programme (FNS-REPRO) richt zich in Zuid-Soedan op de ontwikkeling van een robuuste, inclusieve, duurzame en veerkrachtige zaaizaadsector, om de veerkracht van de landbouwsector als geheel te vergroten. Een groep experts van verschillende organisaties in Zuid-Soedan bezocht Oeganda om te leren van boerengroepen die bedrijfsmatig kwaliteitszaad produceren. Deelnemers keken naar de voorwaarden en mogelijkheden om thuis soortgelijke groepen op te zetten. Vervolgens formuleerden ze een aantal kernacties. De deelnemers concludeerden dat wanneer de juiste condities worden gecreëerd, boerengroepen zorgvuldig worden geselecteerd en getraind in alle aspecten van de zaaizaad als business, en boeren de juiste ondersteuning krijgen, de aanpak een aanzienlijke bijdrage kan leveren aan het direct vergroten van de toegang van boeren tot kwaliteitszaad en indirect het verhogen van de voedselzekerheid en het inkomen van boeren. Het studiebezoek werd georganiseerd door ISSD Uganda, in samenwerking met Wageningen University & Research.

Keywords: farmer-based seed production, food and nutrition security, local seed business, seed sector development, protracted crisis, resilience, Uganda

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Photo cover: Engagement of study team with farmers of Aye Medo Ngeca local seed business, Dokolo District (photo by Marja Thijssen)

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# List of abbreviations and acronyms

CBO	Community Based Organisation
DAO	District Agricultural Office/District Agricultural Officer
FAO	Food and Agriculture Organisation
FSN-REPRO	Food and Nutrition Security Resilience Program
ISSD	Integrated Seed Sector Development
Kg	kilogram
LSB	Local Seed Business
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries (Uganda)
mt	metric ton
NGO	Non-Governmental Organisation
QDS	Quality Declared Seed
VSLA	Village Savings and Loans Association
WCDI	Wageningen Centre for Development Innovation, Wageningen University & Research
WUR	Wageningen University & Research

# 1 Context

## **The Food and Nutrition Security Resilience Programme (FNS-REPRO)**

FNS-REPRO of the Food and Agriculture Organization of the United Nations (FAO) is a four-year programme addressing the cause–effect relationship between conflict and food insecurity in Somalia, South Sudan and Sudan. It is funded by the Government of the Netherlands. The programme employs a livelihood and resilience-based approach in unstable areas where interventions are normally exclusively of a humanitarian nature. Its interventions will allow FAO and partners to learn and set good examples of how to build food system resilience in protracted crises and strengthen cooperation across the humanitarian-development-peace nexus.

## **Challenges in South Sudan**

South Sudan faces unprecedented humanitarian needs, with more than six million people facing acute food insecurity, and about two million people internally displaced or in situation of armed conflicts. This is exacerbated by recurrent intratribal and intertribal conflicts resulting in loss of lives and productive assets. For many generations, farmers have been facing shortages of quality seeds and planting materials that hampered their capacity to produce enough food for family consumption and market sale. FNS-REPRO has selected the seed sector as the entry point value chain in South Sudan.

## **FNS-REPRO objectives for South Sudan**

FNS-REPRO South Sudan aims to increase the resilience of communities and their food security status through addressing constraints to accessibility, availability and affordability of quality seeds of adapted varieties, taking an integrated seed sector development (ISSD) approach. It specifically aims to strengthen: (i) seed quality assurance; (ii) formal and informal seed outlets and local markets; (iii) institutional and organizational capacity; and (iv) conservation of local crop diversity. All interventions aim to support the development of a robust, inclusive, sustainable and resilient seed sector, enhancing the resilience of the agricultural system as a whole.

## **Ten pathways for improving seed sector performance**

Based on an assessment of the current performance of the seed sector in South Sudan, and key challenges hampering its further development, ten pathways were developed towards a robust, inclusive, sustainable and resilient seed sector in South Sudan (see Box 1).<sup>1</sup> These ten pathways were endorsed by key stakeholders during the South Sudan Seed Hub event of 8-12 September 2022 in Juba.<sup>2</sup> The South Sudan Seed Hub is in essence a multistakeholder platform for South Sudanese stakeholders, for information sharing, capturing good practice, joint learning, and input to policy development.

### **Box 1. Ten pathways to building a resilient seed sector in South Sudan**

1. Developing a national seed policy and seed regulatory framework
2. Strengthening seed sector coordination, digital inclusion and partnerships
3. Supporting the transition from seed relief to seed sector development
4. Strengthening farmer-based seed systems
5. Supporting the development of the private seed sector
6. Establishing a decentralised seed quality assurance system
7. Establishing a national gene bank linked to community seed banks
8. Strengthening crop breeding and access to new varieties
9. Establishing public-private partnerships in foundation seed production
10. Capacity building of key government departments and public institutes

<sup>1</sup> Subedi, A., G.J. Van Uffelen & T. Ngalamu. 2022. Contextual analysis of South Sudan's seed sector and pathways for building seed sector resilience. A Feed the Future Global Supporting Seed Systems for Development activity (S34D) and Food and Nutrition Security Resilience Program (FNS-REPRO) report. <https://www.crs.org/sites/default/files/cont-analysis-ssudan-seeds.pdf>

<sup>2</sup> Van Uffelen, G.J., A. Subedi, T. Ngalamu, M. Thijssen, S. Jubarah, V.S. Bennet, K. Longley, R. Vernooij & M. Mogga. 2022. Policy brief: Ten pathways towards a robust, inclusive, sustainable and resilient seed sector in South Sudan. FNS-REPRO, Juba. <https://doi.org/10.18174/589174>

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## Call to action

Stakeholders in the South Sudan Seed Hub event went one step further, and based on the ten pathways they elaborated a call to action for transforming the seed sector in South Sudan.<sup>3</sup> For each pathway they specified:

- Achievements after 5 years – where do we want to go?
- Achievements after 2 years – what are the low hanging fruits?
- Key priority actions – what needs to be done first?
- Policy recommendations – which policy issues to solve to make it happen?
- Key stakeholders to involve – who should take this up?

## ISSD Africa community of practice – facilitating sharing and learning

ISSD Africa is a community of practice, guiding seed sector innovation and development on the African continent by bringing together international and African experts to test, scale, share and learn what works best in which African context. ISSD Africa supported the South Sudan Seed Hub by facilitating participation of key seed experts from Ethiopia, Kenya, Sudan and Uganda.<sup>4</sup> These experts shared successful intervention modalities and approaches in their countries, and seed hub participants jointly looked into the potential of tailoring these to the South Sudan context. ISSD Uganda presented their experiences with local seed business (LSB), i.e. farmer groups producing and selling quality declared seed (QDS) as a business to farmers within their communities and districts. It was from pathway 4 'Strengthening farmer-based seed systems' (see Box 1), that stakeholders requested FNS-REPRO for the organization of a study visit to Uganda for South Sudanese stakeholders to explore how the LSB approach might support seed sector development in their country. Uganda as a neighbouring country has great similarities with South Sudan in relation to its climate, crops, farming systems and people.

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<sup>3</sup> Van Uffelen, G.J., M. Thijssen, T. Ngalamu, A. Subedi, S. Jubarah, V.S. Bennett, K. Longley, R. Vernoooy & M. Mogga. 2022. Call to action: Priorities and partnerships for a robust, inclusive, sustainable and resilient seed sector in South Sudan. <https://doi.org/10.18174/589173>

<sup>4</sup> See: <https://issdafrica.org/2023/04/05/south-sudan-building-a-robust-inclusive-sustainable-and-resilient-seed-sector/>



## 2 Study visit objectives, outline, and methodology

### Objectives of the visit

As indicated above, the main objective of the visit was to expose South Sudanese experts to the operations of farmer groups who produce seed as a business, and look into opportunities of establishing similar entities back home, but adapted to the context of South Sudan. Specific learning areas/topic addressed included:

- Technical operations of LSBs in the QDS business
- Organisational setup of commercial farmer-led seed enterprises
- Relevant innovations by LSBs in the aspects of product marketing and value addition
- Key linkages with other stakeholders required to make the business successful
- Contribution of LSBs to quality seed use by communities and farmer incomes overall
- The policy environment and seed certification system most relevant to commercial farmer-led seed enterprises.

### Visiting team

The study visit engaged 13 participants from South Sudan and one participant from Somalia. Participants from South Sudan represented NGO's/humanitarian organizations (World Food Programme, S-Bro, World Vision International, AVSI Foundation, Tearfund, ZOA-Dorcas, ACROSS), farmer organizations (South Sudan Agricultural Producers Union), knowledge institutes (University of Juba, Yei Crop Training Centre) and government (Ministry of Agriculture and Food Security). The participant from Somalia represented Sanaag University.

### Box 2. Local Seed Business in Uganda

Commercial seed companies generally focus on the production and sales of quality seed of high commercial value, such as hybrid maize and exotic vegetables, simply because profit margins for the production and marketing of seed of many legumes, pulses, oil seeds and vegetatively propagated crops are low. Consequently, farmers access seed for most of their crops through informal channels. Local seed businesses (LSBs) are farmer-led groups that produce and sell quality seed of the latter type of crops as a business. The seed production process undergoes a less stringent certification process which is decentralised but with the same quality standards as that of certified seed. Since seed is sold in the vicinity of the seed producers, to neighbouring farmers and communities, production and distribution costs are reduced. ISSD Uganda worked with entrepreneurial farmer groups to become sustainable LSBs, and strengthened their capacities in four different areas to become: (i) *technically well-equipped* in QDS production and value addition; (ii) *market-oriented* to produce seed in demand which can be sold with a profit; (iii) *professionally organized* in relation to task division (establishment of committees), financial management and infrastructure; and (iv) *strategically linked* to key stakeholders for access to inputs like basic seed and services like seed quality assurance. ISSD Uganda first piloted the LSB approach with a limited number of groups (30) and generated evidence demonstrating that farmer groups have the ability to produce and market quality seed. At the same time the programme supported the creation of an enabling environment, working with the government on the development of a conducive seed policy and QDS regulations, and development of the capacities of MAAIF and district governments on seed quality assurance, to allow for scaling of the LSB approach. NGOs, zonal agricultural research institutes, farmer associations and private companies were trained; they coached and guided more than 250 new LSB groups in their seed production and marketing efforts. The LSB model showed its potential to bridge the gap for quality seed;<sup>5</sup> the number of organizations taking it up is still increasing.

<sup>5</sup> Mastenbroek, A., G. Otim & B.R. Ntare, 2021. Institutionalizing quality declared seed in Uganda. *Agronomy* 11, 1475. <https://edepot.wur.nl/553242>

## ISSD Uganda

In Uganda, the visitors were hosted by ISSD Uganda, an independent locally-registered NGO, which was the local implementer of the ISSD Uganda programme (2012-2021). ISSD Uganda supported various innovations along the country's seed value chains, playing a leading role in the transformation of Uganda's seed sector<sup>6</sup>. One of the most notable innovations to date was the introduction of the QDS system through the LSB model, i.e. a farmer-led quality seed supply approach (see Box 2). ISSD Uganda has since remained a member of the ISSD Africa community of practice, through which it supports seed sector transformation in other countries including Ethiopia, Mali, Mozambique, Myanmar and Niger.

## Wageningen Centre for Development Innovation

The Thematic Cluster on Seed Systems at WCDI has been leading and contributing to various seed sector transformation initiatives and programmes across Africa, including national programmes in Ethiopia, Ghana, Mali, Mozambique, Niger, Nigeria and Uganda. WCDI also has been leading the continent-wide ISSD Africa community of practice since 2011. WCDI leads the seed systems component of FNS-REPRO, and as such had responsibility for the organization and facilitation of the field visit.

## Field study programme

Find an overview of the field study programme in Table 1.

**Table 1** Overview of the field study programme

Date	Activity
Monday, 30 October	Arrival in Entebbe
	Airport pick-up and travel to Kampala
	Overnight in Kampala
Tuesday, 31 October	Introduction of participants
	Introduction to Uganda's seed sector by MAAIF
	Introduction to ISSD, LSBs and QDS by ISSD Uganda
	FNS-REPRO and study visit objectives by WCDI
	Introduction to the field trip by ISSD Uganda
	Travel to Gulu
	Overnight in Gulu
Wednesday, 1 November	Visit to Tic Ryemo Can LSB in Nwoya district
	Visit to Bedi Jo LSB in Oyam district
	Reflection on field experiences
	Overnight in Lira
Thursday, 2 November	Visit to Aye Medo Ngeca LSB in Dokolo district
	Visit to District Agricultural Office in Lira
	Visit to Alito Joint Cooperative in Kole district
	Reflection on field experiences
	Overnight in Lira
Friday, 3 November	Synthesis of field experiences and translation to South Sudan context
	Travel to Kampala
	Overnight in Kampala
Saturday, 4 November	Early morning flight to Juba

## Field study methodology

### *Presentations and discussions*

On the first day the Assistant Commissioner, Crop Inspection and Certification, Ministry of Agriculture, Animal Industries and Fisheries (MAAIF; Dr. Mary Teddy Asio) provided the visitors with an overview of the setup of Uganda's seed sector to date, and explained the role of MAAIF and achievements made in the recent past. These include achievements as well as challenges in the area of QDS. Subsequently the ISSD Uganda

<sup>6</sup> Find further information at the organization's website: <http://issduganda.org/>

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team (Patrick Oyee and Christine Menya) shared details on the LSB model, the QDS system and the contribution of the ISSD Uganda programme to the transformation in the seed sector since 2012. Later in the week, the District Agricultural Officer (DAO; Dorcus Alum) of Lira District shared experiences on implementing the farmer-led seed production system and the role of her office. After each presentation, there was a question-and-answer session that prompted in-depth discussions and learnings on related topics while comparing Uganda's situation to that of South Sudan.

#### *Site visits to LSB groups*

The visiting team made site visits to four LSBs in the northern region of Uganda to have interactive sessions with the selected groups on operational aspects of a farmer-led seed business. LSBs were selected to provide a diversity of examples (age, stage of development, organization, specialization, crops, etc.). The site visits engaged a total of 119 LSB farmers (74 males and 45 females) overall.

#### *Table and sub-group discussions*

At the end of each site visit day, the team held table discussions to reflect on learnings from the day. These were centred around: (i) strong areas of the LSBs; (ii) weak areas of the LSBs; and (iii) eye openers of the day. At the end of the study visit, the team also randomly split up into three groups to reflect and synthesize the information gained into practical actions for participants. The synthesis session concluded by presenting personal actions based on institutional affiliation.

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# 3 Field visits to local seed businesses and a District Agricultural Office

## Profiles of LSBs and the DAO

Find in the boxes below short profiles of the different LSBs visited (Box 3, 4, 5 and 6) as well as a short profile of the DAO (Box 7). These profiles have been developed based on the presentations and discussions during the visits.

## Key advice from LSB farmers to the visiting team

During the field discussions, based on their experience, the LSB members emphasized a number of areas to take into consideration when supporting LSB establishment; i.e. the need for:

- *Right mindset to produce quality seed:*
  - Passion for farming and quality control
  - Germination tests to be done before planting to allow for proper plant density
  - Cleaning of a few meters around the seed garden and regular visits for disease control
  - Practice of appropriate crop rotation, i.e. growing of groundnut only once in three years.
- *Establishment of demonstration sites for learning:*
  - Demonstration sites are a key learning tool for LSB members, and a key awareness-raising tool for potential seed buyers in the community; each LSB formed should therefore set up such a site seasonally
  - Demonstrate new varieties first, before becoming engaged in seed production.
- *Understanding of seed business sustainability and profitability:*
  - Seed production is a demanding task which is labour intensive and capital intensive; need to realize that growth of the business is generally slow
  - In the context of sustainability, LSB establishment should be supported without providing handouts to the groups
  - LSB should have a clear understanding of how to conduct a profitability analysis for their business; take members through the mathematics
  - QDS prices should be carefully set to avoid putting off potential seed buyers in the community while ensuring that LSB members still make reasonable profits
  - After harvest, do not sell immediately, but store and wait for the market to develop.
- *Diversification of income:*
  - There is a long waiting period between harvest and sale of seed, so LSB members should diversify their income sources and not solely focus on seed production.
- *Supportive leadership:*
  - LSB leadership should take on the approach of 'servant leadership'
  - Group cohesion and team spirit are crucial for continuity of a group, and leadership plays an important role to create that spirit
  - Group members support each other; emphasize togetherness.
- *Establishment of inclusive groups with complementary skills:*
  - Farmer groups should be as inclusive as possible. It is important to involve youth, but also vital to include older members. Experience shows that older members are quick to try out newly introduced innovations and they are more patient than the youth.
  - Groups should also be inclusive in areas of gender, religion, wealth status etc., since different categories of members bring different skill sets into the group
  - Seed production can start with a few group members who can act as a motivation for others over the next seasons; therefore, LSB trainers should not be disappointed when only a few members accept to actively participate in the business at the onset of the interventions.

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**Key advice from the District Agricultural Office to the visiting team**

During the visit to the District Agricultural Office in Lira, in the DAO mentioned a number of points of caution to take into consideration when establishing and supporting a system of decentralized farmer-led seed producers:

- *Focus on sustainable development:*
  - Government has a significant role to play in altering the approach of support to communities, i.e. from relief to development focus
  - Limit handouts to farmers and focus on capacity building if an LSB is to grow.
- *Fight counterfeit:*
  - In order to effectively fight counterfeit seed, capacitate local communities to take the lead
  - Media is key in fighting counterfeit; so it should be engaged as much as possible in seed sector transformation.

### Box 3. Short profile of Tic Ryemo Can LSB in Nwoya district



**Photo 1a-1c** Visit to Tic Ryemo Can LSB, including the groundnut foundation seed production field

#### History

The group was established in 1998 but became an LSB in 2012. It currently has all key LSB committees (production, quality control, marketing, executive) but also committees on gender, loans, and the store. Seed production started in 2013 with five acres of groundnuts, which at that time could not be sold. The group have since continued with seed production. Their enterprises include groundnut, cassava and rice seed. In 2015, the group also started basic seed production in partnership with the NARO groundnut breeder on three acres of land. The basic seed was sold to QDS producers within the group. The LSB mobilises resources using a 'seed box', which is key in saving for the purchase of foundation seed. Customers are mainly the immediate farmers in the community, but the group also sells to the district local government and farmers in neighbouring districts. Seed clients are attracted through awareness creation at field days, seed fairs, weekly village markets and churches. Partners supporting the group include: ZOA, Gulu NGO Forum, Acila enterprises and ACDP.

#### Current seed production

In the 2023A season, the LSB planted 14.5 acres of groundnut seed and harvested 250 bags unshelled. In the current season (2023B), the LSB has planted 15 acres of groundnut, 2 acres of cassava and 10 acres of rice.

#### Key achievements

- Group members have earned good incomes from seed production
- The group has sufficient land for seed production
- The group owns equipment including a tractor, car, planter, rice cleaner, sealer (packaging) and moisture meter
- The group has its own seed store.

#### Key challenges

- Prolonged drought periods hamper crop and seed production
- Bad road infrastructure hampers transportation of the seed produced and results in market challenges
- Access to quality basic rice seed, including late delivery
- Limited store capacity
- Low mechanization especially for planting, which limits seed production acreage
- Late field inspection and late delivery of tamperproof QDS labels.



#### Box 4. Short profile of Bedi Jo LSB in Oyam district



**Photo 2a-c** Visit to Bedi Jo LSB, including the soybean fields demonstrating new varieties with different agronomic practices

#### History

The group was formed by World Vision Uganda in 2015. It received intensive training on commercial seed production and since then has produced seed every season. The LSB is part of a cooperative which has 280 members in total; the LSB itself has 30 seed producer members (12 male and 18 female). Major seed enterprises include soybean, groundnut and simsim. The group is internally supported by an LSB trainer to ensure all activities are well coordinated. Buyers of QDS in the community are also supported on aspects like agronomy and climate-smart agriculture.

#### Current seed production

In the 2023A season the LSB planted 17 acres of soybean seed and harvested 7,900 kg of QDS. In the current season (2023B), the LSB has planted 10 acres of simsim, 6 acres of groundnut and 15 acres of soybean.

#### Key achievements

- Compared to many enterprises introduced in their community earlier, income from seed production has changed the livelihoods of many members (permanent houses, purchase of transport items/motor bikes, and ability to cover basic needs like education)
- Almost all members now own oxen and ploughs
- The group owns equipment like a threshing machine for value addition.

#### Key challenges

- Limited QDS storage capacity.



### Box 5. Short profile of Aye Medo Ngeca LSB in Dokolo district



**Photo 3a-c** Visit to Aye Medo Ngeca LSB learning about their QDS production and sales experience

#### History

The group started seed production with ISSD Uganda in 2013. It is a cooperative with more than 200 members but 23 selected members function as seed producers. Seed producers received training for a full year before engaging in production. The group has the full structure relevant to an LSB (all committees). The group has plenty of land so there is potential to further expand seed production. The group uses a 'seed box' for resource mobilization. It also has a Village Savings and Loans Association (VSLA) within the LSB and farmers are able to access loans when needed. The group retains 5% of member incomes after seed sales for group development. It organizes rotational weeding for all LSB members and each person pays an amount of money for their weeded garden. The funds go to the group account, but at the same time, the seed fields are well taken care of.

#### Current seed production

In the 2023A season Aye Medo Ngeca LSB planted 14 acres of groundnut pre-basic seed and harvested 9,400 kg of basic seed; it also planted 27 acres of simsim seed and harvested 9,258 kg of QDS; and it planted 5 acres of soybean seed and harvested 3,600 kg of QDS. In the current season (2023B), the LSB has planted 20 acres of cassava, 4 acres of groundnut and 2 acres of soybean.

#### Key achievements

- Group members now have modern housing and they are able to cater for basic needs like education
- The group has plans to register as a seed company
- The group was earning UGX 45 million from seed production by 2013 but in 2022 was earning over UGX 80 million.

#### Key challenges

- Poor road infrastructure hampers seed marketing
- Within the community still different perspectives exist on the advantages of using quality seed
- Side selling is still a problem since members have to wait before seed can be sold.



## Box 6. Short profile of Alito Joint Christian Cooperative LSB in Kole district



**Photos 4a-d** Visit to Alito Joint Cooperative including seed store with germination tests

### History

The cooperative started as a farmer group involved in sunflower production in 1998. The LSB methodology was introduced to the already existing group in 2013. They started with 20 seed producers but numbers now grew to 250 trained seed producers. The cooperative as a whole has an additional 5,000 grain producers spread across 14 districts in Northern Uganda. Steady seed production started in 2015 and the LSB has since received significant support from many other projects. The main enterprise of interest is soybean but the cooperative also grows seed of simsim and green gram. The LSB has all the committees relevant to seed production. The cooperative has hired staff that support all farmers in agronomy and agribusiness. It has board members who provide oversight to all implemented activities.

### Current seed production

Seed production has grown over the years from 134 mt (2020), 141 mt (2021), 158 mt (2022) and now 191 mt (2023). In the 2023A season the LSB planted 302 acres of soybean seed and harvested 132,000kg of QDS. In the current season (2023B), the LSB has planted 103 acres of soybean seed.

### Key achievements

- The cooperative receives technical support from various projects, and was able to send members for exposure visits to Kenya, Tanzania and Rwanda
- Members have earned reasonable incomes from the seed business and they have had various developments in their homes
- The cooperative has grown over the years and accumulated various assets useful for seed production
- The cooperative will be celebrating its 25th anniversary in 2024.

### Key challenges

- Farmers are sometimes unsure about buying postharvest handling equipment
- Seed marketing by media (radio) is expensive
- The seed production sub-groups within the cooperative always expect the cooperative to buy back all their seed; some of them are weak at marketing their product
- The cooperative lacks value addition machinery for processing soybean to oil
- When the ISSD Uganda programme ended, some sub-groups within the cooperative collapsed because they could not access quality assurance services like seed sampling and laboratory testing.

## Box 7. Short profile of Lira District Agriculture Office

### History of involvement in seed related activities

ISSD Uganda first engaged MAAIF before starting to work with the district local government. DAO became involved in 2013, when MAAIF inspectors trained all DAOs in districts where LSBs had been established. ISSD Uganda provided trainings and mentorship on decentralized field inspection. To fulfil the growing demand for inspection services, next to DAOs also subcounty level extension staff were trained to support them. ISSD Uganda also significantly invested in capacity strengthening of seed producers. Over time, the demand for quality seed grew in the district and so did its production quantity. With time selected LSBs also started basic seed production to deal with challenges of limited access. To date the demand for quality seed is not yet fully met, hence many other organisations have come in to support seed production by LSBs. Seed companies now contract selected LSBs to grow seed on contract for them but not QDS. In such cases, the seed company is responsible for ensuring the full certification process since the seed will not be sold as QDS but as certified seed. It is interesting to note that farmer groups are willing to pay for the quality assurance services, which is key for sustainability. The Lira DAO has also played a key role in fighting counterfeits within the district.

### Key achievements

- MAAIF is now supportive of the certification services offered at the district level and it has given Lira district two motorcycles to further ease issues of transportation
- Quality seed use within Lira district is estimated at 50% to date.

### Key challenges

- Limited facilitation provided at district local government
- The funds provided are not able to cover movements to all LSBs in the district, especially with the increasing LSB numbers
- Some LSBs do not want to follow the official rules.

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## 4 Learning lessons for South Sudan

### **Reflections by the visiting team**

At the end of each field visit day, the team reflected on the LSBs they visited, and analysed their strengths and weaknesses. Eye openers were also identified (see a summary of the observations in Table 2). The observations serve to learn about issues that are important in relation to the performance of LSBs. The issues are organized according to the four performance areas of an LSB, i.e. being: (i) technically well equipped in QDS production and value addition; (ii) market-oriented to produce seed in demand which can be sold with a profit; (iii) professionally organized in relation to task division, financial management and infrastructure; and (iv) strategically linked to key stakeholders for access to inputs and services.

**Table 2** Identification of LSB strengths, LSB weaknesses and eye openers

	Inward looking	Outward looking
Product	<p><b>1. Technically well equipped</b></p> <p><u>Strengths:</u></p> <ul style="list-style-type: none"> <li>Groups have all the necessary technical knowledge for seed production</li> <li>Groups have infrastructural assets/machinery supporting seed production</li> <li>Groups are willing to pay for seed quality assurance services</li> <li>Groups have access to sufficient land for seed production</li> <li>Ability to organise critical activities like weeding as a group which is paid for by members. Funds go to the group account and all fields are well maintained as a result (Aye Medo Ngeca).</li> </ul> <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> <li>Groups lack reference reading materials for continued learning on good agronomic practices.</li> </ul> <p><u>Eye openers:</u></p> <ul style="list-style-type: none"> <li>The level expertise and confidence expressed in the LSB groups is high, and farmers appear to be able to manage the technical seed production work very well.</li> </ul>	<p><b>2. Market-oriented</b></p> <p><u>Strengths:</u></p> <ul style="list-style-type: none"> <li>Groups have a clear vision which is vital for their growth</li> <li>Groups have a ready market for QDS</li> <li>LSBs are an income-generating enterprise for the farmer groups</li> <li>Income diversification looking at the various enterprises that group members are involved in</li> <li>Good skills for creating visibility for the enterprise activities (Aye Medo Ngeca)</li> <li>Specialisation in one value chain (Alito Joint).</li> </ul> <p><u>Weaknesses:</u></p> <p>Not mentioned in the reflection.</p> <p><u>Eye openers:</u></p> <ul style="list-style-type: none"> <li>LSBs visited appear to be a profitable businesses; there is clear demand for the seed, and generation of income for farmers has been illustrated</li> <li>Three years after closing of the ISSD Uganda programme the four groups visited have further developed their business.</li> </ul>
	<p><b>3. Professionally organized</b></p> <p><u>Strengths:</u></p> <ul style="list-style-type: none"> <li>Groups are well-organised, with clear division of responsibilities, strong leadership, high transparency and clear understanding of the seed business</li> <li>The approach of engaging in sub-groups when producer numbers are high and/or spread apart (Alito Joint)</li> <li>Well organized leadership system with board of governors (Alito Joint)</li> <li>LSB leaders practice servant leadership which is critical for continuity of the LSB (Tic Ryemo Can &amp; Bedi Jo)</li> <li>LSB membership is generally inclusive of all categories of participants, including youth</li> <li>Growth of the seed business is key but the development of members remains its most important goal (Alito Joint)</li> <li>Good record keeping (Aye Medo Ngeca &amp; Alito Joint)</li> <li>The groups conduct regular audits as required of a cooperative which shows their level of organization and competency (Aye Medo Ngeca &amp; Alito Joint)</li> <li>Groups have a mix of saving mechanisms/resource mobilisation approaches (VSLA and seed box).</li> </ul> <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> <li>Limited financial record keeping (Tic Ryemo Can)</li> <li>Likelihood that in the record keeping, the groups do not clearly distinguish incomes from the various activities (i.e. QDS production, grain production and basic seed production), which can affect analysis of the businesses</li> <li>LSBs are operating without an up-to-date business plan</li> <li>Soft loans for seed producers, which could be a sign that members do not reinvest income earned from seed sales (sustainability issue, Alito Joint)</li> <li>Board members are also members of the group, which may result in limited oversight (improve by engaging an external person) (Alito Joint)</li> <li>Overall leadership for most groups seems to have been constant for decades which is not appropriate in governance.</li> </ul> <p><u>Eye openers:</u></p> <ul style="list-style-type: none"> <li>The self-regulatory nature of the groups is high</li> <li>All groups emphasize membership inclusivity.</li> </ul>	<p><b>4. Strategically linked to key stakeholders</b></p> <p><u>Strengths:</u></p> <ul style="list-style-type: none"> <li>Groups have strong linkages to the plant breeders for crops they work with.</li> </ul> <p><u>Weaknesses:</u></p> <p>Limited access to basic seed (Tic Ryemo Can, located in hard to reach area).</p> <p><u>Eye openers:</u></p> <ul style="list-style-type: none"> <li>Buy-in and good support from DOA for the LSB approach with seed quality assurance services provided, with farmer groups willing to pay for those services</li> </ul> <p>Involvement of media in providing information on counterfeit seed.</p>

### Major implications for the context of South Sudan

At the end of the study visit, participants were split into smaller groups to reflect on major learnings from the field visits, and translate their observations to practical entry points for supporting a comparable system of farmer-led seed production schemes in South Sudan. They started by discussing two questions: (i) what are the critical considerations when establishing a sustainable LSB; and (ii) what implications do these have in the context of South Sudan? Find in Table 3 the reflections on the questions.

**Table 3** Sustainable LSBs in the context of South Sudan

Critical considerations when establishing a sustainable LSB	Implications of considerations in the context of South Sudan
<u>Need of enabling environment and collaboration:</u>	
<ul style="list-style-type: none"> <li>The seed policy and regulatory framework need to support local seed/QDS production</li> <li>Partnership and collaboration with stakeholders is critical to facilitate co-investment in the seed value chain.</li> </ul>	<ul style="list-style-type: none"> <li>An appropriate seed regulatory framework needs to be developed</li> <li>A working group/seed sector platform is needed to facilitate/enable seed sector dialogue and support partnerships and stakeholder collaboration</li> <li>Seed sector transformation is a capital-intensive investment, so Government, projects and programmes need to co-invest in a coordinated manner to facilitate the required seed sector change.</li> </ul>
<u>Selection of farmer groups and group capacities:</u>	
<ul style="list-style-type: none"> <li>Conducting a diagnostic survey to analyse the status of the farmer groups on entrepreneurship attitude and motivation, previous experience in seed production, group cohesion and collective action, organizational capacity and access to livelihood assets like land for seed production is vital for group selection</li> <li>In the context of business sustainability, farmers being accustomed to handouts are a limiting factor hampering business opportunities</li> <li>Seed producers need adequate capacity building in areas of agronomy, climate smart practices, seed quality assurance and certification, post harvesting and post-harvest handling, value addition and marketing.</li> </ul>	<ul style="list-style-type: none"> <li>Capacity gaps of farmer groups need to be identified</li> <li>There is need to identify existing seed sector technical expertise in South Sudan; harness it, identify gaps and develop a capacity building plan</li> <li>Currently farming communities have minimal motivation to invest</li> <li>There is need for intensive sensitization campaigns to drive the demand for quality seed since farmers are used to free seed from handouts and farmer-saved seed</li> <li>The LSB model may attract the interest of youth.</li> </ul>
<u>Access to infrastructure, inputs and services:</u>	
<ul style="list-style-type: none"> <li>Appropriate seed storage facilities are vital to bridge the gap between seed harvest and planting</li> <li>Need for operational and functional research centres that can produce adequate basic seed of varieties adapted to the area</li> <li>Access to financial resources and credit (especially internal sources) through savings/self-help savings schemes like VSLA/seed box is important.</li> </ul>	<ul style="list-style-type: none"> <li>Existing research centres at country and state level are weak and face challenges in governance</li> <li>There is currently an acute shortage of basic seed in South Sudan hence universities need to increase its supply</li> <li>Need to identify farmer-preferred varieties (current negative perception of farmers on improved varieties); link farmer communities and breeders</li> <li>Operationalise the existing regional research laboratories to facilitate seed sampling and testing services for seed producers. A good business model and plan needs to be put in place.</li> </ul>

Topics that elicited intense discussions during the reflection session include:

- Status of availability and access to farmer-preferred crop varieties
- The feasibility of involving seed companies to solve the basic seed access problem
- Seed sampling and testing; can this be done by the South Sudan Bureau of standards?
- The seed systems resilience assessments; the need for team members to review the available reports which offer baseline information
- The need to clearly distinguish the various seed classes before tackling the seed access problem

### Recommended actions

Next the groups elaborated the key actions for establishing a farmer-led seed system, contributing to increasing farmers' access to quality seed in South Sudan. They were asked to consider the role their own organizations may play. The key actions mentioned are linked to one or more of the other nine pathways as elaborated for building a robust seed sector in South Sudan (find the summarized actions and the implementers in Table 4). The table also provides the link to the different seed sector development pathways (see also Box 1 and the call to action brief<sup>3</sup>).

**Table 4** Recommended key actions and link to the 10 pathways to building a robust seed sector

No.	Key action	Lead stakeholders	Link to seed sector transformation pathway
1	Trigger policy review and favourable policy formulation to facilitate local seed business	Government	1-Seed policy/regulations 6-Decentralized seed quality assurance
2	Establish a working group on strengthening farmer-led seed systems to stimulate collaboration among stakeholders	Juba University	2-Sector coordination & partnerships
3	Agree to reduce hand-outs to farmers	Government, NGOs, CBOs	3-From relief to development
4	Analyse ongoing interventions and pilot the LSB approach before rolling it out fully	NGOs, CBOs	4-Farmer-based seed systems
5	Create awareness of the opportunities to strengthen the farmer-led seed system within farmer communities	NGOs, CBOs	4-Farmer-based seed systems
6	Support and emphasize market linkages for farmer seed producers	NGOs, CBOs	4-Farmer-based seed systems
7	Support variety selection and development	Universities, Research	8-Crop breeding & variety access
8	Support the production of adequate quantities of basic seed	Universities, Research	9-Foundation seed production
9	Build capacity of all seed value chain actors on supporting farmer-led seed production	NGOs, CBOs	10-Capacity building public institutes
10	Create a pool of competent trainers who can lead LSB establishment	NGOs, CBOs, Universities	10-Capacity building public institutes

### Immediate actions for participants

In their capacities as individuals and representatives of various organisations, participants were tasked to highlight their immediate areas of action following the various lessons learned from this visit. They noted the following:

#### *Participants from NGOs and CBOs:*

- Include the LSB approach of seed production and marketing in upcoming proposals and concept notes to lobby for funds for its implementation
- Build capacity of livelihood staff on farmer-led seed production
- Train farmers in commercialisation of seed production through the LSB approach
- Re-align existing seed production activities by commercialising the current approaches through the LSB model
- Emphasise income diversification among farmer groups
- Ensure regular interaction with the Ministry and research to share relevant information
- Review the available baseline reports on seed systems resilience and use them as a benchmark for implementation of organisation specific baseline studies.

#### *Participants from research, university and the Ministry of Agriculture*

- Inform policy framework to incorporate farmer-led QDS production and marketing
- Facilitate development of QDS regulations
- Strengthen the capacity for local seed inspection
- With support from breeders, increase foundation seed production of selected crops as input to QDS production
- Address the LSB model in university curricula and develop training materials for students and other professionals.

### Conclusions

Participants appreciated the study visit programme and their interactions with the various actors in the seed sector. Participants concluded that when the right conditions are created, farmer groups are carefully selected and trained in all aspects of seed business, and get the appropriate support needed, the approach can make a considerable contribution to directly increasing farmers' access to quality seed, and indirectly making a contribution to food security and farmers' incomes. They indicated that they want to test the commercial farmer-led seed production approach, in spite of challenges related to South Sudan's seed

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regulatory system, research and plant breeding, and look into the opportunity of modifying existing seed programming as well as developing new proposals.

From their practical experiences, LSB farmers highlighted the critical aspects to success of local seed business, which are important guiding points especially to the NGOs and CBOs whose role will be the roll out of the model to farmer communities. Local government (DAO) and central government (MAAIF) indicated the need for the right policy and regulatory framework recognizing the value and allowing for farmer-led seed production and marketing. The visiting team consisted of a mix of participants representing various organisations that have different roles to play along the seed value chain and each had an opportunity to synthesise their contribution to the required transformation into actions at individual level.

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