

Monthly Bulletin

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In-house LSB trainers after a capacity strengthening exercise in Rwenzori zone

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Editorial

ISSD Uganda takes special interest in growth of the seed sub-sector which makes up our first strategic objective. In this newsletter, we take you through a few basics by highlighting the features of Uganda's seed delivery systems which have evolved since 2012. This newsletter enlightens readers about the Quality Declared Seed (QDS) system which is a game changer in Uganda's seed sector.

We also wish to encourage the various stakeholders in the agricultural sector to continue collaborating with ISSD Uganda on this journey to create a resilient seed system.



*Patrick Oyee,
Managing Director ISSD Uganda*



Back to basics: Why an effective seed delivery system is critical to the agricultural sector

Seed is a vital input in crop production because it is only through seed that the investment made in other inputs like pesticide, fertilizer, irrigation and crop maintenance can be realized. According to Uganda's National Seed Strategy (2018), the use of quality seed has the potential to increase yields by up to 40%. In addition to this, seed is a basic requirement under the following conditions;

- Carrying new technology where varieties are improved or fortified
- Securing of yields in unfavorable production areas
- Rapid rehabilitation of agriculture following the occurrence of a natural disaster

For seed to fulfil its role in crop production, an effective seed delivery system has to be in place. We look at the seed delivery systems in Uganda and the changes they have undergone since 2012.

Predominant seed delivery systems in Uganda

Uganda's seed sub-sector had been characterized by three major seed delivery systems that have shaped the status of quality seed use of smallholder farmers. These seed delivery systems and their distinct features are described below;

The farmer saved seed system

This is the most dominant system from where over 80% of smallholder farmers in Uganda derive their seed. In this system farmers save part of their crop as seed for the next season, and in addition exchange seed with neighbors and relatives, or purchase it at local markets. The crops in this system are local food crops like sorghum, pulses, root and tuber crops, mainly with local varieties.

The community-based seed system

Under this system, farmers work in groups, often supported by NGOs in organized seed production. In this system, mostly local food crops are addressed like cereals, pulses, oil

crops, bananas, cassava and potato, of local as well as improved varieties. The quality of seed produced ranges from being regulated to being unregulated. Seed is used by community members, but may also be sold at informal markets, or distributed through NGO schemes.

Certified seed system

In this system, national and international commercial seed companies focus on crops for which they can produce quality seed and make profit. The crops in this system are majorly maize, sunflower and exotic vegetables. Seed companies tend to shy away from non-hybrid crops due to their low profit margins and seasonal demand uncertainties. The seed companies sell certified seed through agro-dealer networks, or directly to government input schemes and NGOs.

The gap in the seed delivery system

The National Seed Policy (2018) highlighted that only 15% of seed and planting material used by farmers in Uganda comes from the formal seed supply system. Most of this being produced by commercial seed companies whose focus is high-value hybrid crop varieties with high seed replacement rates which earns them high annual profit margins.

With the formal seed system concentrating on a few high value crops, food security crops such as legumes, oil seed, small cereals and vegetatively propagated crops are neglected. Seed for these categories of crops largely comes from the informal seed system. These are mostly open-pollinated varieties (OPVs) and self-pollinated crops with low seed multiplication rates and low seed replacement rates, which results in low profit margins and unpredictable seasonal demand. This has contributed to declining crop productivity due to lack of improved quality seed for the neglected crops.

The Quality Declared Seed (QDS) system

In order to address the inadequate availability of quality seeds for food security crops in Uganda, two ISSD projects that run from 2012-2021 in Uganda collaborated with the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF) and the National Agricultural Research Organisation (NARO) to primarily promote the concept of quality declared seed (QDS) and to create the ideal environment for this alternative quality seed delivery system to complement the existing formal seed system. The QDS system was introduced in six agroecological zones of Uganda in the North, Southwest, West Nile, South Western Highlands, East and Western Highlands. The ISSD projects that supported this initiative were funded by the Embassy of the Kingdom of Netherlands in Kampala (EKN).

Features of the QDS system

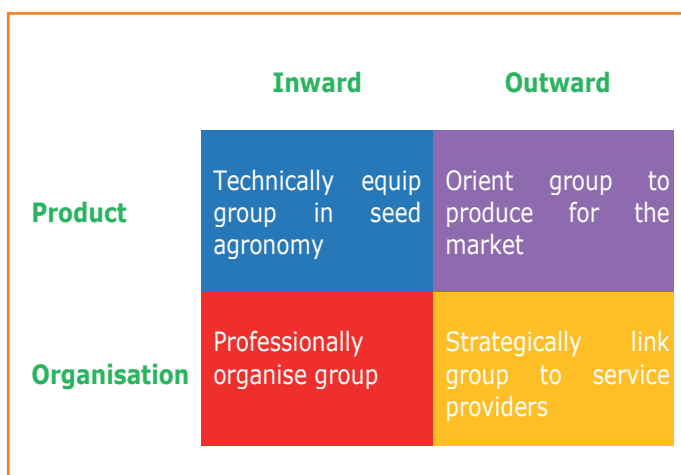
Flagship crops

The QDS system targets crops under five categories shown below. QDS is intended to compliment – and not compete – with the formal seed system. Thus, it intentionally excludes maize, sunflower, and vegetables because seed for these three crops is satisfactorily supplied under the certified seed system. The varieties produced are those with high demand within the areas where Local Seed Businesses (LSBs) operate.

Legumes	Oil crops	Small seeded cereals	Roots and tubers	Pasture
Beans	Groundnut	Rice	Sweet potato	Chloris Gayana
Cowpea	Soybean	Finger millet	Cassava	
Green gram	Sesame		Potato	
Pigeon pea				

Methodology for implementing the QDS system: The LSB Approach

In Uganda, the QDS system is implemented through the Local Seed Business (LSB) approach which is an innovation of the Wageningen University and Research Centre for Development Innovation (WCDI). Under this methodology entrepreneurial farmer groups are trained to produce and market quality declared seed (QDS) within their communities as a business.



LSBs capacity building focuses on four key performance areas over the first year of establishing the seed producing group. Coaching is then continuously provided to these farmer groups after the first year depending on the gaps which are usually group specific.

Significant efforts are put into building capacity of LSBs over a prolonged period of time because seed production is a delicate business as compared to food production and there has to be a business case for sustainability of a seed enterprises; something achievable in more than just one cropping season.

Zone	# Districts	# LSBs	Principal crop	Other crops
Southwest (Ankole)	9	33	Beans	Millet, potato
South Western Highlands (Kigezi)	4	28	Potato	Climbing beans
Western Highlands (Rwenzori)	8	42	Beans	Potato
East	17	50	Beans, soybean	Groundnut, rice, soybeans, potato, cassava
North	17	61	Soybean, Groundnut, Rice	Sesame, Pigeon pea, Beans, cassava
West Nile	9	36	Sesame, cassava	Beans, Potato

By 2020, the ISSD projects had established over 250 active LSBs through partnership with over 29 out-scaling partners. These seed producing groups are spread over 64 districts in Uganda

QDS production cycle

QDS is multiplied from early generation seed (EGS) that is provided by NARO to LSBs for multiplication. For quality assurance, QDS fields undergo 1-2 field inspections done by a trained District Agricultural Officer (DAO) and seed testing by the MAAIF national seed testing laboratory in Kawanda. The quality assurance process ends with the issuance of a green tamperproof label which is attached to a QDS pack during sale. LSB farmer groups pay for all the quality assurance services. The internal quality control committee within each LSB also plays a critical role in monitoring seed quality within the LSB.



Regulatory framework for the QDS system

The National Seed Policy (2018) and National Seed Strategy (2018-2023) recognize the QDS seed class as an additional seed delivery system. To avoid confusion in the certified seed market which is guided by the Seed and Plant Regulations (2017), it was deemed necessary to develop separate regulations for the QDS class specifically for the domestic seed market. The ISSD projects supported development and final legal drafting of the Seed and Plant (Quality Declared Seed) Regulations that were gazetted in 2020. All QDS operations are therefore guided by these regulations.

Why the QDS system is a game changer

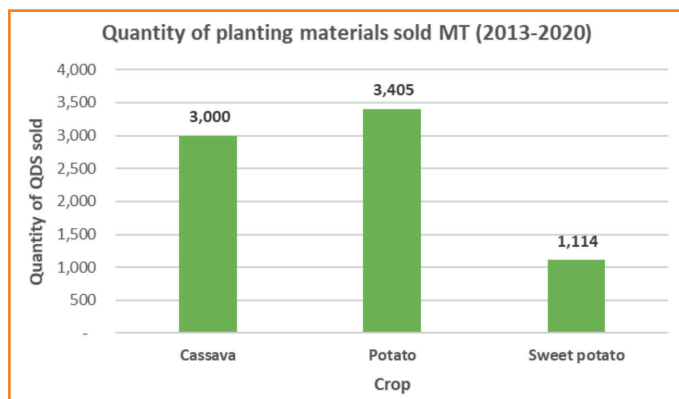
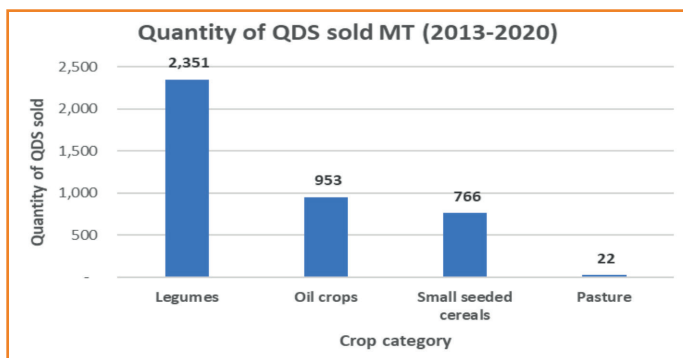
The QDS system brings the following advantages to the seed delivery system in Uganda;

1. The system operates within farmer communities which increases access to quality seed and farmers' trust in the QDS product
2. It complements the certified seed class as it fills the quality seed gap for crops that are not covered by the certified seed system
3. Part of its quality assurance processes (field inspections) are decentralized making services more affordable and accessible for the seed producers. This has a bearing on the price of QDS
4. Because QDS production is done in an organized group, seed farmers enjoy economies of scale in production and marketing of the product
5. Compared to other community seed multiplication initiatives, the LSB approach of operationalising the QDS system is business centered making it self-driven and therefore sustainable. No hand outs are given to these farmer groups as a best practice.



Seed sampling by a MAAIF officer at Kyazanga LSB, Lwengo District

Achievements under the QDS system (2012-2020)



59 crop varieties were disseminated by LSBs for 14 self-pollinating and OPV crops



948 MT of QDS was produced for Iron-rich bean varieties (NARO Bean 1,2,3,4C & 5C)



554 MT QDS planting materials was produced for Vitamin A-rich sweet potato varieties (Naspot 8,9,10,12,13 & Ejumula)



UGX 22 billion was earned in income by LSBs through sale of QDS

Way forward for the QDS system

The areas highlighted below encompass some of the key interests of the newly established organization (ISSD Uganda) under its first strategic objective which aims at promoting resilient seed systems for sustainable agricultural productivity. These areas are proposed solutions to some seed delivery system gaps that were still pending by the end of the ISSD Plus project in 2021.

1. Scaling the LSB approach

The number of seed producer groups are still few and not well spread out in all districts. Currently, LSBs exist in only 64 of 146 districts. To scale these nationwide, like-minded organisations need to come together to support interested farmer groups using the LSB approach

2. Formal accreditation of DAOs

The decentralised quality assurance scheme is designed to relieve the pressure off the national certification by decentralising inspection services at the district level. The ISSD projects supported the National Seed Certification Services (NSCS) to train DAOs in conducting field inspections and issuance of recommendations on quality. It is essential that the DAOs are formally accredited so that districts can embed this service into their annual work plans and budgets.

3. Operationalising the digital Seed Tracking and Tracing system (STTS)

To ensure that farmers get quality seed, it is essential to streamline the multiple seed supply chains. This can be achieved by operationalising the digital Seed Tracking and Tracing System (STTS) that was developed by MAAIF with support from ISSD project. This will minimise the sale of fake seed.

4. Increasing utilisation of quality seed

It is essential that; all sector actors clearly understand their roles and responsibilities for effective implementation of the National Seed Strategy (NSS); breeders develop variety descriptors to guide farmers in variety choice; the market potential of new improved varieties

stimulates demand for quality seed; and above all that the technical capacity of seed producers is enhanced. This will go a long way in addressing challenges in the utilisation of quality seed by smallholder farmers.

5. Implementing seed sector regulations

While an enabling environment for the seed sector has been put in place, the implementation of the seed strategy requires deliberate efforts by the District Local Governments (DLGs) to embed seed-related activities in their annual works plans. This is especially critical for activities related to field inspection, supporting LSBs in their seed businesses and disseminating good agricultural practices to enhance crop yields to have surpluses for agro-industrial processing. Furthermore, the Seed and Plant (Quality Declared Seed) Regulations need to be disseminated to guide the LSBs in their seed businesses.



An extension officer inspecting an LSB QDS soybean field in Rwenzori zone

Read more about the QDS system

Mastenbroek, A., Otim, G., & Ntare, B. R. (2021). Institutionalizing quality declared seed in Uganda. In *Agronomy* (Vol. 11, Issue 8). MDPI AG.

<https://www.mdpi.com/2073-4395/11/8/147>

April News highlights



ISSD Sahel team during the visit of ISSD Uganda

ISSD Sahel exchange learning visit to Uganda

ISSD Uganda's success in supporting seed sector transformation in Uganda has stimulated interest among various seed programs in the region and beyond, to learn about accomplishments, challenges and opportunities for purposes of adapting ISSD Uganda's model to their respective contexts. One such program is the ISSD-Sahel implemented by a consortium of partners including Royal Tropical Institute (KIT), International Fertiliser Development Centre (IFDC), International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Sasakawa Africa Association (SAA) and Wageningen University and Research Centre for Development Innovation (WC DI) in Niger and Mali.

ISSD Uganda hosted the ISSD-Sahel team in Uganda from 20-26 March 2022, with the objective to learn from the successes and achievements of the ISSD projects. The ISSD-

Sahel team consisted of 30 participants representing farmers' associations; private seed companies; cooperatives; community-based seed producers; regulatory agencies; United Nations Food and Agriculture Organisation (FAO); and research from Mali and Niger. While in Uganda, the ISSD-Sahel team interacted with other seed sector actors including NARO, NARO Holdings Ltd, Makerere University, Ministry of Agriculture Animal Industry and Fisheries (Department of Crop Inspection and Certification), the district Local government, Local Seed Business farmer groups (South West) and Community Seed Banks (Shema District).

This exchange visit is an ISSD Sahel activity under its medium-term objective of establishing a vibrant, dynamic and pluralistic seed system that takes into account the coexistence of formal, intermediate and informal seed systems in the supply of seeds to small-scale agricultural producers in the target areas.

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