

ISSD Uganda



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Status of the seed sector in Uganda

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"A well-functioning seed system is defined as one that uses the appropriate combination of formal, informal, market and non-market channels to stimulate and efficiently meet farmers' evolving demand for quality seeds." Meridia et al. (1999)

The seed sector in Uganda at a glance

Seed systems can be characterised by the domains in which they operate (public, private, informal, formal and mixed) and the types of crops produced (food and cash crops). Also important are the type of variety used (land races, improved, exotic and hybrids); the type of quality assurance mechanisms in operation (informal, quality declared, truthfully labelled and certified); and seed supply mechanisms (local exchange, agro-input dealers, and subsidised distribution).

The Ugandan seed sector is characterised by co-existing formal and informal systems. The formal system is responsible for improved and certified seed production through

structured systems of variety development, release, multiplication, quality control, distribution, and marketing. The major players in the formal system are public institutions (government, international and national research) and the private sector (seed companies, member associations and NGOs, development agencies, community-based organisations and farmer cooperatives). All are linked together through the Ministry of Agriculture Animal Resources and Fisheries (MAAIF) and the National Agricultural Research Organisation (NARO). The formal system is estimated to contribute 15% of improved certified seed use (Draft National Seed Strategy, 2015).

On the other hand, the informal system is responsible for 85% of seed planted. Here, seed is sourced mainly from farm-saved seed from previous season's crops and community-based seed multiplication and dissemination. There is no formal quality control in the informal seed system.

The Government of Uganda (GoU) is aware that informal seed systems can act as a stepping stone and lead to increasing use of certified seed, provided that informal sys-

tems are strengthened and linked with centralised seed certification. The development of such integrated seed systems requires technology adaptation, flexible seed legislation and regulation, wise enforcement, and institutional capacity.

Each seed system is characterised by who produces the seed, which crops and varieties, types of quality assurance and seed distribution (see Table 1).

The formal seed system

NARO is Uganda’s leading public organisation for research and development. Within NARO, the National Crops Resources Research Institute (NaCRRRI) is responsible for maize, rice, common beans, soybean, sweet potato and cassava breeding programmes. The National Semi-Arid Resources Research Institute (NaSARRI) is responsible for sorghum, sesame, finger millet, cowpea, sunflower, and groundnut breeding programmes. Kachwekano Zonal Agricultural Research and

Table 1: Characteristics of Ugandan seed systems

<i>Characteristic</i>	Farmer saved (informal)	Farmer-to farmer entrepreneur (informal)	Community-based seed multiplication (informal)
<i>General description</i>	Traditional for food and subsistence crops	More entrepreneurial for local crops	Development-oriented with support through NGO programmes
<i>Crop type</i>	Food crops	Food and cash crops	Major food and cash crops
<i>Major crops</i>	Beans, cowpea, pigeon pea, green grams, millets, sorghum, open pollinated maize, banana, sweet potato, cassava	Indigenous vegetables, spices and medicinal plants	Beans, rice, maize, sorghum, cassava, banana, sweet potato, potato, fruits
<i>Type of varieties</i>	Local varieties and introduced and recycled improved varieties	Local indigenous varieties	Improved varieties released through public programmes and local varieties
<i>Type of seed quality assurance</i>	Farmer-saved (informal)	Farmer-saved (informal)	Standard
<i>Type of distribution and marketing</i>	Farmer-saved and exchange, local grain markets	Local markets	NGO distribution and exchange

Adapted from ISSD Africa Briefing note, September 2012, and other sources.

Development Institute breeds Irish potato. Makerere University also contributes to soybean and cowpea crop breeding and variety release. International agricultural research centres and multinational seed companies are also sources of new improved varieties. Currently, NARO is the only source of pre-basic (breeder) and basic (foundation) seed for released varieties (see Box 1 for seed class definitions). Private seed companies and other seed multipliers obtain their basic seed from NARO breeders. However, some

Ugandan seed companies obtain breeder seed from research centres, multiply it into basic seed, and then sell it to other seed companies (The African Seed Access Index-Uganda Policy Brief, March 2015).

Seed companies and other seed multipliers face challenges when accessing basic seed. Limited availability of basic seed for certain crop varieties and inadequate breeder seed volumes are among the major constraints hampering the development of the Ugandan

Local seed business (intermediate)	National seed companies (formal)	Multinational companies (formal)	Cash crop value chains (formal)	Other closed value chains (formal)
Market-oriented farmer groups, LSBs, and individual farmer entrepreneurs	Emerging and vibrant system with many companies with strong focus on maize (but including other crops), marketing through agro-dealers or input networks	Own varieties and basic seed; structured quality seed production, direct marketing and through agro-dealers	Semi public and private system with distribution through commodity organisations	Closed systems with export commodities
Food and cash crops	Food crops	Major food and cash crops	Smallholder cash crops	Plantation and greenhouse cash crops
Beans, rice, sorghum, cassava, potato, sesame, soybean, groundnut	Maize (hybrid and OPV), sunflower (hybrid and OPV), brewing sorghum, beans, rice, groundnut	maize (hybrids), sunflower (hybrids), vegetables, pasture crops	Coffee, cocoa, cotton	Sugar cane, tea, oil palm, tobacco, flowers
Improved varieties released through public programmes, self-pollinated crops	Improved varieties released through public breeding research institutes	Improved varieties released through private breeding companies	Improved varieties released through public breeding programmes	Improved varieties released through private breeding programmes
Quality declared seed	Certified	Certified/(quality declared seed for vegetables & pastures)	Quality	Quality
Local marketing, distribution and marketing	Marketing through agro-dealers and input schemes	Direct marketing and through agro-dealers	Distribution and marketing	Seed import for use within value chain

seed sector. This is largely due to funding challenges of breeding institutions that are mandated to produce and deliver early generation seed (i.e. breeder and basic seed). The national seed strategy proposes devolution of basic seed production to seed companies.

The formal seed system comprises registered seed merchants such as companies, individuals, cooperatives or farmer associations. Registered merchants are responsible for producing, conditioning, distributing and marketing improved seed of released varieties. These registered merchants produce 'certified seed' of mainly hybrids and open pollinated crops like maize, sunflower and sorghum, and a few self-pollinated crops like beans and soybean.

There are 25 registered seed companies producing an estimated 18,000 MT of seed, contributing to about 15% of planted seed. Seed distribution in local markets is carried out through an agro-inputs dealers' network. The formal system also includes seed trade, such as imported vegetable seeds for the domestic seed market, and export to regional markets. The National Seed Certification Service (NSCS) regulates the formal seed system - from variety listing through to final seed certification - but systemic weaknesses result in ineffective monitoring of field production and seed conditioning for quality control.

Semi-autonomous government bodies like the Uganda Coffee Development Authority (UCDA) and the Cotton Development Organisation (CDO) operate a closed value chain for cash crops - where producers control the whole chain - facilitating the production and sale of seed and planting materials of these crops to smallholder farmers. Both CDO and UCDA have their own internal quality controls independent of the NSCS. CDO gets

pre-basic cotton seed from NARO, bulks it with selected farmers and arranges for seed to be dressed. CDO delivers seed to farmers with quality control conducted internally. For other cash and export crops - such as oil palm, sugarcane, and tobacco - companies in the sector manage seed propagation and sale along with other aspects of the value chain. This vertical integration has well-established voluntary regulatory mechanisms. Uganda's tea sub-sector has both smallholders (to whom the government provides research and supplies planting material) and large producers who manage their own seed supply. The formal system also covers international seed trade, including vegetable seed imports for the domestic seed market and seed exports to regional markets.

Informal seed systems

Informal seed is supplied by home-saved seed through selection and preservation of previous crop harvests to predominantly meet communities' food requirements. These are mostly self-pollinated crops, such as rice, millet, legumes (cowpeas, groundnuts, soybean and green grams), for which it is easy to maintain genetic purity through successive generations. Also included in this system are vegetatively propagated crops (Irish potato, sweet potatoes, cassava, bananas and various tropical fruit trees). Access to these seeds and planting materials is through community exchange and, to a limited extent, through local markets. Women play a pivotal role in informal systems, including in variety selection, multiplication, seed condition and seed marketing. This system is usually unregulated, but quality assurance is based on mutual trust.

Intermediate seed systems

There is growing awareness that the formal system, with defined quality standards, may



Deliberations during NSS validation workshop

not be able to solve the problem of quality seed availability. To circumvent the weaknesses in the formal sector's regulatory and institutional environment, MAAIF (through NARO institutes) provides improved varieties for food and nutrition security crops through NGOs, farmers' associations and donor-funded seed projects to farmers' groups for further multiplication.

The Integrated Seed Sector Development project (ISSD) in Uganda is focusing on empowering skilled and enterprising farmers involved in informal seed systems to become specialised seed producers. This is being achieved through a local seed business (LSB) model to produce and market QDS as a way of intermediating between informal and formal seed systems, which is expected to create a vibrant and pluralistic seed sector in Uganda. The National Seed Strategy (2015) projects that the LSB model will contribute an additional 25% share of quality seed (QDS seed class) by 2020.

Seed demand

Uganda currently lacks accurate data on seed demand, seed production, seed import and export. Seed demand data is useful for decision-making and planning purposes; it is required by a cross section of stakeholders like farmers, researchers, investors, government, policymakers, donors and seed producers. However, there is limited capacity and resources to collect the required data. Seed companies are routinely requested to provide information on quantities of seed produced, imported and exported but most companies are not responsive, sighting sensitivity and confidentiality of the information required. As a result, available data is scanty and unreliable. Furthermore, demand for early generation seed (breeder and basic) is uncertain and unreliable making estimations of effective demand for certified or quality declared seed impossible. This hampers planning and forecasting for an effective seed production programme.

It is estimated, and broadly accepted, that counterfeit seed accounts for 30-40% of seed for sale in Uganda (Proceedings National Stakeholders meeting, 2014). The NSCS, which is mandated to enforce regulations against counterfeit seed, lacks the necessary means to do so. Moreover, the fines for seed counterfeiting are too low to serve as a deterrent to offenders. Farmers' seed is not delivered in time due to the high cost of distribution to widely-dispersed small farmers and a weak seed dealers' network. The seed price is often not competitive as the returns for seed use (outputs) are low, compounded by inadequate availability and high costs of other complementary inputs (fertilisers and pesticides). Farmers are beginning to trust QDS as it is produced in the communities by farmers themselves.

Seed policy and regulatory environment

Uganda has made strides in developing an institutional and policy framework for the seed sector, although implementation remains a challenge. MAAIF's National Seed Bureau formulates seed policies and implements them. The NSCS in the Department of Crop Inspection and Certification (DCIC) is responsible for implementing seed policies and all matters relating to seed quality control and certification. The Seed and Plant Act (2006) is the legal framework 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 draft Seed and Plant Regulations (2015) provides guidelines for enforcement of the 2006 Act. The objective of the National Seed Policy (draft, 2014) is to ensure market availability of adequate, high quality and safe seed in order to increase agricultural production and productivity for improved standards of living and food security. The policy recognises both formal and informal seed systems and emphasises public-private-partnerships for the development of a vibrant seed sector. The policy also recognises the addition of a

QDS class to bridge the gap between formal and informal systems. A National Seed Strategy (NSS) has been drafted to implement the seed policy.

The current seed quality control and certification regulations require official inspection of almost all seed production operations. In addition to field inspections and seed testing, also imposed is permission to transport seed to seed companies and official orders to process and condition seed. This increases seed companies' transaction costs who have to pay for these services.

The Plant Variety Protection (PVP) Act (2014) provides for promotion, development and protection of new plant varieties as a means of enhancing breeders' innovation and rewards through granting plant breeders' rights, ownership and use rights of varieties. The objective is to enable Uganda become a member of the International Union for the Protection of New Varieties of Plants. Unfortunately, implementation of this law is being challenged in courts of law in Uganda.

The National Agricultural Policy (2013) guides all actors in the agricultural sector to make investments that will increase incomes, reduce poverty and improve household food and nutrition security, create employment and stimulate overall economic growth. Interventions under this policy cater to all farmer categories and the private sector.

The Agriculture Sector Strategic Plan (2015), like the National Agriculture policy, looks at agricultural sector performance and its contribution to the national economy - in terms of poverty reduction, food and nutrition security, as well as employment. The strategy also looks at challenges to agricultural performance and institutions, such as



MAAIF, concerned with agricultural sector development. The plan details investment areas and development strategies for the agricultural sector, which are broad and inclusive. The seed sub-sector described in the plan emphasises a dynamic and pluralistic seed system that is inclusive of all actors in the seed value chain and provides activities for strengthening the NSCS and integrating formal and informal seed systems.

The Plant Protection and Health Act (2015) consolidates and reforms the law relating to protection of plants against destructive diseases, pests and weeds to prevent the introduction and spread of harmful organisms that may adversely affect Uganda's agriculture. The Act provides regulation for exporting and important plant and plant products to protect and enhance the international reputation of Uganda's agricultural products.

The national policy on Plant Genetic Resources for Food and Agriculture (2015) applies to plant genetic resources for food and agriculture whether naturally occurring or naturalised, including those bred or intended for commercial purposes within Uganda or for export, whether under *in-situ* or *ex-situ* conditions. The policy also applies to imports and regional and international exchange of germplasm and provides for policy interventions for the survey and inventory, conservation, sustainable use and equitable sharing of benefits arising from the use of these resources. Activities to promote and build capacity of farmer and community groups are enshrined in the policy, including groups led by women or youth. This is to conserve crop varieties that have high food security and nutritional value.

Seed-related programmes

The GoU and donor programmes fund most seed activities in the country, which focus

mainly on strategic crops, such as maize, beans, rice and cassava, but also small-holder cash crops like cotton and coffee. These programmes support the private sector, intermediary and more informal seed systems. NARO runs public breeding programmes for these crops and is responsible for the production of breeders' seed and early generation seed. Through the Agricultural Technology and Agribusiness Advisory Services project, NARO produces pre-basic and basic seeds, trains seed companies, and promotes seed production in the informal sector. The National Agricultural Advisory Services (NAADS) trains farmers and farmers' groups in seed production, and links private seed companies and farmer seed producers to seed users. Institutions like UCDA and CDO play a similar role to NAADS in facilitating access to seed and planting materials for smallholder producers. The DCIC of MAAIF is in charge of seed company licensing, variety release and variety cataloguing; import and export regulations; and seed quality assurance. Other seed related programmes use value chain approaches with considerable components on seed production development and seed quality management systems that will enhance uptake of quality seed in the country. ISSD endeavours to link with these programmes to forge coalitions and alliances to maximise synergies.

Challenges and opportunities

The GoU aims to support a competitive, profitable, sustainable, market-led, regulated and coordinated seed sector. However, national seed companies face many challenges. They have to compete with each other while producing seed of the same varieties and with international companies. NARO is currently involved in exclusivity arrangements with national seed companies for maize hybrids, providing a space for them to compete in the seed market.

Table 2. Challenges and opportunities in the Ugandan seed sector

Value chain component	Challenges
Variety development and maintenance breeding	<ul style="list-style-type: none"> • Lack of appropriate facilities to accelerate breeding of new varieties and production of breeder seed • Limited technical capacity to produce breeder seed and government funding to carry out trials • Lack of participation of local seed companies in plant breeding • Low investment in food security crops • Few released varieties known by farmers
Breeder and basic seed production	<ul style="list-style-type: none"> • Public sector dominance in producing source seed with limited technical and financial capacity
Certified seed production	<ul style="list-style-type: none"> • Insufficient breeder and basic seed • Seed companies, small and medium-scale entrepreneurs have limited capital to invest in seed production and hence capacity to produce seed • Lack of seed demand forecasting and monitoring
Seed processing and conditioning	<ul style="list-style-type: none"> • Seed companies lack capacity to increase seed processing • Available storage facilities not fully utilised
Marketing and promotion	<ul style="list-style-type: none"> • Weak promotion and distribution systems with high transaction costs • Inadequate seed dealers, channels and networks • Unaffordable pricing of seed packets • Weak and underdeveloped agro-dealer networks (most have limited technical, commercial and financial knowledge and capabilities)
Distribution	<ul style="list-style-type: none"> • Prevalence of counterfeit/fake seeds • A weak contractual arrangement system characterised by high social risks
Quality control	<ul style="list-style-type: none"> • NSCS under-resourced limiting its effectiveness and efficiency in carrying out its responsibilities.
Policy	<ul style="list-style-type: none"> • An effective policy and regulatory framework not yet in place • Royalty payments from seed companies to NARO not enforced as they are based on informal arrangements and licensing of public varieties remain problematic • Limited capacity of the Uganda Seed trade Association (USTA) to advocate for effective implementation of national policies and regulations favouring seed industry development and expansion of seed sales and use
Seed users	<ul style="list-style-type: none"> • Farmers' perception of seed being expensive • Insufficient promotion and demonstration and long distances to input supply centres (mainly located in urban centres) • Lack of knowledge about quality seed • Lack of awareness about new varieties • Low quality seeds

Source: Mini-stakeholder consultation meetings to formulate the national seed strategy (February 2015); Draft National Seed Strategy, 2015.

Opportunities

- Increased government funding for crop improvement research and availability of donor funding for strategic crop commodities
 - The Seed and Plant Act provides for public-private partnerships in variety development
 - ZARDIs conducting adaptive research in the various agro-ecological zones
 - Availability of other sources of germplasm from international agricultural research centres
- Planning volume of breeder seed required to meet the demand of certified seeds through seed roadmaps
 - Availability of low cost irrigation facilities to accelerate bulking of breeder seed
 - ZARDIs closer to seed users in the various agro-ecological zones
 - Seed companies willing to produce basic seed
 - Experienced farmer groups or individuals willing to participate in seed production
- QDS being produced where certified seed is not competitive
 - Farmers motivated in learning and in establishing seed business
 - Periodic effective seed demand updates
 - Seed companies desire to have qualified seed technologists on their staff
 - Community-based seed production system progressively improved to integrate into the formal seed system
- Financial institutions availing credit to finance processing and conditioning infrastructure
 - Availability of unused storage facilities
- Farmers and farmer groups' participation in PVS
 - Availability of smart seed marketing strategies such as sales of small seed packs, and labelling
 - Village agents to collect seed demand
 - Business linkages with LSBs
- Expanding agro-dealer networks to more remote areas
 - Tougher laws and regulations to make sale of counterfeit /fake seed a highly risky business
 - MAAIF police to fight sale of fake seeds
 - Availability of tamper proof labels
 - Government Operation Wealth creation programme
- Some seed companies willing to engage in a seed quality control and certification partnership with MAAIF
 - Quality assurance system through accreditation of field inspectors, samplers and laboratories for testing at district/regional levels
- Final drafts of the necessary instruments (seed policy and regulations available and only require approval by the competent authorities)
 - Regulations to operationalise PVP Act
 - Advocacy tools including web-based stakeholder platform, communication strategy, policy briefs, brochure and posters to USTA members
- Many development partners, NGOs, government programmes, farmers' organisations that support farmers to produce and access quality seed of improved varieties

The absence of regulations to operationalise the Plant Variety Protection law limits the interest of foreign companies becoming active in Uganda for marketing seed of non-hybrid varieties. While the maize seed market is sufficiently profitable (more than 70% of the formal seed volume is maize), other seed crops are more difficult to commercialise. Companies still largely depend on NGO and government seed buyers for crops like beans and groundnut, which hinders the direct buyer-seller relationship and compromises the seed industry's integrity. The sustainability and robustness of the overall seed sector is therefore questionable. Free seed distribution, through the government's Operation Wealth Creation programme, also constrains business development. Despite efforts put into Ugandan

seed sector development, the sector continues to face many challenges along the entire seed value chain (as summarised in Table 2).

ISSD Uganda in a nutshell

The Embassy of the Kingdom of the Netherlands supports Wageningen UR – Centre for Development Innovation, in partnership with NARO, to implement ISSD Uganda. This programme focuses on promoting local level entrepreneurship by creating LSBs to produce and market seed for crops and varieties adapted to specific locations, which are not easily addressed by the more national-oriented companies. The programme operates in three geographical areas based on agro-ecological zones; namely West Nile, Northern Uganda and Western Uganda. There



is close collaboration with NARO and a seed expert and an agribusiness expert based at the Zonal Agricultural Research and Development Institutes (ZARDIs): Abi ZARDI, Mbarara ZARDI, and Ngetta ZARDI. At the start of the programme, the zonal teams worked with 30 LSBs (10 in each zone). After three years, starting in 2015 a further 70 additional LSBs are being developed through partnerships with other organisations (out-scaling partners) in the same zones. The programme also addresses issues related to quality assurance, basic seed availability and access, and the policy environment.

ISSD Uganda strives to contribute to the creation of a vibrant, pluralistic and market-oriented Ugandan seed sector. Our principle objectives are to increase availability of affordable, quality seed of superior varieties for smallholder farmers; and, to contribute to food security and agricultural economic development. The ISSD guiding principles are anchored around: building programmes upon a variation of seed systems that foster pluralism; working according to the structure of the seed value chain; promoting entrepreneurship and market orientation; recognising the relevance of informal seed systems; facilitating interactions between informal and formal seed systems; recognising complementary roles of the public and private sector; supporting enabling and evolving policies for a dynamic seed sector; and promoting evidence-based seed sector innovation.

The programme has two key outputs:

- 1** developing functional LSBs with market-oriented farmers organised and engaged in quality seed production and marketing;
- 2** supporting respective public institutions to increase their effectiveness in specific supportive tasks in relation to seed production and marketing.

Accomplishments in each output have been remarkable. Thirty LSBs (approximately 900 farmers) have been empowered to produce and market quality seed through best practices in integrated crop management, internal quality assurance, and marketing. Major crops grown are: beans, cassava, groundnuts, potato, sesame, upland rice, sorghum, local vegetables, finger millet, pasture seeds, pigeonpeas, and soybean. LSBs are contributing to the use of these crops through production and sale of QDS.

Collaboration with key stakeholders is ongoing in three thematic areas: a) diversified quality assurance mechanisms; b) basic seed access; and c) policy influence and dialogue to have LSB seed recognised in relevant policies, laws and regulations.

Conclusions

Uganda is gifted with a wide range of crop biodiversity. Cropping systems are equally diverse. Increasing production and productivity in both crop and cropping systems is one of the measures taken to assure food security and livelihood enhancement. This improvement can only be realised if smallholder farmers have access to quality seed and planting materials. The lack of good-quality seed and planting material is repeatedly identified as a major constraint to greater adoption of improved varieties and use of yield-enhancing technologies and other agricultural innovations. Production systems are dynamic and so are seed systems. Considering inherent weaknesses in the formal seed sector in Uganda - and the nature of farmers' demands - there is a vital need to seek alternative seed production and supply models. The LSB model has shown potential to contribute to a vibrant, pluralistic and market-oriented seed sector in Uganda.

References

- Mastenbroek, A., R. Mugumya and P. Oyee. 2015. The Integrated Seed Sector Development - Uganda progress report 3; *Annual Report 2014*. Centre for Development Innovation, Wageningen University and Research Centre. Report CDI-15-093. Wageningen, the Netherlands.
- ISSD Africa. 2012. ISSD brief note - September 2012 Uganda seed sector assessment. <https://www.wageningenur.nl/en/show/Integrated-seed-sector-development-in-Africa.htm>
- ISSD Uganda. 2013. Uganda progress report 2; *Annual Report 2013*. Centre for Development Innovation, Wageningen University and Research Centre. CDI report CDI-14-0111. Wageningen, the Netherlands.
- ISSD Uganda. 2014. ISSD Uganda newsletter, Issue 1: April 2014.
- ISSD Uganda. 2014. Baseline report on farmers' access to seed and other planting materials. Integrated seed sector development programme in Uganda, Wageningen UR Uganda. Kampala, Uganda.
- ISSD Uganda. 2014. Report of national seed stakeholders' meeting, 27th November 2013.
- MAAIF. 2012. Analytical Report on Seed and Planting Material.
- MAAIF. 2014. Draft National Seed Policy.
- MAAIF. 2015. Draft National Seed Strategy.
- Meridia, M., J. Howard and D. Boughton. 1999. Increasing seed systems efficiency in Africa: concepts, strategies and issues. Department of Agricultural Economics and the Department of Economics, Michigan State University, East Lansing, Michigan 48824-1039. Michigan, USA.
- Misereor, P. 2012. The seed sector in Uganda: is the future of the small-scale farmer bleak or bright? Pelum [http://www.usta ug/downloads/THE%20SEED%20SECTOR%20OF%20UGANDA.Is%20the%20future%20of%20the%20SSFs%20Bleak%20or%20Bright%20\(3\).pdf](http://www.usta ug/downloads/THE%20SEED%20SECTOR%20OF%20UGANDA.Is%20the%20future%20of%20the%20SSFs%20Bleak%20or%20Bright%20(3).pdf)
- Ssebuliba, R. N. 2010. Baseline study of the seed sector in Uganda in relation to regional harmonisation of seed legislation. Uganda Seed Trade Association (USTA). <http://afsta.org/wp-content/uploads/documents/UGANDA%20SEED%20SECTOR%20BASELINE%20STUDY.pdf>
- TASAI. 2015. Uganda Policy Brief March 2015 <http://www.tasai.org/wp-content/uploads/Uganda-Brief-final.pdf>

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