CASA
Commercial Agriculture for Smallholders and Agribusiness

Sesame Sector Strategy – Uganda

CASA UGANDA COUNTRY TEAM

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Abbreviations

A2N	Africa 2000 Network
CASA	Commercial Agriculture for Smallholders and Agribusiness
CSA	Climate Smart Agriculture
DFID	Department for International Development
DSIP	Development Strategy and Investment Plan
ESG	Economic Social Governance
FAOSTAT	Food and Agriculture Organisation Statistics DivisionFBO
FBO	Farmer Based Organisation
FINCA	Foundation for International Community Assistance
GDP	Gross Domestic Product
HH	Household
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IGS	Inclusive Growth Strategy
IITA	International Institute of Tropical Agriculture
ISSD	Integrated Seed Sector Development
LSB model	Local Seed Business
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries (Uganda)
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organisation
NGO	Non-government Organisation
NU-TEC-MD	NU - Transforming the Economy through Climate Smart Agribusiness-Market Development
OSSUP	Oilseed Subsector Uganda Platform
OLAM	OLAM International
QDS	Quality Declared Seeds
SACCO	Savings and
SAR	Sector Analysis Report
SEATINI	Southern and Eastern Africa Trade Information and Negotiations Institute
SHF	Small Holder Farmer
SME	Small and Medium Enterprise
UBOS	Uganda Bureau of Statistics
UGX	Uganda Shillings
UML	Uganda Microfinance Ltd
UNBS	Uganda National Bureau of Standards
UOSPA	Uganda Oilseed Producers and Processors Association

USAID	United States Agency for International Development
VA	Village Agent
VSLA	Village Savings and Loans Association
WEE	Women Economic Empowerment
WVA	Women Village Agents
YOY	Year-over-year

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Executive summary

Sesame is of specific importance in Uganda given its considerable inclusive growth potential. It is driven by growth in premium export markets; the availability of land for production expansion; favourable growing conditions, with two annual production seasons; and considerable scope to improve yields and quality:

- Over 300,000 farmers are reportedly engaged in sesame production, and most of these are SHFs. These substantial numbers account for a large amount of overall agricultural production of sesame in Northern Uganda.
- Northern Uganda presents the greatest potential to improve competitiveness in sesame production and agro-trade due to its advantages in climatic positioning.
- Uganda is a net exporter of sesame. But its import and export volumes are negligible against the market size; the trade surplus reflects the fact that the market is sustained by domestic production
- In Uganda, sesame oil is not processed domestically, presenting a longer-term opportunity for Uganda. There is potential to develop premium processing industries such as oil for export.

Analysis

The broad challenges that impede sector growth include poor production and post-harvest handling methods; poor quality seed, limiting export potential; standards compliance issues along the chain; a lack of farmer organisation to access commercial markets and finance; fragmented value chain relationships; weak access to finance and investment for agri-business; and various enabling environment deficiencies.

Accelerating commercialisation of the sesame sector requires: (1) facilitating improved SHF production and productivity for enhanced commercialisation; (2) supporting SME growth and expansion to engage more SHFs in commercial markets; and, (3) improving the business environment.

Responsive strategy

The sesame strategy is founded on optimising engagement with SMEs seeking investment to drive growth, while addressing binding constraints to commercialisation. (In many cases these are business opportunities that are not taken up). This is typically expected to involve a journey with partner SMEs, from preparations for receiving investment (such as business model development and BDS support) through to matchmaking with commercial finance providers and impact investors. This in turn is expected to generate several success stories that will contribute to CASA's overall evidence base for convincing donors and investors to channel more finance to SMEs, which in turn will engage large numbers of producers in their supply chains. The strategy also focuses on strengthening producer aggregation to access commercial markets and supporting key improvements in the business environment.

To implement the strategy, three broad intervention areas have been identified as drivers of inclusive commercialisation. The projects defined under the current intervention areas are projected to engage over 58,000 smallholder producers of which around 43,000 will increase their incomes in formal supply chains. We anticipate it will be possible to scale out to approximately 91,110 beneficiaries by expanding existing projects and identifying new intervention areas in future years.

1 Background

1.1 CASA project overview

DFID's approach to economic development and agriculture relies on an increasingly commercial approach to agricultural programming by:

- Boosting agri-business investment, financing agricultural infrastructure and supporting smallholder-farmer access to markets;
- Helping farmers and their families to have opportunities and jobs outside their farms, and supporting SMEs in rural areas;
- Supporting subsistence farmers without other economic opportunities, so that they avoid hunger, malnutrition and extreme poverty;
- Encouraging commercial approaches that reduce the cost of nutritious diets.

In support of this approach, DFID has launched the five-year, flagship Commercial Agriculture for Smallholders and Agribusiness (CASA) programme which seeks to change how investors, donors and governments view and invest in agribusinesses that work with smallholder supply chains. In doing so, CASA will increase economic opportunities for smallholders by:

a) Demonstrating the commercial viability of small and medium-sized (SME) agribusinesses with significant smallholder supply chains and attracting more investment into these businesses;
b) Deepening the smallholder impact of existing investments made by development finance institutions (DFIs, notably CDC), and impact investors;
c) Enabling poor smallholder farmers to engage with and trade in commercial markets;
d) Researching and communicating the case for successful engagement with smallholder-linked agribusiness.

CASA has three components, two of which (Components A and C) are managed out of Nairobi, Kenya by NIRAS-LTS in partnership with Swisscontact and CABI. CASA's component B is separately implemented by Technoserve and focuses on technical assistance and investment promotion for larger agri-enterprises involved in global development. In addition to its three components, the programme has three strategic cross-cutting components:

- Gender and social inclusion (GESI);
- Nutrition and food security;
- Climate change and the environment.

Component A will demonstrate high-impact interventions in the three target countries (Malawi, Uganda and Nepal) leading to: (a) mobilisation of investments for partner agri-businesses (which can include commercially-minded farmer associations and cooperatives) and expanded outreach to smallholders; and (b) improved access to markets for smallholders. The ultimate target group for CASA is the 'missing middle' of 'stepping-up' smallholders[1] – that is, those that wish to engage in commercial agriculture but have largely not done so to date. (Among the missing middle, 40% live on less than $2 a day, while 50% of women in the missing middle live on less than $2 a day).

Component C is a learning and knowledge-sharing component. Among other things, it will leverage knowledge gains from Component A interventions and other research to inform donors and investors about the merits of investing in agribusiness SMEs with significant outreach to smallholders.

[1] 'Stepping-up smallholder farmers are described as those that sell or wish to sell at least 50% of their cash crops/produce.

2 Sector description

2.1 Basic information

Agriculture is the backbone of Uganda's economy, employing 70% of the population in 2018, and contributing half of Uganda's export earnings and a quarter of the country's gross domestic product (GDP). Since most Ugandans live in rural areas and practice farming, raising agriculture incomes is critical to reducing poverty, boosting prosperity and creating jobs, especially for women and youth. About 4.8 million of Uganda's 7.6 million households (63%) report subsistence farming as their primary source of income (UBOS 2014). These are smallholder farmers. Agricultural labour productivity measured by agricultural GDP per worker is $125 per year, compared to average productivity per worker of $687 in the wider economy (UBOS 2018). Bank of Uganda data indicates that the value added by the agricultural sector shrunk to 24% in 2018 from 49% in 1991. The farming of traditional crops is a primary economic activity for the majority of the population. Some data suggest rain-fed subsistence agriculture accounts for about 87% of the country's' production.

The consistently low growth rates in the agriculture sector can be attributed to weather hazards, economic downturns, limited availability of improved inputs, diversion of investment into the industrial sector, and/or insurgencies in neighbouring countries.

2.1.1 International Context

Global demand for sesame is growing, especially in China, which has more than doubled its sesame imports in the past five years and is now importing more than one-third of the world's share. The average world sesame oil export price stood at $1.1 per kg in 2017. Overall, the sesame oil export price continues to increase. The most prominent rate of growth was recorded in 2012, an increase of 14%. The export price peaked at $1.5 per kg in 2015; however, from 2016 to 2017, it was somewhat lower. Export prices varied noticeably by country of origin; the country with the highest export price was Canada ($4.7 per kg). The average price China paid for imports was $988 per tonne.

Uganda is a net exporter of sesame with a trade surplus of 69 tonnes. Both imports and exports are negligible in terms of volume against the market size. Sesame oil is not processed domestically in Uganda, and this may present a longer-term opportunity. The main reason for not processing is the cost of machinery and enabling-environment constraints. In 2017, approximately 15 tonnes of sesame oil were imported into Uganda.

2.1.2 National context

The current production structure of agriculture in Uganda is dominated by small-scale farmers comprising an estimated 2.5 million households (90% of the farming community), the majority of which own less than 2 acres of land each. Despite good agro-climatic conditions, with two rainy seasons in most parts of the country, smallholder yields remain low. Constraints include limited access to quality inputs, low adoption of modern technology, and a lack of storage and market infrastructure.

Small-scale farmers are the majority, constituting about 85% of the farming community; 12% are medium scale farmers; while 3% are large-scale farmers. Smallholder farmers usually cultivate less than one hectare of land and own a few head of cattle. They often produce crops, fish or farm animals for family consumption (subsistence farming) with a little surplus for the market. Farming is labour intensive, uses rudimentary technologies, especially the hoe, and is carried out by the family, particularly women and children. They usually lack transport to take surplus produce to markets, so they sell to local traders at low prices.

Smallholder farming households are an integral component of Northern Uganda's (NU) economy. Smallholder farmers in NU make up approximately 30% of the national population. The average size of sesame fields in NU is 0.975 acres (0.39 Ha); 33.7% of the total sesame

output is sold and the rest (66.3%) consumed by producing households, since sesame is more of a food than a cash crop in the region (ACF,2014). Sesame is grown by over 250,000 farmers (UBOS, 08/09; ACF, 2014).

NU presents has the greatest potential to improve its competitiveness in sesame production and agro-trade due to its climate. Most of the sesame produced in Uganda comes from the northern region. Northern Uganda (NU) particularly is well suited for sesame production and has a comparative advantage over other regions. Sesame is grown in NU in two seasons: the first (March-April) and second (August-September) seasons. The optimum sowing months for sesame are February-March for the first season and July-August for the second. Harvesting takes place in June-July for the first season and November-December for the second. In good years, the second season crop is significantly larger than the first season.

In 2014, Uganda was the seventh largest producer of sesame seeds in Africa and the 12th largest in the world.[2] According to FAO statistics, sesame production peaked at around 216,000 tonnes in 2012 but recently settled at around 124,000 tonnes. This can be partly explained by the use of recycled seed and inadequate knowledge on GAPs by farmers.

Lack of coordination among actors in the sesame value chain is a critical bottleneck. Strong coordination is needed to meet the requirements of end buyers in terms of product quality, timely delivery, price and respecting contracts, as well as to avoid damage to brand reputation. The issues should be addressed along the value chain, from varietal and seed selection through to farm operations, harvesting, processing, storage and transportation.

2.1.3 Donor Landscape and development initiatives

Many other development partners are active in NU, particularly in the oilseed sector. However, little attention has been paid to sesame. Most of the development partners have supported off-takers in production. CASA will build upon some of the past initiatives to provide SHFs, SMEs and large off-takers with an opportunity to empower farmers, especially women, to engage with the market and receive a larger share of the profits.

2.2 Common farming practices, seasons, price, and trade dynamics

2.2.1 Common farming practices

The vast majority of sesame farmers are farming by hand. Many rely on family labour and hand tools with minimal use of inputs such as fertiliser, herbicides and improved seed. The majority of sesame SHFs own land ranging from 2 to 10 acres and allocate only about 2 acres for sesame production. Because of land abundance, the farmers in the North tend to practice extensification rather than intensification. Much of this land is not used because land clearing is a manual task, involving the entire family and possibly communal labour. Short life cycle crops like sesame require land preparation and planting every season. Land opening is usually necessary after a field has been left fallow.

In NU, agricultural practices are largely dominated by low input technology, with persistent use of home saved seed and limited activity with animal traction. Tractor hire is most prevalent in Acholi, especially in Nwoya district, where landholdings tend to be larger, and the economics of mechanisation are more favourable. In Lango, land holdings are smaller, and animal traction is more prevalent. Farmers that own a pair of oxen will often have slack capacity and can undertake off-farm custom land preparation for other farmers. Since men have easier access to the labour-saving technologies, women are most likely to be left with the manual, tedious and labour-intensive tasks such as weeding. This could mean that opening up more land for cash crops such as sesame will increase women's labour load.

[2] FAOSTAT 2012

The farming methods employed in sesame production are simple and have not changed over many generations. Farmers use draught animals for land preparation. Planting, weeding, spraying, harvesting, drying and threshing are all done manually, mostly by women. Sesame farming is characterised by low resource use with little mechanisation or use of inorganic fertiliser or chemical pesticides. A majority of the SHFs use local seed varieties and recycled improved seed, which loses purity each time it is planted. Access to improved seed is still a challenge for the SHF, since the quality assured seed is not available on the market. The overall constraint to production is low output due use of inferior seed and limited access to credit facilities for investing in labour and other farm inputs. The average yield is less than 200 kg/acre, which is far below the potential (ACF, 2014).

2.2.2 Seasons

The rainfall pattern in Northern and Eastern Uganda regions is bimodal. The long rains start in March to May and the short rains in September and October. Sesame is grown twice a year to coincide with these two rainy seasons. The marketing seasons follow immediately after the harvest seasons in August and September for the first season crop and January to February for the second season crop. Sesame sold in the second season is of a higher quality because of the more extended period available for drying after harvest. However, farmers are accustomed to allocating more land to sesame in the first season.

The ability to grow sesame in two seasons gives the crop more significant potential to raise household incomes. However, many farmers are rotating two oil crops (sesame with sunflower), which significantly reduces the yield of the second sesame crop.

Table 1: Sesame crop production calendar

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Land preparation												
Seed procurement												
Sowing												
Weeding & thinning												
Pest control												
Harvesting												
Drying and threshing												

However, the changing and uncertain weather patterns are impacting the harvest. The second harvest has recently become less productive than the first. The lack of weather index insurance and drought/flood-resistant inputs is making farmers more vulnerable and food-insecure. Increased farmer vulnerability has cascading impacts across, as farmers become less able to step up into commercial activities such as agro-processing.

2.2.3 Trade dynamics

Like other oil seeds, sesame has a short window for trading. Because of limited access to quality on-farm storage, smallholder sesame farmers often sell off their sesame immediately after harvesting. Due to the fragmented and small-scale nature of production, considerable effort is required to assemble sesame into economically viable volumes for trade. Sesame marketing is therefore characterised by numerous transactions of small quantities.

Commercial uses for sesame are gradually expanding. According to a 2015 report by A2N, the volume flows of sesame from the production sector to the market are approximately 77% of total production. Of this, approximately 50% passes through rural assemblers, which include foot traders, bicycle traders and open-air retailers. Cumulatively, approximately 25 percent of sesame that leaves the farm gate for the market is bought by other farmers and rural consumers. Only half of the sesame produced leaves production regions for regional

and export markets. If farmers were to sell collectively at the regional level, there is potential for a 10% increase in prices compared with selling at the farm gate.

Sesame is largely locally consumed in variety of ways, including sesame ground into paste, made into stew and consumed with other foods such as the popular smoked meat. But processing of sesame oil is not prevalent at household level. At a very small-scale sesame is processed into sesame paste commonly called “ODI” in Luo. The cottage processors use locally fabricated machinery for grinding the paste and after that package it for sale.

2.3 Context in Uganda’s working clusters

Sesame is grown in the Northern region in almost all households as a food security and nutrition crop. Its production has been boosted by the return of peace and export demand.

Cotton used to be the major cash crop in the Northern region, but marketable food crops such as rice, soybeans, and sesame have recently gained popularity as ‘cash’ crops. With the recent surge in global demand for sesame and sesame oil, farmers in Uganda have turned increasingly to growing sesame as a cash crop, earning it the nickname ‘white gold’ in NU.

Sesame requires little post-harvest processing to provide a product that can compete in international markets. As a high-value crop, sesame also offers potential through connecting producers to markets with more favourable conditions (ICRISAT, 2013). Farmers and local traders can also market directly to local consumers. A limited number of large commercial players in the export trade in Uganda. The market is highly volatile, representing a significant risk for traders and an important barrier to entry (ICRISAT, 2013). For example, sesame prices dropped 25% to 35% during 2015 alone (Sesame Seed Market Report, 2015).

The challenges to sesame production in NU include lack of equipment for land preparation, which leads to late planting; crop losses from pests and diseases, which reduce yields; non-availability of seed; and labour, particularly for weeding the crop which is sown broadcast. Smallholders produce small amounts, their bargaining power is weak, and prices are low. The average unit cost of producing sesame in NU is approximately 745,000 Ugandan shillings per acre, and families are the main source of labour. For farmers without oxen, ploughing is the costliest operation since it must be done twice during the planting season. Average sesame yields in NU are between 150 and 200 kg per acre while the unit price often starts at 3,500 shillings/kg. If all output is sold, sesame production is generally profitable. Margins for subsistence farmers are about 350,000 shillings per acre and for high input farmers about 1,500,000 shillings.

Sesame is relatively climate resilient. It can withstand NU’s high heat and drought, which are likely to become increasingly frequent in the coming decades. Sesame is less resilient to heavy precipitation and flooding. Generally, the vulnerability of sesame to climate change is considered low and better than other dominant crops such as maize. With average annual production of 160,000 tonnes, Uganda is the fifth largest producer of sesame after India (666,020), China (627,333), Myanmar (511,800) and Sudan (333,600) (ICRISAT, 2013). Sesame production stagnated until 2002 due to violence and insecurity in the Northern region where the majority of the crop is produced. Security has led to increased production.

Sesame is labour-intensive and characterised by the heavy involvement of women at every stage. Women are exclusively responsible for planting, weeding, harvesting, drying, threshing/sorting and marketing of small volumes. Men are responsible for land opening and marketing of large volumes of the crop. Women control the decision-making and marketing of small volumes (that can be transported on their heads) and retain this income.

Women face additional constraints to improving their incomes. They lack land tenure rights and access to income from the land they work. They have even lower access to finance than men. And they lack of social standing and are vulnerable to abuse and domestic violence.

The potential for transformative change in women's economic empowerment (WEE) through the sesame market is considered moderate, due to an absence of significant private sector players and limited demand-led opportunities for value addition. Most women occupy low-value crops that struggle from lack of investment and support services. Similarly, youth and persons with disabilities in NU face issues around access to land, work and income.

Currently, there is a relatively reasonable developed marketing channel for the sale of sesame and its sister crop, sunflower. Most sesame produced in the major production hubs of Kitgum, Gulu and Lira is bought by major exporters such as OLAM international, Gulu Agricultural Development Company Ltd (GADC). These have a well-built network of buyers in villages who buy on their behalf. The large-scale buyers often transport the sesame to destinations such as Gulu, Arua, Kampala and Southern Sudan. The sale of sesame accounts for approximately 30 to 40% of SHF disposable income in the Northern region.

2.4 Sector Map

2.4.1 Core value chain

The core market depicts the transactions and linkages through which the primary product is produced and reaches the final consumers.

Input suppliers

The input market system is characterised by many players, but the majority are concentrated in urban or trading centres making access to inputs by SHF difficult. This has repeatedly fuelled low adoption of high-quality inputs. Currently, there are no identified links between seed companies and seed multipliers (producers) across the Northern region for the production of selected seeds such as sesame. The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), National Agriculture Research Organisation (NARO) and the Dutch Government-funded "Integrated Seed Sector Development (ISSD) programme" have been working in parts of Lango and West Nile to launch the system of quality declared seed (QDS) in Uganda. QDS is less demanding than national seed quality control systems but mostly still achieves a satisfactory level of quality.

Commercial seed production in Uganda often starts with breeder seed, which is multiplied to produce foundation seed, which in turn is multiplied usually by seed companies to produce (usually) certified seed. In NU, there are resident seed companies like Victoria Seeds, Pearl seeds, FICA seeds and numerous other companies with outlets in the major towns of Gulu, Lira and Kitgum. Commercial seed also comes from imports. Currently, the varieties grown are largely imported into the Northern region from trials held elsewhere. This often results in dismal productivity given the varying conditions under which the seeds were initially raised.

Grain production

Sesame producers are smallholder farmers, including subsistence and emerging commercial farmers. The seeds are mostly home saved and recycled seeds of local varieties. Farmer groups or producer organisations are considered avenues for bulk marketing and acquisition of new technologies, knowledge and information. Although the government and development agencies have encouraged and provided support through organised associations and cooperatives, these have repeatedly struggled. After harvest, most of the sesame is sold to local traders and then wholesalers, who at times sell directly to local consumers.

Access to post-harvest handling equipment

High postharvest losses in the sesame sector negate the efforts geared towards improving food security. Poor produce quality including high prevalence of mycotoxin contamination is another significant problem. Appropriate postharvest handling and processing provide

opportunities to reduce postharvest losses and improve food safety. But households have limited access to the capital and know-how to efficiently harvest, store and market their surplus yields. This exposes them to the risk of aflatoxin, contamination, pests and diseases. Production losses due to pests and diseases are also high, as per the National Research Organisation. Poor post-harvest and storage cause 5% to 15% loss in cereals sesame.

Trading (collecting, wholesaling, retailing and exporting)

Traders can be categorised based on the location, volumes handled and hierarchy along the sesame marketing value chain. The categories include the following:

Rural aggregators: Various actors consisting of men, women and youth are involved in moving sesame from the farm gate to the market. They include traders on foot, bicycle traders, rural open-air market traders, rural wholesalers, and rural shopkeepers. Bicycle traders and traders on foot move from farm to farm during the marketing season buying from farmers. They then sell the accumulated stocks to rural open-air traders. Rural open-air traders operate mainly on designated market days. They move from market to market as well as buying directly from farmers and other smaller traders. These traders are seasonal and operate for a short period after sesame is harvested.

Rural wholesale and retail traders operate from permanent premises such as shops and grain stores. They buy sesame throughout the marketing season from farmers directly, and from foot traders, bicycle traders and open-air traders. The bulked sesame is then transported to larger market centres in sub-county, county, district and regional levels and sold to urban wholesale produce dealers.

Regional urban wholesale traders: These are commodity traders at regional market centres such as Soroti, Lira, Jinja and Gulu. They have well-established businesses and the capacity to handle large volumes of sesame. They process[3] sesame and other grains and legumes produced in the area. They are well capitalised and have investments in storage and transport facilities. They also have adequate access to formal credit. They buy sesame mainly from rural wholesalers and sell to exporters and processors.

Farmer groups and associations: These are local associations of farmers with common interests, such as collective marketing, learning activities such as farmer field schools, or participatory testing of improved sesame varieties with research organisations.

Exporters and processors

Most exporters and processors are in Kampala. Some exporters have buying centres in the production regions, mainly West Nile Gulu and Lira. In Kampala, exporters screen, clean and bag sesame into 50-kilo bags. It is then packed into 20- and 40-tonne containers, which are transported to shipping lines for onward shipment to export destinations through Mombasa.

Processing and value addition

Sesame processing refers to cleaning the seeds using sieve cleaning and blower. The by-products – dead seeds, soil, straw, pods, and bold soils – are sometimes taken by animal feed mixers. Sesame for export is usually cleaned. Most processing plants in NU are running at 20% capacity[4]. The small-scale agro-processing industry in the sesame producing region is constrained by limited access to better equipment and limited quality raw commodities, leading to significant underutilisation. With most plants operating at such low capacity, this inhibits the North's ability to take advantage of emerging domestic and export markets. As such, there is a compelling business case for both processors and smallholders to increase

[3] The processing of sesame includes cleaning and grading

4 Northern Uganda Soybean & Sunflower Market Systems Assessment; 2016

processor utilisation. Processing sesame oil is not prevalent at all and presents a potential investment opportunity for the region.

End markets and consumers

The smallholder ecosystem lacks financial and agricultural infrastructure. Smallholders have limited connectivity to a value chain or any formal suppliers for their agricultural input needs. Involvement with buyers or resellers is often in the context of loose value chains, meaning that the transactions occur without a contract. Farmers also have limited market access due to lack of transportation, so they might not get the best market price for their goods. The majority of the end-market off-takers are exporters in the major trade hub regions.

2.4.2 Supporting functions and services

Actors in the core market require support services to produce, sell or buy their product:

Transport services

Well-aligned transport logistics is necessary for efficiency in marketing. Transport costs depend on the distance between the farmer and the market, the mode of transport used and whether it is a single route or double route. Transportation is a male-dominated business because of the social exclusion of women from long distance driving of commercial vehicles, as well as the limited involvement of women in the manual work of loading/offloading. From the point of production to primary aggregation points, transport is mainly by bicycles and motorcycles. Transport from primary collection centres is by trucks of various capacity.

Storage services

Insect pests are one of the most important factors in production and storage of sesame grain, and they affect both its quality and quantity. Sesame seeds should be stored in an airtight container and unrefrigerated seeds can be kept in a cool, dry place for up to three months. If seeds are refrigerated, they will last up to six months. Traders are spread across Acholi and Lango sub-region and have small rented storage facilities in rural trading centres.

There is often mistrust between traders and farmers. Trade finance is an important aspect of aggregation and storage, as all actors prefer spot cash. Other payment terms incur a high discounted rate. Primary aggregation facilities are generally small stores (five - 10 tonnes capacity). Agents and traders, with limited trade capital, have to collect the grain frequently during the marketing season. The facilities are not equipped with essential equipment such as moisture meters. This results in underutilisation of storage capacity.

Technology and equipment suppliers

Most crops grown in the Northern region are seasonal. They have short life cycles and therefore require land preparation and planting every season. Because of land abundance, Northern farmers tend to practice extensive rather than intensive farming. This calls for mechanisation to achieve better yields and acreages. In addition, women use rudimentary tools, so weeding, harvesting and threshing take up a lot of their time.

Unlike in Acholi and West Nile sub-region, most the farmers in Lango sub-region practise ox-drawn traction. Some pilots of tractor hire schemes exist with support from large processors such as Mukwano and Mt. Meru. Agro-input dealers and rural stockists have been supplying hand tools and equipment for ox ploughing together with their other seeds and fertilisers.

Financial and investment services

The agribusiness investment landscape in Uganda is relatively young but developing[5]. Being part of the wider East Africa Community, Uganda is often regarded as the second-best market after Kenya. Indeed, according to impact investors, private equity firms and venture capital funds, Uganda presents opportunities for investments across the whole investment and sector spectrum. Though often based in Nairobi for operational reasons, most of the actors recognise Uganda's potential.

In terms of sectors, most of the investments are directed at agribusiness value chains (60-70%). Energy (renewable) is second at 10-15% and increasing. Financial services, healthcare and logistics are increasing too; together they receive between 5% and 7% of the investments. Other key findings are:

- Impact investors dominate the scene, a sign that the ecosystem is not yet mature;
- Average investment tickets range from $200,000 to $2m, with a disproportionately large number of small investments; this average also supports the known challenge of the 'missing middle': few actors want to invest between $2m and $5m in SMEs that are too big for monetary financial institutions (MFIs) and yet too small, too risky and too unattractive for conventional private equity investors looking for financial returns;
- The preference is for short-to-medium-term debt and quasi-equity (mezzanine, convertible etc.) instruments, enabling investors to both reduce risks and satisfy promoters' fear of losing control via equity investments;
- Investments from private equity and venture capital investors above $2m are limited in number relative to: (i) existing SME funding needs; (ii) the locally based opportunities available; and (iii) risk perception of investing in agribusiness in Uganda;
- Though fairly well developed in Uganda, business incubators and accelerators could be further supported financially to make them sustainable over the long term. Partnering could teach them entrepreneurship, capital raising and pitching the way investors expect it.

In terms of sectors, investors suggest that opportunities exist within the following agribusiness value chains: cereals and seeds; poultry and horticulture (especially for export); and apiculture. Investors normally shy away from the primary sector, which is perceived as too risky (too many non-controllable risk factors) and has expected returns that are too low. They favour large-scale production with processing, especially for export markets. If those aims can be reconciled with investments in SHFs, they will attract a social bonus – but the main objective is financial return.

Evidence gaps identified include: the limited number of case studies and examples of profitable and impactful business models; limited actors involved in agricultural access to finance; scarce crop and country-specific data on productivity and markets; and a limited number of exits to stir the interest of investors.

Other opportunities investors have suggested are infrastructure, early stage businesses with donor funding and technical assistance, and aggregation, processing and mechanisation initiatives.

CASA's finance landscape mapping exercise is on-going, and interim findings on constraints highlighted by commercial banks in lending to SMEs include:

- Limited bankable agri-business deals;
- Limited acceptable collateral;
- Fragmented agricultural value chains;
- Price instability and weather-related risks;
- Lack of market information on agri-sectors.

[5] CASA Investment Landscape Mapping, Malawi and Uganda, September 2019

All parts of the market system require significant investment and financing. This includes short- and medium-term funding for farm mechanisation and its service providers; oxen and ox-ploughs; seed systems; other agro-inputs; trade finance; transportation; and processing.

In Lango, sub-regional commercial banks have loan products for oilseeds such as sesame, but the appetite and bankable clients for these products remain low because of the relatively high risk and interest rates of 30% or so. There are also micro-finance institutions (MFI), savings and credit cooperative organisations (SACCOs) and village savings and loan associations (VSLAs) that provide some limited finance to the oilseed sector. The limited supply of financial services relevant to farmers is a major constraint throughout the country.

There are about four well-performing SACCOs in the whole of the Acholi Sub region. Other MFIs like FINCA and UML concentrate on lending in towns and do not offer agricultural financing (except for UML). Informal financial models, such as VSLAs are still the most commonly used financial access means. Some MFIs, such as Centenary Rural Development Bank, Kitgum SACCO, Agago SACCO, Alut Kot SACCO and UML, have responded to the demand for rural credit by introducing agricultural loans in their product portfolios. Currently, there are limited investment options to support SME agribusinesses with significant smallholder supply chains to prepare them for and attract early stage investment.

Limited access to land affects women's access to collateral-based credit. It is estimated that women in Uganda access only 9% of the available credit – the figure is much lower for rural women. Key challenges include a lack of collateral; high transaction costs; weak communication and transportation infrastructure, high risks due to variable rainfalls and price risks; and the physical absence of banking facilities in rural areas (World Bank, 2018). Women are disproportionately affected by these factors. Experts believe that the recently approved movable Assets Bill could allow SHFs to access credit. The bill seeks to broaden the collateral required by financial institutions to allow more Ugandans to access credit.

Business development services

Entrepreneurs also need access to high-quality business development and management support, particularly in to improve business administration (policies, procedures, internal controls) and financial management systems. BDS can enhance access to finance and act as an alternative form of collateral. Key services regularly sourced from BDS providers include product development, marketing and production technology, legal services, compliance with quality standards, business management, business planning, compliance with national regulations (taxation, audit etc.), and technical and business training.

2.4.3 Supporting rules and regulations (enabling environment)

The implementation of many initiatives has been weak due to a lack of institutional and financial resources. The following are the rules (formal and informal) and regulatory environment that affect the transactions and business relationships:

Limited research and development

The critical issue for local R&D is the improvement of sesame seed. SHFs do not have access to information on improved seed, improved production practices, market intelligence, value addition, post-harvest handling and demands on quality and standards in different markets. Such information should be furnished by MAAIF and cascaded through state extension programs for dissemination to all stakeholders. However, this is not the case.

The Ministry of Agriculture is involved in framing agricultural policy and regulations, while the National Agricultural Research Organisation (NARO) is involved in research. NARO is the umbrella body for guidance and coordination of agricultural research activities in Uganda. NARO produces new varieties through plant breeding, production and maintenance of breeder seed and germplasm conservation. It is the primary source of seed research for new

variety development. It has significant technical and financial support from institutions in the Consultative Group for International Agricultural Research (CGIAR).

Lack of awareness and enforcement of the sesame standards

The role of the Uganda National Bureau of Standards (UNBS) is to formulate and promote the use of standards; enforce standards to protect public health and safety and the environment against dangerous, counterfeit and substandard products; ensure fairness in trade and precision in the industry through reliable measurement systems; strengthen Uganda's economy by enhancing the competitiveness of local industries and promoting quality exports through standardisation, quality assurance, testing and metrology. UNBS and SEATINI-Uganda implemented a project to upgrade quality standards for maize and sesame. The standard was developed but it has not yet been localised and popularised.

Social norms and gender imbalances

In Uganda, women are generally disadvantaged in terms of domestic decision-making. They have little authority over marketing, sales, income and expenditure.[6] Time poverty compromises women's economic productivity because it reduces the time women have available to focus on income generating activities and to participate in social interactions, networking and community activities, and in group and training opportunities. Time poverty is particularly acute because of large families and changes to household dynamics, which have seen women take on the dual role of breadwinner and home carer.

Women have some level of access but have very limited agency. A lack of agency means women cannot negotiate for access to resources such as training and skills development for use in production, value addition and other market activities. A lack of agency may also imply male capture of resources. With support from companies, including off-takers, interventions have been implemented to use Women Village Agents (WVAs)[7]. Off-takers note that WVAs supply better quality produce than their male counterparts. Input suppliers note that WVAs are more persuasive marketeers and are more likely to sell higher volumes than their male counterparts. CASA will build on this model and use lessons learned when scaling it to other SMEs and women in the sesame sector.

Climate change

Sesame farmers in Uganda depend on rain. They have adjusted their planting patterns and farming calendars to the rainy seasons. However, with changing rainfall due to climate change, their planting patterns and farming calendar may no longer match seasonal rainfall distributions, sometimes leading to crop losses. Seasonal rainfall forecasts are thus crucial.

[6] Alinyo, F., & Leahy, T. (2012). Designing Food Security Projects: Kapchorwa and Bukwo, Uganda. Development in Practice, 22(3), 334–346. http://dx.doi.org/doi:10.1080/09614524.2012.664620

[7] The VA model is premised on how the different market players work together to provide services that solve problems in the core value chain. Farmers are expected to sell their produce through agents who aggregate it and sell to processors or high-level traders (off takers) - creating a structured trade flow and leading to improved incomes and enhanced resilience of smallholder farmers

3 Analysis

3.1 Problems and underlying causes

This analysis seeks to define the issues currently affecting the performance of the sesame sector in the NU region. This analysis recognises a CASA focus on aggregation and market access to bring smallholders into commercial markets; and on investment and financing to ensure pipeline investment for SMEs. To strengthen the market system sustainably rather than simply alleviating these issues temporarily, the analysis seeks to understand the underlying causes of issues before devising solutions. It also seeks to understand impacts of and for gender and social inclusion; food security and nutrition; and climate change.

A range of constraints impede the productivity and efficiency of smallholder sesame farmers, making it more difficult for them to engage in the marketplace. The core problems identified in the sesame sector at the farm level are: a) a lack of equipment for land preparation, which leads to late planting; b) crop losses from pests and diseases, which reduce yields; c) non-availability of seed; and d) a lack of labour, particularly for weeding crops that are sown broadcast.

3.1.1 Problems in the core market

The supply chain of sesame suffers from different challenges including the adulteration of sesame grain and mixing sesame from different sources of varying quality. It is believed that selecting and grading sesame according to quality and specifying characteristics such as its origin can create higher market prices and fulfil buyer expectations. This necessitates the coordination of different stakeholders in production, post-harvest handling and processing.

Initial field interviews with stakeholders revealed that the performance of the sesame sector marketing system is constrained by many factors such as poor quality of sesame; weak extension services, which have ignored market development; poor linkage of research and extension; absence of market information; excessive price and supply fluctuations; limited access to credit; inefficient handling, including grading, storage, packaging, transport and management. Other problems include a weak legal system to enforce contracts; inadequate government interventions and an absence of market regulations and legislation. There are also too many intermediaries; there is a lack of vertical and horizontal coordination; and farmers are not integrated into the marketing system.

Though it is widely considered that there is ‘plenty’ of land in NU that could be used for agriculture, approximately 93 per cent of current land in the north is held under customary tenure, posing a problem for land tenure security and thus investment (McKibben 2010). Investment disincentives from overlapping property rights alone can reduce productivity by up to 25 per cent, depending on the type of crop, according to a conservative estimate.

Women’s lower levels of education and skills hamper both their access to and returns from agricultural resources[8]. This profoundly impacts farm production of sesame, which is mainly carried out by women.

The majority of SHFs grow sesame mainly for home consumption and more commonly for income through the marketing of surplus production. Access to improved seeds is a major constraint. Few agro-input providers sell certified sesame seed, and most SHFs use recycled seed, ultimately resulting in yields below 200 kg/acre. This is further exacerbated by persistent use of poor and traditional agricultural practices. There is also a need to sensitise farmers on the need for post-harvest processing. In addition, sesame farmers in Uganda

[8] World Bank, 2014. Levelling the Field – improving opportunities for women farmers in Africa

have limited access to high-quality storage, cleaning and drying techniques, so crops do not maintain their value between farm gate and the processor, retailer or consumer.

Underlying causes include:

1) Inadequate seed system

A well-functioning system is necessary to make good quality seed available. In Uganda, NARO's control of parent seed and variety release restricts production, and companies struggle to access enough parent sesame seed to produce new varieties promptly.

2) Widespread poor seed handling

Poor quality seed is certified but does not germinate, and yields are low. This is often related to production and compounded by lack of oversight by companies and MAAIF.

3) Inadequate breeding seed and certification system

The current sesame seed system in NU does not provide the foundation to support a well-functioning seed sector. Efforts by the government through the World Bank-funded Vegetable Oil Development Programme (VODP) project have focused on other oilseeds like sunflower and palm, leaving sesame orphaned regarding the provision of foundation seed.

4) Prevalence of counterfeit seed

Anecdotal evidence points to a lack of inspection and registration of agro-dealers as part of the problem of counterfeit seed. Low-income farmers often cannot afford to purchase seeds in large quantities, so agro-dealers and stockists break bags down and repack them in smaller volumes, or even sell seeds loose. This creates opportunities for adulteration.

Lack of aggregation at producer and cooperative level

Despite the advantages of bulk marketing and participation in producer groups and cooperatives, some farmers are still reluctant to participate for the following reasons:

a) *The high cost of transportation to local storage*

Producer groups and cooperatives have time and again cited the cost of transport as a major barrier to utilisation of local storage facilities. This is due to poor road quality; minimal ownership of transport by SHF cooperatives; and inefficient transport services.

b) Poor connections to markets and buyers

Most cooperatives and producer groups are not sufficiently profitable or organised to seek out buyers. Many still describe themselves as "price takers". Without secure connections to buyers, producers see no point in using producer groups' or cooperative storage facilities.

c) Uncertain return on investment from high-quality storage at the producer-group level

Quality storage units are expensive because they are imported, and there are currently no financing programmes for producer groups and cooperatives. It is unclear whether even with financing, farmer groups would be able to afford to investment in, say, on-farm silos that provide a better return than other storage options at a group level. Also, high-quality storage is a risky investment for farmer groups with no guarantee of a premium for high-quality grain.

Limited investment in quality post-harvest handling (PHH) and storage equipment at farm level

a) Limited awareness of improved PHH equipment

- A majority of SHFs have limited knowledge of GAP and PHH techniques. This ultimately results in smaller and poorer quality yields. At the household level, this translates into lower incomes. Smaller harvests reduce the supply of commodities for downstream processing and utilisation of storage, aggregation and transportation providers.

b) Poor connections to quality markets and buyers

- Due to the remote locations of the majority of the rural sesame farmers and risk-averse mind-sets, smallholder farmers are often unaware of or unconvinced by better market opportunities. So they often fall prey to predatory "middlemen" buyers who give them a lower price for their produce, limiting the farmers' ability to invest in PHH equipment.

- SHFs are prevented from expanding production by a lack of affordable financing.

c) Uncertain return on investment from high-quality storage

- Independent farmers have little incentive to adopt or enforce quality standards for the grain they sell. Farmers often do not have regular buyers or contracts so they cannot be certain of the price they will receive for their produce. Furthermore, many buyers do not offer a price premium for higher grades, reducing farmers' incentive to have quality grain.

3.1.2 Problems in services and the enabling environment

Generally, core value chain problems have their root causes in the support market or business environment. Improving access to finance for value chain actors is a critical issue. The most critical challenges concerning financial services in Uganda include the following:

a) Limited availability of adapted financial services products

Sesame is a high-value commodity, and substantial sums are invested in the business. Banks and nonbank financial institutions often cite the high cost of reaching individual smallholders as a constraint to serving the vast group of smallholder producers.

b) Weak or limited investment finance

Lending and investment professionals in the country indicate that there are several realities in the market that shape the ability of businesses to gain the confidence of outside parties:

i. Investment is still primarily led by individuals and families, whose "bar" for documentation and governance is lower than institutional investors or lenders.

ii. There is an increasing presence of private equity (and other institutional) investors, specifically in Kampala, but few deals have been closed.

iii. The lack of reliable data on agricultural activity risk makes banks very reluctant to enter any type of lending in which they lack experience, or with partners that are unknown to them.

iv. Some businesses have a record of success but cannot demonstrate. For example, savings and credit associations' records are not digital, or they have operated entirely in cash. Banks are then unwilling or unable to lend.

Agriculture receives only 12% of private sector credit, compared to 20% for real estate and construction, 18% for trade and commerce and 18% for personal and household loans. The sector's contribution to the national economy dwindled from 49% in 1991 to 24% in 2018. Limited access to credit is partly due to lack of land titles to use as security when borrowing: the majority of people in agriculture are women and youths, who do not own land.

In the current sesame market structure, dominated by informal relationships, independent traders have little incentive to adopt or enforce the sesame quality standards for the grain that they purchase. High-quality norms and standards are crucial not just for reaching international markets, but also for reaching expanding domestic urban markets.

The Uganda Sesame Standard is not yet harmonised with other national Sesame Standards of the East African Community countries. Even though the World Trade Organisation (WTO) was informed of this standard, WTO has not yet officially recognised and passed it on to other countries trading in Sesame.

4 Strategy for change

CASA's sesame strategy is founded on optimising engagement with SMEs seeking investment to drive growth, while addressing constraints on smallholder producers' commercialisation and engagement. (In many cases, these consist of business opportunities that are not taken up.) Our engagement is typically expected to involve a journey with partner SMEs from preparations for receiving investment (such as business model development and BDS support) through to matchmaking with commercial finance providers and impact investors.

4.1 Process Leading to Strategy and Project Outlines

During the inception phase, CASA employed the Inclusive Markets approach to arrive at the inception deliverables of this Inclusive Growth Strategy document and the Project Outlines within. Supported by the project's technical advisors, the CASA country teams completed the following steps of the IM approach:

i) Development of the sector dynamics and institutional landscape (combination of desk research and key informant interview);

ii) Analysis of systemic constraints and underlying causes of rather slow investment uptake for commercialisation of the sesame sector including validation with market actors;

iii) Development of the inclusive growth strategy for stimulating greater investment in poultry sector along with theory of change and vision of change;

iv) Mainstreaming of CASA crosscutting areas in (i) and (ii) above;

v) Identification of intervention areas and design of outline projects, including initial interactions with potential SME and other partners and service providers, and completing pre-due-diligence assessments of SMEs;

vi) Developing an initial list of potential sources of finance and investment for SME matchmaking, including accelerators and incubators for potential BDS and support to SMEs for investment readiness preparation.

The next steps in the IM process are: (a) scoping of at least five project concept notes[9] (first three months of implementation), including mainstreaming of CASA crosscutting areas; (b) design of project plans, including mainstreaming of CASA crosscutting areas and monitoring and results measurement activities, as well as partner due-diligence exercises, negotiations and contracting; (c) implementation, monitoring, results measurement and evaluation (most projects expected to commence from 1 April 2020 but possibly some quick wins beforehand); and (d) collaborating with Component C on preparing sesame SME success stories and engaging with investment actors.

For DFID to agree that a project is relevant, it may be necessary to make some changes to the outline sesame projects portfolio during scoping of the project concept notes and, subsequently, for the second round of projects.

CASA employs the following criteria to select relevant projects for producers, SMEs and the enabling environment:

- Does the project directly or indirectly target smallholders, especially women, with the capacity to step up – that is, increase production, productivity and quality to meet market requirements?
- Are there suitable actors available to partner with?
- Does the project avoid distortion of the market and create a sustainable market?

[9] Initial samples of project concept notes were provided to DFID during the Inception Phase for feedback.

- Does the project create access to commercial markets for target smallholders?
- Does the project demonstrate a business case or new business model that will attract investment to commercialise smallholder supply chains?
- Is the project feasible, sustainable, scalable and relevant (in terms of factors such as resources and timelines)?
- Are the cross-cutting issues incorporated where relevant?

CASA employs the following criteria to select SME partners:

- Annual turnover under $2.0 million, or less than 50 employees;
- Must want finance in the range of $100,000 $1,000,000 either immediately or in the foreseeable future. (Exceptions could be possible to the lower limit, where there is expected to be a second round of finance meetings or the limit is expected to be exceeded during the life of the CASA project);
- Ideally has not received finance in the past. (An exception may be an SME seeking finance within the above range for a new stage of expansion);
- Engages or will potentially engage large numbers of smallholders in the supply chain;
- Passes CASA's due-diligence assessment.

Work on identifying a roster of potential BDS providers for engagement, including assessment of service and delivery capacity building needs, will commence early in implementation. CASA expects to focus on a small number of the most relevant providers. Capacity building may centre on services development, testing and service evaluations and consumer and other research. Provider selection criteria are expected to include:

- Capacity to deliver services;
- Close to SHFs and SMEs in culture, operating environment and geography;
- Low cost structure;
- Commercial focus, business culture and accounting and management systems;
- Organisational independence, especially from donor funds;
- Focus on services for SHFs and agri-business SMEs.

CASA has completed an initial mapping of the investment landscape in Uganda. (See separate report for a list of active investors in Uganda.) A similar exercise for finance landscape mapping is being finalised. The lists of actors from these exercises will be updated periodically.

4.2 Market potential, opportunities and growth potential

There are four drivers of commercialisation for the sesame sector:

1. **Strengthen the capacity of farmer organisations through BDS support, so that they can operate professionally, aggregate larger volumes of sesame and provide integrated services, such as market information and bulk acquisition of inputs**

Higher transaction and operational costs as a result of working with a fragmented sesame supply base is a major impediment to sesame aggregation. It also limits the major off-takers from sourcing larger volumes and quality sesame from smallholder farmers. The farmer organisations engaged in sesame production currently lack the commercial acumen and business skills to effectively deliver required services to members, including the inability to aggregate and sustain access to commercial markets.

To commercialise smallholder farmers, there is need to integrate them into commercial markets by organising them under their farmer-based producer organisations. Currently SHFs are highly fragmented or organised into weak farmer organisations characterised by weak leadership (a lack of trust among members) and poor management capacity. Strengthening farmer-based organisations (FBOs), including women farmer groups, by

developing and providing members with integrated services will increase their bargaining power, which in return will drive SHF commercialisation and sector growth.

Improved farmer organisation with expanded production quantity and quality, together with increased sector information on production cluster dynamics, provide foundations for building long term, win-win relationships with SMEs and larger enterprises. Stepping-up farmers will benefit from inclusion in a more formal and structured supply chain. They will become better prepared to commercialise their production and more able to invest.

2. Support SMEs to develop and upscale innovative business models and invest in sesame out-grower schemes and processing

A majority of the potential off-takers that CASA intends to work with operate various supply chain models including village agents who are identified, contracted and supported by an aggregator. This project will seek to pilot innovative supply chain models with some of the potential partners, such as warehouse receipt systems, contract farming and out-grower schemes. Without a well-structured system for input and output aggregation, such as the village agent (VA) model, SHFs cannot benefit from premium markets. However, a structured system such as a VA model is often hampered if the aggregator that supports the VA (with storage facilities, equipment and financing to buy produce) delays its advance of financing. Through this project, CASA intends to start exploring and pilot testing VA market service hubs to help obtain cheaper finance as an SME instead of relying on pre-season financing from the major off-takers. Overall, this project aims to build the capacity of SMEs, coops and FBOs to mobilise resources.

Streamlining market access through vertical and horizontal linkages has a pull effect on other stakeholders along the sesame value chain. Innovative commercially viable models enable all stakeholders to understand the returns on investment and requirements for specific markets and hence make informed decisions to respond to the market by investing in on-farm technologies that improve productivity. Extension plays a significant role in agricultural transformation. It is a requisite for the commercialisation of agriculture and is needed to farmers' capacity in terms of knowledge, skills and the use of modern technologies. It will enable SHFs to gain reliable, low-cost access to quality inputs, credit, training, market access, market information services and other key services. This will increase yields and profitability while reducing risk and attracting sustainable sources of financing and government buy-in. It is important to foster sustainable backward and forward business linkage among sesame value chain actors.

3. Enhance access to finance and investments by, (a) brokering linkages between SME, producer organisations, investors and FSPs; (b) building the capacity of SMEs and agribusinesses so that they can be investment-ready; and (c) identifying and profiling investment opportunities in sesame processing

Limited access to meaningful levels of credit on affordable terms severely constrains the ability of SHFs to expand their production. Smaller harvests reduce the supply of commodities available for downstream processing and utilisation of storage and transportation providers. Credit is a catalyst for growth. Until solutions are identified that are both profitable for banks and affordable and practical for SHFs, banks will remain reluctant to serve this customer segment, and potential borrowers will be dissuaded from applying for loans.

CASA will start to build strong working relationships with local financial institutions (such as Equity Bank, TALANTA and Centenary Bank) that have ongoing relationships with the oil seed industry, particularly those that lend to sunflower and soybean SHFs. They have utilised a number of different measures to bring down the cost of financing, including getting some producer groups to open bank accounts to receive payments and registering VSLA accounts that assure self-checking during loan recovery. Some of these efforts have not only

led to improved saving for farmers but have also led to the establishment of credit among farmers.

Under this project, CASA will encourage SHF groups to open accounts and encourage members to open joint husband-and-wife accounts that require signatures by both parties to get funds, thus increasing monetary transparency within the family. We envisage relationships with local financial institutions with the ultimate aim of providing credit for purchasing much-needed inputs for sesame production. A major driver of commercialisation is the uptake of new innovations and technology – and this requires access to affordable finance.

4. **Strengthen the capacity of SHFs, producer groups, producer platforms, SMEs and local governments to adopt and localise sesame standards**

There are several reasons for market actors' widespread failure to meet the standards that have been set for sesame. These include a lack of awareness of the standards; the limited capacity of implementing agencies to sensitise stakeholders and effect enforcement; inadequate coordination amongst relevant agencies; limited consultations during the development and implementation of standards, especially at the grassroots; absence of a framework for implementation of regional policies at local level; and absence of a "premium price for better-graded sesame". This project will seek to sensitise key actors along the sesame value chain; build their capacity to meet these standards; and strengthen their ability to influence policy formulation, adherence to standards and increased access to markets.

Under this project, CASA intends to support the adoption of sesame standards by SMEs through: (a) conducting sensitisation training and awareness programmes on the health hazards associated with the poor handling of sesame grain; (b) development and dissemination of simplified information materials on sesame standards for SMEs and other key stakeholders including local governments. Issues related to aflatoxin and salmonella contamination have been highlighted by some sesame grain exporters, as these can substantially limit the potential for exports if not addressed.

Overall, the strategies are designed to strengthen service provision and the enabling environment in the sector. This takes the form of (1) identifying opportunities to increase production and productivity; (2) stimulating aggregation at producer organisation (PO) or coop level; (3) increased investment in PHH and storage equipment; (4) compliance with the sesame standards and improved access to finance and investment for SMEs and coops.

4.3 Vision of change

The vision of change envisages how the market system would operate if identified constraints and underlying causes were resolved. CASA's vision is:

- continued increased global investment in agribusinesses which trade with smallholders in equitable commercial relationships, increasing smallholders' incomes and climate resilience.

CASA's vision of change for Uganda's sesame sector is as follows:

4.3.1 Smallholders

- SHFs, including stepped-up SHFs and women, enjoy increased income and increased resilience to climate change from access to competitive, commercial sesame markets. They also use higher-quality assured seeds and improved PHH practices and storage.

4.3.2 Associations and small processors

- Producer organisations (POs) and cooperatives aggregate more quality sesame with strong backward and forward commercial linkages. They attract investments for growth.

4.3.3 SMEs, processors and exporters

- SMEs, processors and exporters grow competitively following increased investment. They trade high-quality sesame into niche, high-value markets.

4.3.4 Desired systemic changes in the sector

- The sesame sector enjoys competitive, inclusive growth due to improved access. It attracts increasing public and private investments, which engage large numbers of stepping-up SHFs, including women.

4.4 Intervention areas and outline projects

To realise the vision described above, the CASA team employed an Intervention Logic Analysis Framework. After identifying potential projects and activities linked to each core problem, the team further streamlined the activities across all the ILAFs and grouped them into three broad project areas that cut across all the ILAFs. These and their linkages to growth drivers and investment are summarised in the table below.

Table 2: Intervention areas and their links to growth and investments

Intervention area	Link with drivers of growth	Project	Link to investment readiness	Possible future investors
Facilitate improved SHF production and productivity for enhanced commercialisation	Growing export demand	- Support farmers to aggregate for output markets & agricultural support services. - Facilitate access to finance for SHFs.	- Prepare for investment: - Improving access to BDS - Matchmaking with impact investors and apex producer groups	- MFIs, SACCOs
Support SME growth and expansion to engage more SHFs in commercial markets	Growing demand for organised producer groups to leverage support from impact investors and leverage access to better financial terms and loan products	- Support SMEs to develop/upscale innovative business models, invest in sesame and processing that is aimed at increasing efficiency and engagement of smallholders - Project 2.2: strengthen SME capacity to access finance and investment to start/expand their businesses.	- BDS support to develop and strengthen business models - Matchmaking with impact investors	- FIs (Opportunity Bank, Centenary Bank)
Improving the business environment	Demand for better- and high-quality graded	- Strengthen the capacity of SHFs, producer	- Cluster the production areas and	- FIs (Opportunity Bank,

for inclusive sesame sector growth	sesame by the export market	groups, producer platforms, SMEs, local government to adopt and localise the sesame standards	statics to have targeted investment opportunities.	Centenary Bank, DFCU, Stanbic bank, Equity Bank)

Commercial Agriculture for Smallholders and Agribusiness

The CASA programme makes the commercial and development case for investing in agribusinesses that source produce from smallholders. It does this by demonstrating how this can be done effectively, by bridging evidence gaps and by ensuring investors and policymakers have access to the right information and people to make inclusive agribusiness models succeed.

By showcasing successful models for businesses that source produce from smallholders and pulling together the evidence base supporting the commercial and development impact of their business models, CASA will attract more investment into the sector, boosting economic growth and raising demand for smallholder produce.