



Business Innovation for Resilient and Efficient Farming

 Mengya Integrated Farmers Association

Establishing a seed potato industry in Eastern Uganda

Context

Planting the seeds for a new industry

Potato is a growing cash crop in Uganda due to a favourable climate and increasing domestic demand. However, the sector's growth is held back by a small and highly fragmented seed potato industry, with only 34% of national demand for seed potato met and potato yields averaging 5 MT per acre, well below the recognised potential for the country to produce up to 17 MT per acre.

Located in Eastern Uganda, where the altitude and climate are favourable for seed potato production, the Mengya Integrated Farmers Association (MIFA) is looking to establish itself as the first Integrated Seed Business in the region with the capability to undertake the full seed multiplication process - from plantlet to Quality Declared Seed (or certified seed).



MIFA



As a farmer group, MIFA recognised a need among its members and other Local Seed Businesses for improved access to affordable seed potato in Eastern Uganda.

To meet this need, MIFA began producing Quality Declared

Seed in 2018 from basic seed sourced from Southwestern Uganda. This basic seed can be expensive to buy due to a combination of high demand in the southwest and transportation costs. The availability of basic seed can also be unreliable, hindering MIFA's ability to time the production of Quality Declared Seed with local planting cycles.

MIFA's proposed model for its Integrated Seed Business involves building the capacity of member farmers (15 out of 40 members have expressed an interest in seed potato production) and selling basic seed to other Local Seed Businesses who will then produce Quality Declared Seed.

While this mixed model presents a number of challenges, it also represents the beginnings of a seed industry in Eastern Uganda that offers locally produced, affordable certified seed to Eastern Ugandan potato farmers.



Farmers



Currently, if a potato farmer in Eastern Uganda wants to buy Quality Declared Seed, they pay around USD 65 per bag for seed potato sourced from Southwestern Uganda. Approximately 33 percent of this price can be attributed to transport costs.

This cost can be seen as prohibitive, and most farmers instead either recycle potatoes from their crops as seed, or purchase immature table potatoes from local markets for approximately USD 49 per bag - often mistaking them for seed potato.

While seed potato and small, regular potatoes do not differ greatly in shape and size, regular potatoes are often small due to disease. Recycling these potatoes increases the risk of disease and the need for pesticides. As a result, yields are low and potato quality can be poor.

Without access to more affordable, clean seed potato, the common practice of recycling potatoes from crop to crop and the subsequent cycle of disease and poor yields will not be broken.

Challenges

Building industry connections and capability



MIFA

Producing seed potato is a complex process comprising multiple steps and requires specific equipment, infrastructure, expertise and land. For MIFA to establish itself as a fully Integrated Seed Business, it needs all of these elements in place within a business model that connects and leverages other industry players.

The entire seed multiplication process takes around 28 months from start to finish. It begins with plantlets grown in controlled conditions in screen houses. Plantlets need to be sourced, screenhouses established and farmers trained in their management and the handling of the plantlets.

The plantlets then mature into mini-tubers which are planted in an open field to produce pre-basic seed. Pre-basic seed is multiplied to produce basic seed, which is multiplied to produce Quality Declared Seed. MIFA has the capability to produce Quality Declared Seed, but needs significantly more land to produce greater volumes.

Another challenge is storage. When stored in the wrong conditions seed potato can sprout too early. To prevent this, diffused light storage facilities are a critical, additional investment.

Without an existing seed industry in Eastern Uganda, the skills to undertake each of the above steps in line with certification requirements must be developed.

Finally, year-round access to water is required if MIFA is to ensure continuous and sufficient supply of seed potato that is aligned with cropping cycles.



Farmers



While farmers are typically aware of the need for clean seed potato for healthy crops, they are not always able to distinguish seed potato from the small regular potatoes sold as seed potato in local markets. Without knowing the difference, there is little incentive for farmers to seek out and pay for Quality Declared Seed.

Seed potato production itself offers farmers an alternate, reliable income source as demand for clean seed in the country is growing. However, farmers interested in producing seed potato must weigh up the opportunity gained or lost in allocating tracts of land to seed multiplication rather than for cash crops. Seed potato requires land that is relatively clean and not recently cropped, which could result in a temporary loss of income between cash cropping cycles and pre-basic and basic seed being sown and multiplied. Farmers have little access to reliable information that would inform this decision.

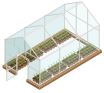
The ability to produce seed potato all year-round requires a constant water supply. This is an obstacle for farmers who are unable to tap into local water sources.

Solutions

A mixed business model combined with careful innovations and support



As a first step toward establishing a seed potato industry in Eastern Uganda, MIFA has partnered with REACH-Uganda to put in place the industry connections, infrastructure, equipment and expertise needed to successfully transition to an Integrated Seed Business.



REACH-Uganda will link MIFA to plantlet suppliers, such as the government's Kachwekano Zonal Agricultural Research and Development Institute (KaZARDI) and privately owned AGROMAX. A plantlet sourcing plan will be developed and screenhouses built on the land of selected MIFA members who will be trained in their operation and in the handling of the plantlets.



To prevent early sprouting and limit loss, diffused light storage facilities will be established next to each screenhouse, increasing MIFA's ability to produce and keep seed potatoes ready for sale in line with cropping cycles.



Year-round production will be further supported by a gravity-fed irrigation system. The main water pipe (2.75km) has been completed and the next step is to connect farmers to the water supply. The irrigation system will offer 50 farmers, including 30 MIFA members, the option of year-round water supply.



To build farmer trust in MIFA's Quality Declared Seed, packaging will include certification and traceability details, such as the producer, date of production and quantity.



While outside of this partnership, REACH-Uganda and the Kween District Local Government have invested in the reconstruction of a 26 km road between the highland potato production areas and local market centres. This will support the transportation of locally grown seed potato to markets and vice versa.



To address the significant amount of land required to increase the amount of Quality Declared Seed produced, MIFA will adopt a mixed business model that involves selling basic seed to at least three other Local Seed Businesses, such as Kapchesombe Green Change Farmer Cooperative (KGCFC) and the Sukutu Multipurpose Women's Group, who will then produce Quality Declared Seed. This approach builds on the work of the Integrated Seed Sector Development Programme support for Local Seed Businesses to produce Quality Declared Seed.



Results

Achieved and expected



Program investment

REACH-Uganda
USD 96,665



Private investment to be leveraged

MIFA
USD 42,650



Value of increased sales
USD 353,921
by 2024



Total additional income for farmers
USD 260,418
by 2024

