The potato value chain in Uganda, its actors, and the status of their business linkages

The potato value chain in Uganda is largely informal and moves great quantities of potato in a mostly uncoordinated way. Actors’ access to essential services, such as credit, extension, and group membership, is a challenge. The Uganda Potato Platform (UPP) has the potential to improve sector coordination, however, professional organizations remain currently underdeveloped.

The potato value chain in Uganda and its actors

Potato is a key food and cash crop in Uganda. National production has steadily grown over time through increased area under potato in response to increasing demand and consumption. Today, approximately 200,000 farmers are growing potato in Uganda. Traditionally grown in the highlands, potato production has recently expanded to lowland areas. March-July and September-January are the major production periods with some off-season production taking place in swamps, valley bottoms and irrigated areas. The potato value chain in Uganda (figure 1) is a complex web of business linkages and marketing channels between the private sector, public institutions and professional organizations which are directly involved in the production and marketing activities. Various support services are provided by public institutions, non-governmental organizations (NGOs), private enterprises and other formal and informal organizations.
Figure 1: Ugandan potato value chain map.
The organization of the seed potato supply chain

A majority of potato farmers in Uganda are smallholder farmers, who typically recycle their own seed or obtain their planting material informally from other farmers or in the open market. Some farmers buy small quantities of quality seed from local seed businesses either directly or through farmer groups or seed traders. Operation Wealth Creation (OWC) and several NGOs are also involved in seed potato distribution. Despite quality seed is worth the investment, many potato farmers find it expensive. Local seed businesses are individual potato farmers or farmer groups who multiply seed in the field in accordance with quality assurance guidelines and monitored by public institutions. They are also often supported by projects. Current estimates of annual seed potato demand range from 16,000 to 25,000 tonnes (although precise data is not available) while, according to different sources, only 5-33% of this demand is met. The absence of well-functioning marketing and quality assurance systems for seed potato enables the exchange of poor-quality seed resulting in the spread of diseases and low yields.

Early generation seed (EGS) refers to breeder, pre-basic and basic seed used by seed producers as starter material to produce commercial seed. For many years in Uganda, Kachwekano ZARDI (KaZARDI) has been the only source of EGS for onward multiplication by local seed businesses. Bureaucracy, a limited production capacity, and irregular and informal interaction with local seed businesses still hamper the production and distribution of quality seed of the requested varieties.

Recently other private and public actors have also engaged in EGS production. Ten nurseries in the Kigezi and Mount Elgon sub-regions manage small-scale screenhouses and obtain tissue culture (TC) plantlets for further multiplication into minitubers or rooted apical cuttings (RACs). However, they face challenges in raising the funds needed to purchase starter material and use their facilities at full capacity. They also have difficulty obtaining timely TC materials; having access to sufficient land for successive seasons of multiplication; accessing National Seed Certification Services; and producing seed of the right quality and size. Furthermore, they must compete with the market-distorting practices of free input supply by OWC and subsidized sale prices offered by KaZARDI.

AGT Laboratories and Agromax Ltd are private sector companies commercially producing TC plantlets, minitubers and/or RACs but without well-established relationships with the other actors along the potato value chain. Finally, Buginya ZARDI (BugiZARDI) recently engaged in modest production of minitubers and RACs for own field multiplication and they currently provide support to the district agricultural officers for conducting Quality Declared Seed inspections. Figure 2 provides a detailed overview of the current seed potato supply chain in Uganda.

The marketing of ware potato

Ugandan potato farmers sell ware potato for cash on an individual basis, mostly at the farm gate or in nearby rural markets. The potato is sold in 100-150 kg bag units in southwestern Uganda and by kilogram in eastern Uganda. Potato farmers sell a majority (± 60%) of their production immediately after harvest while the remainder is stored primarily for food at home or as seed for the next cropping season. Very little remainder potato is stored for later sale as ware potato. During harvest, excess supply of potato leads to low farm gate prices of UGX/kg 300-500 (USD/kg 0.08-0.14). In other times of the year, when potato is still in the field, supply shortages drive farm gate prices to as high as UGX/kg 1,100-1,300 (USD/kg 0.31-0.36).

Because potato farmers lack financial resources, access to market information, and effective communication and organization, buyers (mainly brokers and traders) largely dictate pricing. Furthermore, farmers are beset by a lack of advice on good potato management and marketing practices, and many do not belong to farmer groups from which they could benefit by collective action. Brokers in the communities, on the other hand, are highly informed and constitute an essential link between potato farmers or traders in the villages and the wholesalers in towns up-country or Kampala. Despite their interdependence, the level of trust between potato farmers, brokers and traders is low.

Potato traders are generally unregistered, buying and selling potato on an individual basis. Quality criteria in these exchanges are primarily based on size and variety, and, to a lesser extent, damage and disease levels. Their prior purchase arrangements are largely informal and include principally “purchasing potato while still in the garden,” “granting of credit,” and “agreeing on the price, quality and quantity of the potato bought.” Potato traders use largely their own money, therefore, they often lack working capital. Some traders in up-country markets store ware potato before further sale, but the volumes stored are very small compared to the volumes traded. In Kampala, ware potato storage by traders in Kampala is non-existent. Like potato farmers, the majority of potato traders also lack access to advice on good potato management and marketing practices.

Potato in Uganda is primarily traded as fresh ware potato for cash, although sales on credit allowing the buyer to pay later do occur. Transaction costs are high due to, among other factors, premature harvested products, bad handling, rot caused by rains, lack of reliable transport means, and bad roads. Traders in up-country markets sell primarily to wholesalers, although retailers and, to a lesser extent, brokers, are also important buyers. In Kampala, traders sell mostly to retailers, restaurants, hotels and fast-food kiosks.

The Ugandan hotel, restaurant and canteen market is large and promises growth. Hotels in towns up-country can buy directly from individual farmers, but most hotels in Kampala prefer to buy on a regular and informal basis.
from potato traders to assure consistency in supply of fresh products of the right size and variety. This is also the case for crisps processors who constitute a small but stable business. Loads of potato that do not meet the required criteria are returned and suppliers are replaced in cases of delayed deliveries.

The way forward

Having assessed this context and the challenges, the efficiency of the potato value chain could be improved by focusing on the following aspects:

- Clarifying the role of each potato value chain actor;
- Supporting private sector investment in EGS production;
- Promoting effective quality control and marketing strategies of local seed businesses;
- Generating awareness of potato farmers on the importance of using quality seed;
- Creating market incentives to promote the adoption of quality seed, specific varieties, and good agricultural and post-harvest practices by potato farmers;
- Estimating the seasonal demand for quality seed to allow better planning; and
- Supporting the organizational development of professional organizations of the value chain actors for effective service delivery, communication, and coordination.

**Figure 2:** Seed potato supply chain in Uganda.

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