

Opportunities and Challenges for Commercial Seed Potato Production in Ethiopia

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Introduction

Quality of potato seed is a key factor in profitable potato production. Globally, commercial setting of a private sector seems to be a prerequisite for a sustainable seed system resulting in a permanent supply of high quality seeds. Ethiopia is well on the way to support and facilitate the emerging private sector in this key issue of profitable agriculture. Always this crucial link of a single cash crop should be considered in relation to the complex reality of the farmers.

The seed enterprise Solagrow PLC, from Dutch origin, was established in 2007 in Ethiopia, having its headquarters at Hidi, Debre Zeit, and Oromia Regional State. It defined its vision as “to contribute to food production and food security of Ethiopia by providing seeds, expertise, and technology to the farmers on a sound commercial basis, re-investing its dividends into the ongoing development of the agro-economic sector.” The primary focus was the potato crop. To produce quality seeds for the perennial potato production in Ethiopia, Solagrow needs to get suitable land at two altitudes: highland farms (< 2,400 m.a.s.l.) to produce healthy seed during the warm spring season (January-May) and midland farms (1,500-2,000 m) to produce healthy seed during the cold autumn season (October-January). In 2010 and 2011, the company acquired two highland farms at Haro Wenchi (Woliso, West-Shoa, and Oromia) and Doba (Bekoji, Arsi, Oromia). Currently the company is urgently looking for good locations for its midland farms in the other regions to be able to grow potato seed in the autumn season.

Commercial Seed Potato Production

To further improve the Ethiopian potato sector, a number of critical prerequisites are to be met: improved varieties, quality seed of those varieties, application of improved cropping practices and access to proper markets to sell potatoes produced.

Solagrow got the chance to register three early-maturing Dutch-varieties and owned by HZPC Holland BV, after having them tested in six locations in the Ethiopian highlands. The initial elite seed lots were imported by reefer containers to get the seed production started. Although potato seeds from The Netherlands

meet the highest available phytosanitary levels worldwide, still the disease spectrum of Europe and East-Africa are different. To prevent the risk of introducing new pathogens or strains, Solagrow decided to stop the import of field-grown seeds and to establish its own minituber-production of the Dutch varieties. This enables the company to produce huge amounts of quality seeds at the lowest risks, preventing the further enrichment of the yet abundant pallet of potato diseases in Ethiopia and East-Africa. This minituber facility will also be used to produce the basic stocks of the proven Ethiopian varieties. Currently a new set of Dutch varieties is tested to find candidate varieties with high processing qualities.

In close collaboration with the Ethiopian farmers, the company is developing a cropping strategy in which the timing of crops and varieties comply with the different seasons and requirements of the market. Finally, attention is paid to address the seed and ware potato markets to ensure that the efforts of farmers to produce quality potatoes will be paid off by the consumer market, via retail, processing, or export.

Farmers' reality

Many times the position of the small farmers is described in terms of “poor peasants that need our continuous help to survive.” In addition, most of the time, this third party of poor farmers is not represented at the meetings and workshops and many interventions showed only temporary effects. As to our short-term experience in Ethiopia, the Ethiopian farmers are not that much different compared to their colleagues elsewhere. Although many of them are poor, still most of them understand quite well what input, output and profit means.

The major interest of all farmers, whether small or big, is the profit to be gained from his crop. Of course, they are happy to see a huge pile of potatoes behind their hut, but if no merchant pays its price, the farmer will lose. Final profit counts the income of the farmer needed to keep the family economics running. This exactly is one of the reasons why farmers are not interested to grow seed potatoes, as their limited tuber weight is not covered by an equivalent higher price per kilogram.

Furthermore, the farmers usually possess limited resources. Even relatively small investments on seeds, fertilizer, mechanization, irrigation, pesticides, and labour are a financial burden for most of the farmers and they tend to minimize those costs. At the same time, many farmers are lacking the required expertise and knowledge level to produce. This combination results in low production levels. Furthermore, traders and intermediaries dominate the connection between farmers

and consumers in Ethiopia. The farmers are lacking the actual market data and usually they will only get a low price for their products. Those intermediates also will play around with the numerous lots, trying to increase their profits by blending different qualities and transporting to far-away destinations.

I would propose to consider our farmers as being commercial farmers, or small investors. Almost every farmer is selling part of his crop and this “production for profit” deserves the label “commercial”. This also demonstrates the need of skills with respect to the basic farm economics. Every farmer should understand the balance between input, output, and profit. The second aspect is the evaluation of the different qualities of inputs, enabling the farmer to decide about the purchase of local seed versus certified seed, to apply the recommended rates of fertilizer and to choose the right time of marketing his products. Inputs with added value then will be accepted by farmers as long as their value addition is higher than its purchase price. This basic mechanism will determine the success of any introduction of new varieties and new technology. When it pays off at normal risks, it will serve the farmer and he will accept and implement the profitable novelty.

One other skill to be developed at farmer’s level is to make reservations out of the cash income of the crop. This partial saving should serve to enable the farmer to invest in his next crop, to pay his next investments from his current profit. Poor farmers then just need for one or two times financial credits to get started and after that he will earn his own investment capital for the subsequent crops.

Pillars of company strategy

To meet the real needs of our farmers, the approach of our commercial seed company is based on the next four pillars

To address the whole potato chain from ‘field to fork’, ultimately to ensure the success of our seed link;

To pay equal attention to the rotation crops as potato is just one crop of the farmer;

To support farmers and outgrowers by a demonstration farm in their region to give them access to the latest knowledge and technology; and

To link education and extension institutes to the farmers practice that may ensure the continuous experience sharing between scientists and extensionists and students and farmers.

Whole potato chain: Breeding to eating, from forceps to fork

The success of the potato chain is determined by the success of the weakest link. To ensure the profitability and thus the continuity of each link, we cannot afford to limit our scope to just our part of the chain. Thus, Solagrow is involved in at least the following links: variety selection – minituber production – outgrowers training - basic seed production – seed certification - seed trade – ware potato growing – processing – wholesale and retail. Since most links of the potato chain in Ethiopia are still immature, we are obliged to pay attention to all preceding and subsequent links of ‘seed production’, waiting for the time when other private partners are taking over parts of this multiple task.

Potato focus versus Crop Rotation

A normal and balanced farm applies crop rotation and diversification. In addition, most of the smaller farms are integrated farms possessing dairy animals. Therefore, a farmer is not just positioned to one link in the potato chain, but is one central link in many value chains. Our farmers are embedded in a *value web*. In approaching farmers, we must consider this and in supporting the development of the farm, we cannot neglect this reality. To our experience, farmers tend to move to mono cropping when they once get good profit from a specific crop. We can prevent this negative trend by creating awareness on this topic of rotation and by offering other alternative crops to the farmers. For our company this has resulted in major investments in other rotation crops, as linseed, vegetables, and malting barley, to make seeds, expertise and (export) markets available to the farmers. The major advantage of this approach is the continuous collaboration with our farmers and the spreading of risks by growing complementary crops.

Demonstration farms in midst of outgrowers and technology sharing center

When we started in 2007, we expected to be able to organize the farmers and outgrowers out of one main office in Debre Zeit. Soon we learned that the only way to establish a strong and direct relationship with farmers is by being their neighbor. Therefore, we are aiming to get a 200 hectare nucleus farm with 30-50 ha of potatoes in each prominent region. This nucleus farm will serve as demonstration site to show the improved practices of the full crop rotation as well as the performance of the improved varieties. It also provides the opportunity to offer the neighboring farmers the service of renting adequate machinery, whereas the investment and maintenance of those assets can be centralized and shared.

Links to research and extension and education

Finally yet importantly, Solagrow is aware that just one company never can cover all the needs of the farmers. Therefore, our enterprise tries to establish long-term collaborations with research and extension institutes and services. The involvement of lecturers and students provides the opportunity to demonstrate the newest achievement to the new generation of farmers and entrepreneurs.

All-round support to farmers as provisional solution

The company development since 2007 shows the stepwise involvement into all the links of the farmer's value web. This encompasses the risk of getting lost in too many aspects of the sector development. On the other hand, neglecting problems and shortcomings in the contiguous links of your value chain will adversely affect your link as well. Therefore Solagrow prefers to focus on its core objectives and to stimulate other partners to get involved in the adjacent links, as defined as follows:

Core objectives:

- Improved potato varieties;
- Production of minitubers and basic seed generations;
- Quality seed production by commercial outgrowers;
- Coaching of those farmers by training and demonstration; and
- Market development for potato seed

Supportive objectives:

- Value chain of rotation crops: variety-seed-cropping-market;
- Micro-credits for first investments;
- Rental of machinery; and
- Market development of products up to the consumers

Finally, the establishment of strong producers associations and direct links to the major markets will warrant the ultimate goal of potato production: bringing profit to the farmer.

Conclusion

Contributing to the sustainable development of potato farmers in Ethiopia, requests a strong focus on your own link of the potato value chain. Dedication and specialization is required to overcome the numerous challenges of this still immature agro-sector. But as the potato value chain cannot be separated from the daily farmer's practice, at the same time we have to recognize and be involved in the parallel value chains of rotational crops. As long no other strong stakeholders

are present to address those links, it requires a transitional involved and contribution of Solagrow PLC to all links in this network of chains, the farmers' value web. The marketing mix is often defined in terms of the 5 P's. To my understanding the approach of sustainable support to the Ethiopian farmers can also be defined in terms of P's, describing the core actors in this farmers' value web. Adequate support to bring sustainable and profitable value chains are:

- Requested by Peasants;
- Done by Private;
- Facilitated by Public, and
- Paid by Profits

In this way our farmers, as being commercial investors, are the leading players who determine and perform the daily development of cropping and marketing. The farmers determine the process of development and as being private investors, they produce the crop. The supply of required inputs, technology, and finance to those private farmers is done by the private input suppliers as well as by the receiving market partners.

Governmental bodies and institutes together with NGO's facilitate this development process by laws and regulations and by providing the socio-economic knowledge.

The whole process is paid by the profits that our farmers are gaining by producing good amount of marketable food products. Finally the humble potato pays!