

CROSS BORDER SEED POTATO TRADE HARMIZATION IN THE EAST AFRICAN COMMUNITY REGION

Introduction

Potato (*Solanum tuberosum* L) is the second most important staple food crop in the East African Community (EAC). Apart from the significant contributions to food and economic security the potato has a higher financial return per unit area and time than most common staple crops and is growing in national and international demand for member states. Rwanda is the largest producer of potatoes in EAC and also ranks fifth in Sub-Saharan Africa. Its potato production grew from 10 to 17% in the past years. Increasing urbanization in Rwanda and the East African region with the related demand for potatoes drive the growing demand. Over 200,000 farmers, organized in cooperatives are active in potato production, where over 2.2 million tons of ware potato was produced on 164,000 ha in 2016. The Rwandan government supports the development of the sector with a long-term potato production to move from 2.2 to 6 million tons, and average yield from 10 to 30 tons/ha. In Kenya, being the second most important food crop, the potato has emerged as one of the promising enterprises to realize Kenya's vision 2030. Potato is currently grown on 161,000 ha with a production of about 1.5 million tons worth about USD 0.40 to 0.50 billion annually; it directly and indirectly employs approximately 800,000 growers and about 2.5 million people as market agents, transporters, processors, vendors, retailers and exporters. In spite of the efforts by the farmers, researchers and other stakeholders in the sub-sector, the yields average about 10 tons against a potential average of 40 tons. The situation is similar for the other EAC member states where in Tanzania and Uganda average yield is less than 10 tons/ha.

Lack of adequate, quality seed potato of the appropriate varieties has been identified as the main factor in low yields recorded in the EAC. For instance, in Rwanda only 10 -14% of the seed is supplied from the formal sector, rest coming from informal. In Kenya only 5%, while Tanzania certified seed is negligible and irregular as well as in Uganda, where if supplied at all, it is of very poor quality. Farmers therefor resort to low quality sources of seed.

There is a high demand for certified potato seed in East Africa but the supply is still low. For example, Kenya's certified seed demand stands at 30,000 tons annually (about 300,000 tons is the acutal seed potato demand in the country) but the country only produces 6,700 tons, with most farmers saving part of their harvest as seed (KEPHIS personnel communication). In Rwanda only 44,500 tons of quality seed potato was delivered from the formal sector covering 14%(target is 25%) of the total land under potato, about 180,000 tons of planting material came from the informal (uncertified) local multipliers while farmer saved planting material was estimated at 100,000 tons, in 2016. In Uganda the potential demand was estimated at 239,328 tons and seed availability only 0.13% of potential demand in 2014. The demand for potato seed has been increasing due to the great interest that farmers have in potato farming and emergency of processing factories within the region. The situation is direr in the other EAC member states.

Cross border seed trade has been identified as one of the solutions that can solve the low supply of certified seed in East Africa. However, a country can only export seed only after satisfying the local demand (self-sufficient). The underlying factor therefore should be the production of sufficient seed locally to allow for exports. Additionally, the bulkiness and perishability of potato, increases the cost of seed due to high transport cost. In the early 1960's and 70's, the defunct Kenya Farmers Association had

the mandate to sell and distribute seed potato in the country. All their stores were connected by railway line reducing transport cost. The East African Railways had connectivity in the whole of EAC countries, before it collapsed. In Kenya and Rwanda, seed producers are at times left with large quantities of seed while there is shortage in other parts due to poor distribution. It has been reported that some seed potato is imported to southern Tanzanian highland from Kenya, which can be costly in transport. Localized production would reduce costs. Further, management of diseases and pests is critical in potato production, which are many. Some of these disease are seed borne and regulated, and since the tuber is the main form of seed used, the danger of transferring diseases are high. This results in restrictions in cross border seed movement as quarantine issues.

A study conducted by ASARECA (Association for Strengthening Agricultural Research in East and Central Africa) in the 1990,s on regional seed markets showed that seed markets per individual country were too small to attract meaningful investment. It was noted that each country had different laws, policies, regulations and standards governing seed. Harmonization of these policies, laws and regulations was recommended as the key to addressing the differences. Five key areas were identified to restrict seed movement in the region 1) The plant variety evaluation, release & registration process, 2) Seed certification systems, 3) Phytosanitary measures, 4) Plant Variety Protection, and 5) The Import/export documentation to move seed.

The Rationalization and harmonization of seed policies, laws, regulations and procedures were initiated in 1999. Agreements on technical areas were later reached, member states (at different levels) reviewed their national policies, laws and regulations and standards to align to the agreements reached. Ten crops were identified at the regional level based on their relative importance in terms of both food security and significance in agricultural production and trade within the region, as a start. These included maize, potato, sunflower, sorghum, dry beans, rice, wheat, cassava, soybeans and groundnuts. Seed certification standards were set for these crops as part of the process. However, these standards have not been implemented by member states mainly for lack of legal backing, since the supporting legal framework was not in place.

To progress the gains, development and implementation of binding EAC seed standards was proposed as a key enabler for regional seed movement. With the support from CIP and GIZ, EAC seed standards for Potato were developed, while the International Finance Corporation of World Bank supported standards for Maize, Sorghum, Sunflower, soybean and groundnut, which were approved and published in 2014. These six were later adopted as EAC standards and domesticated at the national level of the 5 member states as required. Implementation has however been low due to lack of infrastructure, few or no skilled personnel, lack of independent certification institutions, lack of funds to support the processes, mistrust among the institutions and lack of political will from government actors to support the changes. Overcoming these shortcomings will greatly enhance seed availability and movement.

It is worth noting that the EAC and SADC (Southern African. Development Community) agreements were harmonized to arrive at the present COMESA (Common Market for Eastern and Southern Africa) regulations. The COMESA process progressed faster than at EAC, attributed to the fact that it was instructed from the highest political level. Establishment of the COMESA Variety catalogue is one of the tools for promoting cross border seed trade, where potato has the second-highest number of varieties after maize. In addition, the COMESA seed label has been established as the seed “passport” for faster movement in the region. To further speed the implementation of the agreements, the EAC Seed and Plant

Varieties Bill, was developed in 2018, approved in 2019 and expected to be enacted by 2020. Since this law will supersede the national laws, it is important ensure all relevant issues are well covered during the finalization of regulations and procedures to implement the regional law, at country level.

Key institutions in seed production, certification and seed movement at the national and regional level include 1) National Seed Authorities and Certification Agencies 2) National Seed Trade Associations, 3) policy department of the Ministries of Agriculture, and 4) Plant breeders Associations. Strengthening these institutions will ensure the production of adequate amount of quality and disease free seed, some of which can be traded in the region. These institutions are at different levels of development and capacity in each country. Research institutions and Organizations have a key role in breeding the new high performing crop varieties that undergo certification, and are similarly important in the seed industry development and provision of Early Generation Seed.

Possible areas for support and strengthening by CIP (International Potato Center)

CIP, as a neutral, leading technical international institution on potato development is in a unique position to provide leadership in the implementation of the harmonized regional regulations. Almost all the potato varieties under production in the region were developed by CIP, and have vast agronomical disease management experience.

Potato Variety evaluation, release and registration procedure

Farmers have no access to seed of varieties of their choice, due to slow variety release procedure. The process has been lengthy, expensive, not transparent, and lacks adequate qualified personnel to do the tests. CIP can support the National authorities in technical and funding of quality, timely trials, for early release. A variety that is not released in a country cannot be traded in that country.

- a) Support reduction of variety testing time
 - Support the implementation of the agreed harmonized testing period of 2 seasons in the first country, one season in the second, and no mandatory testing in the third country. Updating the National and EAC variety lists.
 - Explore possibilities of trials at least 2 times per year (CIP together with National Seed Authorities (NSA))
- b) Support private sector participation in the testing and release of varieties to support NSA (to reduce the burden on the NSA)
 - contract competent private individuals and facilities to carry out testing on behalf of NSA (CIP could also support in linking public-private partnership for inspection and testing)
 - incorporate private sector in the release committees as provided for in the harmonized regulations
- c) Support the implementation of the harmonized testing protocols and review as necessary.
 - This will cultivate trust between various authorities in the test results
 - Encourage joint testing and pooling of resources
 - Train the testing staff

CIP could support testing the implementation of the agreements. For instance a number of potato varieties were released in Tanzania using data generated in Kenya, in only one

season. This would not have been possible earlier. However, several issues came out of the exercise 1) should Kenya charge Tanzania for the test or the data should be free, 2) who owns the data, the testing authority or the variety owner, and 3) Tanzania insisted on farm trials for at least one season, (while in Kenya this is not mandatory) further delaying availability of the varieties.

- d) Support establishing and strengthening institutional frameworks that provide and oversee the variety testing & release process (which have been provided in the regulations of all the countries)
 - Independent, professional NSA
 - Appropriate facilities and funding for the institutions doing the trials

Seed certification

This is a major limiting factor in the cross border seed movement. Some countries lack the facilities, skilled personnel and funding to ensure adherence to the set standards. Importing countries do restrict seed from such members. For instance, it has been possible to export seed from Kenya to Tanzania but difficult for Tanzania to export to Kenya since Tanzania was not ISTA (International Seed Testing Association) accredited or member of OECD (Organization for Economic Cooperation and Development) seed schemes. With Tanzania having attained both, it is hoped seed movement will improve. There is need to:

- a) Support the capacity for the seed producers, more in the Early Generation Seed production, which is lengthy and costly, particularly in getting disease-free material for potato. CIP could support programs including use of cuttings and mini-tubers for clean basic seed production.
- b) There are existing EAC potato seed standards but the certified seed is not available. There is a need to re-look at the seed classes to ensure the seed of some level of quality gets to farmers. This may require a working group composed of key stakeholders to make a proposal. The EAC seed label should be operationalized. CIP will play a major leadership in supporting regulatory review process.
- c) Joint seed certification exercises in all member states should be conducted to build trust and confidence between regulators from various member states.
- d) Training and equipping inspectors for diagnostics in the field and laboratory. CIP is well placed to lead this with the help of other institutions like KEPHIS (Kenya Plant health inspectorate Service) to train other authorities.
- e) Support the training of private inspectors and laboratories to complement the National Seed Authorities, who are thin on the ground. Increased number of inspectors is the only way to increase the amount of quality seed available for trade.

Phytosanitary measures

To facilitate safe and faster seed movement, the industry must be aware of the requirements while the agents at the border should clearly understand their role. The lack of harmonized Standard Operating Procedures, technical regulations for the certification processes and interpretation of requirements, as well as administrative cross border requirements in the region have been cited as major cross border seed trade impediments. Similarly, mistrust and inefficiencies arising from the lack of adequate and accurate information by key seed stakeholders is common.

- a) CIP together with the National authorities should organize awareness meetings on the quarantine requirements of importing countries. It should also support the EAC quarantine pest list, particularly for potato.

In Kenya, for example, farmers faced a shortage of certified potato seed in 2019 long rains following the rejection of 78% of planting materials that had been imported in 2018, by the regulator. This involved 221 out of 282 tons of seed imported for further multiplication ahead of 2019 planting season, because of bacterial infection (a quarantine pathogen). This will embolden the states that have been averse to importation of soil grown tuber seeds. CIP can play a technical advisory role as well in developing agreeable protocols for diagnostics and management of the import issues.

- b) Support the EAC to update pest list and share notification of new potato quarantine pests, and
- c) Strengthen capacity in Phyto-sanitary Systems at high-risk entry points. This should include training and provision of necessary diagnostic tools

Simplified procedures for import/export

- a) Straight forward, simplified and unified documentation system that would ease cross-border movement of seed is needed. These were agreed upon during the harmonization but implementation remains low.
- b) Some partner states have several offices or institutions providing documentation for import and export. These should be unified in one institution or location for efficiency.

Plant Variety Protection (PVP)

- a) Breeders will not introduce their new varieties into environments without the plant variety protection system. Under the EAC Seeds and plant varieties bill, variety protection will be done at the national level, however, regional protection will be notified to the Secretariat. Support to national authorities that are yet to operationalize their PVP offices. Only Kenya and Tanzania have operational PVP offices. It is worth to note that most EAC members are also party to the ARIPO (African Regional Intellectual Property Organization) plant variety protection protocol, though yet to be operational.
- b) CIP could support the offices, (National and regional) in the various testing capacity, its terms of training, methodologies and equipment
- c) Support of capacity building, awareness creation on PVP and support to the PVP offices

Institutional arrangements

- a) Independent National Designated Authority (NDA) to implement the agreements was recommended. In Countries where these offices are semi-autonomous, they seem to perform better than those based at the mother Ministries. CIP and partners could lobby for changes to improve performance.
- b) The National Plant Breeders Associations are either absent or weak in most partner states, and yet they are very important for the seed industry. It is important to support their

establishment and operations, with a technical advisor and funding to establish and sustain the association.

- c) All EAC member states have National Seed Trade Associations, but at varying levels of strength and operations. It will be necessary to support them, given they are an important lobby group for the seed industry
- d) National potato Council and farmer organizations. Each state may have different names but this represents the main lobby group for the potato industry, which will be a key partner in the cross border potato seed trade. Collaboration and support capacity building for the farmers in seed production, ware potato production, storage and marketing is recommended.

Summary

The key areas that CIP can support include but not limited to:

1. Access and availability of CIP varieties- coordination of the identification, registration and licensing of CIP varieties to the seed multipliers.
2. Technical support in variety Testing (NPT (National Performance Trials) & DUS (Distinctiveness Uniformity and Stability (DUS)) for release, variety description, identification and protection
3. Diagnostics training and provision of equipment to support prompt and accurate action on disease identification, seed certification. This will include the seed producers, seed companies and the inspection agencies and border control officers and private inspectors.
4. Support identification and harmonization process for key issues outstanding in the EAC regulations as well as in the country
5. Support EAC Secretariat, COMESA and ARIPO to implement the regulations