EAST AFRICAN COMMUNITY

Regional Seed Potato Strategy and Action Plan (2022-2032)

One People. One Destiny

East African Community

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One People. One Destiny

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List of Acronyms

ACTESA	Alliance for Commodity Trade in Eastern and Southern Africa
AGRA	Alliance for a Green Revolution in Africa
ARIPO	African Regional Intellectual Property Organization
ASARECA	Association for Strengthening Agricultural Research in Eastern & Central
ARSO	African Regional Organization for Standardization
ASNET	Agriculture Sector Network
BTCA	Belgium Technical Cooperation Agency
CAMP	Comprehensive Agriculture and Master Plan
CAPAD	Confédération des Associations des Producteurs agricoles pour le Développement
COPE	Centre for Phytosanitary Excellence
COPROSEBU	Collectif des Producteurs des Semences du Burundi
CET	Common External Tariff
CIP	International Potato Center
COMSHIP	Seed Harmonization Implementation Plan
COMESA	Common Market for East and Southern Africa
CSLP	Strategic Framework for the Fight against Poverty
DLS	Diffused Light Stores
DCIC	Directorate of Citizenship and Immigration Control
DOPEAE	Document D'Orientation De La Politique
DOPEAE	Environnementale, Agricole Et D'élevage
DUS	Distinct, Uniformity and Stability
EAC	East African Community
EAC-FNSS	EAC Food and Nutrition Security Strategy
EAC RAIP	East African Community Regional Agriculture Investment Plan
EACA	East African Community Competition Authority
EACCU	East African Community Customs Union
EAS	East African Standards
EGS	Early Generation Seed
FAO	Food and Agricultural Organization of the United Nations
FAOSTAT	Food and Agriculture Data
FIP	Potato Framework Implementation Plan
FOMI	Fertilizer Organo-Mineral Industry
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
Ha	Hectares
HCD	Horticulture Crops Directorate
ICT	Information Communications Technology
IFAD	International Fund for Agricultural Development
IFDC	International Finance and Development Corporation
IPPC	International Plant Protection convention
ISABU	Institut des Sciences Agronomiques du Burundi
ISTA	International Seed Testing Association
JICA	Japan International Cooperation Agency
KALRO	Kenya Agricultural & Livestock Research Organization
KAZARDI	Kachwekano Zonal Agriculture Research and Development Institute
KE	Kenya
KENAFF	Kenya National Farmers' Federation
KEPHIS	Kenya Plant Health Inspectorate Services
M&E	Monitoring and Evaluation
MAFS-DPP	Ministry of Agriculture and Food Security - Directorate of Plant Protection
MAIFF	Ministry of Agriculture, Animal Industry and Fisheries
MDAs	Ministries and Departments and Agencies
MIS	Market Information System
MT	Metric Tons
NAADS	National Agricultural Advisory Services
NAIPS	National Agriculture Investment Plans
NAP	National Agricultural Policy
NARIs	National Research Institutions
NARO	National Agriculture Research Organization
NDC	Netherlands Development Cooperation
NPT	National Performance Trials
NPCK	National Potato Council of Kenya
NSCS	National Seed Certification Service
NTBs	Non-Tariff Boundaries
OECD	Organization for Economic Co-operation and Development
ONCCS	Office Nationale de Contrôle et de Certification des Semences
PA	Preparatory Actions
PCN	Potato Cyst Nematode
PPH	Plant Protection and Health
PND	Plan National de Développement
PNIA	Plan National d'Investissement Agricole
PSTA4	Agriculture Transformation Strategy
PVP	Plant Variety Protection
QDS	Quality Declared Seed
RAB	Rwanda Agriculture Board
RICA	Rwanda Institute for Conservation Agriculture
RW	Rwanda
SA	Strategic Action
SADC	Southern African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SAN	Stratégie Agricole Nationale
SCT	Single Customs Territory
SMEs	Small and Medium scale enterprises
SMS	Short Message Service
SPSAP	Seed Potato Strategy and Action Plan
SOPs	Standard Operating Procedures
SPS	Sanitary and Phytosanitary
SPVC	Seed Potato Value Chain
SQMT	EAC Standardization, Quality Assurance, Metrology and Testing
SR	Strategic Result
SSAPU	South Sudan Agriculture Producers Union
SSARO	South Sudan Agriculture Research Organization
STAK	Seed Trade Association of Kenya
SWOT	Strengths, Weaknesses, Opportunities and Threat
TARI	Tanzania Agricultural Research Institute
TASTA	Tanzania Seed Trade Association
TOSCI	Tanzania Official Seed Certification
TRIPS	Trade-Related Intellectual Property Rights
UBOS	Uganda Bureau of Statistics
UG	Uganda
UNBS	Uganda National Bureau of Standards
UPOV	Union for the Protection of New Varieties of Plants
UPP	Uganda Potato Platform
URT	United Republic of Tanzania
USAID	United States Agency for International Development
USD (US$)	United States Dollar
VCU	Value for Cultivation and Use
VMGs	Vulnerable Marginalized Groups
WTO	World Trade Organization

Definitions of Key Terms

i. **Breeder seed:** Breeder seed is produced by or under the direction of the plant breeder who selected the variety. During breeder seed production the breeder or an official representative of the breeder selects individual plants to harvest based on the phenotype of the plants. Breeder seed is produced under the highest level of genetic control to ensure the seed is genetically pure and accurately represents the variety characteristics identified by the breeder during variety selection.

ii. **Pre-basic seed:** Pre-basic seed is a step of seed multiplication between breeder and foundation or basic seed that is used to produce sufficient quantities of seed for foundation or basic seed production. It is the responsibility of the breeder to produce pre-basic seed and production should occur under very high levels of genetic control.

iii. **Foundation or basic seed:** Foundation seed is the descendent of breeder or pre-basic seed and is produced under conditions that ensure maintaining genetic purity and identity. When foundation seed is produced by an individual or organization other than the plant breeder there must be a detailed and accurate description of the variety the foundation seed producer can use as a guide for eliminating impurities ("off types") during production. Foundation and basic seed are different words for the same class of seed.

iv. **Certified Seed:** Certified seed is the descendent of breeder, pre-basic, or basic seed produced under conditions that ensure maintaining genetic purity and the identification of the variety and that meet certain minimum standards for purity defined by law and certified by the designated seed certification agency.

v. **Quality Declared Seed:** This is a seed-producer implemented system for production of seed that meets at least a minimum standard of quality (FAO Plant Production and Protection Paper No. 117: Quality Declared Seed – Technical guidelines on standards and procedures) but does not entail a formal inspection by the official seed certification system. The intent behind the QDS system is to provide farmers with the assurance of seed quality while reducing the burden on government agencies responsible for seed certification. The QDS system is considered by FAO to be part of the informal seed system.

vi. **Quality Seed:** In this report the phrase quality seed is at times used in place of certified seed or QDS to describe a quality-assured seed source without specifying certified or QDS.

vii. **Commercial seed:** Any class of seed acquired through purchase and used to plant farmer fields.

viii. **Improved versus landrace or local varieties:** Improved varieties are the product of formal breeding programs that have gone through testing and a formal release process. A landrace is a local variety of a domesticated plant species which has developed over time largely through adaptation to the natural and cultural environment in which it is found. It differs from an improved variety which has been selectively bred to conform to a particular standard of characteristics.

ix. **Formal seed system:** The formal seed system is a deliberately constructed system that involves a chain of activities leading to genetically improved products (certified seed of verified varieties). The chain starts with plant breeding or a variety development program that includes a formal release and maintenance system. Guiding principles in the formal system are to maintain varietal identity and purity and to produce seed of optimal physical, physiological and sanitary quality.

x. **Informal seed system:** The informal system also referred to as a local seed system, is based on farmer saved seed or QDS. In EA region, the informal seed system is dominated by farmer saved seed where farmers themselves produce, disseminate, and access seed directly from their own harvest that otherwise would be sold as grain; through exchange and barter among friends, neighbors, and relatives; and sale in rural grain markets.

xi. **Informal seed system varieties:** Variants of improved varieties originally sourced from the formal system or they may be landrace varieties developed over time through farmer selection. There is no emphasis on variety identity, genetic purity, or quality seed.

xii. **Small–scale farmers: Farmers who** have potato plots that are about 0.5 to 1 ha. These small-scale farmers own up to 2 ha (or 5 acres) tend to be dispersed through the production regions and produce small quantities of potato under rain-fed production systems. They also tend not to use good agricultural practices (GAP's) when producing potato or use inputs (including quality or certified seed) at the recommended rates.

xiii. **Medium scale farmer:** Farmers who produce potato on 1 to 2 ha (5 acres) and own about 5-20 ha of land. Their operations are semi-intensive.

xiv. **Large-scale farmer**: Farmer who produce potato on over 5 ha (10 acres) and tend highly mechanized and specialized

xv. **Potato seed**: Potato seeds which are collected from the berries of the potato plant. Also referred to as true potato seed (TPS)

xvi. **Seed potato:** Potatoes that are planted so that a plant will grow and more potatoes will be produced.

Foreword

The East African Community (EAC) has developed and adopted the "**Regional Seed Potato Strategy and Action Plan (2022-2032)**". It aims to have a "competitive and sustainable seed potato subsector in the EAC to enhance seed potato multiplication and ware potato productivity, consumption and trade, and contribute to wealth creation and development".Regionally,the potato has become one of the largest staple crops with the fourth-largest cultivated surface area after maize, wheat, and rice, and therefore, forms a critical part of the food system. As alluded to above, the potato is one of the top-ranked 5 strategic staple crops for food, nutrition, and income security in the East African Community, supplying 25%-57% of calories in the diet. It is also an important rotation crop with cereals, legumes, and agroforestry systems, as well as a resilient crop capable of surviving shifting and changing climate, and adverse soil conditions.

In the last 10 years, potato production has increased from about 1.6 million MT to 4.2 million MT in the EAC (FAO, 2020), with about 2.2 million farmers cultivating slightly over 400,000 hectares annually. Its successful production is dependent on the use of quality inputs, especially seeds. Approximately 70% of production is by use of informal seeds (recycled or farm-saved seeds of poor-quality varieties), and up to 30% of production is from certified (formal) seeds. The use of certified seed potatoes translates to only 4% adoption of improved quality seed potatoes. The recorded yields are low, averaging around10t/ha compared to potential average yields of 30+t/ha in the Sub-Saharan African (SSA) region. Despite intra-regional trade in certified seed potato remaining low, it has significantly improved in the last 5 years from about 20 MT to 36 MT against the estimated average demand of 236 MT of certified seed potato. It is not known with certainty, how much informal seed potato is traded, but it is substantial and could be upwards of 50%.

The potato yield gap that currently limits productivity in the region is attributed to the use of poor seed potato quality. The availability, access, and use of quality seed potatoes of adaptable potato crop varieties are of vital importance to improving, not only potatoes, but(i) overall agricultural productivity, (ii) ensuring food security, and (iii) improving farmers' livelihoods. However, despite the advances in potato variety R&D, the rate of use of quality certified seed potatoes is still low. The formal seed potato system promotes the production and use of the certified seed by farmers, generally of modern improved varieties, preferably in conventional production systems that use recommended agricultural inputs and Good Agricultural Practices (GAP).

Coming at this opportune time when the EAC is consolidating its support and impact in the region through priority value chains that drive agricultural economic growth, the Regional Seed Potato Strategy and Action Plan provides the needed pinpoint focus in our development efforts to make this subsector competitive. This will be accomplished through interventions such as those targeting access to quality seed potatoes for production and distribution, management of disease/pest accumulation and spread, post-harvest loss management, enhancing the capacity of seed potato breeders, integrating and providing incentives for private sector seed potato investment, motivating farmers to adopt and pay for improved quality seed varieties, and unified implementation and coordination of trade facilitation mechanisms among the Partner States. EAC Secretariat appreciates and recognizes the important role that Development Partners play in supporting these identified initiatives elaborated in this strategy and action plan, to co-develop and co-adopt novel approaches to improve seed and ware potato production, distribution, and trade in the region.

The Regional Seed Potato Strategy and Action Plan is a ten-year process (2022-2032), consisting of interventions and investment measures proposed in four (4) thematic areas which include (i) promotion of seed potato production and distribution; (ii) strengthening linkages for coordination of the seed potato value chain; (iii) promotion of intra-regional trade in seed potato through harmonization of trade facilitation protocols and standards; and (iv) support to sustainable development programs along the seed potato value chain.

The EAC Secretariat remains committed to ensuring the growth and sustainability of this sub-sector, and in this context, highly welcomes key stakeholders and development partners to support its strengthening. The successful implementation of the Regional Seed Potato Strategy and Action Plan requires the concerted effort of all EAC Partner States and a multi-sectoral approach, including National Ministries of Agriculture, Manufacturing, Trade, and Finance, as well as National Research and Academic Institutions, Private Sector Actors, Non-State Actors, and International Development Cooperation Partners. Because of the importance of the Potato Sub-Sector to the people of East Africa and its' contribution to agricultural and industrial development, I urge all the stakeholders to take appropriate measures as outlined in the strategy and action plan for its successful implementation and sustainable impact at scale.

Hon. (Dr.) Peter Mutuku Mathuki
Secretary General
East African Community

Acknowledgment

The adoption of the "**Regional Seed Potato Strategy and Action Plan (2022-2032)**" marks an important and additional milestone in the EAC Agriculture regional sectoral development instruments that bring its Partner States together through common and multilateral approaches to sustainable economic development solutions. Yet it also underscores the commitment of the regional economic bloc to build an evidence-based and firm foundations for transforming the East African Community's economic development and integration through strategies, policies, and programs, aimed at expanding and deepening, economic cooperation and integration among the Partner States for political stability that fosters trade, industrial, competitive and sustainable development.

The development of this document was commissioned by the EAC Secretariat and competently developed by a team of Regional Consultants, working together with the EAC Partner States National Focal Persons. The development of its content has been guided by technical and policy inputs from various sector-specific National, Regional, and International Development Stakeholders. In this regard, the EAC Secretariat wishes to acknowledge the participation, contribution, and dedication of the EAC Partner States participation during regional inception, national data collection and synthesis, and national consultative and validation workshops. Key National Stakeholders were drawn from Potato Private Sector Actors, National and International Seed Potato Breeders, National Plant Protection Organizations (NPPOs), National Potato Platforms, Potato Traders, Potato Processors, National Ministries of Agriculture, Ministry of East African Community Affairs (MEACA), National Agriculture and Food Authorities, National Agricultural Research Institutes and Organizations, National Bureau of Standards, Small and Medium Enterprises (SMEs), Supermarkets, International Development Organizations, and Academia, among others.

The EAC Secretariat highly acknowledges and appreciates the invaluable technical and financial support provided by the Federal Republic of Germany, through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, under the Global Programme Fund for Agricultural Policy Advisory and Innovation (GV FABI) and GIZ-EAC Support to East African Market-Driven and People-Centered Integration Programme (SEAMPEC). Last but not least, the EAC Secretariat wishes to recognize the tireless efforts of the EAC staff from the Directorate of Productive Sectors especially the department of agriculture and food security for the successful co-stewardship and development of this strategy.

In conclusion, I wish to emphasize that the EAC Secretariat will ensure a coordinated and collaborative approach by all the relevant departments of the EAC Secretariat (Agriculture, Industry, and Trade), Partner States' National Ministries and Institutions, as well as Development Partners, to successfully implement the strategy. The EAC Secretariat will coordinate and synergize existing National, Regional and International initiatives, toward strengthening the potato value chain. The EAC Secretariat will take the lead responsibility in mobilizing and optimally deploying the necessary resources, including personnel, for the successful implementation of the strategy, while the Partner States will drive the implementation in their respective countries through their national budgets.

Hon. Christopher Bazivamo
Deputy Secretary General
(Productive and Social Sectors)
East African Community

Executive Summary

The East African Community (EAC) brings together six Partner States, namely: Burundi, Kenya, Rwanda, Tanzania, South Sudan and Uganda. Re-established in 1999, the EAC is one of the fastest growing regional economic blocs and home to 177 million citizens, of which over 22% is urban population. Through its 5th EAC Development Strategy the EAC aims to build a firm foundation for transforming the East African Community into a stable, competitive and sustainable lower-middle income region. The strategy also identifies enhancement of regional industrial development through investment in key priority sectors, improvement of agricultural productivity, value addition and facilitation of movement of agricultural goods to enhance food security in the region.

The Food and Nutrition Security Strategy provides a basis for a unified approach to implementation, coordination and monitoring of the food and nutrition security programs at the national and regional level. The strategy is anchored on three interrelated objectives namely: (i) improving sustainable and inclusive agricultural production; (ii) strengthening resilience among households, communities and livelihood systems; and (iii) improving access to and utilization of nutritious, diverse and safe foods.

Examining the EACs policy environment and strategies is necessary in order to align and complement initiatives such as the EAC Food and Nutrition Security Strategy (EAC-FNSS). Since potato is one of the 10 crops with high potential for food, nutrition and income security in the EAC, the Seed Potato Strategy will contribute to the realization of each of the three objectives of the EAC-FNNS and the corresponding EAC Food Security Action Plan (2018-2022). Potato production and marketing in the EAC has more than doubled over the last two decades (FAO, 2019), and in 2018 the Region produced 4.9 million MT of ware potato (Figure 2). This growth has largely been due to expansion of acreage under potato rather than increase in productivity. Yet average potato yields in the Region range 8.0 - 11.0 MT/Ha, compared to the global average of 17.0 MT/Ha. Of the factors responsible for the poor performance of the sector, lack of certified seed remains the most ubiquitous and persistent in the partner states of the EAC. Quality seed potato is among the vital inputs with potential to stimulate agricultural productivity, economic growth, and entrepreneurial opportunities, particularly in the EAC Region. Through implementation of actions to improve the seed system, EAC partner states stand to benefit from economies of scale for sharing information, knowledge and technologies, implementation of policies and regulations supportive of seed and ware potato producers, improvement in the business enabling environment while expanding the intra-regional trade for seed of the highest standards.

Therefore, this EAC Gender Inclusive Seed Potato Strategy and Action plan is underpinned by the goal of EAC to have a *"competitive and sustainable seed potato sector in EAC to propel increased potato production, consumption and trade and contribute to wealth creation and development"* and guided by four objectives namely:

Objective 1: To enhance development and access to preferred varieties, quality seed potato production and distribution in the EAC.

Objective 2: To strengthen linkages and collaboration among actors in seed potato value chain and enhance regional networks for information and knowledge sharing in the EAC.

Objective 3: To promote domestic and intra-regional trade in seed and ware potato through harmonization of seed certification protocols and standards.

Objective 4: To support sustainable programs along the seed potato value chain which embrace innovative initiatives such as climate smart agriculture in response to future market demand.

The EAC Secretariat develop this ten-year Gender Inclusive Seed Potato Strategy and Action Plan 2022 -2032. In doing so, the process was involved extensive review of the potato seed sector including on: sector policies and strategies and consultations with Partner States at National and Regional levels. The Partner State consultations which were conducted through a variety of approaches to provide a deeper understanding of critical issues from the perspectives of these stakeholders and allowed for identification and isolation of key points. The key findings were thereafter grouped into four thematic areas around which interventions and actions of this strategy are organized.

The thematic areas are:

(i) Promotion Seed Potato Production and distribution in the EAC partner states
(ii) Strengthening linkages for coordination of the seed potato value chain in the EAC
(iii) Promotion of intra-regional trade in seed potato through harmonization of trade facilitation protocols and standards
(iv) Support Sustainable Programs along the Seed Potato Value Chain

The actions of this strategy have been grouped into short term, medium term and long-term interventions and respectively linked to 14 strategic results namely:

Strategic Result SR1:
Variety development, release/introduction, registration, and protection

Strategic Result SR2:
Dissemination and promotion of potato varieties harmonized among partner states

Strategic Result SR3:
Enhanced seed potato production, storage and distribution

Strategic Result SR4:
Infrastructure and mechanisms for knowledge and information sharing and access for actors available

Strategic Result SR5:
Frameworks for capacity building for actors in the potato value chain to enhance inclusion established

Strategic Result SR6:
Public private partnerships for investment in the seed value chain enhanced

Strategic Result SR7:
Implementation of regional sanitary and phytosanitary protocol

Strategic Result SR8:
Cross-border trade for seed and ware potato enhanced among the EAC partner states

Strategic Result SR9:
Capacity of one-stop border posts to ensure efficiency in inspection, documentation, movement and trade of seed and ware potato strengthened

Strategic Result SR 10:
Domestication and implementation of international and regional agreements

Strategic Result SR 11:
Build resilience to climate related risks in seed potato through risk mitigation and transfer

Strategic Result SR 12:
Investment in sustainable flagship programmes increased

Strategic Result SR 13:
Coordination and Administration of the Strategy

Strategic Result SR 14:
Monitoring, Evaluation and Learning

The implementation of the Seed Potato and Action Plan is expected to lead to the following outcomes: (i) development, distribution and accessibility to preferred quality seed potato varieties enhanced (ii) linkages and gender inclusive collaboration among actors in seed potato value chain actors promoted; (iii) regional networks for information and knowledge sharing in the EAC strengthened; (iv) domestic and intra-regional trade in seed and ware potato promoted; (v) Seed potato certification protocols and standards harmonized and; (vi) sustainable programs and innovative initiatives along the seed potato value chain responding current and future market demands and requirements supported.

Further, the implementation of the programs envisaged under this Strategy will require a multi-sectoral approach which depends a great deal on the EAC secretariat to leverage on the existing and new partnerships with other regional and international institutions to guarantee success. An effective monitoring and implementation (M&E) system to allow for monitoring, review and learning will be an essential tool to track the implementation of the programs.

1. Background

The East African Community (EAC) brings together six Partner States, namely: Burundi, Kenya, Rwanda, Tanzania, South Sudan and Uganda. Re-established in 1999, the vision of the EAC is "*to attain a prosperous, competitive, secure, stable and politically united East Africa*", while its mission is '*to widen and deepen economic, political, social and cultural integration in order to improve the quality of life of the people of East Africa through increased competitiveness, value added production, trade and investments*". The EAC is one of the fastest growing regional economic blocs and home to 177 million citizens, of which over 22% is urban population. The combined Gross Domestic Product for the region of US$ 193 billion (EAC Statistics for 2019) and the Community focuses on the political, economic and social development of partner states.

Agriculture is one of East Africa's most important sectors, with about 80 percent of the population of the region living in rural areas and depending on sector for their livelihood. The sector is also an important source of employment to the urban population. Agriculture plays a key role in economic growth, poverty reduction, food security and employment. Agriculture sector contributes between 24 and 44% of GDP in the five Partner States. As a key driver for the East African economies, it can therefore contribute towards major regional priorities, such as eradicating poverty and hunger, boosting intra-regional trade and investments, rapid industrialization and economic diversification, sustainable resource and environmental management, and creating jobs, human security and shared prosperity.[1] Agriculture is also important for promoting food security. Countries in the East African Community are facing significant food security challenges. As of February 2017, approximately 6.5 million people in the East African Community faced food security crisis.

1.1 Rationale for Development of EAC Seed Potato Regional Strategy and Action Plan

The EAC is currently implementing the EAC Industrialization Policy and Strategy (2012-2032) which seeks to improve, among other regional sectors, the development of the agricultural sector through regional agro-value chains and trade. Potato is ranked among the top 10 strategic staple crops for food and income security in the East African Community (EAC). Potato production and marketing in the EAC are on an upward trend. Similarly, the demand for potatoes has been expanding especially potatoes desired by large potato processors and consumers.

Low production and limited use of certified seed remain key constraints to the potato sub-sector in the EAC. With relatively underdeveloped seed potato production and distributed system in each of the EAC member states characterized by co-existing formal and informal seed systems. Currently, only 5% of farmers access seed from specialized seed producers while 95% rely on seed potato from the informal sector (purchased from ware potato markets, saved from previous season's crop etc). In addition, EAC Partner States are at different levels of seed potato production and for different varieties in their seed systems.

Certified seed can increase the yield from an average of ~8t/ha to 16-20t/ha in smallholder farming. Secondly, some available varieties produced in the region are not suitable or have inferior qualities for processing. Farmers are not aware of the demanded varieties, hence unable to deliver quality potatoes, leading to missed opportunities. Partner states stand to benefit from economies of scale, harmonized strategies for seed and ware potato, while improving the business and regulatory environment leading to expansion ofintra-regional trade for seed potato.

The existing regional policies and strategies do not adequately address the above issues. Consequently, there is need for a regional seed potato strategy and action plan to guide development of the potato industry. The overall objective of these strategy is to support production, certification, capacities and intra-regional trade. The strategy also endeavors to ensure gender inclusivity within the different nodes of the seed potato industry.

[1] East African Community Secretariat 2018

2. Methodology for development of the EAC Regional Seed Potato Strategy and Action Plan

2.1 Overall Approach

The overall approach for carrying out this assignment consisted of two main aspects namely:

1) ***Literature review*** - as part of secondary data, a comprehensive literature review was conducted to assemble relevant information at Partner State and Regional levels including on: sector policies and strategies; current and previous interventions in the seed potato sector and their recommendations. Analysis and synthesis of the findings and recommendations provided an evidence based approach to identifying trends and strategic issues with implications on the assignment.

2) ***Extensive stakeholder consultations*** - These consultations were conducted through a variety of approaches to provide a deeper understanding of critical issues from the perspectives of these stakeholders and allow for identification and isolation of key points. Key stakeholders in the respective countries were consulted to provide their perspectives of their countries, and to validate findings from the review of primary data. This information was collected by respective National Focal Persons via interviews administered through an online data collection tool. Information from secondary data and expert interviews were grouped together, analyzed and synthesized. The key findings were thereafter grouped into respective thematic areas of the strategy. The collected information was used to prepare national reports which were validated during national stakeholder forums. Key issues from the national reports were consolidated towards developing the Regional Seed Potato Strategy and Action Plan.

Some of the key issues considered include:

(i) Over view of the seed potato production
(ii) Policy and Institutional Frameworks
(iii) Trends and technological development in the seed potato sub-sector in
(iv) EAC including production, post-harvest handling, certification and standards, packaging, collection and distribution systems
(iv) Promotion and awareness creation
(v) Capacity for seed potato production and trade
(vi) Trends in national, regional and international trade in seed potato and consumer preference
(vii) Gender considerations

A key aspect of the Regional Seed Potato Strategy is the selection and prioritization of programs/ activities/interventions to highlight the balance between benefits and costs to the EAC member states. In order to achieve impact, the Regional Seed Potato Strategy has identified key priority actions on which the EAC will focus its efforts.

2.2 Team of experts

A team of experts was assembled comprising of the Lead Consultant and the National Focal Persons. The experts were competitively selected from the EAC to undertake this assignment while the National Focal Persons were nominated by the EAC through the Ministries of East African Affairs of Partner States. While the Lead Consultant was responsible for coordination of the assignment at Regional Level and overall technical management of the assignment, the National Focal Persons provided a crucial link to the national context and ensured that critical issues from partner states were identified and represented accordingly particularly during report validation workshops.

3. Situational analysis of the potato and seed potato value chains in EAC Region

3.1 Global Scene

Potato is the world's most widely consumed root and tuber crop worldwide. It is grown in more than 125 countries and consumed almost daily by more than a billion people. Potato cultivation is expanding strongly in the developing world, where the potato's ease of cultivation and nutritive content have made it a valuable food security and cash crop for millions of farmers in developing countries, who depend on potatoes for their survival.[2] Developing countries are now the world's biggest producers and importers of potatoes and potato products. With the growing demand for healthy food globally, the area under potato production has significantly increased over the years to 359.0 million ton in 2020 from 353.9 million ton in 2016.[3]

According to the Food and Agriculture Data (FAOSTAT, 2020), China, India, Russia, the United States, and Germany are among the major potato producers, accounted for 78.2 million metric tons, 51.3 million metric tons, 19.6 million metric tons, 18.8 million metric tons, and 11.7 million metric tons, respectively in 2020.

3.1.1 Key drivers

The global population is on the rise, projected to hit the 9 billion mark by 2050, and signifies unique challenges for the developing countries where the most growth is anticipated[4] (UN Secretariat, 2010). With the growing food needs there is need for more innovative ways of production to meet the growing demand. Potatoes are used for a variety of purposes. Less than 50% of potatoes grown globally are likely consumed fresh. The rest are processed into potato food products, food ingredients and for livestock feed.

Globally, consumer demand for potato is shifting from fresh tubers to processed products and ever greater quantities of potatoes are being processed to meet rising demand for convenience food and snacks. The major drivers behind this trend include expanding urban populations, rising incomes, diversification of diets, and lifestyles that leave less time for preparing the fresh product for consumption. The development of a vibrant, profitable and sustainable potato subsector in developing countries depends on measures to overcome a number of persistent constraints. Those measures include improvements in the quality of planting material, potato varieties that have reduced water needs, greater resistance to insect pests and diseases, and resilience in the face of climate changes, and farming systems that make more sustainable use of natural resources. Not least, potato development – and agricultural development in general – requires empowerment of small farmers through improved access to production inputs, credit and markets.

3.2 The Potato Industry in the EAC

3.2.1 Economic Importance of the Potato Industry

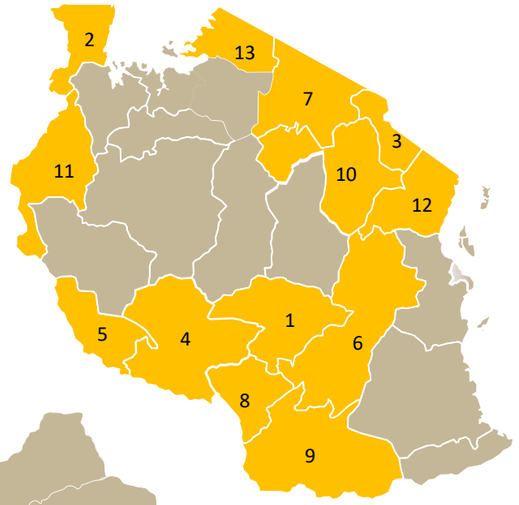
Potato (*Solanum tuberosum*) is ranked among the top 10 priority crops food and incomes in the EAC. Figure 1 shows the main potato producing areas in the respective EAC partner states. Potato production and marketing in the EAC has more than doubled over the last two decades (FAO, 2019), and in 2018 the Region produced 4.9 million MT of ware potato. This growth has largely been due to expansion of acreage under potato rather than increase in productivity. Other factors that have driven the growth of the potato sub-sector are the growing youth population and urbanization in most of the partner states, as well as adoption of new technologies and varieties (e.g. new varieties and good agriculture practices), and the rise in number of farmers venturing into potato farming. Establishment of the Common Market for East and Central Africa (COMESA) has also generally made a significant boost to agricultural productivity in the East African region.

[2] FAO, 2009. Sustainable Potato Production: Guidelines for Developing Countries
[3] FAO, 2020
[4] UN Secretariat, 2010

Figure 1: Maps showing major potato producing regions in EAC Partner States

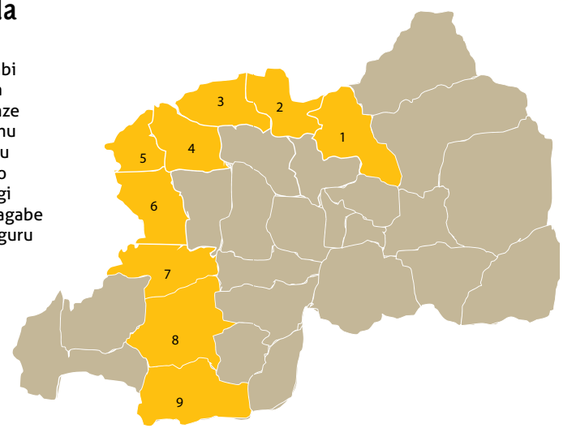
Tanzania

1 = Iringa
2 = Kagera
3 = Kilimanjaro
4 = Mbeya
5 = Rukwa
6 = Morogoro
7 = Arusha
8 = Njombe
9 = Ruvuma
10 = Manyara
11 = Kigoma
12 = Tanga
13 = Mara



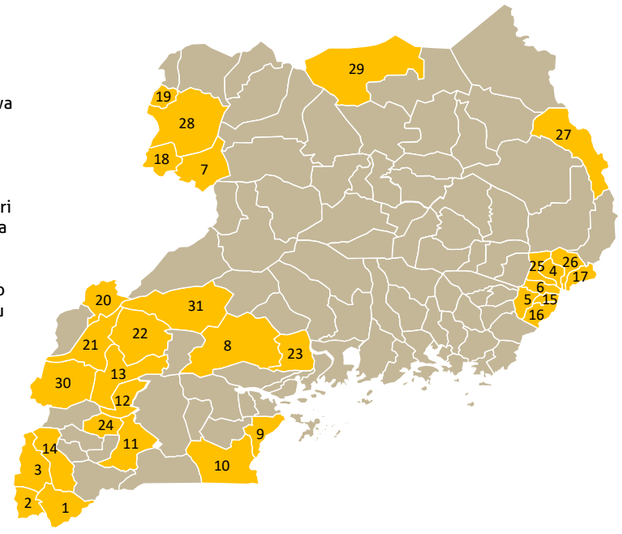
Rwanda

1 = Gicumbi
2 = Burera
3 = Musanze
4 = Nyabihu
5 = Rubavu
6 = Rutsiro
7 = Karongi
8 = Nyamagabe
9 = Nyaruguru



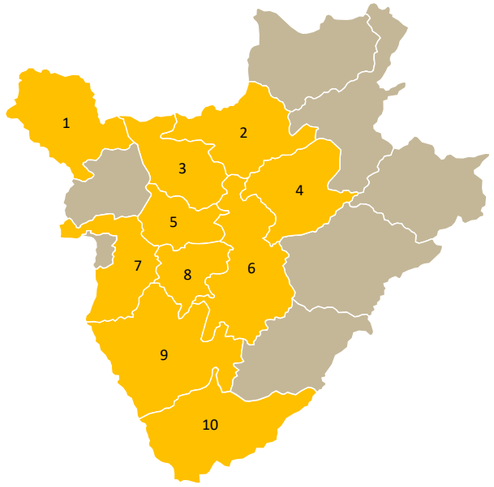
Uganda

1 = Kabale
2 = Kisoro
3 = Kanungu
4 = Kapchorwa
5 = Mbale
6 = Sironko
7 = Nebbi
8 = Mubende
9 = Masaka
10 = Rakai
11 = Mbarara
12 = Ibanda
13 = Kamwenge
14 = Rukungiri
15 = Bududa
16 = Manafwa
17 = Bukwa
18 = Zombo
19 = Marach
20 = Ntoroko
21 = Kabarole
22 = Kyenjojo
23 = Mityana
24 = Buhweju
25 =Bulambuli
26 = Kween
27 = Moroto
28 = Arua
29 = Lamwo
30 = Kasese
31 = Kibaale



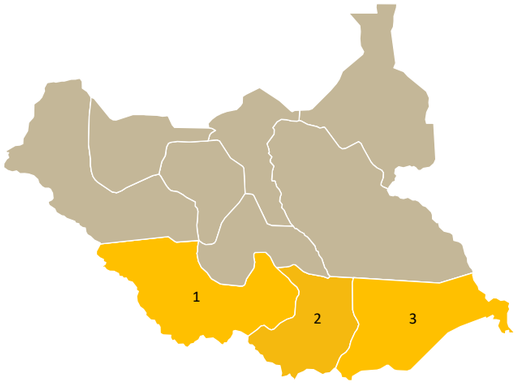
Burundi

1 = Cibitoke
2 = Ngozi
3 = Kanyanza
4 = Karuzi
5 = Muramvya
6 = Gitega
7 = Bunjumbura
8 = Mwaro
9 = Bururi
10 = Makamba



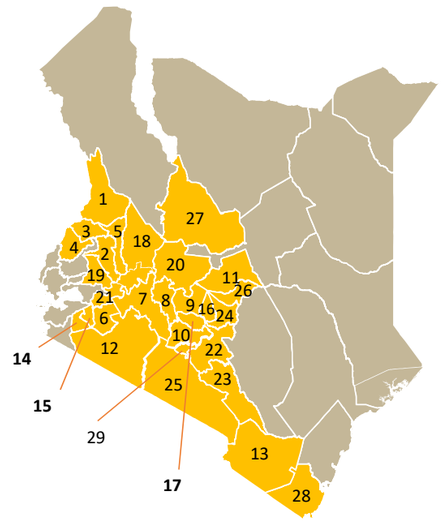
South Sudan

1 = West Equatoria
2 = Central Equatoria
3 = East Equatoria



Kenya

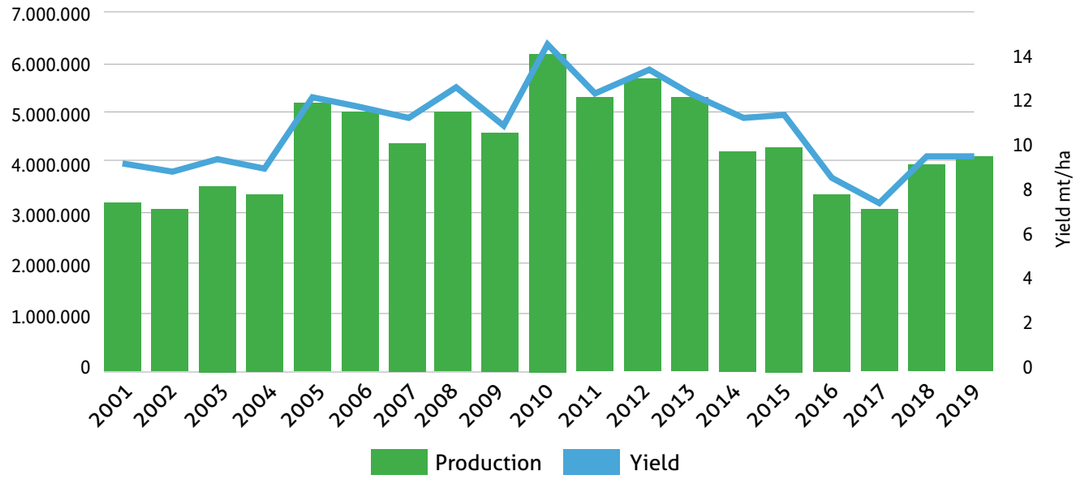
1 = West Pokot
2 = Uasin-Gishu
3 = Trans-Nzoia
4 = Bungoma
5 = Elgeyo-Marakwet
6 = Bomet
7 = Nakuru
8 = Nyandarua
9 = Nyeri
10 = Kiambu
11 = Meru
12 = Narok
13 = Taita-Taveta
14 = Kisii
15 = Nyamira
16 =Kirinyaga
17 = Muranga
18 = Baringo
19 = Nandi
20 = Laikipia
21 = Kericho
22 = Machakos
23 = Makueni
24 = Embu
25 = Kajiado
26 = Tharaka Nithi
27 = Samburu
28 = Kwale
29 = Nairobi



3.2.2 Potato production and productivity trends in the EAC

The potato industry is characterized by a few large-scale ware- and seed-producing farms and many small-scale farmers estimated at approximately 2.1 million who are engaged in potato production. Production is mainly done under rain fed conditions that match the rainfall season calendars. The total area under potato cultivation in EAC in 2020 was approximately 500,000 Ha with average yields 8.0 to 11.0 ton/Ha (Figure 2).

Figure 2: Volume of potato produced (tons) and yield (tons/ha) in EAC from 2001 - 2019



Source: FAO, 2021

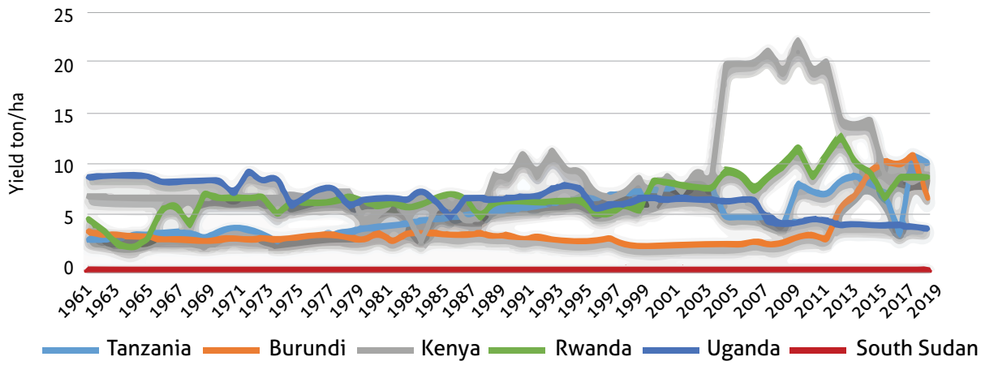
Table 1: Number of potato producers in EAC Partner States (2018)

Item	Total for EAC	Burundi	Kenya	Rwanda	South Sudan	Tanzania	Uganda
Number of Farmers ('000)	2,186	420	1,000	720	N.D.	426	360*

Source: Regional Situational Analysis of Seed Potato sub-sector in EAC Report (2021) - N.D. = No Data
* Source- Uganda National Validation Workshop, Kampala – 25th January, 2022

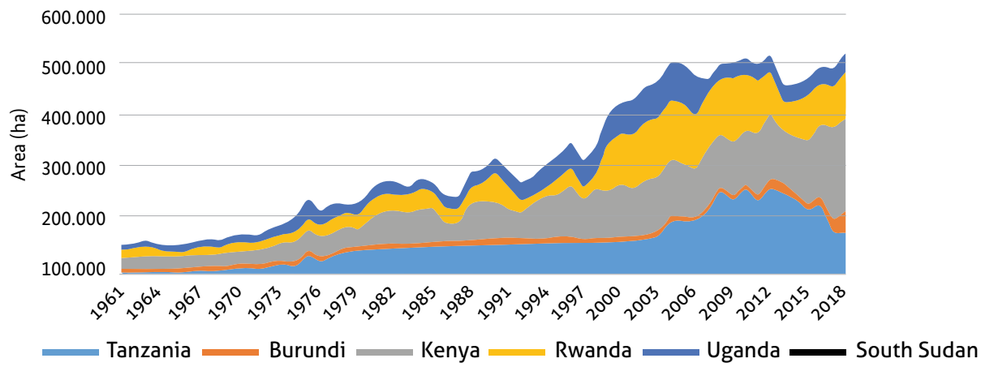
Average potato yields in the Region over the last two decades have been inconsistent (Figure 3). The current average yields range 8.0 - 11.0 MT/Ha, compared to the global average of 17.0 MT/Ha. Low yields have been, attributed to factors such as, loss of the inherent soil fertility resulting from continuous crop production over a long period of time; poor agronomic practices, pests and diseases, and poor post-harvest handling and storage practices. Potatoes are heavy feeders and draw a lot of nutrients from the soil; and therefore insufficient supplementation of soil nutrients to meet the nutritional requirement of the crop results in poor root development and consequently low yields.

Figure 3: Yield for Tanzania, Burundi, Kenya, Rwanda and Uganda (ton/Ha), 1961-2019



A review of the harvested area in the respective EAC partner States shows the land under potato production has been expanding. Kenya, Tanzania, Uganda and Rwanda have experienced steady expansion of potato in terms of the area under production. Burundi on the other hand, has had the least area harvested (Figure 4), as reflected in the contribution to regional statistics of total land size harvested.

Figure 4: Area harvested (Ha) in Tanzania, Burundi, Kenya, Rwanda, Uganda 1961 to 2019



In spite of potato production expansion, there exists a supply-demand gap on some of potato varieties desired by large potato processors. The potatoes availed by farmers are varieties with inferior qualities for processing that do not match requirements by the processors. Consequently, there is a mismatch between the producers and processors on the type of potato and products required, leading to missed opportunities. Farmers are not aware of the varietal properties that can be used to exploit market opportunities and do not endeavor to use certified seed material in production.

Public and private institutions have developed over 153 potato varieties (table 2) registered and released by EAC partner states for commercialization. In spite of this, only 30% (44 varieties) have been adopted for production by farmers.

Table 2: Potato varieties grown, number formally released and adopted by farmers in Partner States

Country	Commonly grown varieties	No of formally released varieties	No. varieties commonly grown by farmers (formal and non-formal)
Burundi	Released varieties: Bugingo, Buryohe, Gitiba, Hemburabashonje, Ingabire, Kanovera, Kirundo, Mabondo, Magome, Ndimubandi, Ndinamagara, Ruhanyura, Rukuzi, Rutambiro, Rwizumwimbu, Shangi, Uganda 11, Victoria, Local varieties: Kwezikumwe, Majambere and Kijumbu	21	5 Victoria, Shangi,
Kenya	Anett, Roslin Eburu (B53), Dutch Robijn, Kerr's Pink, Desiree, Kenya Baraka, Roslin Tana, Roslin Bvumbwe, Kenya Dhamana, Kenya Chaguo, Tigoni, Asante, Purple Gold, Kenya Mpya, Sherekea, Arnova, Arizona, Rudolph, Connect, Sarpo Mira, Manitou, Saviola, Toluca (AR97-1385), Mayan Gold, Caruso, Destiny (SL99-4005), Shangi, Rumba, CIP393077.159, Carolus, Laura, Lady, Amarilla, Unica, Lenana, Wanjiku, Nyota, Chulu, Acoustic, Rams, Musica, Royal, Jelly, El Mundo, Faluka, Markies, Sagitta, Derby, Ambition (AR 96-0010), Taurus, Kuroda, Zafira, Milva, Challenger, Evora, Panamera, Rodeo, Sifra, Voyager, Farida, Rock, Lady Terra, Zarina, Lady Balfour, Gemson, Sorrento, Reiver, Cara, Java	69	15 Dutch Robijn; Tigoni, Asante, Purple Gold, Kenya Mpya, Sherekea, Shangi, Unica, Wanjiku, Jelly, Kerr's Pink, Desiree, Manitou, Markies, Challenger
Rwanda	Cruza, Gikungu, Izihirwe, Kaze Neza, Kinigi, Kirundo, Mabondo, Mizero, Nderera, Ndeze, Ngunda, Nkunganire, Sangema, Twihaze, and Victoria	27	10 Cruza, Gikungu, Izihirwe, Kaze Neza, Kinigi, Kirundo, Mabondo, Mizero, Nderera, Ndeze, Ngunda, Nkunganire, Sangema, Twihaze, and Victoria
South Sudan	Alpha, Arka and Desiree	-	Alpha, Arka and Desiree
Tanzania	Arizona, Asante, Challenger Jelly, Manitou, Mavuno, Markies, Mkanano, Meru, Panamera, Sagitta, Sherekea, Sifra, Shangi, Taurus, Tengeru, Rodeo, Rumba, Voyager, Arika, Kala, Kidinya, Kikondo (CIP), Mavuno, and Obama	19	6 Arizona, Asante, Challenger, Jelly, Manitou, Markies, Mavuno, and Obama

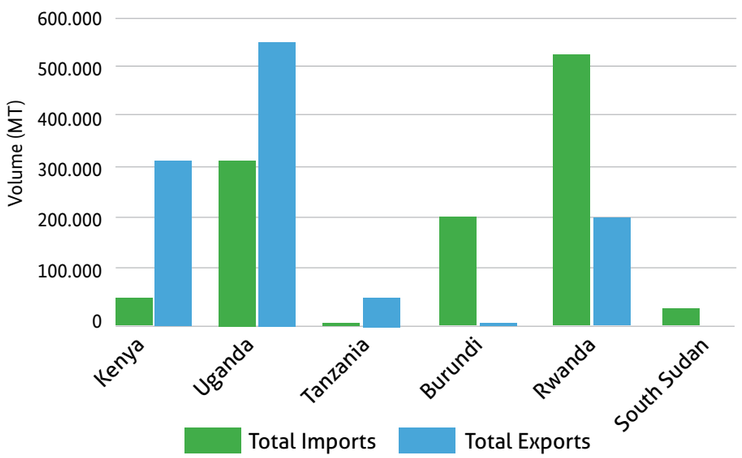
Country	Commonly grown varieties	No of formally released varieties	No. varieties commonly grown by farmers (formal and non-formal)
Uganda	Malirahinda Victoria (381381.2), Kisoro (381379.9), Kabale (374080.5), NAKPOT 1 (382171.4), NAKPOT 2 (381403.8), NAKPOT 3 (575049), NAKPOT 4 (387121.4), NAKPOT 5 (381471.18), KACHPOT1 (393382.14), KACHPOT2 (393385.39), NAROPOT 1 (396038.107), NAROPOT 2 (396280.82), NAROPOT 3 (396034.103), Arizona, Elmundo,Sagitta, Markies, Connect, Sarpomira, Voyager, NAROPOT 4 (Rwangume)	25	8
Total		**153**	**41**

3.2.3 Potato marketing and trade

Globalization and liberalization have changed the business environment thereby affecting farmers and SMEs (small and medium scale enterprises) supplying products in a free market economy. Potential niche markets now exert standards for the products they buy. As a consequence, suppliers need technological, organizational, logistical and financial competencies to access such markets. Additionally, service provision, existing policies and infrastructure, further influence the business environment. Therefore, the potato value chain approach is now increasingly being used as a preferred vehicle for linking actors to markets.

Most of the potato produced in the EAC is consumed by the domestic market. For a long time, trade and marketing have remained unstructured and minimal value addition takes place at the producer level. Value addition is limited to sorting, grading, weighing, bagging, storage, transportation, and marketing. Brokers are the main marketing agents. They source produce directly from farmers, aggregate and sell to the consumers. Marketing margins vary influenced by the seasonal supply and demand dynamics and range from 50-100% (EAC, 2021). Trade in ware potato among EAC partner counties is low and is affected by financial, logistical and phytosanitary constraints. Uganda was the largest net exporter of ware potato between 2014 and 2018 compared to the other EAC Partner States. During this period, Uganda exported 55,412 MT and imported 30,501 MT of potato (MAAIF Uganda, 2018). While most of the potato produced in the EAC is for table consumption, there are increasing prospects for processed potato products such as chips and crisps.

Figure 5: Volume (MT) of Ware Potato Traded within EAC (2014-2018)



Source: Regional Situational Analysis of the Potato Sub-Sector in the EAC, 2021

3.2.4 EAC Policy Landscape

3.2.4.1 EAC Vision 2050

The EAC Vision 2050 articulates the dreams and aspirations of the East African peoples and makes a commitment to what they will do to achieve these dream Vision. Agriculture and Rural Development is one of the identified pillars and enablers that are integral to long-term transformation, value addition and growth needed for accelerating momentum for sustained growth over the long term. EAC Vision 2050 calls upon Partner States to continue to investing in the transformation of agriculture through mechanization, irrigation, improved seeds and use of fertilizers among others in order to ensure increased productivity for food security as well as economic prosperity for the citizenry. The Vision also emphasizes promotion of sustainable agricultural production and productivity in the region. This would include opening space for inter-state trade of agricultural commodities and ensuring improved functioning of cross-border trading and strengthening regional cooperation, by increasing public and private investment in sustainable agriculture, land management and rural development. It is underscored that programmes and projects under the Vision 2050 will endeavour to include specific interventions addressing the issues of women and gender empowerment.

3.2.4.2 EAC Development Strategy

The overall Goal of the Development Strategy is: "to build a firm foundation for transforming the East African Community into a stable, competitive and sustainable lower-middle income region by 2021", Among its priorities is the consolidation of the Single Customs Territory (SCT) to cover all imports and intra-EAC traded goods, including agricultural and other widely consumed products; The strategy also identifies enhancement of regional industrial development through investment in key priority sectors, improvement of agricultural productivity, value addition and facilitation of movement of agricultural goods to enhance food security in the region.

3.2.4.3 EAC Regional Agriculture Investment Plan

The East African Community Regional Agriculture Investment Plan (EAC RAIP) 2017-2025 proposes key interventions required for the implementation of the EAC CAADP Compact and the EAC Food Security Action Plan II. Agriculture is the mainstay of the economies of all the EAC Partner States, contributes on average 27 percent of the gross domestic product (GDP) in the EAC and is the main economic activity for more than 70 percent of the total population of the region. The backward and forward linkages, and investments in the sector have high multiplier effects particularly in terms of employment creation and food and nutrition security. The EAC RAIP draws from the commitment made to transform the regional economy. The initiative fosters a regional approach and is an instrument for coordinating agricultural investments in the EAC Partner States as envisaged in National Agriculture Investment Plans (NAIPS) and National Gender Profiles. The EAC RAIP aims essentially at addressing these conflicts by providing a regional perspective to agricultural investment and promoting effective partnerships and policy harmonization in order to maximize synergies and sustainable growth of the sector.

The EAC RAIP targets particular clusters of agricultural commodities and factors of production based on their inherent growth potential and opportunities for deepening intra-regional trade and competitiveness in the global markets. The clusters considered are: i) food security related crops (cereals, pulses and roots and tubers); ii) industrial/commercial crops; iii) livestock and livestock products, fisheries and apiculture; iv) horticulture; and, v) factors of production (mainly seeds, planting materials, pesticides and fertilizer). These clusters offer investment opportunities that can be unlocked through policy coordination and harmonization at the regional level and by creating partnerships to eliminate common challenges. The potato value chain is a commodity that could play a significant role in the economy of the region due to its growing importance and demand.

3.2.4.4 EAC Food and Nutrition Security Strategy

The EAC-FNSS is a tool that provides a basis for a unified approach to implementation, coordination and monitoring of the food and nutrition security programs at the national and regional level. The strategy is anchored on three interrelated objectives namely: (i) improving sustainable and inclusive agricultural production; (ii) strengthening resilience among households, communities and livelihood systems; and (iii) improving access to and utilization of nutritious, diverse and safe foods.

As potato is one of the 10 crops with high potential for food, nutrition and income security for the EAC, the Seed Potato Strategy will contribute to the realization of each of the three objectives of the EAC-FNNS and the corresponding EAC Food Security Action Plan (2018-2022).

3.2.4.5 EAC Industrialization Strategy

EAC partner states have made a commitment to transform the regional economy through industrialization and have identified, through the EAC Industrialization Strategy, six strategic regional industries which the region has comparative advantage in. The Regional Seed Potato Strategy will be instrumental in realizing the objectives that relate to the agro-processing industry by enhancing supply of raw materials for the value addition based MSME and the processing enterprises.

3.2.4.6 EAC Treaty

Article 5(e) of the Treaty covers issues of mainstreaming gender into all EAC endeavors, while Article 121 and 122 emphasize the role of women in socio-economic development in the Partner States. Various EAC policy frameworks have operationalized the Treaty provisions by recognizing the vital role of women in driving EAC's regional integration process. Such documents include the EAC Gender and Community Development Strategic Plan and the 4th EAC Development Strategy (2011-2016), the EAC Gender Policy (2018) and provide guidelines for mainstreaming gender in EAC policies and programs.

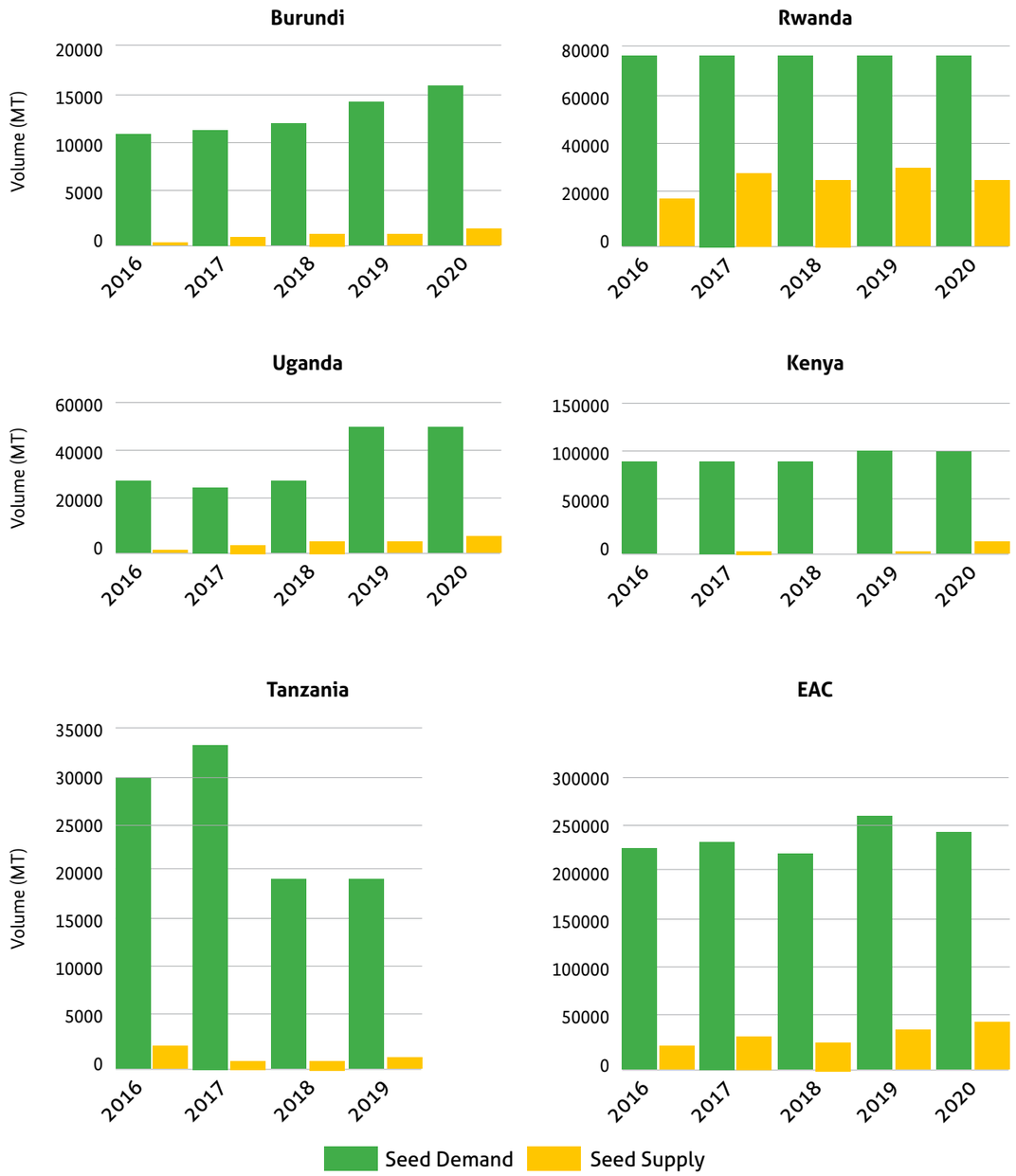
3.3 Seed Potato Industry

3.3.1 Seed production in EAC

Quality seed potato is among the vital inputs with potential to stimulate agricultural productivity, economic growth, and entrepreneurial opportunities, particularly in the EAC Region. However, production of certified potato seed is extremely low, and seed multipliers in EAC Partner States are few, as they view seed potato production as a risky investment due to low seed multiplication rates hence profits, bulkiness, and perishability seed potato, transportation, storage, marketing and regulatory compliance challenges. Availability of resources such as land, investment capital and labour are critical factors of seed production.

In terms of seed production, EAC Partner states produced 36,220 MT in 2020, representing about 15% of the projected demand (240,600 MT) for certified seed potato. Rwanda made significant efforts in supply of seed potato (Figure 6), producing 23,013 MT but she still has not been able to meet the country's demand for seed potato. Kenya, Uganda, Tanzania and Burundi have not made significant progress in the supply of seed potato to their growers.

Figure 6: Certified Seed potato demand and supply trends across EAC Partner States, 2016 – 2020



Source: National Stakeholders Validation Workshops 2021-2022

Low production and limited use of certified seed remains a key constraint to the potato sub-sector in the EAC. With relatively underdeveloped seed potato production and distributed system in each of the EAC partner states characterized by co-existing formal and informal seed systems. Only 5% of farmers' access seed from specialized seed producers while 95% rely on seed potato from the informal sector (e.g. purchased from ware potato markets, or saved from previous season's crop).

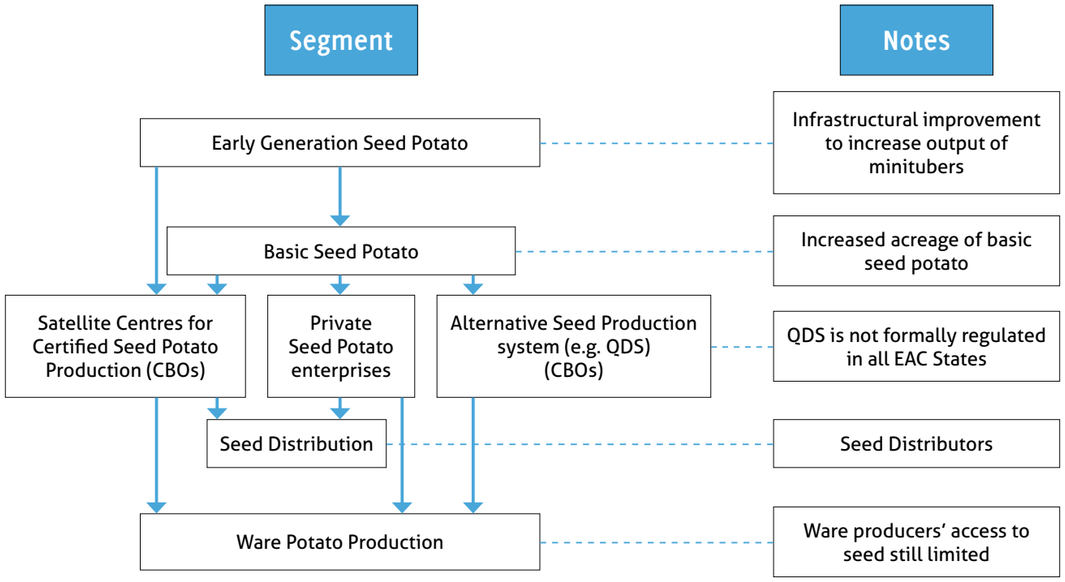
Currently Tanzania grows about 203,000 ha of potato that demand about 2.5 tons/ha of seed. The total seed market is thus projected at 507,000 tons. The potential for certified seed has not been met with only an estimate of 8% (40,000 tons) produced. The current certified seed produced is indicated at 500 tons. It is important to note that farmers use certified and recycled/reused seed in the potato production system

3.3.2 Seed Potato Production Systems

An important aspect in the development of a functional seed value chain is the production and availability of early generation seed (EGS). EGS is the initial seed material that is pathogen-free seed produced by specialized facilities and laboratories. In seed potato value chains, these materials are the *in vitro* plantlets, tissue culture materials and the mini-tubers produced mainly by the public research institutions and specialized private sector organizations that is supplied to the seed multipliers to facilitate quality seed potato production of different generations.

The process of providing quality seed potato along the chain takes several years. The scheme described here shows multiplications by specialized multipliers followed by distribution to decentralized seed producers for further multiplication (Figure 7). Because seed potato is bulky transport costs are a significant component of final cost and multiplication should take place as close as possible to point-of-use by ware growers. Hence, distribution and storage are very important functions in providing seed to the decentralized multipliers and on to ware growers. There are many small- and medium-scale seed producers, and a few large-scale commercial ones, producing seed potatoes for further local multiplication.

Figure 7: Existing pathways for seed potato production in EAC



There are two main seed production systems in the EAC Region:

i) Formal and legal system – This system undergoes seed certification by the regulatory agencies, following laid down legal procedures. It involves public (e.g. National Research Institutions (NARIs), state regulatory agencies), private organizations and other registered seed growers. Less than 4% of potato farmers use certified seed. In the formal seed system quality control and seed traceability are key aspects. The quality control system includes seed certification by national regulatory agencies. The national laws guide the regulatory process of certification, and production and this includes inspections (both in the field and at the seed processing stage) undertaken following the regulatory frameworks that have been benchmarked to the Organizations for Economic Cooperation and Development (OECD) standards. Partner States legislative frameworks recognizes different seed classes (Table 3) which presents a challenge for trade. In Uganda, the draft seed certification protocol Nov 2020 has been developed to include additional seed classes (starting with breeder seed (nuclear seed) followed by pre-basic, then basic, C1, C2, C3. The EAC countries need to follow international schemes like OECD and harmonize into one system of classes.

Table 3: Terminology used in naming different seed classes in the EAC Partner states

Seed type and stage	Burundi	Kenya	Rwanda	South Sudan	Tanzania	Uganda
In vitro plantlets	In vitro plantlets	Breeder Seed (in vitro, apical cuttings, mini-tubers, clonal tubers)	In vitro plantlets	-	In vitro plantlets	In vitro plantlets
Mini-tubers (1st Cycle)	Mini-tubers	-	Mini-tubers	-	Pre-basic	Nuclear (breeder seed)
1st Field Generation	Foundation seed	Pre-basic	Pre-basic	-	Basic 1	Pre-basic
2nd Field Generation	Pre-basic	Basic	Basic	-	Basic 2	Basic
3rd Field Generation	Basic	C1	C1	-	C1	C1
4th Field Generation	C1	C2	C2	-	C2	C2
5th Field Generation	C2	C3	-	-	-	C3
QDS	-	-	QDS	-	QDS	-

C= certified
Source: Harahagazwe et al., 2008; National Seed Potato Stakeholder's Forum (2021); Regional Seed Potato Stakeholders' Consultative Forum, Kigali (2022).

Overall, certified seed potato production in all the partner states is inadequate as demand continuously outstrips supply. The challenges in supply of the various classes of EGS (Figure 8) is attributed to high transaction costs from the breeders to the input suppliers (seed companies and agrovets), low demand from farmers, low capacity (infrastructure, personnel, and finance) for production of early generation seed (EGS), and inadequate infrastructure - particularly storage in the seed distribution. Production of seeds for commercial sales needs to be done in a certain scale in order to meet the demands of the buyers and to be able to provide stable supply

Figure 8: Challenges in EGS Production

	Tissue culture and Apical stem cuttings	Pre-basic and Basic Seed	Certified Seed
Why the Seed/ Seedling System is a Concern	A wide gap exists between current and potential yield due to low quality seedlings/cuttings. Lack of availability of superior varieties results in lower levels of production compared to potential are realized.	Yields in EAC are lower than attainable due to lack of availability and use of quality seed, mismatch of varieties and farmer preference, and low adoption of good agronomic practices (GAPs).	Market appropriate varieties with quality, certified planting material will help minimize disease and pest severity and increase yield potential.
Top 3 Seed/ Seedling Issues	**Institutional Leadership** *Minimal institutional involvement along seed system supply chain hinders variety commercialization* **Variety Optimization** *Matching of farmer preferences, market demand with suitable varieties to increase adoption, production and productivity* **Regulation** *Harmonization and implementation of regulations to support marketing/trade of new varieties in EAC*	**Seed Supply** *There is not enough current production capacity to support increased demand* **Demand Generation** *Farmers do not know or believe in the value of certified seed; farmer capacity is needed to generate demand* **Institutional Leadership** *Limited institutional involvement along the seed system supply chain hinders variety commercialization*	**Seed Supply** *Lack of seed/seedling supply forces farmers to utilize lower quality seed/ seedlings* **Farmer Access** *Due to transport and storage issues, farmers need to have localized/ regional seed supply system* **Cost** *Production/ commercialization timelines limit private sector capital outlay due to delayed, extended or unreliable payback*

ii) Informal system - Seed produced outside the formal seed certification system and not legally recognized. This includes positively selected seed and negatively selected seed, farm saved seed and so-called "clean seed". Clean seed usually starts with planting certified or basic seed potato and produces seed whose quality is much better than farm saved seed from unknown sources. The seed is produced using Good Agricultural Practices (GAPs) and quality is assured by area extension officers. On the other hand, farm saved seed used by around 95% of potato farmers, has no quality standards and is generally of poor quality. This seed has been responsible for the large spread of diseases especially the late blight, viruses, and potato cyst nematode (PCN).

Quality Declared Seed (QDS)
This is an alternative mechanism, where growers themselves manage procedures to provide high-quality seed. The quality assurance scheme for QDS production is less demanding in comparison to the standard quality control systems, and allows for less rigorous and low-cost inspection regimes while producing quality, clean disease-free planting material from registered varieties. The system facilitates access to quality seed at affordable costs for smallholder farmers but also creates future demand for certified seed. In the EAC, Rwanda, Tanzania and Uganda have recognized QDS, however in Uganda, potato is not included in the QDS regulations. Even within partner states, QDS has not been fully embraced requiring restriction of use and trading within regions where QDS is produced. However, each country can exploit opportunities offered by QDS to support farmers within a partner's states – but seed from QDS cannot be traded at the Regional Level because of differing legislative frameworks governing seed.

According to the EAC Seed Potato Cross Border Trade Situation of 2019, Uganda has laws supporting production and use of QDS. Seed farmers in this system have adopted an internal quality management system that involves field inspection and indexing of seed samples for diseases with support from agricultural research and extension services. In the case for Uganda, the national research institutions (e.g. Kachwekano Zonal Agricultural Research and Development Institute (KAZARDI) avail basic seed to private seed multipliers registered by the Uganda National Seed Potato Producer' Association (UNSPPA) who multiply it for an additional season to produce Quality Declared Seed (QDS) which is then sold to ware potato producers.

Despite the clear distinction of formal and informal seed supply systems, they exist side by side. Majority of farmers benefit from the latter because insufficient certified seed supply and through government and donor development programmes aimed at facilitating access to inputs. In the long run there are implications for the formal certified seed production system that act as disincentives for investment private sector. However, there is still unmet demand.

3.3.3 Seed Potato Trade

The demand for quality seed potato in the EAC Partner States largely remain unmet, and currently stands at only 15%. Evidence shows that certified seed can increase yield from 8t/ha to 16-20t/ha for smallholders, but farmers have been slow in adopting the use of certified seed for various reasons among them are access to and willingness to pay for certified seed potato, taste, and susceptibility to pests and disease. Promotional efforts to popularize new varieties is limited in all EAC countries, hence the level of awareness, adoption and commercialization is very low. Few varieties dominate the markets and mainly target domestic table consumption. Certified seed for the demanded varieties remains largely unmet. Timely and consistent supply and distribution to enhance access, needs improvement. Seed prices are considered high and unaffordable to many farmers, particularly the smallholder growers and attributed to the low adoption of certified seed. Prices range from USD 0.2- 0.8 per kg of seed across the region (Table 4). Seed costs account for 40-50% of the total input costs (seed, fertilizer, pesticides) and even more in case of certified seed. Such high expenses are pushing potato growers to economize on seed investments and seed quality by preferring informal seed sources.

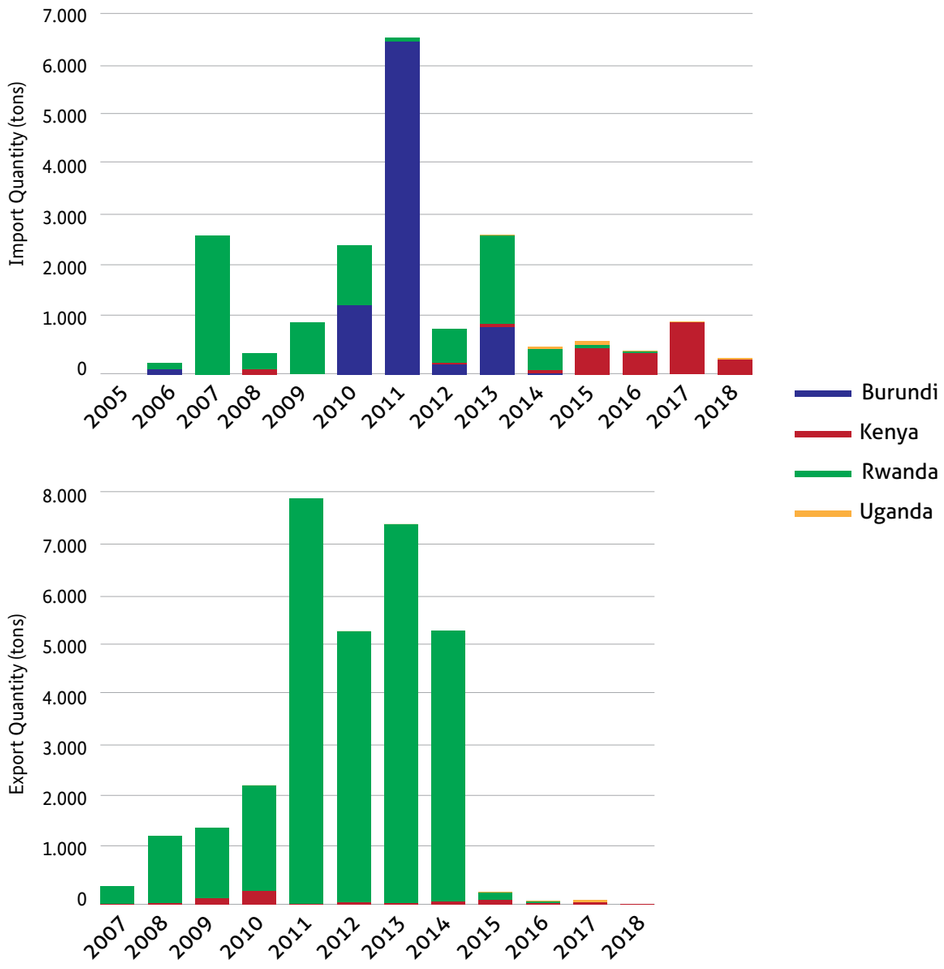
Table 4: Price of seed potato (USD/kg) in EAC Partner States

	Burundi	Kenya	Rwanda	South Sudan**	Tanzania	Uganda
Mini-tubers	0.2 per tuber	0.3 per tuber	0.07 per tuber	-	0.2 per tuber	0.2 per tuber
Prep-basic Seed per kg (USD)	0.9	0.60	0.75-0.81	-	-	0.56 - 0.84
Basic Seed per kg (USD)	0.8	0.60	0.58-0.65	-	Basic Seed C1&C2 0.65	0.49 - 0.56
Price of Certified seed) per kg (USD)*	0.7	0.4-0.6	0.44 - 0.5	-	0.43	0.43- 0.49
QDS	n/a	n/a	0.4-0.45	-	n/a	0.34-0.42

*Source: National Stakeholder Validation Workshops December 2021- January 2022
**South Sudan yet to start seed production

Trade volumes of exported seed potato are quite low and have been on a downward trend (Figure 9). Major exporters in the region are Rwanda, Kenya and Uganda. In the period 2007 to 2018, there were wide variations in quantities exported by the three major exporting partner states with Rwanda taking the lead. Most of the seed potato exports from Rwanda were made to Burundi. Despite Kenya and Uganda having specific centers for production and multiplication of seed potato, they recorded very minimal quantities of seed exported. This could be an attribute of high local demand.

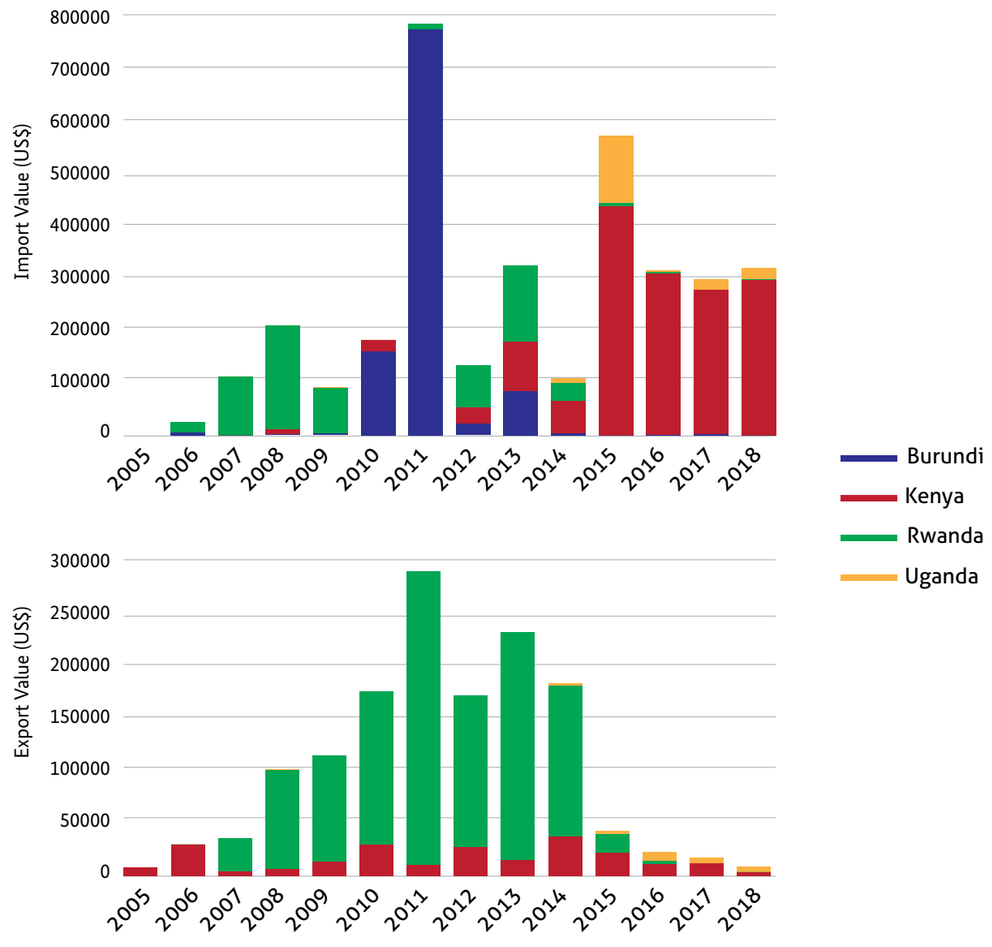
Figure 9: Import and Export Quantity for Seed Potato in EAC (tons)



In terms of imports, quantities seed potato imported varied from the year 2005 to 2018. Burundi recorded the highest cumulative quantity of seed potato imports in EAC which peaked at 6,500 tons in 2011. Contrary to the high local demand for potato in Uganda, she recorded the least cumulative quantity of seed potato imported during the same period. Seed potato imports into the region, are mainly from Netherland, and are made to cover the shortages and address the requirements of processing companies, with preference to varieties with particular quality traits. In 2018, Tanzania imported 100 Mt of Seed potato from the Netherlands valued at USD 75,000.

The export value of seed potato in the EAC rose exponentially between 2005 to 2011 when it peaked, then staggered down during the lag phase (2012 to 2018). In this period, Rwanda recorded the highest cumulative value of exports in 2011, valued at US$ 270,000. Kenya recorded very low quantities of annual exports, but the seed potato value was rated higher than in Uganda in the export market. On the other hand, Burundi, Rwanda and Kenya recorded high import values of seed potato (Figure 10). The least import value was recorded in Uganda. These findings depict a correlation between quantity imported (MT) and import value. For instance, Burundi having recorded the highest cumulative quantity of import between 2005 and 2018 (Figure 9) recorded high value for the imported seed potato which peaked at 790,000 US$ in the year 2011. Despite recording relatively low quantities of annual import from 2015 to 2018 as compared to Rwanda between 2006 and 2014, Kenya's cumulative value for seed potato import was higher.

Figure 10: Import and Export Value for Seed Potato in EAC (US$)



EAC partner states face major constraints in the supply of adequate quality seed potatoes. Multiple studies and stakeholder platforms have concluded that the commitment of Africa in general and that of EAC in particular to realize increased productivity can only be met if existing bottlenecks in the seed sector and especially supply are addressed. Several studies have consistently implied the need for a regional approach to resolving issues affecting the seed potato sector in the EAC. In doing so partner states stand to benefit from economies of scale for sharing information, knowledge and technologies, implementation of policies and regulations supportive of seed and ware potato producers, improvement in the business enabling environment while expanding the intra-regional trade for seed of the highest standards.

3.3.4 Key stakeholders in the seed potato value chain

The seed potato value chains have many linked actors who facilitate quality seed potato production of different generations, starting with pathogen-free seed from research institutions and specialized seed multipliers, and ending with use by ware producers. Seed moves from actor-to-actor across the chain, as the output of each generation of seed provides the input to the next. Coordination is facilitated by a flow of information in both directions along the value chain related to ware producers' needs for timely access, quantities, and quality and varietal development. Seed potato production in EAC is anchored on the following key stakeholders performing distinct but complementing roles (Table 5).

Table 5: Key stakeholders in the seed potato value chain

Stakeholders	Burundi	Kenya	Rwanda	South Sudan	Tanzania	Uganda
Government ministries	Ministry of Environment, Agriculture and Livestock	Ministry of Agriculture, Livestock, Fisheries and Cooperatives	Ministry of Agriculture & Animal Resources;	Ministry of Agriculture and Food Security	Ministry of Agriculture	Ministry of Agriculture, Animal Industry and Fisheries
Research Organizations	ISABU	KALRO	RAB, INES, UTAB, UR	SSARO	TARI	NARO
Certification services	ONCCS NPPO	KEPHIS	RICA	Directorate of Plant Protection (MAFS)	TOSCI	DCIC
Potato platforms	Yet to be established	-NPCK -STAK -ASNET -KENAF	National Seed Potato Producers Platform	South Sudan Potato Farmer Association	-TASTA SAGCOT	-UPP
Seed Multipliers	Public Private CBOs	Public Private CBOs	Public Private CBOs	Public Private CBOs	Public Private CBOs	Public Private CBOs
Dominant seed system	-Informal -Formal	-Informal -Formal	-Informal	-Informal	-Informal -Formal	-Informal -Formal -QDS
NGOs	√	√	√	√	√	√

Source: Information shared by EAC Partner States

Government ministries: Coordinate the formulation and implementation of policies on agriculture, management of natural resources, food safety and nutrition, infrastructure, trade and industrialization, ICT through policy development and implementation, official release of new varieties, training of staff and farmers and technology transfer

Research Institutions: Undertake potato research and development of suitable technologies (e.g. variety development), innovations and management practices; provision of breeders, pre-basic, basic and certified seed, maintenance and supply of breeder's seed, disseminate technologies, innovations and management practices to stakeholders, capacity building on seed production and marketing.

Certification Agencies: Provide regulatory and advisory services, variety testing – National Performance Trials (NPT)/Value for Cultivation and Use (VCU), and Distinct, Uniformity and Stability (DUS) tests granting of plant breeder's rights, seed and phytosanitary certification and quarantine services for introduced plant materials; inspection of seed potato and ware potato for export and imported, and capacity building on seed production. Harmonization of the national seed systems towards one seed testing scheme for the EAC is important to facilitate trade.

Potato platforms: These are multi-stakeholder forums that supports the entire potato value chain, providing a platform for information sharing, networking and articulation and advocacy for favorable national policy environment and regional harmonization of trade rules. The platforms also mobilize potato farmers into producer business groups, strengthens existing potato farmer organizations, enhance capacity building of the farmer organizations and represent the farmers at all levels. They work with commodity associations, and other affiliate members in the potato value chain to build structures and support enterprises to produce, market, build resilience against the effects of climate change to promote value chain competitiveness. In Kenya, the National Potato Council of Kenya (NPCK) has been instrumental in facilitating farmers' access information through Viazi Soko online SMS platform. The online platform provides market intelligence, linkages to seed producers and traders, and promotes the production and marketing of certified seeds. All the partner states of the EAC should aim at establishing national potato platforms.

3.3.5 Policy and legal framework for the seed potato value chain

EAC Partner states have policy instruments, investment plans and strategies developed to guide development and commercialization of the agriculture and in support of trade (Table 8). The key pillars of the policies are strengthening institutional, legal and regulatory frameworks; promotion of variety development and seed production; enhancement of research; increase in potato production; improvement in postharvest handling, value addition and marketing; promotion of public-private partnerships (PPP) and improvement of funding to commodity value chains including potato. In addition to the national policies, various international and regional policy frameworks influence national policy and institutional arrangements. They include:

- *Common Market for Eastern and Southern Africa (*COMESA*)* - is one of the principle African RECs with free trade area and 19 countries being members. In furtherance of trade and in particular seed trade, COMESA in collaboration with regional organizations and partner states developed the Seed Regulation 2014 .The Seed Regulations objectives are i) harmonizing phytosanitary measures for seed for a more transparent and safe seed trade within the region; ii) ensuring high-quality seed is traded; iii) investment in the seed industry within partner states; iv) increasing access to existing varieties; and v) stimulating breeding of improved varieties. Currently COMESA is working to establish harmonized labelling benchmarking to International Seed Testing Association (ISTA) Standards. Progress has been made on variety registration within the EAC (Kenya, Uganda, Tanzania) with support from ASARECA. Any variety registered in any one of the country's variety catalogue is registered in another after a season of domestic testing; provided sufficient and appropriate test data is availed.

- *Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA)* - a specialized agency of the COMESA with the objective of integrating farmers into national, regional and international markets. ACTESA's major role is promoting harmonization of seed trade in partner countries through regional variety release, regional seed certification, and a regional quarantine pest system. In collaboration with member ACTESA developed the COMESA Seed Harmonization Implementation Plan (COMSHIP) to facilitate the harmonization process.

- *African Regional Intellectual Property Organization (ARIPO)* - is an intergovernmental organization for cooperation among African states in patent and other intellectual property matters. To support issues of seed trade in framework of The protocol enables protection of breeders rights in the in. The ARIPO Office is responsible for granting breeders' rights to African countries that have not been able to join UPOV countries to enable them trade.

- *East Africa Community* – the Community has an Act (2016) requiring members to harmonize their national laws on standardization, quality assurance, metrology, testing, and accreditation of seed varieties of specific crops, which include potatoes. Article 4 (4.2) of Act 2016 aims at ensuring that the customs and other relevant authorities of member countries work closely to facilitate and ensure ease in the movement of samples issued for the purpose of testing within EAC community, and harmonization of procedures for inspection, sampling and testing of products traded within the community for conformity to standards.

- *Organization for Economic Co-operation and Development (OECD)* - plays a role in seed trade with regards to seed certification and control of Seed Moving in International Trade. The OECD has also made effort to facilitate more effective regional harmonization, and the countries that have aligned to OECD standards are Kenya, Uganda, Tanzania. Rwanda, Burundi and Sudan is in the progress of complying.

- *Union for the Protection of New Varieties of Plants* (UPOV) - oversees implementation of the International Convention for the Protection of New Varieties of Plants and describes the criteria required for a new variety to be protected and the rights conferred to the breeder of a protected variety. UPOV also sets guidelines for Distinctness, Uniformity, Stability (DUS) and Value for Cultivation or Use (VCU) tests.

- *International Seed Testing Association (ISTA)* - plays a role of developing and publishing international rules for seed testing and certification and regional seed harmonization efforts. ISTA also offers laboratories accreditation, international seed analysis certificates, regional seed harmonization efforts and promotion of research in seed science and technology. Efforts have been made by countries such as Uganda and Kenya have obtained ISTA accreditation and completed all preliminary rules regulations and standards. Tanzania though an active member of ISTA is in the process of complying.

- *World Trade Organization (WTO)* - contains a number of agreements which apply to the seed trade, including the International Plant Protection convention (IPPC) through the Agreement on the Application of Sanitary and Phytosanitary Measures (WTO SPS Agreement) and Agreement on Trade-Related Intellectual Property Rights (TRIPS Agreement). The WTO SPS Agreement is an international treaty relating to food safety and plant health (phytosanitary) with respect to imported pests and diseases. The TRIPS is an international legal agreement between all members of WTO and covers copyrights, as well as related intellectual property rights namely: new variety, trademarks and trade names.

The EAC seed sector is regulated through a number of national Laws and Regulations. Government designated agencies regulate the official release of new varieties, licensing and oversight of seed merchant activities, especially regulating importing/exporting seeds, quality assurance in seed production, seed processing and local seed trade. South Sudan is still in the process of formulating its National Regulations, and in the meantime, the Ministry of Agriculture and Food Security - Directorate of Plant Protection (MAFS-DPP) works in conjunction with South Sudan Bureau of Standards and Customs & Excise Division (South Sudan Revenue Authority) to regulate the sector.

Table 6: Policies, laws and regulations in the Seed Sector of EAC Partner States

Country	Policies	Laws	Regulations
Burundi	• Vision 2025 • Strategic Framework for the Fight against Poverty (CSLP) • National Strategy for Agriculture (2008-2015) • Phytosanitary Protection Policy • PND : Plan National de developement (2018-2027) • DOPEAE: Document d'orientation de la politique environnemental, agricole et d'Elevage • SAN: Strategie agricole nationale and PNIA: Plan national d'investissement agricole	• Law No 1/08 of 23 April 2012 on the organization of the seed sector • Agro-chemicals Management Law (2021)	• Decree on the protection of plant varieties, Ministerial Order on the criteria for the approval of seed multipliers, Ministerial Order on the marketing of certified seed, Establishment of the National Technical Committee for Variety Release, National Seed Committee
Kenya	• Agriculture Sector Transformation and Growth and Strategy 2019 -2029 • The Draft Agricultural Policy, 2015 • National Potato Industry Policy 2005 • Seed Potato Master Plan (2010) • Seed Policy (2010) • National Potato Strategy 2021-2025	• The Seed and Plant Varieties Act (Seed Act; Cap 326; • The Crops Act 2013; • The Plant Protection Act (Cap 324);	• The Seeds and Plant Varieties Regulations (Seeds Regulations); • The Seeds and Plant Varieties (variety evaluation and release) Regulations; • The Plant Breeder's Rights Regulations,
Rwanda	• Agriculture Transformation Strategy (PSTA4) 2018 – 2024 • National Agricultural Policy 2018	• Law No.005/2016 of 2016, regulating seed and plant varieties • National Plant Health Law	• Ministerial orders on the law governing seed & plant varieties in Rwanda; • Ministerial orders on the plant health law
South Sudan	• Comprehensive Agriculture and Master Plan (CAMP);	• South Sudan Seed Policy Draft; • Phytosanitary Bill draft;	• South Sudan Bureau of Standards; • Directorate of Plant Protection (MAFS); • Customs & Excise Division (SS Revenue Authority);

Country	Policies	Laws	Regulations
Tanzania	• National Agricultural Policy (NAP 2013);	• The Seeds Act (No 29, 1973); • The Seeds Act (No 18, 2003) • Plant Health Act (4) 2020 • The Plant Breeders Rights Act (No 222, 2002);	• GN 37 2007 Regulations;
Uganda	• Potato Framework Implementation Plan (FIP); • National Draft Potato Policy	• Seed and Plant Act 2006; • Plant Variety Protection (PVP) Act of 2014; • Plant Protection and Health (PPH) Act 2016; • Agrochemicals Act (Control) (2006)	

All EAC Partner States maintain a centralized seed certification system, and follow the standards stipulated in the Seeds Regulations to facilitate cross border trade. The seed regulations developed through support from COMESA, ACTESA and ASARECA aim at harmonizing seed trade through promotion and adoption regional variety release, regional certification and regional quarantine pest system. The COMESA Seed Harmonization Implementation Plan (COMSHIP) adopted by partner states in 2014, outlines measures towards the harmonization. The EAC also developed harmonized standards, regulations and sanitary and phytosanitary (SPS) measures aligning to the World Trade Organization standards, which follow the Organizations for Economic Cooperation and Development (OECD) standards.

Significant progress has been albeit slow has been made towards harmonization of the COMESA Seed Regulations. Burundi, Kenya, Rwanda, and Uganda have reportedly fully harmonized their national laws with the COMESA rules. Tanzania has harmonized its legislation to the laws and regulations of the EAC Protocol, but has yet to develop and finalize its National Seed Policy and potato seed inspection and certification protocols. Sudan is in the process of seeking membership and accreditation to ISTA and ARIPO.

Table 7: Alignment to International Bodies and Treaties

Country	Alignment to International Bodies and Treaties				
	OECD	**UPOV***	**ARIPO**	**WTO-SPS**	**ARISO**
Burundi	√	√		√	√
Kenya	√	√	√	√	√
Rwanda	√	√	√	√	√
South Sudan	√				√
Tanzania		√	√	√	√
Uganda	√	√	√	√	√

Lack of uniformity in policy and operational choices has hampered movement and registration of varieties, and trade in ware and seed potato across the region (Table 6). Each of the EAC partner state needs significant investment in their seed potato sector to realize significant growth. Donor support has tended to go towards subsidized community based seed potato production models to deliver quick wins of improving access to quality seed and achieving food security at the household level. In the medium and long term interventions, these ought to focus on improving the environment that attracts private investment in the seed potato sector. At the regional level, efforts to strengthen production and trade in seed include moving forward the processes of finalization of the EAC Seed Bill; EAC Seed Regulations (Seed Certification, Plant Variety Evaluation and Release, Plant Variety Protection), as well as draft seed Standards for selected crops that include potato.

Key areas of concern towards the harmonization process mentioned by stakeholders in Partner States include:

1. Need for additional efforts in implementation of the harmonization framework. Partner States Governments need show commitment to the process.
2. Lack of or non-operational policy & regulatory instruments harmonized across the partner states to facilitate seed potato production & trade.
3. Removal of non- tariff barriers e.g. border closure brought about by political difference between partner states; mistrust among member countries around the certification process and quality assurance capacity. There is need to organize dialogues to eliminate barriers to trade
4. Develop protocols mutual recognition on seed variety release, SPS, pest surveillance and disease monitoring/testing on potato.
5. The regional seed regulation harmonization process as has not demonstrated positive impact on seed trade. Many of the requirements are yet to be implemented
6. Deployment of adequate and competent SPS staff at the border posts to facilitate movement of seed.
7. Need for infrastructural development among partner states to ease seed movement and trade.
8. Absence of viable collaborative frameworks/ platforms for the different actors in the seed potato value chain from the EAC region.
9. Mobilizing funds to support seed potato value chains of partner states.
10. Variety registration process differs from one country to another in the EAC and this needs to be harmonized.

3.3.6 Institutional arrangements and capacity for seed potato production

Organizational and institutional arrangements and systems for seed potato production are satisfactory and regulations allowing for production of seeds for both public and private organizations exist. Well organized institutional arrangements are in place in all the EAC Partner States promoting seed production through various programmes and projects, and through linkages with seed merchants and other stakeholders. However, coordination remains loose and in need of institutional alignment and strengthening; and the capacity of the various institutions is not at its optimum levels. At the production, major issues facing farmers are insufficient and expensive capital for growth, acquisition of inputs, poor returns and diversion in funds and cash flow difficulties between planting and harvesting. For instance, in Kenya, interest rates for commercial loans and advances are high at 14-20% (KNBS, 2019), which makes costs of finance extremely high. With such interest rates it is only logical that farmers (and processors) are interested in investments that give high returns in the short term.

For supporting institutions (certification/regulatory), great effort is needed in terms of investment in infrastructure for variety development (research facilities), seed certification (e.g. laboratories and quality control officers) and value chain upgrading (green and screen houses, cold storage, processing units and transport vans) and human capital (technical knowhow) as well as financial resources to support implementation. In all countries the use of technology in certified seed production is rated good, but post-harvest handling, marketing and distribution this is rated average to poor (Table 8). With the fast pace of changing technology there is need for modernization of facilities and technical capacity of the various institutions to fit in the changing environment to address the bottlenecks to trade between Partner States.

Table 8: Rating on use of technologies in the seed potato value chain

Country	EGS	Field Seed Production	Post-harvest handling	Distribution and Marketing
Burundi	Very good	Good	Good	Average
Kenya	Good	Good	Average	Poor
Rwanda	Good	Good	Good	Average
South Sudan	Average	Average	Average	Average
Tanzania	Good	Average	Average	Poor
Uganda	Very good	Good	Average	Average

Seed potato value chain development is capital intensive, and therefore needs stronger Government commitment as it is the backbone of the potato industry. Stakeholders view engagement in seed potato value chain (SPVC) as beneficial and offers opportunity for employment, and has facilitated access to certified seed, improved the quality of ware potato and products, increased productivity, income and access to new technologies; including providing opportunities for expanded markets and creation of national stakeholder platforms Development partners such as the International Potato Centre (CIP) GIZ, USAID, JICA, IFAD, Netherlands Development Cooperation, AGRA, Belgium Technical Cooperation Agency and International Finance and Development Corporation (IFDC) and others have facilitated the technology introduction and development (e.g. new varieties and agronomic techniques), establishment of potato quality management protocols, and improved seed storage infrastructure.

3.3.7 Standards and quality infrastructure

Generally, EAC is equipped in terms of harmonized standards and availability of a regional SPS Protocol and some measures to effectively develop strategy for processed fruit and vegetable sub sector. The architecture of Quality infrastructure element within the F&V supply chain is geared to ensure free circulation of produce. Fundamental requirements which needs to be met include: protection of public health; consumer information and protection, integrity of business transactions; environmental protection; and a need to ensure public inspections.

The EAC Standardization, Quality Assurance, Metrology and Testing (SQMT) Act (2006) was developed in line with the EAC Protocol on SQMT which provided for regional cooperation in the areas of standards, metrology, conformity assessment, accreditation and technical regulations. The objective of the SQMT Act was to facilitate industrial development and trade and to ensure the protection of health and safety of society and the environment within the community. The SQMT Act also provided for the development of East African Standards (EAS).

The standards are developed jointly by the national standards bodies of the EAC Partner States in accordance with the procedures approved and maintained by the East African Standards Committee (EASC). Standards are essential in helping the business community to be innovative, reduce business costs, improve quality and maintain competitiveness in local, regional and international marketplace. As EAC moves towards a global economy becomes real, complying with standardization issues continue to be of critical importance to the survival and prosperity of businesses locally, regionally and internationally Besides the mandatory regulations, there are technical standards that include quality standards that can be used to differentiate products and choose suppliers.

3.3.8 Gender inclusitivity in the seed value chain

From the EAC Regional Seed Potato and Trade Gender Analysis Report (2021), one of the key points emerging from the analysis is determination of who participates and gains in seed potato value chain on individual basis. Despite the available data being insufficient to achieve an understanding of the way gender dynamics, the following evidence-based information from the study and literature provide an understanding to what shape the benefits received by men and women.

3.3.8.1 Gender perspective in the Seed Potato Value Chain

Categories such as 'the household dynamics', 'men' and 'women' need to be unpacked and understood in each individual context. This illustrates that even where women may not directly control assets and income, they and their households can benefit from their engagement in value chains, for example through better nutritional outcomes and increased food security that result from increased aggregate household production and income. There are several gender-based agriculture value chain analysis which suggest broad approaches to value chain development for better gender equity outcomes. Gendered Constraints affect both men and women in different ways and have implications on their participation, reach and benefits from the seed potato industry. Specific among these constraints have been found across partner states include the following; (i)limited availability or lack of access to quality/certified seed potato which results into poor yields; (ii) unreliable market of seed potato; (iii) lack of access to input supply (fertilizers, pesticides); (iv) inadequate infrastructures including storage, collection centers, cold storage chains, and storage equipment/materials; (v) limited access to financial (mentioned mostly by women).

3.3.8.2 Participation of Women in the Seed Potato Value Chain

Participation by women in the seed potato value chain varies depending on the value chain node. Table 7 below give summary of the gender roles, where some like in production, processing, marketing and trade of potatoes are complex; the level of involvement by women in the potato business compared to men is still low. Women provide labour at crucial stages of production while men control the harvesting and marketing. For instance, the reason for low participation of women in seed and potato could be due to low access of capital. Assisting women access to finances and decision-making, women farmers can increase their income, develop a stable rural livelihood and contribute to ensuring food security. In order for women to benefit, all these investments should be integrated in gender issues and target women.

Table 9: Gender roles in the seed potato value chain

Activity	Men	Women	Youth	VMG*
Ownership of capital	√	√	√	√
Decision making on planting	√	√	√	√
Inputs dealers	√		√	√
Land preparation	√	√	√	√
Weeding	√	√	√	
Crop health Management (e.g. spraying services)	√	√	√	√
Harvesting	√	√	√	√
Sorting and grading	√	√	√	√
Transportation/ logistics	√		√	
Value addition	√	√	√	√
Marketing and Selling	√	√	√	√
Construction of warehouses	√	√	√	
Market intelligence on ICT platforms	√	√	√	√

*Vulnerable and Marginalized Groups

3.3.8.2 Participation of Women in Seed Potato Trade

Data in seed potato trade is minimal and does not provide evidence-based information to support specific intervention approach. However, literature on regional trade indicates that, around 70 percent of Informal Cross border Trade (ICBT) in the region is conducted by women, for most of whom it is their only source of income. However, limited knowledge of business procedure; and information on cross-border regulation and procedures is among the reasons women targeted in country market. Empowering women in informal cross border trading has a positive multiplier effect on poverty reduction, economic growth, government revenues and employment creation.

3.3.8.3 Perspective of Youth in the Seed Potato Value Chain

According to the gender analysis data, a significant number of youths are engaging in the potato seed production. Majority of them are involving in informal seed and potato system, which is not recognized as profitable seed supply system. In the informal system, parent seed cannot be traced from known sources and involves farm-saved seed, farmer-to-farmer exchange and local markets. In addition, some youths are involved in the production of ware potato. This is encouraging however, inadequate access to financial services is a key constraint for youth wishing to go into agriculture. Training of young people in agribusiness should be linked with programs to ensure access to capital like unsecured loans and competitive grants among others. Peer mentorship programs can also play a great role in getting young people into agriculture by fostering knowledge and experience sharing. Development programs should start with those who are ready to engage in agribusiness, and sharing success stories through the media and other channels to show what is possible. Lack of clarity on import and export requirements, quarantine requirements and variety testing can affect youth involvement in trade, particularly a cross-border trade. Limited knowledge of business procedure, information on cross-border regulation and procedures affects youth participation. Since many youths are well versed with the use of technology especially ICT and social media, these can be utilized to increase awareness on cross-border business regulation and procedures. Organizing youths into groups or cooperatives that enable collective marketing can improve youths' access to market. Through groups, youth can directly take their produce to desired markets. The short shelf life of ware potato can be addressed by establishing storage facilities e.g. at district levels, and expanding processing options.

3.3.8.4 Gender Intervention Approach: Gender Equality and Women Empowerment (GEWE)

To improve gender participation in the seed and potato sub-sector it is proposed to design a dual approach, whereas women empowerment is of emphasis in order deepen the benefits and reach of women as key social integration mechanism:

1. Involvement of women in Policy and Regulation bodies: More efforts are needed to increase women's representation in local institutions and governance mechanisms and include them in decision-making within their households and communities. Women need to be empowered to enhance their participation and involvement in all levels of decision making. Women's involvement in decision making bodies would increase the representation of women's needs and interests in the local and national levels.
2. Empowering women through capacity building: Identity women engaging in the production of potato sub-sector and provide them with training on leadership skills other agriculture skills. Training can be done through extension officers during farm visits or can be conducted through farmer's groups or associations. The training should be led by county governments.
3. Increase women participation in cross border trade: Encourage women's participation in cross border business by informing the trade regulations and the benefits. Also, provide incentives for women that will motivate them to participate in cross border business.
4. Implement and monitor existing strategies: Issues of women empowerment and participation are well articulated in most of the National strategies and action plans and how they should be implemented. What is needed is the implementation of strategies and quality monitoring on what has been agreed in national and regional levels.
5. Collaboration with other stakeholders- private sectors and civil society: Explore ways to work with other private actors such as the East African Women in Business Platform in promotion of gender inclusivity along with the seed and potato value chain and capacity building of the other chain actors.

3.4 Key Highlights from Partner States Seed Potato Production

Table 10 provides a summary assessment of the performance of seed potato industry, institutional arrangements and seed potato trade in Partner States of the EAC.

Table 10: Assessment of seed sector performance, institutional arrangements and seed potato trade

Assessment Area	Burundi	Kenya	Rwanda	Republic of Tanzania	South Sudan	Uganda
Seed sector performance	• Certified seed supply is inadequate and unable to meet the current demand. • Insufficient quantities of various categories of EGS to meet the demand by seed multipliers • Many growers do not use certified seed	• Seed supply is inadequate, and many growers do not yet appreciate certified seed • Insufficient quantities of various categories of EGS to meet the demand by seed multipliers • There is increasing private sector interest to invest in the seed potato value	• Seed supply is inadequate, and many ware potato growers do not yet appreciate certified seed • Insufficient quantities of various categories of EGS to meet the demand by seed multipliers • There is increasing private sector interest to invest in the seed potato value	• Seed supply is inadequate, • Many growers lack awareness of benefits of and do not yet appreciate certified seed • Insufficient quantities of various categories of EGS to meet the demand by seed multipliers • There is increasing private sector interest to invest in the seed potato value.	• Seed supply is inadequate and mainly met through imports • Growers do not yet appreciate the benefits of certified seed • Private sector interest to invest in the seed potato value yet to pick up.	• Seed supply is insufficient, and inconsistent. • Insufficient quantities of various categories of EGS to meet the demand by seed multipliers • There is increasing private sector interest to invest in the seed potato value. • There are opportunities for increasing seed potato
Institutional arrangements	• Public, private, civil society organizations and development agencies support many initiatives in seed production and trade. • The organization of certified seed production requires review, • Need to strengthen the participation of farmers in the seed potato value chain. • Need for resourcing the public sector to enable them undertake their roles of coordination and monitoring	• Public, private, civil society organizations and development agencies support many initiatives in seed production and trade. • Investment needed in infrastructure (laboratories, cold storage, processing units and transport vans) and human capital (technical knowhow) as well as supportive finance. • Need for institutional and organizational support at all levels to support production and distribution	• Public, private, civil society organizations and development agencies support many initiatives in seed production and trade. • There is need for institutional alignment, improvement, and strengthening. • Investment is needed for market organization to strengthen supply and demand linkages	• Public, private, civil society organizations and development agencies support many initiatives in seed production and trade • Investment needed in infrastructure (laboratories, cold storage, processing units and transport vans) and human capital (technical knowhow) as well as supportive finance. • Support need for infrastructure (storage, Irrigation systems and farm machineries) to enhance capacity.	• Public, private, civil society organizations and development agencies support many initiatives in seed production. • There is need for institutional alignment and strengthening; and investment to ensure timely production and distribution potato seeds.	• Public, private, civil society organizations and development agencies support many initiatives in seed production and trade. • Regulatory framework for production of seed potato by both public and private organizations exist. • Coordination is week and in need of institutional alignment, and strengthening. • Capacity of the various organizations/institutions is not at optimum levels, and requires investments in infrastructure and human capital as well as modernization production activities.

Assessment Area	Burundi	Kenya	Rwanda	Republic of Tanzania	South Sudan	Uganda
Domestic seed trade	• Trade in seed potato is largely internal. • Shortage of clean quality improved seeds • Inconsistent supply of clean and certified seed potatoes • Imports to meet the deficits	• Trade in seed potato is largely internal. • Shortage of clean quality improved seeds • Inconsistent supply of clean and certified seed potatoes • Imports to meet the deficit particularly of processing varieties	• Trade in seed potato for both domestic and exports. • insufficient amount of clean quality/ improved seeds • Inconsistent supply of clean and certified seed potatoes • Poor Infrastructure - handling of seeds, storage facility, from production to the market	• Trade in seed potato is largely internal • Shortage of improved, clean and certified seed potatoes • Inconsistent supply of clean and certified seed potatoes • Wide presence of uncertified seeds • Poor Infrastructure - handling of seeds, storage facility, from production to the market	• Seed is mainly imported from and sold to farmers • Inconsistent supply of clean and certified seed potatoes	• Internal trade in low and erratic • Insufficient quantities of various categories of EGS to meet the current demand • Infrastructure for product and post-harvest handling including storage in inadequate • Very few large scale seed producers • Few famers using certified potato seed is low
Regional seed trade	• No trade in seed potato • Harmonized policy framework to COMESA and EAC Protocols. • Burundi is yet to realize the opportunities provided by the EAC common market	• Cross border trade is minimal • Harmonized policy framework to COMESA and EAC Protocols. • Yet to realize the opportunities provided by the EAC common market	• Main exporting country in the region. • Harmonized policy framework to COMESA and EAC Protocols. • Yet to realize the opportunities provided by the EAC common market	• Cross border trade is minimal • Customs tariff on seed potato importing/ exporting among the partner states. • Experiencing cross border trade barriers. • Yet to realize the opportunities provided by the EAC common market.	• No trade in seed potato • The process of harmonizing policy framework to COMESA and EAC Protocols on going • Yet to realize the opportunities provided by the EAC common market.	• Cross border trade is minimal due to varying seed trade regulations in EAC partner states • Harmonized policy framework to COMESA and EAC Protocols • Uganda is yet to realize the opportunities provided by the EAC common market

3.5 SWOT Analysis

In order to identify EAC Region's strengths and weaknesses in relation to seed potato production and trade, a SWOT analysis was carried out (Table 11). The existing strengths are those that allow the Region to take advantage of the available opportunities while the weaknesses prevent her from taking advantage of the available opportunities and do not protect it from external threats. Avaliable and emerging opportunities are likely to have a significant positive impact on seed potato production and trade and the emerging threats a negative impact on the EAC seed potato value chain. This analysis identified Regions comparative and competitive position for seed potato production.

Table 11: SWOT Analysis of Regional Seed Potato Value Chain

Strengths	Weaknesses	Opportunities	Threats
• Suitable agro-ecological zones and adequate agronomic capacity for improved production and productivity. • Availability of regulatory institutions with well-formulated seed potato policies and inspection protocols for quality control. • Government and development partners support to the potato sub sector through subsidy schemes, credit facilities and linkage to seed potato markets. • Increasing number of farmers willing to grow ware potato due to rise in its demand from the growing population and changing dietary preferences. • Availability of new technologies such as improved varieties suited for various agro-ecological conditions to speed up turnaround of planting material production. • • Available of critical resources such as research personnel, land and infrastructure to support SPVC. • Functional and effective platforms for linkages and collaboration	• Few large scale private sector in seed multiplication for scaling up the production. • Insufficient resources and capacity among stakeholders (particularly small scale farmers) to engage in seed production. • Low awareness of superior varieties/ clones and inadequate quantities of early generation seed. • Unreliable seed and ware potato market. • Poor infrastructure (e.g. roads, irrigation, green/screen houses, storage) to support seed production. • Low investment in variety development, and GAPs research • Low investments in infrastructure and human capacity for seed quality inspection and control. • Weak implementation of regulations for seed potato inspection and certification. • Lack of a framework for collaboration between the institutions in charge of seed control and certification in the EAC partner states.	• Increase in demand for potato in the East African market due to population growth, urbanization and changing dietary preferences • Existing high demand for clean seed potato • Availability of technical capacities for seed quality control both in the field and laboratories. • Increase in number of smallholder potato producers and enthusiasm of farmers to work in cooperatives. • Governments and private sectors' willingness to support the seed potato sector. • Introduction of high performance trade-demanded varieties that allow the increase of seed potato production in sufficient quantity and quality on all production lines. • Presence of national and regional policy & regulatory frameworks to facilitate trade • Up-grading the seed value chain (introduction of cold storage, mechanization, APC technology, breeding for processing varieties, formation producer organizations and cooperatives) • Use of digital platforms to access potato seed markets for ware potato.	• Climate related risks to successful potato production such as unpredictable weather patterns • Emerging invasive/ quarantine pests and diseases. • Slow pace of regional harmonizing of regulations to facilitate cross-border trade in ware and seed potato. • Low level of early generation seed of high yielding varieties due to limited local research for new varieties.

3.6 Sub-sector challenges and limitations

3.6.1 Production related challenges

Low farmer investment in production inputs

- Majority of the growers are subsistence farmers who use low or no inputs and as a result attain low yields and profitability of potato growing. In spite of the favorable prices of certified seed potatoes most small-scale growers still prefer cheap sources from home-saved seed or the local markets. Other constraints in accessing quality seeds include: seed unavailable, lack of knowledge, distance to source quality seed and poor roads. Most farmers are unaware of the need of various types of quality seed and benefits accruing from use of these seeds.

Low capacity of institutions producing EGS

- Lack of certified seed is still the main bottleneck in the potato sector despite the efforts to avert the situation. Despite the interventions, capacity of public and private seed producing firms is low, attributed to inadequate infrastructure, finance resources and personnel, low farmer uptake of certified seed as a result of preference for seed from the informal system that less costly, and they do not have to buy seed each planting season. As a result, seed multipliers are unable to estimate the demand for any season Since the purchasing power of the many small-scale farmers is limited the price of certified seed is a critical issue. Too high a price will be prohibitive for large-scale adoption of use of certified seed while too low a price will not attract sufficient seed growers to specialize in seed production and produce adequate quantities of certified seed.

High level of investment requirements for seed potato production

- Quality seed potato production require adoption of the best agronomic practices that is often capital intensive, requiring investments in infrastructure (e.g. irrigation, mechanization, cold storage, transport vans) and human capital (technical knowhow) as well as supportive financing for large scale production using modern technologies. Unfortunately, most producers lack the requisite infrastructure and capacity for seed potato product and as a result there is chronic shortages in seed supply.

Pests and disease pressure

- The potato growing conditions tend to have more challenges of pest and diseases. Management of the potato cyst nematode (PCN) and bacterial wilt disease remain a challenge and abound to affect certified seed production and trade. They are quarantine in nature and a major concern for partner state in term movement of seed.

Lack of irrigation facilities

- The quality of seed potatoes depends on the implementation of the best agronomic practices and the growing environment. To meet the seed potato demand, seed producers especially for the early generation materials should be able to produce throughout the year. With the current climatic changes, moisture stress is commonly experienced in all potato growing areas. Reliance on rain fed agriculture for seed potato production is unsustainable. Unfortunately, most seed producers do not have irrigation facilities for seed potato production.

3.6.2 Post-harvest management related challenges

Inadequate seed potato storage facilities

- Due to poor post-harvest practices, losses of up to 20% occur over a two-months storage period. Generally, seed tubers are stored in houses, in piles on the ground in sheds or often stored in pits lined with dry leaves and covered with straw, where they are likely to sprout prior to being replanted and conditions are conducive for development of pathogens. A few seed multipliers store seed tubers in diffused light stores (DLS) at ambient temperature. Tubers are placed in trays or on racks and arranged in layers in 'shady, well aerated rustic stores'. Even though this type of store provides excellent conditions for seed tubers, it is not widely used.

Poor logistical infrastructure

- Inadequate infrastructures including collection centers, cold storage chains, transport systems, and equipment/materials. These inadequacy affects the entire supply chain, and influence pricing of seed and ware potato significantly.

3.6.3 Challenges related to marketing

Poor market linkages

- The seed potato marketing is relatively unstructured characterized by the existence of relatively few formal marketing and distribution channels. Production is mainly rain fed and therefore supply is seasonal and inconsistent making it a challenge for farmers to enter into formal binding formal contracts The market for seed potato is dependent on the market for ware potato, and when farmers experience uncompetitive and unreliable markets for their ware potato, they hesitate to invest in seed potato of improved varieties.

Weak market information systems

- The unavailability of a credible information systems has hindered the efficient marketing of seed potato. Seed potato growers are unable to plan effectively to take advantage supply deficits. The asymmetry in information affects supply as growers are not informed about areas in need seed potato products. On the other hands farmers do not have information on sources of certified seed potato.

3.6.4 Challenges related to policies, regulatory and institutional frameworks

Lack of a framework and weak cross-border cooperation in the EAC Partner States to promote seed potato trade

- Inadequate personnel, infrastructure and resources to undertake mandatory inspection procedure of consignments for issuance of phytosanitary certificates in a timely manner, which leads to delays in the analysis of samples and inspection and releases of consignments. This coupled with the poor produce holding infrastructure, expensive transportation charges and slow goods clearance protocols.at the border points result in the deterioration of potato seed while on transit. EAC need to address the cross border barriers to allow for efficient movement of potato seeds.

Capacity of Regulating Agencies

- The competencies of some countries to effectively carry out pest surveillance and disease monitoring/testing on potato, with the implication being that information shared would not be deemed trustworthy

Lack of clarity and effectiveness of trade and certification procedures between EAC countries

- The seed importers/exporters are concerned about the lack of transparency around trade requirements and inefficiencies in trade regulations and procedure implementation. Without consistent and reliable implementation, they see little potential for a positive impact on business.

3.6.5 Other sub-sector challenges

Inadequate transportation facilities

- Considering the bulky nature of potatoes, the poor state of these facilities affect the quality and price of both ware and seed potato. This is for both domestic movement and more so cross border regional trade.

Low farmer awareness on the value of using certified seeds and poor agricultural practices

- It is estimated that only about 5% of farmers are using seed potatoes from the formal seed system. This means 95% of farmers are supported by the informal seed sector, indicating that most are not aware of the importance of using quality seeds of improved potato varieties. In addition to use of poor seed majority of farmers lack the knowledge and skills in good agronomic practices hence low productivity and yields.

Climate Variability and Change

- With a near complete reliance on rain fed production, rainfall patterns greatly affect potato yields. While existing models do not suggest a serious threat to farmers in EAC producers from climate change (Waithaka et al., 2013), it is important to note the potential implications of such shifts if they do occur. There are likely to be two principle effects from climate change: first, there is likely to be a geographic shift in potato production from increasing rainfall in areas that are currently arid or semi-arid, which would allow potatoes to thrive in areas otherwise too arid to grow potato. Second, average temperature is projected to increase making traditional highland production too warm for existing, heat intolerant, varieties.
- The greatest threat from climate change is the likelihood that growing seasons in some producing areas will shorten due to depressed and unpredictable rainfall. In the short term, interventions targeting water harvesting and small-scale irrigation schemes can mitigate these effects. In the longer term, introduction of heat tolerant varieties will be essential.

4.0 Strategic Direction

4.1 Strategic Vision and Mission of the EAC Gender Inclusive Regional Seed Potato Strategy

4.1.1 The Strategic Vision

"To be a regionally competitive seed potato industry, sustainably contributing to the socio-economic development and transformation of the EAC, through increased national and regional seed potato trade"

4.1.2 The Mission Statement

"To increase investment along the EAC seed potato value chain, capable of spurring growth of the seed potato industry from the current 3% to 10% by 2032"

4.1.3 Strategic Objectives

The strategy is guided by the following goal and objectives:
The overall goal of this strategy is to have a ***"competitive and sustainable seed potato sector in EAC to propel increased potato production, consumption and trade and contribute to wealth creation and development"***

Objective 1: To enhance development and access to preferred varieties, quality seed potato production and distribution in the EAC.
Objective 2: To strengthen linkages and inclusive collaboration among actors in seed potato value chain and enhance regional networks for information and knowledge sharing in the EAC.
Objective 3: To promote gender inclusion in domestic and intra-regional trade in seed and ware potato through harmonization of seed certification protocols and standards.
Objective 4: To support sustainable programs along the seed potato value chain which embrace innovative initiatives such as climate smart agriculture in response to future market demand.

4.1.4 Expected Development Outcomes

This strategy is grounded on the belief that (i) deliberate initiatives of governments of the EAC partner states; (ii) support from development partners and; (iii) a business and regulatory environment conducive to private sector investment are three essential triggers to effective transformation leading to better health, wealth creation and development aspiration for citizens of the EAC partner states. This transformation is envisaged to target key systems, especially seed production, markets, and trade, to serve every Partner state with equality, inclusivity, accountability, and efficiency.

Outcome 1:
1.1: Development, distribution and accessibility to preferred quality seed potato varieties enhanced

Outcome 2:
2.1: Linkages and gender inclusive collaboration among actors in seed potato value chain actors promoted
2.2: Regional networks for information and knowledge sharing in the EAC strengthened

Outcome 3
3.1: Domestic and intra-regional trade in seed and ware potato promoted
3.2: Seed potato certification protocols and standards harmonized

Outcome 4:
3.1: Sustainable programs and innovative initiatives along the seed potato value chain responding current and future market demands and requirements supported

4.2 Principles for programming

The focused, efficient, as well as result-oriented implementation of this Seed Potato Strategy and Action Plan will be guided by principles, as outlined below:

i. Stakeholder ownership and participation – with EAC leadership – as Vision Custodians – championing strategic planning and strategy implementation.
ii. Multi-stakeholder approach and multi-level institutional framework-driven.
iii. Collective responsibility, commitment and collaborative action amongst stakeholder institutions/entities – as partners.
iv. A participatory, consultative and iterative approach to strategic planning and strategy implementation.
v. Meticulously and rationally planned, targeted, focused and result-oriented strategic interventions.
vi. Continuous, as well as rigorous Monitoring and Evaluation – as the basis for evidence-based policy and decision-making.
vii. Resource use efficiency, accountability and transparency, cost-effectiveness and sustainability – at all levels.

4.3 Thematic Focus Areas

The strategy is anchored on four main pillars which form the thematic areas namely:

(i) Enhance access to preferred varieties, quality seed potato production and distribution
(ii) Strengthening linkages for coordination in seed potato value chain in the EAC
(iii) Promote domestic and intra-regional trade in seed and ware potato
(iv) Support Sustainable Programs along the Seed Potato Value Chain

The strategic interventions are organized in four thematic areas to address the challenges and issues identified (Tables 12-14).

4.3.1 Thematic Focus Area 1: Promoting Seed Potato Production and distribution in the EAC states

The interplay of biotic and socio-economic challenges underpins the underperformance of the potato value chain in the EAC partner states. Despite expansion of area under potato production, there exists a supply-demand gap on some of potato varieties demanded by the market. The potatoes availed by farmers are more often varieties do not match requirements by the processors. Still, production is largely supported by informal seed supply and compromised by challenges of access to inputs.

Table 12: Challenges in seed potato production and distribution, key strategic intervention and expected results

Challenge/Problem	Key Strategic Interventions	Expected Result
Low farmer investment in production inputs	Increase access to quality inputs	A subsidy program for breeder seed and fertilizer established in each partner state targeting seed potato farmers
Shortage of Early Generation (EGS) and certified seed of preferred varieties	Increase investment in infrastructure for early generation seed potato production	National stakeholders in each partner state funded to establish at least one tissue culture laboratory and mini-tuber production facility
Inadequate seed potato storage facilities	Public private partnerships for investment in the seed value chain with enhanced Match establishment of large capacity cold store to large scale basic and certified seed potato production; establish collection and warehousing centres for ware potatoes	Number of units of cold stores installed Number of collection centres and warehouses established
Climate Variability and Change	Framework for climate related risks management and transfer formulated and implemented	Increase in number of farmers accessing innovative solutions e.g. crop insurance policies

Theory of Change
Through actions that ensure efficient introduction of varieties, consumer demand for better varieties can be met in the immediate term. Concurrently, breeding programs in national research organizations need to be supported to synchronize breeding objectives to be in consumer preferences. With the variety issue thus resolved, a balanced mix of interventions targeting large investors (with irrigation and mechanized farming) in seed potato and ongoing public initiatives targeting small and medium scale seed enterprises is recommended in order to rapidly increase acreage under seed potato production.

4.3.2 Thematic Focus Area 2: Strengthening linkages for coordination in seed potato value chain actors in the EAC

There are many similarities in production and quality regulation process among EAC partner states. For example, all work through official national seed certification institutions that are responsible for quality control for seed potato. Whereas partner states of the EAC face similar challenges in the potato value, the institutional arrangements in place to support the sector vary. Partner states have advantages in aspect that has received greater government attention and support. Interventions to strengthen linkages and foster collaborations need to consider where these strengths lie to provide learning opportunities and sharing of experiences.

Table 13: Challenges in establishment of linkages among key actors in the EAC, and coordination in seed potato value chain, key strategic intervention and expected results

Challenge/Problem	Key strategic Interventions	Expected Result
Weak capacity and linkages of institutions/ value chain actors	Supportive infrastructure and platforms for coordination of seed potato production, storage and distribution available in partner states Quality infrastructure to deepen regional harmonization of seed certification, sanitary and phytosanitary protocols established Infrastructure for knowledge and information sharing and access for actors available Support formation and strengthening of farmer associations through formulation and implementation of inclusion and capacity building grants	National and regional infrastructure for knowledge and information sharing and access to financial services for actors available

Theory of Change
Creating partnerships and collaborative efforts among the value chain actors is key to the success of the seed potato value chain. The linkages and partnerships provide the opportunities to leverage resources (infrastructure, finance and personnel) for quicker pace of transformation in the sector. Stakeholders and partners will put in place structures and mechanisms for efficient functioning and coordination and flow of information in support of the value chain.

4.3.3 Thematic Focus Area 3: Promotion of intra-regional trade in seed potato through harmonization of trade standards

Partner states of the EAC have committed themselves to (i) the Customs Union that that established free trade on goods and services between the EAC partner countries and agreed on a common external tariff (CET) on imports from countries outside the EAC zone and; (ii) the EAC common market protocol in which Partner States agreed to maintain a liberal stance towards four Freedoms of Movement (goods, persons/labor/workers, capital and services) for all the factors of production and two rights (establishment and residence) between themselves. These two instruments are critical for the EAC to create and utilize collaborative platforms that increase employment and expand access to capital and skills to accelerate access to opportunities for young men and young women through innovation and technologies.

Table 14: Challenges in promoting of intra-regional trade in seed potato, key strategic intervention and expected results

Challenge/Problem	Key Strategic Intervention	Expected Result
Lack of a framework and weak cross-border cooperation in the EAC Partner States to promote seed potato trade	Establish bilateral and regional platforms for regulatory dialogues Remove of Non-tariff barriers to trade Develop common import requirements/condition for seed potato trade	New markets negotiated and opened Harmonized regulatory requirements

Theory of Change
The border posts pre-existed the establishment of the common market. In their new role as critical installations to support trade, they require additional appropriate infrastructure for efficient handling and processing of consignments. In addition, development, adoption and implementation of regulatory and policy instruments and procedures is essential towards actualizing the benefits of regional and international agreements for market.

4.4 Strategic Results and Actions

Strategic Objective 1: To enhance development and access to preferred varieties, quality seed potato production and distribution in the EAC

Strategic Result SR1: Variety development, release/introduction, registration, and protection

Strategic Action 1.1: Increase investment in variety development and multiplication
Strategic Action 1.2: Strengthen and harmonize variety registration, protection and release
Strategic Action 1.3: Increase investment in infrastructure and technology for early generation seed potato production
Strategic Action 1.4 Harmonize certification processes/schemes among EAC partner states

Strategic Result SR2: Dissemination and promotion of potato varieties harmonized among partner states

Strategic Action 2.1: Develop and domesticate EAC guidelines for dissemination of potato varieties within partner states
Strategic Action 2.2: Create awareness and promote adoption of new potato varieties by farmers through catalogues, demonstrations and farmer-processor engagements

Strategic Result SR3: Enhanced seed potato production, storage and distribution available in partner states

Strategic Action 3.1: Increase access to quality inputs, and suitable varieties, procurement of government license to grow seed
Strategic Action 3.2: Streamline seed potato producer- breeder engagements and MoUs
Strategic Action 3.3: Enhance capacity of national authorities for seed potato quality assurance
Strategic Action 3.4: Develop and implement mechanisms for mechanization of seed potato operations, and processing
Strategic Action 3.5: Increase volume of EGS and certified seed potato production
Strategic Action 3.6: Capacity building of seed producers on good agricultural practices
Strategic Action 3.7: Improve seed potato processing, storage and warehousing
Strategic Action 3.8: Avail affordable credit facilities to seed potato producers
Strategic Action 3.9: Establishment of regional centres of excellence for capacity building of seed potato quality inspection personnel

Strategic Objective 2: To strengthen linkages and gender inclusive collaboration among actors in potato value chain and enhance regional networks for information and knowledge sharing in the EAC

Strategic Result SR 4: Infrastructure and mechanisms for knowledge and information sharing and access for actors available

Strategic Action 4:1: Strengthen national and regional ICT platforms
Strategic Action 4.2: Develop/strengthen and digitize marketing through ICT platforms
Strategic Action 4.3: Develop data collection and dissemination frameworks and guidelines on seed potato in the region

Strategic Result SR 5: Frameworks for capacity building for actors in the potato value chain to enhance inclusion established

Strategic Action 5.1: Increase support to partner states for advocacy strategies
Strategic Action 5.2: Development of centers of excellence/incubators for enterprise development and job creation
Strategic Action 5.3: Establish and strengthen national and regional potato/seed potato platforms for stakeholders' engagements
Strategic Action 5.4: Establish regional mechanisms for collaboration in research and academia to enhance breeding
Strategic Action 5.5: Establish bilateral and regional platforms for policy and regulatory dialogues
Strategic Action 5.6: Support formation and strengthening of farmer Associations
Strategic Action 5.7: Mainstream gender participation, reach and empowerment in the potato value chain activities

Strategic Result SR 6: Public private partnerships for investment in the seed value chain enhanced

Strategic Action 6:1: Promote gender inclusive investment in the seed potato value chain
Strategic Action 6.2: Strengthen partnerships through trade agreements and business to business (b2b) meetings facilitation
Strategic Action 6.3: Mobilize and support private sector to play a vibrant role in seed potato investment activities

Objective 3: To promote domestic and intra-regional trade in seed and ware potato

Strategic Result SR 7: Domestication and implementation of EAC sanitary and phytosanitary protocol supported

Strategic Action 7.1:	Domesticate EAC SPS protocol
Strategic Action 7.2:	Review and Implement EAC Seed Potato Standards
Strategic Action 7.3:	Accreditation of certification/audit bodies and testing Laboratories
Strategic Action 7.4:	Establish a regional mechanism for setting out guidelines for reciprocity and mutual recognition of certification outcomes

Strategic Result SR 8: Cross-border trade for seed and ware potato enhanced among the EAC partner states

Strategic Action 8.1:	Pilot the initiatives to roll out seed and ware potato trade
Strategic Action 8.2:	Implement mechanisms to address Non-tariff barriers to potato and seed potato trade

Strategic Result SR9: Capacity of Seed Potato actors at strategic points of seed and ware potato strengthened

Strategic Action 9.1:	Strengthen capacity of NPPOs for inspection operations at one-stop border posts through Pest Risk Analysis PRAs) and Standard Operating Procedures (SOPs)
Strategic Action 9.2:	Harmonize EAC import requirement/ conditions for seed and ware potato
Strategic Action 9.3:	Establish a seed potato infrastructure at strategic border points and at critical points
Strategic Action 9.4:	Establish testing laboratory infrastructure at strategic border points for verification/testing of seed potato

Strategic Result SR10: Domestication and implementation of potato seed international and regional agreements enhanced

Strategic Action 10.1:	Enhance benchmarking and domesticating international and regional agreements
Strategic Action 10.2:	Strengthen partnerships through trade agreements and business to business meetings facilitation
Strategic Action 10.3:	Harmonize policies and laws to improve seed potato trade

Strategic Objective 4: To support sustainable programs along the seed potato value chain which embrace innovative initiatives such as climate smart agriculture in response to future market demand

Strategic Result SR11: Resilience to inclusive climate related risks in seed potato through risk mitigation and transfer supported

Strategic Action 11.1:	Promote sustainable breeding and germplasm conservation
Strategic Action 11.2:	Promote use of appropriate gender inclusive climate smart agricultural technologies for seed potato
Strategic Action 11.3:	Promote uptake of crop insurance policies
Strategic Action 11.4:	Promote adoption of environmentally friendly infrastructural technologies

Strategic Result SR12: Investment in sustainable flagship programmes increased

Strategic Action 12.1:	Harmonize and implement traceability system
Strategic Action 12.2:	Support investment in continuous needs assessment and capacity building in seed potato activities

Strategic Result SR13: Co-ordination and Administration of the Strategy established

Strategic Action 13.1:	Support the approval for the Gender Inclusive Seed Potato Strategy and Action Plan
Strategic Action 13.2:	Support securing of financial and human resource for the implementation of the Gender Inclusive Seed Potato Strategy and Action Plan
Strategic Action 13.3:	Formulate frameworks and gender tools for stakeholder engagement
Strategic Action 13.4:	Establish and operationalize gender inclusive working groups and platforms

Strategic Result SR14: Monitoring, Evaluation and Learning

Strategic Action 14.1:	Undertake review of the implementation of the strategy
Strategic Action 14.2:	Monitor implementation of the strategy through the JSR Mechanism
Strategic Action 14.3:	Build capacity and create awareness

5.0 Implementation of the Strategy

5.1 Institutional Arrangements

The implementation of the EAC Seed Potato Strategy and Action Plan 2022-32 will require a multi-sectoral approach which depends a great deal on the EAC to leverage on the existing and new partnerships with other regional institutions to guarantee success.

5.2 Oversight of the Strategy

Oversight at the EAC level provided by the Council of Ministers will be necessary for harmonious coordination of engagement at different levels including at the community level, partner state level, development partners, ministries and departments and agencies (MDAs) of national and local governments/authorities of Partner States, private sector umbrella organizations and civil society. The council of ministers will also set and provide policy guidance and direction; follow-up on decisions of the Council of Ministers; make and issue regulations critical to successful implementation of this strategy.

5.3 Technical Implementation

It is proposed that there be established an EAC Regional Working Group to be the technical arm of the Council of ministers and to act a mechanism for national and regional linkages and alignment to Seed Potato Strategy. The composition of the Working Groups at the regional and national departments will reflect equity in gender representation and participation of youth and civil society organizations (CSO). The terms of reference for the Working Group be developed by the EAC Secretariat.
The EAC through the Department of Agriculture and Food Security in the Directorate of Productive Sectors will facilitate and coordinate implementation of activities and programs envisaged under the EAC Seed Potato Strategy and Action Plan.

5.4 The Role of Partner States

The Partner States through the ministries responsible for agriculture will play a lead role implementing the Seed Potato Strategy. Together with development partners and other stakeholders, Ministries, Departments and Agencies (MDAs) of Partner States are expected to initiate, implement and monitor implementation of the Seed Potato Strategy and to:

(i) ensure an enabling environment to co-ordinate and facilitate all sector activities;
(ii) co-ordinate Seed Potato Value Chain with other EAC Partner States and the EAC Secretariat and play a catalytic role with regard to domestic and foreign investment inflows;
(iii) coordinate and synergize Seed Potato and Potato value chain interventions between sub-national levels of government;
(iv) undertake periodic assessments of the performance the Seed Potato and Potato as the basis for monitoring progress and fostering learning at sub-national, national and regional levels.

5.5 The Role of Private Sector

EAC's will foster engagement with the private sector to leverage financial and intellectual resources and open channels to broker fair, long-term, and productive relationships between corporate shareholders and smallholders. Public-private partnerships will leverage unique capacities and resources, such as financial contributions, towards achieving many results of the Strategy.

5.6 Role of Research and Academic Institutions

Partnerships with private sector research organizations, relevant local, regional and international research and academic organizations are crucial to achieving results outlined in this Strategy. Their main roles will be generation of evidence based policy recommendations, interface with communities, stakeholders and private sector in developing best case projects and products.

5.7 Role of Regulatory Authorities

Seed quality inspection and certification authorities and other regulatory bodies in the food sector will be critical players in the implementation of this strategy.

5.8 Role of Development Partners

The success of this Strategy is dependent on EAC's ability to mobilize multilateral financial and development institutions

6.0 Monitoring, Evaluation, Knowledge and Learning

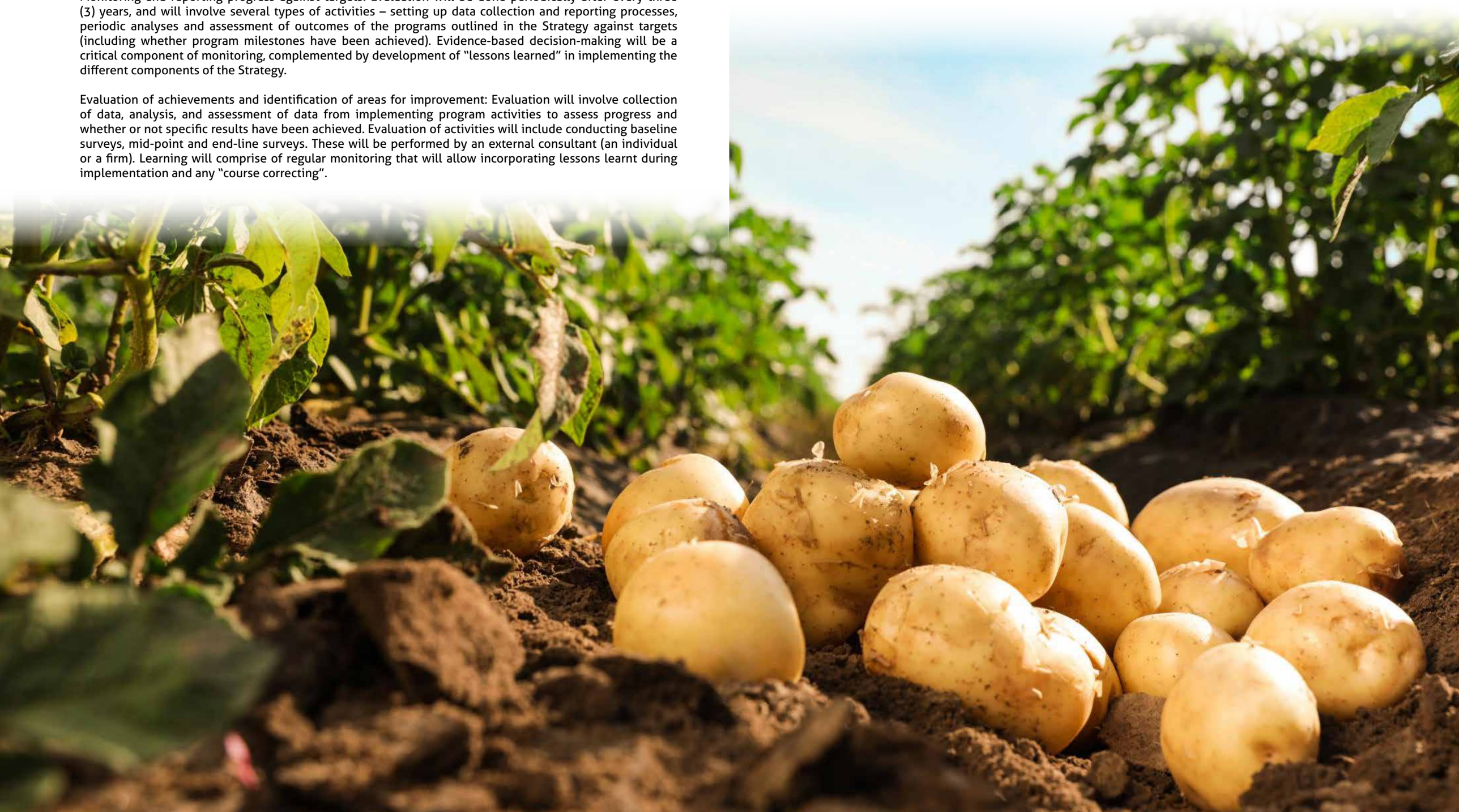
It is expected that a common M&E system will used in order to effectively monitor the implementation of the Gender Inclusive Seed Potato Strategy and Action Plan (SPSAP). The EAC Secretariat will be responsible for monitoring the implementation of the SPSAP at the community level through a Progress Review Team appointed by the EAC. Partner states will be responsible for monitoring programs that fall within their territories. EAC- SPSAP programs will be monitored and reports submitted semi-annually.

Monitoring and reporting progress against targets: Evaluation will be done periodically after every three (3) years, and will involve several types of activities – setting up data collection and reporting processes, periodic analyses and assessment of outcomes of the programs outlined in the Strategy against targets (including whether program milestones have been achieved). Evidence-based decision-making will be a critical component of monitoring, complemented by development of "lessons learned" in implementing the different components of the Strategy.

Evaluation of achievements and identification of areas for improvement: Evaluation will involve collection of data, analysis, and assessment of data from implementing program activities to assess progress and whether or not specific results have been achieved. Evaluation of activities will include conducting baseline surveys, mid-point and end-line surveys. These will be performed by an external consultant (an individual or a firm). Learning will comprise of regular monitoring that will allow incorporating lessons learnt during implementation and any "course correcting".

7.0 Action Plan and Implementation Matrix

A detailed description of key actions together with timelines for implementation and the proposed indicators to track the impact of each Strategic Intervention are presented in Annexes 1 and 2. For each action, an indicative budget together with responsible actors are also indicated.



8.0 Annexes

Annex 1: Action Plan and Budget

Annex 1a: Variety development, release/introduction, registration and protection

Thematic Priority Area 1: Enhance access to preferred varieties, quality seed potato production and distribution						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR1: Variety development, release/introduction, registration and protection	SA 1.1: Increase investment in potato breeding programs	Ministry of Agriculture; National Research Organizations; regulatory authorities	7,000			
	SA 1.2: Strengthen and harmonize variety registration, protection and release	Ministry of Agriculture; National Research Organizations; National Plant Protection Organization; EAC Secretariat; regulatory authorities	1000			
	SA 1.3: Increase investment in infrastructure and technology for early generation seed potato production	Ministry of Agriculture; National Plant Protection Organizations; EAC Secretariat, regulatory authorities	15,000			
	SA 1.4: Harmonize Certification process/scheme among EAC partner states	Ministry of Agriculture; National Plant Protection Organizations; EAC Secretariat, regulatory authorities	1,000			
	Sub-total		**24,000**			

Annex 1b: Dissemination and promotion of potato varieties harmonized among partner states

Thematic Priority Area 1: Enhance access to preferred varieties, quality seed potato production and distribution						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR2: Dissemination and promotion of potato varieties harmonized among partner states	SA 2.1: Develop and domesticate EAC guidelines for dissemination of potato varieties within partner states	Ministry of Agriculture; National Research Organizations	100			
	SA 2.2: Create awareness and promote adoption of new potato varieties by farmers through catalogues, demonstrations and farmer-processor engagements	Ministry of Agriculture; National Research Organizations; National Plant Protection Organization; Regional/Local government, Extension Service	700			
	Sub-total		**800**			

Annex 1c: Dissemination and promotion of potato varieties harmonized among partner states

Thematic Priority Area 1: Promoting Seed Potato Production and distribution in the EAC states						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR3: Enhanced seed potato production, storage and distribution	SA 3.1 Increase access to quality inputs, suitable varieties, procurement of government licenses to grow seed and ware potato	Ministry of Agriculture and development partners	350			
	SA 3.2: Streamline seed potato producer-breeder engagements and MoUs	Ministry of Agriculture, Private Sector and development partners	600			
	SA 3.3: Enhance capacity of national authorities for seed potato quality assurance	Ministry of Agriculture, National Plant Protection Organization	1000			
	SA 3.4: Develop and implement mechanisms for mechanization	Ministries of Agriculture; Private Sector	6000			
	SA 3.5: Increase volume of EGS and certified seed potato production	Ministries of Agriculture; National Research Agencies; Private Sector	40,000			
	SA 3.6 Capacity building on good agricultural practices	Ministries of Agriculture; Regional/ district authorities; development partners	6,000			
	SA 3.7 Improve seed processing, storage, warehousing	Ministries of Agriculture; Local governments/ authorities	3,600			
	SA 3.8: Avail credit facilities to value chain actors	Ministries of Agriculture; Ministries of Finance; Finance Institutions	60,000			
	SA 3.9: Establish regional centres of excellence for capacity building of seed potato quality inspection personnel	Ministries of Agriculture; National Plant Protection Organization; regulatory authorities	10,000			
	Sub-Total		**147,550**			

Annex 1d: Infrastructure for knowledge and information sharing

Thematic Focus Area 2: Strengthening linkages for coordination in seed potato value chain in the EAC						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR4: Infrastructure for knowledge and information sharing	SA 4.1: Establish national and regional ICT platform to provide consolidated information on potato value to support evidence based planning and decision	Ministries of Agriculture; EAC Secretariat	10,000			
	SA 4.2: Develop/ strengthen and digitize marketing through ICT	Ministries of Agriculture	300			
	SA 4.3: Review and develop data collection and dissemination guidelines on seed potato in the region	Ministries of Agriculture	100			
	Sub-Total		**10,400**			

Annex 1e: Frameworks for capacity building for actors in the regional seed potato sector to enhance inclusion

Thematic Focus Area 2: Strengthening linkages for coordination in seed potato value chain in the EAC						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR5: Frameworks for capacity building for actors in the regional seed potato sector to enhance inclusion	SA 5.1: Increase support to partner states for advocacy strategies	EAC; development partners	300			
	SA 5.2: Development of centers of excellence/incubators for enterprise development and job creation	Ministries of Agriculture; National Plant Protection Organizations; Development Partners	600			
	SA 5.3: Establish and strengthen national and regional potato/ seed potato platforms	EAC, development partners; national platforms	1,200			
	SA 5.4: Establish regional mechanisms for collaboration in research and academia to enhance breeding	International Research Organizations; Regional Research Networks; National Research Agencies; Donor Community	500			
	SA 5.5: Establish bilateral and regional platforms for regulatory dialogues	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	300			
	SA 4.6: Support formation and strengthening of farmer associations	Ministries of Agriculture in the partner states	360			
	SA 5.7 Mainstreaming gender participation in the potato value chain activities	Ministries of Agriculture in partner states	1,800			
	Sub-total		**5,060**			

Annex 1f: Public private partnerships for investment in the seed value chain with enhanced

Thematic Focus Area 2: Strengthening linkages for coordination in seed potato value chain in the EAC						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR6: Public private partnerships for investment in the seed value chain with enhanced	SA 6.1: Advocate for Increased investment in the seed potato value chain	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	300			
	SA 6.2: Strengthen partnerships through trade agreements and business to business (b2b) meetings facilitation	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	300			
	SA 6.3: Mobilize and support private sector to play a vibrant role in seed potato investment activities	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	7,000			
	Sub-Total		**7,600**			

Annex 1g: Implementation of regional sanitary and phytosanitary protocols

Thematic Priority Area 3: Promote domestic and intra-regional trade in seed and ware potato						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR7: Implementation of regional sanitary and phytosanitary protocols	SA 7.1: Support domestication of SPS protocols	Ministries of Agriculture; National Plant Protection Organizations	60			
	SA 7.2: Review and implement EAC Seed Potato Standards	Ministries of Agriculture; National Plant Protection Organizations	100			
	SA 7.3: Accredit certification/audit bodies, and testing laboratories	Ministries of Agriculture; National Plant Protection Organizations	100			
	SA 7.4: Establish a regional mechanism for setting out guidelines for reciprocity/mutual recognition of certification outcomes	Ministries of Agriculture; National Plant Protection Organizations	60			
	Sub-Total		**320**			

Annex 1h: Cross-border trade for seed and ware potato enhanced among partner states

Thematic Focus Area 3: Promotion of domestic and intra-regional trade in seed potato through harmonization of trade standards						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR8: Cross-border trade for seed and ware potato enhanced among partner states	SA 8.1: Pilot the initiatives to roll out seed potato trade	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	60			
	SA 8.2: Remove non-tariff barriers to trade	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	80			
	Sub-total		**140**			

Annex 1i: One-stop border posts to ensure efficiency in documentation, movement and trade of seed potato

Thematic Focus Area 3: Promotion of domestic and intra-regional trade in seed potato and ware potato						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR9: One-stop border posts to ensure efficiency in documentation, movement and trade of seed potato	SA 9.1: Strengthen and streamline inspection operations at one-stop border posts through PRAs and SOPs	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	300			
	SA 9.2: Harmonize import requirements/condition for seed and ware potato	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	100			
	SA 9.3: Establish seed potato infrastructure at strategic points along the value chain for handling of seed potato	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	36,000			
	SA 9.4: Establish and operate testing laboratory infrastructure at strategic border points for testing of seed potato	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	6,000			
	Sub-Total		**42,400**			

Annex 1j: Domestication and implementation of international and regional agreements

Thematic Focus Area 3: Promotion of intra-regional trade in seed potato through harmonization of trade standards						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR10: Domestication and implementation of international and regional agreements adopted	SA 10.1: Benchmarking and domesticating international and regional agreements	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	1,000			
	SA 10.2: Harmonize policies and laws to improve seed potato trade	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	6,000			
	Sub-total		**10,000**			

Annex 1k: Build resilience to climate related risks in seed potato through risk mitigation and transfer

Thematic Focus Area 4: support sustainable programs along the seed potato value chain						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR11: Build resilience to climate related risks in seed potato through risk mitigation and transfer	SA 11.1: Promote sustainable breeding and germplasm	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	700			
	SA 11.2: Promote use of appropriate climate smart agricultural technologies for seed potato	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	3,000			
	SA 11.3: Promote uptake of crop insurance policies	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	1000			
	SA 11.4: Promote adoption of environmentally friendly infrastructural technologies	Ministries of Agriculture, Environment, East African Affairs of Partner States; EAC; private sector	3,000			
	Sub-total		**7,700**			

Annex 1l: Investment in sustainable programs increased

Thematic Focus Area 4: support sustainable programs along the seed potato value chain						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
SR12: Investment in sustainable Programs increased	SA 12.1: Harmonize and implement a traceability system	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	1,000			
	SA 12.2: Support investment in continuous needs assessment and capacity building in seed potato activities	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector	700			
	Sub-total		**1,700**			

Annex 1m: Coordination and Administration of the strategy

Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
Preparatory Actions by the EAC Secretariat						
Preparatory Actions	SA 13.1: Support approval for the Gender Inclusive Seed Potato Strategy and Action Plan	EAC Secretariat	0			
	SA 13. 2: Support Securing Financial and human resource for the implementation of the Gender Inclusive Seed Potato Strategy and Action Plan	EAC Secretariat	24			
	SA 13. 3: Formulate frameworks and gender tools for stakeholder engagement	EAC Secretariat	200			
	SA 13. 4: Establish and operationalize of working groups and platforms	EAC Secretariat	2,000			
	Sub-Total		**2,224**			

Annex 1n: Monitoring, Evaluation and Learning Enhanced

Thematic Area: Monitoring, Evaluation and Learning						
Strategic Result Area	**Strategic Action**	**Responsibility**	**Budget (USD) '000**	**Short Tem**	**Medium Term**	**Long Term**
Monitoring, Evaluation and Learning enhanced	SA14.1: Undertake review of the implementation of the strategy	EAC Secretariat	500			
	SA14.2: Monitor implementation of the strategy through the JSR Mechanism	Ministries of EACA; EAC Secretariat	1,500			
	SA14.3: Build capacity and create awareness	Ministries of EACA; EAC Secretariat	4,000			
	Sub-total		**6,000**			
Total (USD)			**262,864**			

Annex 2: Gender Inclusive Seed Potato Strategy Implementation Matrix

Annex 2a: SR1-Variety development, release/introduction, registration, and protection

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
1. Enhance access to preferred varieties, quality seed potato production and distribution	SR1: Variety development, release/introduction, registration, and protection	SA 1.1: Increase investment in potato breeding programs	Inadequate budgetary allocation to potato breeding programs by partner state governments	Increase funding to breeding program by 30% by 2032	Increase in funds Number of varieties bred; number of active breeders	Reports on varieties released, registered	National governments will make budgetary commitments and allocate funds	3-10	Ministry of Agriculture; National Research Organizations
		SA 1.2: Strengthen and harmonize variety registration, protection and release	New varieties take long to introduce due to lack of data sharing mechanisms	7 Plant variety protection offices established/ strengthened in in the EAC (atleast 1 per Partner State) to handle variety introductions	No. of offices established plant protection offices established in the EAC; No. of varieties introduced	Reports on variety introductions; Reports on offices established/ strengthened in the EAC	Reluctance by a partner states to sign onto international conventions governing protection of new varieties likely	3-5	Ministry of Agriculture; National Plant Protection Organizations
		SA 1.3: Increase investment in infrastructure for early generation seed potato production	Low investment in infrastructure for early generation seed potato propagation	7 new laboratory and mini-tuber production facility tissue culture (atleast one in each partner state);	No. of new tissue culture laboratories; aeroponic/ hydroponic facilities installed; quantities (tones) of early generation seed potato produced; No of seed storage facilities	National Reports on early generation seed potato production	There exist adequate technical capacity in national research institutions to undertake the function	3-5	Ministries of Agriculture; National Agricultural Research Agencies
		SA 1.4: Harmonize Certification process/ scheme among EAC partner states	Whereas EAC partner states have national seed quality regulatory bodies, they follow different seed potato certification processes/ schemes	A harmonized seed potato certification scheme in the EAC;	A guideline on seed potato certification; No. of Partner States adopting of the a harmonized regional certification	National/ regional report on harmonization of seed potato certification scheme	Partner states have sufficiently skilled human resource		Ministry of Agriculture; National Plant Protection Organizations

Annex 2b: SR 2- Dissemination and promotion of potato varieties harmonized among partner states

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
2. Enhance access to preferred varieties, quality seed potato production and distribution	SR 2: Dissemination and promotion of potato varieties harmonized among partner states	SA 2.1: Develop and domesticate EAC guidelines for dissemination of potato varieties within partner states	Inadequate promotion of newly registered varieties affects all partner state in the EAC resulting in fewer varieties being cultivated	A guideline for dissemination of potato varieties in the EAC	A dissemination guideline adopted by Partner States	National Reports on development and validation of dissemination guidelines	There are functional mechanism for dissemination of newly released varieties	1-2	Ministries of Agriculture; EAC Secretariat
		SA 2.2: Create awareness and promote adoption of new varieties by farmers through catalogues, demonstrations and farmer-processor engagement	Actors in the potato value chain lack timely access to information on newly released potato varieties	50% of actors in the EAC have access to information on newly released varieties through digital platforms, print media, on-farm demos	No. awareness creation events; No. catalogue edition published and number distributed	Variety adoption reports accessing information on new varieties	There is positive engagement between private and public institutions on issues of varieties	1-2	Ministries of Agriculture

Annex 2c: SR3-Enhanced seed potato production, storage and distribution

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
Promoting Seed Potato Production and distribution in the EAC states	SR3: Enhanced seed potato production, storage and distribution	SA 3.1: Increase access to quality inputs, suitable varieties, procurement of government licenses to grow seed and ware potato	Input supply characterized by lack of subsidies, quality issues and high costs	Atleast one incentive program for input access established in the EAC State by 2032; 7 Partner States implementing atleast one one incentive program for input access	No. seed potato farmers benefiting from incentive program	Country Reports subsidy programs	National Governments will commit funds to operationalize input subsidy programs	3-10	Ministry of Agriculture and development partners
		SA 3.2: Streamline seed potato producer-breeder engagements and MoUs	Linkages between actors in the seed potato value chain weak in EAC; structured engagement necessary	Atleast one variety commercialization model developed and implemented in the EAC by 2032; 7 States implementing atleast 1 variety commercialization model for seed potato	No. of commercialization models implemented; No. of Partner States implementing variety commercialization models No. MoUs between breeders and seed producers negotiated and signed	National reports in guidelines on guidelines	Variety protection issues are essential for exploiting of new varieties	2-3	Ministry of Agriculture, Private Sector and development partners

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 3.3: Enhance capacity of national authorities for seed quality assurance	Although seed quality authorities exist in each partner state, they are at different in terms of staff capacity and equipment	Atleast one fully functional seed testing lab established/ equipped with appropriate equipment in each Partner State by 2032; atleast three regional capacity building programs for quality assurance personnel conducted by 2032	No. of seed quality laboratory established/ equipped; No. of personnel trained; No. equipment acquired and installed	National reports on capacity enhancement	Personnel with the appropriate qualification available in the national seed quality authorities	2-3	Ministries of Agriculture of partner states; National Plant Protection Organizations
		SA 3.4: Develop and implement mechanization options for seed potato operations, processing	There is limited mechanization of farming operations in seed potato production	At least half of acreage under seed potato in each partner state put under mechanized farming	No. of units of farm machinery; acreage under seed potato mechanized	Country reports	Availability of national mechanization policy and commitments from national governments	3-10	Ministries of Agriculture; Private Sector
		SA 3.5: Increase volume of EGS and certified seed potato production	National seed systems characterized by inadequate production of basic and certified seed potato classes	Incentivize at least 3 new institutions/ companies to produce basic/ certified seed potato on large scale in each partner state	No. of new companies/ institutions involved in basic and certified seed potato production	Country reports on seed potato production	Business environment is conducive for private investment	3-5	Ministries of Agriculture; National Research Agencies; Private Sector

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 3.6: Capacity building on good agricultural practices	Potato farming in the EAC characterized by low uptake of technologies	Atleast 75% of seed potato value chain actors in the EAC capacity build by 2032; Atleast 3 capacity building program targeting agricultural extension workers and farmers in each partner state conducted by 2032; Atleast 3 seed potato technologies adopted in each partner stated by 2032	No. of actors trained; no. of farmers trained/receiving extension services; No. of technologies adopted	Country reports	There is optimal agricultural workers to farmer ratio	2-5	Ministries of Agriculture; Regional/district authorities; development partners
		SA 2.7: Improve seed potato storage, warehousing	There is limited investment in seed potato storage; ware potato cold storage and warehousing systems	Atleast 3 large capacity cold store/ warehouse (>100MT) per Partner State installed;	No. of units of cold stores installed; No. of warehouses established	Country reports	Commitments from National government to commit and avail funds; conducive business environment for private sector investment	2-5	Ministries of Agriculture; Local governments/ authorities

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 2.8: Avail credit facilities to value chain actors	Limited access to credit facilities for seed potato related activities	50% of seed potato value chain actors in each Partner State cost/interest on credit facilities for seed and ware potato production; support establishment and operationalization of finance corporations and credit societies for farmers	No. of actors with access to low cost credit facilities;	Country reports	Supportive finance policy	2-5	Ministries of Agriculture; Ministries of Finance; Finance Institutions
		SA 2.9: Establishment of centers of excellence for capacity building quality inspection personnel	Partner states are at different levels in terms of capacity for quality inspection and testing; Centre for Phytosanitary Excellence (COPE) is hosted by KEPHIS	Atleast one Seed Quality Institution in the EAC identified as a centre of excellence and funded to run atleast three capacity building trainings for plant health inspectors from partner states by 2032	No. of trainings conduced; No. of inspectors benefiting from the training	Training reports	Quality infrastructure exits for trained personnel to work after the training	1-2	Ministries of Agriculture; National Plant Protection Organizations; Development Partners

Annex 2d: SR 4-Infrastructure and mechanisms for knowledge and information sharing and access for actors available

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
2. Strengthening linkages and collaboration among actors in the potato value chain actors in the EAC	SR 4: Infrastructure and mechanisms for knowledge and information sharing and access for actors available	SA 4.1: Establish national and regional ICT platforms to provide consolidated information on potato value chain to support evidence based planning and decision	Lack of a regional platform for information on the potato value chains hampers timely access information	One a regional ICT platform with interactive features for management of information on the potato value chain in the EAC established 2025;	No. of ICT units/ infrastructure purchased and installed; No. of actors accessing information from the system desegregated by gender (women and youth)	Contractual agreements; procurement records; reports	National ICT policies allow data sharing	1-2	Ministries of Agriculture; EAC Secretariat
		SA 4.2: Develop/strengthen and digitize marketing through ICT platform	Actors in the potato value chain lack timely access to market information	7 Partner States establish a national Market Information System (MIS) in by 2025; atleast 75% of actors have access to market information via the MIS	No. of actors accessing Market Information data base	National reports on use of the market information system	National ICT policies allow data sharing	1-2	Ministries of Agriculture
		SA 4.3: Review and develop data collection and dissemination guidelines on seed potato in the region	Lack of uniformity/consistence in the data collected and shared	Harmonized data collection tools for the seed potato value chain for the EAC developed by 2023; 7 Partner States and implement developed data collection tools for by 2024 .	No. of data collection tools adopted; Monthly data; annual data on seed potato from Partner States	Approved data collection tools and guidelines	National ICT policies allow data sharing	1-2	Ministries of Agriculture

Annex 2e: SR5-Frameworks for capacity building for actors in the potato value to enhance inclusion established

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
	SR5: Frameworks for capacity building for actors in the potato value to enhance inclusion established	SA 5.1: Increase support to partner states for advocacy strategies	Where available national apex bodies require strengthening to coordinate, advocate for, and lobby on behalf of the value chain actors	Atleast 3 trainings for managers of apex bodies from partner states capacity built of on advocacy strategies by 2032;	No. of capacity building seminars/workshops organized; No. of managers of apex bodies trained;	Capacity building report	Apex bodies play a crucial role in the development of the potato value chain	1-2	EAC; development partners
		SA 5.2: Develop centers of excellence/ incubators/accelerator hubs for enterprise development and job creation	Value chain actors especially the youth lack opportunities for enterprise development and incubation	One accelerator centres /incubator hubs established per Partner State by 2025, Atleast one programs for youth enterprise development implemented by each Partner State by 2025	No. of incubation hubs established; No. of programs on enterprise development and incubation; No. of youth led seed potato enterprises selected and supported	Record of capacity building; business successfully established	Business environment is conducive for business establishment	1-3	EAC; Ministries of EACA; development partners

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 5.3: Establish and strengthen national and regional potato/seed potato platforms	Lack of a regional umbrella potato platform hampers coordination of actors and value chain issues at regional level	One regional umbrella regional platform for the EAC formed and operationalized by 2022; Atleast 7 apex bodies (atleast 1 in each in Partner States) established/ strengthened 2023	No. of platforms formed/ strengthened;	Record of activities	National programs have shared vision for the region	1-2	EAC, development partners; national platforms
		SA 5.4: Establish regional mechanisms for collaboration in research and academia to enhance breeding	Inadequate budgetary support to enhance collaborations and networks	Atleast one breeding research collaborative program for research-academia in the EAC by 2025; Atleast one breeding research project funded in each Partner State	No. of breeding programs	Catalogue of collaborative research programs	Covid related restriction of movement of people likely to hamper regional programs	3-5	International Research Organizations; Regional Research Networks; National Research Agencies; Donor Community

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 5.5: Establish bilateral and regional platforms for regulatory dialogues	Lack of harmonized strategies for negotiating markets for agricultural value added products; different partner states require different documentation to clear consignment (e.g. pest risk analysis, phytosanitary certificates; plant import permits).	A regional platform/plan for resolving seed related regulatory hurdles in the EAC established and approved by all Partner States 2024; Common guidelines on regulatory documentation for seed potato in the EAC developed for the EAC and approved Partner States by 2024.	No. of dialogue forums for Partner States; No. of Partner States approving regional plan on resolving seed related regulatory hurdles; No. of Partner States approving common regulatory documentation requirements for seed	Reports	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 5.6: Support formation and strengthening of farmer associations	Potato sub-sector characterized by limited membership in commodity specific farmer associations	Atleast one of potato grower's associations/cooperative formed/ strengthened in each Partner State by 2025; Atleast one capacity building grant system implemented to support mobilization of atleast 50% of potato growers to join grower associations each Partner State by 2032.	No. of cooperatives/ farmer associations fomed/strengthened; Membership in the cooperatives and farmer associations	Registration certificates; reports on recruitment drives and capacity building programs	Policy on farmer associations/ cooperatives exists	3-5	Ministries of Agriculture

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 5.7 Mainstream gender participation in the potato value chain activities	The potato value chain in the EAC is characterized by limited participation by women, youth and vulnerable and marginalized groups in control of factors of production, decision making and control of resources	Each Partner State supported to implement business development grants to benefit atleast 30% of women/youth/vulnerable and marginalized groups led; enterprises to exploit opportunities in the seed potato value chain by 2025; A gender sensitive Seed Potato Action plan for the advancement of seed potato trade within EAC developed and approved by Partner States by 2025	No. of beneficiary enterprises led by women, youth and vulnerable and marginalized groups; No. of Partner States adopting the Gender Inclusive Seed Potato Action Plan	Country gender mainstreaming reports; Analysis of documentation about the action plans on gender inclusion in the seed potato value chain at national level	Environment is conducive for enterprise establishment	3-10	Ministries of Agriculture in partner states

Annex 2f: SR 6-Public private partnerships for investment in the seed value fast tracked

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
	SR 6: Public private partnerships for investment in the seed value chain fast tracked	SA 6.1: Advocate for Increased investment in the seed potato value chain	Unpredictable policy environment discourages private investment in the seed potato value chain	A common strategy for enhancing private sector investment in the seed potato value chain for the EAC developed and approved Partner States by 2025;	No. of appropriate incentives available in Partner States (including appropriate policies and plans and public private partnerships);	Inventory of incentives;	Commitment from national governments	1-2	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 6.2: Strengthen partnerships through trade agreements and business to business (b2b) meetings facilitation	Inadequate budgetary allocation to facilitate business to business networking	Increase marketing by 50% by 2023; annual forums for business to business net-working held	Regional organizing secretariat for business networking meetings;	Report	Commitment from national governments	1-2	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 6.3: Mobilize and support private sector to play a vibrant role in seed potato investment activities	Lack of a coordinated approach to mobilizing the private sector to invest in the seed potato value chain	EAC Partner States mobilize 60% of investment funding to the seed potato value chain from private sector by 2032	% increase in funding in seed potato value chain by private sector	Country Reports	Conducive policy environment to support private sector investment	5-10	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Annex 2g: SR 7-Implementation of regional, sanitary and phytosanitary protocols

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
	SR 7: Implementation of regional, sanitary and phytosanitary protocols	SA 7.1: Domesticate SPS protocol	Lack of harmony in the implementation of SPS protocols; lack of awareness creation on harmonization of SPS protocols	A Regional SPS Protocol domesticated and implemented Partner States by 2025; Atleast 50% of value chain actors in each Partner State reached through awareness creation events by 2024	No. of Partner States with designated implementing national authority; No. of awareness creation events on SPS harmonized protocols;	Reports from the National Plant Protection Organization	Commitment by national governments	1-2	Ministries f Agriculture; National Plant Protection Organizations
		SA 7.2: Review and implement EAC Seed Potato Standards	July 2010, the EAC developed harmonized standards and regulations, and Sanitary and phytosanitary (SPS) protocols that have been ratified by partner states	7 Partner States adopt and implement regional SPS regulations/guidelines and SOPs by Partner State by 2023; Atleast 50% of value chain actors in each Partner State reached through awareness creation events by 2024	No. of dialogue forums; No. of awareness creation events for sensitization of value chain actors on SPS regulations/ guidelines	Reports; signed SPS regulations/ guidelines and SOPs; Survey among NPPOs about time and resource efforts per audit, before and after the project	Commitment by national governments	1-2	Ministries f Agriculture; National Plant Protection Organizations
		SA 7.3: Accreditation of certification/audit bodies, and testing laboratories	Inadequate certification/audit bodies and testing laboratories	Atleast one seed testing laboratory in each Partner State accredited/audited for atleast one seed testing procedure by 2023	No. of testing laboratories accredited; No. of personnel trained and authorized to provide quality inspection services	National reports	Commitment of national governments	1-2	Ministries of Agriculture; National Plant Protection Organizations
		SA 7.4: Establish a regional mechanism for setting out guidelines for reciprocity/mutual recognition of certification outcomes	Lack proper mechanisms for recognition of inspection and certification outcomes among partner states	EAC guideline for recognition of inspection, testing and certification outcomes the formulated, adopted by Partner States by 2023	No. of Partner States adopting the regional guideline for recognition of certification/ testing/inspection outcomes for seed	Reports from dialogue forums and signed guidelines on mutual recognition of certification	Commitment by National Governments	1-2	Ministries of Agriculture; National Plant Protection Organizations

Annex 2h: SR8 -Cross-border trade for seed and ware potato enhanced among the EAC partner states

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
	SR8: Cross-border trade for seed and ware potato enhanced among the EAC partner states	SA 8.1: Facilitate seed potato trade	Low volumes of seed potatoes traded	Atleast 50% increase in traded volumes of seed potatoes among Partner States by 2023 and doubled by 2026	Traded volumes; No. of enterprises involved in seed potato export/ import	Reports	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 8.2: Remove of Non-tariff barriers to seed potato trade	Lack of agreements on technical barriers to trade and other non- tariff barriers	All (100%) of identified non-tariff barriers to seed and ware potato trade removed by 2026	No. of NTBs identified No. of bilateral agreements on removal of NTBs	Country Reports	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Annex 2i: SR 8-One-stop border posts to ensure efficiency in movement and documentation of seed potato strengthened

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
	SR 8: One-stop border posts to ensure efficiency in movement and documentation of seed potato strengthened	SA 9.1: Strengthen and streamline inspection operations at one at one-stop border posts	EAC Customs Union established the free trade policy (zero duty on good and services) among partner states. This however still faces significant challenges	Capacity of seed potato inspectors at one-stop border post between neighboring Partner States strengthened by 2024; 7 Partner States implement zero duty on seed potato related goods and services traded among Partner States by 2025	No. of one border posts and free trade operationalized; No. of Partner States implementing zero duty policy on goods and services traded among Partner States; Inventory of goods and services on the duty free list	Country Report Reports of inter-ministerial/agencies dialogues	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 9.2: Harmonize import/ export requirements/condition for seed potato trade	Partner states require different documentation to clear consignment (e.g. pest risk analysis, phytosanitary certificates; plant import permits).	Establish a harmonized plant import/ export permits regime in EAC Partner States by 2023	No. of Partner States implementing harmonized clearance system for consignments	Reports	Commitment from national governments	3-5	Ministries of Agriculture, NPPOs; East African Affairs of Partner States; EAC; private sector

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
		SA 9.3: Establish a facility with cold-storage infrastructure at critical points along the value chain for handling storage and quarantine of seed potato	Border posts lack appropriate cold storage infrastructure	Atleast one entry/exit points installed with appropriate cold storage facilities by each Partner State by 2025	No. of cold stores; installed/operationalization; No. of Partner States with Installed labs at exit/entry points	Country reports	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 9.4: Strengthen/establish testing laboratory infrastructure at critical points for testing of seed potato	Border posts lack appropriate testing laboratory facilities	Atleast one testing laboratory strengthened by each Partner State by 2025	No. of testing labs strengthened and operationalized No. of Partner States with Installed labs at exit/entry points	Country reports	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Annex 2j: SR 10-Domestication and implementation of international and regional agreements

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
3. Promotion of domestic and intra-regional trade in seed potato through harmonization of trade standards	SR 10: Domestication and implementation of international and regional agreements	SA 10.1: Benchmarking and, domesticating international and regional agreements	treaties dealing with the regulation of seed trade have direct influence on production and trade of seed potato at the regional and national levels (e.g. OECD, ISTA, ARIPO, UPOV, COMESA, WTO-SPS)	All Partner States obtain membership of (OECD, ISTA, ARIPO, UPOV, COMESA, WTO-SPS) and compliance/ accreditation by 2025	No. of Partner States with Membership and accreditation to international bodies;	Country Reports;	Commitment from national governments	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 10.2: Harmonize policies and laws to improve seed potato trade	EAC Regional Seed Bill is yet to be acceded to by the EAC	Support passage of EAC Seed Law by 2024; Partner States implementing the EAC Seed Law by 2024; Atleast 50% of seed value chain actors sensitized on provision of the EAC Seed Law	No. of Partner States implementing the EAC Seed Law; No. of sensitization events on the EAC Seed Law; No. of actors sensitized on the EAC Seed Law.				Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Annex 2k: SR 11-Build resilience to climate related risks in seed potato through risk mitigation and transfer

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
4. Support sustainable programs along the seed potato value chain	SR 11: Build resilience to climate related risks in seed potato through risk mitigation and transfer	SA 11.1: : Promote sustainable breeding and germplasm conservation	Objectives of breeding programs in the EAC have weak alignment to the changing needs for new varieties and pressure due to climate change	Atleast 50% increase in funding towards breeding programs for pest and disease resistance and drought tolerant varieties in each Partner States;	No. of breeding programmes funded and level of funding in each Partner State; No. of pest/ drought tolerant varieties released;	Reports, Publications	EAC partner states have competent personnel	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 11.2: Promote use of appropriate climate smart agricultural technologies for seed potato	EAC partner states have over time developed technologies and innovations but which have yet to reach the farmers	Atleast three climate smart technologies and innovations inventoried, packaged and availed to atleast 100,000 potato farmers in Each Partner State by 2032	Inventory of technologies and innovations; No. bulletins/brochures/ pamphlet; No. outreach events organized; No. of farmers reached with technologies	Reports; lists of beneficiaries/participants	Commitment from government of partner states	1-2	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		11.3: Promote uptake of crop insurance policies	Despite the uncertainty and risks posed by the unpredictable weather conditions, there is low uptake of crop insurance policies by farmers in the EAC	Atleast one crop insurance policies/ solutions for seed and ware farming developed and rolled in each Partner State by 2025	No. of affordable crop insurance policy/ solutions; No. of Partners availing potato crop insurance solutions to farmers; No. of farmers signed/buying up for crop insurance policies	Data on uptake of crop insurance solutions	Policy environment is conducive for private sector investment in insurance solutions	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 11.4: Promote adoption of environmentally friendly infrastructural technologies	Limited funding for promotion has led to low uptake of yield enhancing agricultural technologies for climate mitigation	Atleast 30% increase in funding to promote uptake of climate smart technologies by Partner State by 2025; Atleast one low cost climate risk mitigation technology promoted for adoption by atleast 30,000 potato farmers in each Partner State by 2032	No. of funded projects; No. of beneficiaries	Country Reports	Partner states have national agencies responsible for environmental regulations		Ministries of Agriculture, East African Affairs of Partner States; Environment, EAC;

Annex 2l: SR 12-Investment in sustainable programs increased

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
3 Support sustainable programs along the seed potato value chain	SR 12: Investment in sustainable programs increased	SA 12.1: Harmonize and implement traceability system	Potato producers in the EAC in general have not aligned their activities to recognized food safety/quality management standards and therefore lack documentation to allow for effective traceability	All Partner States integrate quality management practices and traceability in crop production and postharvest handling by 2025	No. of Partner States implementing a quality management and traceability system No. of value chain actors listed for the quality management and traceability system	National report on the traceability system List of value chain actor	Partner states have frame works for implementing quality standards/ traceability systems	3-5	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector
		SA 12.2: Support investment in continuous needs assessment and capacity building in seed potato activities		All Partner States put in place a quality management for continuous needs assessment and capacity building for value chain actors by 2035	No. of value chain actors trained; No. of actors maintaining compliance to quality management system	Country reports	There are adequate skilled personnel to train on food quality ad traceability	1-2	Ministries of Agriculture, East African Affairs of Partner States; EAC; private sector

Annex 2m: Monitoring, Evaluation and Learning

Thematic Priority Area	Strategic Result	Specific strategic intervention	Baselines	Targets	Objectively Verifiable Indicators	Means of Verification	Risks and Assumptions	Time Frame	Responsibility
Monitoring Evaluation and Learning	SR 14: Increased commitment by EAC partner states and donor community to invest in the regional SP strategy	SA 14.1 Strengthen a regional monitoring system to track investments and implementation	There is an existing M&E monitoring system at the EAC that will be utilized for monitoring implementation of this strategy	80% implementation of the strategy monitored and reviewed over a period of 10 years	M&E plan A baseline, two mid-term reviews; one end time review	Reports	Commitment by National governments	1-10	Ministries of EACA; EAC
	SR 15: Improved government policies and institutional establishment to effectively implement regional SP strategy	SA 14.2: Building capacity for inclusive transparent and evidence-based dialogue among governments	There is no mechanism at the EAC for feedback on strategy implementation	A mechanism for feedback from Partner States on Strategy implementation established	A mechanism in place No. of EAC progress review workshops Reports	Reports	Commitment by National governments	1-10	Ministries of EACA; EAC

Annex 3: Stakeholders Interviewed

	Name	Institution	Position	Email	Country
1.	HATUNGIMANA Richard	COPROSEBU Gitega	Seed multiplication and trading	Hatungarichard123@gmail.com	Burundi
2.	MANIRADUKUNDA Egide	COPROSEBU Bururi	Seed multiplication and trading	maniradukundae73@gmail.com	Burundi
3.	IZERE Aimée Alda	IZERE Green, Ijenda	Private sector seed multiplication trade	Aldaizere@gmail.com	Burundi
4	NIYONZIMA Jeanine	Private sector Kayanza	Private sector seed multiplication trade	Niyonzimajeanine264@gmail.com	Burundi
5	KARENZO Abdon	Buramuko I Muruta Cooperative	Seed and ware potato multiplication		Burundi
6.	NTAKIRUTIMANA Béatrice	JIJUKA Mwumba cooperative	Seed and ware potato multiplication	Conkarem@gmail.com	Burundi
7.	Nzokirantevye Stany	Tujehamwe I Busiga Cooperative	Seed and ware potato multiplication		Burundi
8.	COYITUNGIYE Audace	CAPAD, Kabarore , Cooperative Amahoro	Seed multiplication and trading	tungaudace@gmail.com	Burundi
9.	INAMAHORO Micheline	ISABU	Researcher on seed potato	micheline.inamahoro@isabu.bi	Burundi
10.	VYIZIGIRO Ernest	ISABU	Director at Research Station	vyizigiroe@gmail.com	Burundi
11.	BACANAMWO Marc	MARCOVINE	Seed Potato Multiplier	Marcbacanamwo65@gmail.com	Burundi
12.	HAKIZIMANA Evariste	ONCCS	Director of Seed Inspection	evaristehakizimana95@gmail.com	Burundi
13.	NSABIYUMVA Gilbert	DPFAPFNL	Advisor to the Directorate	gilberbig@yahoo.fr	Burundi
14.	NZEYIMANA Jean	ONCCS	Director in charge of Variety Release	jeannzeyimana@ymail.com	Burundi
15.	ITANGISHAKA Goreth	DPV	Director of Plant Protection	Gorethitangishaka5@gmail.com	Burundi
16	NIYONZIMA Eugénie	ONCCS	Director of the Seed Analysis Laboratory	Niyogenie12345@gmail.com	Burundi
17	NAHIMANA Yvonne	Farmer/Muramvya	Seed Potato Multiplier	-	Burundi
18	NIYOMWUNGERE Anitha	Farmer/Muramvya	Seed Potato Multiplier	-	Burundi
19	NIYUKURI Honoré	ADPR/Bururi	Multiplier of potato mini-tubers	honoreniyukuri@gmail.com	Burundi
20	NKURUNZIZA Jeanne	Farmer/Mwaro	Seed Multiplier	-	Burundi
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23	NSHEMEZIMANA Samuel	MEACA	NFP	Nshemuel@yahoo.fr	Burundi
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2.	Moses Ndura	Farmer	Potato seed producer	nduramoses@gmail.com	Kenya
3.	Josline Nyaga	International Fertilizer Development Cooperation	Input supplier	jnyaga@ifdc.org	Kenya
4	Chris Marete	Meru Farmer Cooperative	Producer		Kenya
5	James Nderui	Potato Seed Producer	Potato seed producer	Jnderui44@gmail.com	Kenya
6.	Timothy Kimungunyi	UPL	Input supplier	Timothy.kimunguyi@upl-ltd.com	Kenya
7.	Gladys Kahindo	Viazi kings ltd	Aggregators	Partnerships.sales@viazikingsltd.com	Kenya
8.	James Muia	CGA	Implementing agency	jmuhia@cga.co.ke	Kenya
9.	Adriel Kimutai	Kenya National Farmers Federation	Apex body	kimtai@kenaff.org	Kenya
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11.	Shadrack Omondi	National Potato Council of Kenya (NPCK)	Apex body	somondi@npck.org	Kenya
12.	Michael Kimotho	Farmer	Farmer	mk5875176@gmail.com	Kenya
13.	Naomi Kihara	MOALF&C	Head: Roots and Tubers	wangeshara@yahoo.com	Kenya
14.	Fredrick Owino	Department of Agriculture, Livestock & Fisheries; Nakuru county	Director of Agriculture	fredrickowino@gmail.com	Kenya
15.	Milton Munialo	Agriculture and Food Authority	Food crops Directorate	Sunguti88@gmail.com	Kenya
1.	KAREGEYA Apollinaire	Seed Potato Platform	Coordination		Rwanda

	Name	Institution	Position	Email	Country
2.	MUJAWAMARIYA Therese	Individual Multiplier	Seed producer		Rwanda
3.	UMWARI Juliet	Horizon SOPY-RWA	Seed Producer		Rwanda
4	KANTESI Odette	SE&KA Co. Ltd	Seed Trader		Rwanda
5	GAHUTU Ezekiel	Individual Producer	Farmer		Rwanda
6.	MUDAHERANWA James	SPF- IKIGEGA	Seed Trader		Rwanda
7.	Philbert ICYISHAKA	INES	Research		Rwanda
8.	Mr. Jean Pierre NDUWIMANA	RAB	Research, Extension & Coordination		Rwanda
9.	Mr. Innocent MUGENZI	Ministry of Agriculture & Animal Resources	Policy		Rwanda
10.	Eric MBONGABA	Private Sector Federation of Rwanda	Policy & advocacy		Rwanda
11.	Athanase NDUWUMUREMYI	Rwanda Agriculture & Animal Resources Development Board	Research & Extension		Rwanda
12.	Octave NSHIMIYIMANA	MINAGRI	Policy		Rwanda
13.	Theophile NDACYAYISENGA	RAB	Research, Extension & Coordination		Rwanda
14.	Dative Mukaniyonzima	MINICOM	Policy & Regulation		Rwanda
1.	Mr.Michaya Gamunde Nasona	Directorate of Planning & Programming, Ministry of Agriculture & Food Security	(Director) Policy Formulation;	Mnasona65@gmail.com	South Sudan
2.	Dr. George Leju Lugor	Directorate of Agriculture Production & Extension Services, Ministry of Agriculture & Food Security	(Dir/Gen.)	lejulugor@yahoo.co.uk	South Sudan
3.	Mr. Angelo Longa Simplisio	Data Collection & Analysis Dept. Ministry of Agriculture & Food Security	Surveying, collection and provision statistical data as well as analysing and availing information to decision makers	longaangelo@gmail.com	South Sudan
4	Nelson Kole	SSAPU, JUBA		nelsonkole25@gmail.com	South Sudan
5	Lawrence O.J. KEDI	Nilebasin Seeds Coy Limited	Seed Production	nilebasinseedsltd@gmail.com	South Sudan

	Name	Institution	Position	Email	Country
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15.	Mushabozi	CROP-BIOSCIENCE	Seed bider	Mushobozi.w@cropbioscience.co.tz	Tanzania
16	Rose Ndomba	Ministry of Agriculture	NPF	Rosendomba2006@yahoo.com	Tanzania

	Name	Institution	Position	Email	Country
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1.	Charles Byarugaba	Nyabywumba Farmers innovative resource center	Director		Uganda
2.	Stephen Tindimubona	Uganda National Seed Potato Producers Association (UNSPPA)	Executive Director		Uganda
3.	Saul Turyomurugyendo	Uganda National Seed Potato Producers Association (UNSPPA)	General secretary		Uganda
4.	Mrs Fidelis Karugaba	Kigezi Farmers Resource Center	Director		Uganda
5.	Innocent Uzatunga	NARO Kachwekano Zonal Agriculture Research and Development Institute	Principal technician		Uganda
6.	Nathan Baryahisahe	Farmer	Farmer		Uganda
7.	Gerald Baguma	NARO Kachwekano Zonal Agriculture Research and Development Institute	Agronomist		Uganda
8.	Pakalasio Tibijuka	Farmer	Director		Uganda
9	Joseph Muyingo	Ministry of Agriculture, Animal Industry and Fisheries	Seed Analyst		Uganda
10.	Moses Erongu	Ministry of Agriculture Animal Industry and Fisheries	Senior Agricultural Inspector		Uganda
11.	Veronica Nabawanda	Rhine Ventures Ltd	Sales Executive		Uganda
12.	Asiimwe Yustus	Uganda Revenue Authority	Customs officer		Uganda
13.	Stephen Chekwik Sorowon	Farmer	Farmer		Uganda
14.	Nelson April	Kapchorwa District Local Government	District production and marketing officer		Uganda
15.	Hussein Kiyemba	Highgrow Agri	Manager		Uganda

Annex 4: Terms of Reference

1. Carry out a comprehensive desk review of existing relevant literature on Eastern Africa seed potato value chain, the enabling policy environment, gender, and business development support services in the sub-sector in the EAC, conduct necessary consultations with key stakeholders, as a critical part of the approach and methodology, and prepare and submit an inception report to the EAC Secretariat and relevant stakeholders;

2. Elaborate a comprehensive structure, coordination and support of links in the seed potato and potato production and consumption/utilization within the context of global, continental and regional context;

3. Carry out a comprehensive contextual assessment of national and regional seed potato systems and interactions between systems, to determine SWOT scenario, constraints and risks to improving seed production and distribution, enhancing profitability of seed use, upgrading, upgrading seed potato value chain coordination and upgrading, gender, promoting regional networks for sharing knowledge and best practices, and growth of intra-regional trade in seed potato;

4. Carry out a comprehensive assessment of quality infrastructure (QI) support system, constraints, and opportunities for quality improvement and support to seed potato trade, including post-harvest management and market information systems;

5. Elaborate a comprehensive regional seed potato strategy, that is gender-sensitive, and anchored on identified mutually reinforcing core investment and/or action areas in the sub-sector, and linking best practice national strategies and regional initiatives, incorporating national domestication, and capacity development; and

6. Elaborate a comprehensive gender-sensitive action plan for improving seed potato trade, outlining selected strategic objectives and outcomes in a logical framework (key activities, inputs, outputs, indicators, time-frame, and resource requirements), including categorization of measures into quick-wins, short to medium, and medium to long-term actions.

Annex 5: Questionnaire

EAC REGIONAL SEED POTATO STRATEGY AND ACTION PLAN

DCT 1

SAMPLE QUESTIONS FOR KEY INFORMANTS/INTERVIEWS

COUNTRY_____

Name of interviewee: _____ Interviewer: _____

Company: _____Position/Title: _____

Date of interview: _____ Place: _____

About the assignment, and request for informed consent:
GIZ/FABI has contracted a Consultant to develop a EAC Regional Seed Potato Strategy and Action Plan. The purpose of the Strategy is to enhance seed potato production and trade in the EAC Region.

To facilitate the development of the Strategy and Action Plan, different actors and stakeholders within the seed potato value sectors of the seven East African Community (EAC) partner states are being interviewed to help understand why seed potato trade volumes is still low and the diversity of products limited to a few varieties.

We would like to ask you some questions related to your involvement in the seed potato value chain, to help us understand the issues constraining seed potato production and trade, and possibly request you to suggest recommendations of actions that will enhance potato seed production and trade chain in can be taken to help ease the flow of seed within these regions. All your responses are confidential, unless we feel that a direct quote will help illustrate our findings. In case this does arise, we will seek your consent before using any direct quotes linked to your name. Participation in the study is voluntary, and you may choose to not answer specific questions or to end the interview at any time. The interview will take about an hour and half of your time.

Do I have your consent to proceed with the questions? Yes..... No.....

SECTION 1: You, your organization's involvement in the Seed Potato Value Chain

1. In brief, how does your organization support the Seed Potato Value Chain?

2. Briefly describe, in what ways you and/or your organization have participated or contributed to the development of the seed potato value chain?

   a. What is your role? (*the question may sound general at first. Follow up with example prompts) – e.g. as a funder? regulator? research agency? private sector?*

   b. How does you or your organization view the seed potato value chain? *– e.g. as a funder? regulator? research agency? private*

3. How have you/your organization benefitted in engaging in the seed potato value chain?

4. What are the current or planned activities, commitments, projects or partnerships in the seed potato value chain?

SECTION 2: Current performance/adequacy of Seed Potato production

1. In what ways have the national and regional seed potato initiatives contributed to the priority needs or issues for you, your organization or your country? *Explain*

2. What would you consider the THREE major successes or achievements of seed potato *production and trade* initiatives over the years ?

3. Are there examples of work that may not have not been very useful in addressing key issues for the country/region? *Explain*

4. Rate the level of use of technologies in the seed potato value chain? (*Provide a score scale: very good; good, average, poor, very poor*)

   a. Early generation seed potato production:

   b. Field Seed potato production:

   c. Seed post-harvest handling:

   d. Distribution:

5. Which organizations are considered an influential stakeholder in the seed potato value chain in the EAC Region? *Discussion and explanations; also different viewpoints and perspectives allowed.*

   a. Public

   b. Private

   c. Development agency

   d. Others

6. Do these organizations have capacity to meet the seed demands of the farmers in your country? *Discuss and explain*

7. Rate and comment on the current national seed potato value chain in each of the following areas (*Provide a score scale: very good; good, average, poor, very poor*)

   a. Product development (Research and development)

   b. Commercialization of new products (introduction and release of new varieties)

   c. Organizational/Institutional arrangements and systems for seed potato production:

   d. Capacity (infrastructure, finance, human) for seed potato production

   e. Stakeholder involvement in planning, implementation and M&E of regional initiatives

   f. Seed quality regulatory frameworks

   g. Trade facilitation

   h. The reliability

   i. Affordability

   j. Consistency in products delivery by suppliers

   k. Access to new products by farmers

   l. Awareness by farmers on the products available in the market

SECTION 3: Seed Potato Trade

1. What major concern in the seed potato trade do you think need to be addressed? (*open ended, allow challenges in respective partner states and challenges faced by the region to come out*)
    a. Nationally
    b. Regionally (EAC)
2. What are the opportunities (and/or trends) for scaling up production and trade of seed potato?
    a. Opportunities
    b. Trends
3. What role can the following groups in the seed potato trade?
    a. Youth
    b. Men
    c. Vulnerable and marginalized groups
4. How do you see the future in light of the increased cross border trade in seed potato? (is it positive or negative and why).
    a. Positive
    b. Negative
5. In your view, what roles should the Partner States play in supporting cross border trade? *(start generally and probe on broad strategic areas)*

SECTION 4: EAC's role and niche in the future (strategy)

6. What THREE major challenges in the seed potato value chain do you think need to be addressed by the EAC region? (*open ended, allow challenges in respective partner states and challenges faced by the region to come out*)
7. What are the THREE key opportunities (and/or trends) for scaling up production and trade of seed potato?
8. In your view, what roles should the EAC Secretariat play in supporting the seed potato trade in the region? *(start generally and probe on broad strategic areas)*

Closure: Invite the final questions and comments.

Thank the participants and reiterate the commitment to confidentiality. Briefly outline the next steps in the Activity. Provide contacts for any individual to send in additional comments in future.

9. References

Food and Agricultural Organization of the United Nations (FAO). 2019. Potato production data [Online]. Rome. Available: http://www.fao.org/faostat/en/#data/QC [Accessed 5/1/2021 2021].

EAC, 2021. Regional Situational Analysis of the Potato Sub-Sector in the East African Community.

GIZ GmbH, 2019. East African Community Seed Potato Cross Border Trade Situation. A Consultancy Report.

International Potato Center (CIP). 2011. Roadmap for investment in Seed Potato Value Chain in Eastern Africa. Lima Peru. 27pp.

Laibuni, N. M. & OMITI, J. M. 2014. Market Structure and Price: An empirical analysis of Irish potato markets in Kenya.

Ministry of Agriculture Livestock and Fisheries Kenya 2016. The National Potato Strategy 2016-2020. Nairobi, Kenya.

Republic of Kenya 2012a. The Seeds and Plant Varieties (Seeds) Regulation, 1991 (Rev 2012). In: Kenya Gazette Supplement (ed.) Section 3, L.N. 287/1991, L.N. 464/1991, L.N. 151/1998, L.N. 57/1999, L.N. 49/2009.]. Nairobi: Government Printer.

Sikinyi, Evans O., 2010. Baseline study/survey report on the seed sector in Kenya. AFSTA, http://afsta.org/wpcontent/uploads/documents/KENYA%20SEED%20SECTOR%20BASELINE%20STUDY.pdf

Harahagazwe D., Andrade-Piedra J., Parker M. and Schutle-Gelderman E.,2018. Current Situation of Rapid Multiplication Techniques for early generation seed potato production in sub-Saharan Africa. RTB Working Paper.

International Potato Center (CIP). 2011. Roadmap for investment in Seed Potato Value Chain in Eastern Africa. Lima Peru. 27pp.

Kisakye, S., Tinyiro, E., Mayanja, S., & Naziri, D. (2020). Current status of knowledge about end-user preferences for potato in Uganda- A food Science, gender and demand Perspective. Kampala, Uganda: CGIAR Research Program on Roots, Tubers and Bananas (RTB), International Potato Center (CIP).

Ministry of Agriculture, Rwanda

Tanzania Official Seed Certification Institute (Tosci), Tanzania

National Potato Council of Kenya. (2017). Potato Variety Catalogue. Nairobi: National Potato Council of Kenya.

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