



## ***ENHANCING TANZANIA'S COMPETITIVENESS AND EXPORT DIVERSIFICATION IN HORTICULTURE***



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## Abbreviations and acronyms

ACP	African, Caribbean, Pacific Group of States
AIPH	Association of Horticulture Procedures
ASA	Agriculture Seed Agency
ASDP2	Agriculture Sector Development Programme Phase II
AMCOS	Agriculture Marketing Co-operatives Societies
ANSAF	Agriculture Non State Actors Forum
ASTA	American Spice Trade Association
AVRD	World Vegetable Centre
B2B	Business-to-Business
BOT	Bank of Tanzania
BTC	Belgium Development Agency
BRN	Big Results Now
CBI	Centre for Promotion of Imports
COMESA	Common Market for Eastern and Southern Africa
CPUS	Centralised Processing Units
CSOD	Clove Stem Oil Distillery
DADPS	District Agriculture Development Plans
DFI	Development Finance Institutional
DRC	Democratic Republic of Congo
EAC	EAn Community
EBA	Everything but Arms
ESA	Economic and Social Research Foundation
ESRF	Economic and Social Research Foundation
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FDI	Foreign Direct Investment
FLA	Flower Logistics Africa
FLORINT	International Florist Organisation
FOB	Free on Board
FSI	Floriculture Sustainability Information Network
FYDP	Five-Year Development Plan (First and Second, Government of Tanzania)
GAIN	Global Agricultural Information Network
GAP	Global Agricultural Practices
GDP	Growth Domestic Product
GHI	Global Horticulture Initiative
GI	Geographical Indications
GMP	Good Manufacturing Practice
GTIS	Global Trade Information Service
HACCP	Hazard Analysis Critical Control Points
IAPRI	Indaba Agricultural Policy Research Institute
ICO	International Coffee Organisation
IFAD	International Fund for Agricultural Development
IMO	Swiss Institute of Market Ecology
ISCP-Tz	Innovations Systems and Clusters Programme in Tanzania
ISO	International Standards Organisation

ISTA	International Seed Trade Association
ITC	International Trade Centre
JNIA	Julius Nyerere International Airport
KNCU	Kilimanjaro Nature Cooperative Union
LDC	Least Developed Country
LGAs	Local government authorities
MAFAP	Monitoring African Food and Agriculture Policies Project
MIS	Market Information System
MIT	Massachusetts Institute of Training
MTC	Meristematic Tissue Culture
MKUZA	Zanzibar Strategy for Growth and Reduction of Poverty
MSMEs	Micro, small and medium-sized enterprises
MITI	Ministry of Industry, Trade and Investment
MT	Metric Tonnes
MVIWATA	Network of Farmers Association in Tanzania
NCSC	National Coffee Stakeholder Committees
NGOs	Non-Government Organisations
NTB	Non-Tariff Barriers
NSSF	National Security Fund
NTM	Non-Tariff Measures
OCGS	Office of the Chief Government Statistician
PAHS	Polycyclic Aromatic Hydrocarbons
PDO	Protected Designation of Origin
PLA	Perishable Logistics Africa
PPP	Public-Private Partnership
QFP	Quality Food Products
QI	Quality Infrastructure
REPOA	Research on Poverty Alleviation
SACCOs	Savings and Credit Co-operatives
SADC	South African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SAI	Social Accountability International
SAP	Strategic Action Plan
SDGs	Sustainable Development Goals
SISO	Sisal Smallholder and Outgrower
SMETABPG	Sedex Members Ethical Trade Audit Best Practice Guidance
SPS	Sanitary and Phytosanitary
SUA	Sokoine Univeristy of Agriculture
SWIOFish	South-West Indian Ocean Fisheries Governance and Shared Growth Programme
TaCRI	Tanzania Coffee Research Institute
TAHA	Tanzania Horticultural Association
TAT	Technical Assistance Team
TANTRADE	Tanzania Trade Development Authority
TAWOCA	Tanzanian Women In Coffee Association Ltd.
TAZOP	Tanzania Organic Products
TBS	Tanzania Bureau of Standards
TBT	Technical Barriers to Trade
TCA	Tanzania Coffee Association

TCB	Tanzania Coffee Board
TCDF	Tanzanian Coffee Development Trust Fund
TCGA	Tanganyika Coffee Growers Association
TCV	Tanzania Development Vision
TFDA	Tanzania Food and Drugs Authority
TFRA	Tanzanian Fertiliser Regulatory Agency
TIC	Tanzanian Investment Centre
TMEA	TradeMark East Africa
TOAM	Tanzania Organic Agriculture Movement
TOSCI	Tanzania Food and Drug Authority
TPRI	Tanzanias Tropical Pesticides Research Institute
TSA	Tanzanian Sisa Authority
TSB	Tanzania Sisal Board
TTFA	Transit Transport Facilitation Agency
UC	University of California
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
URT	United Republic of Tanzania
USAID	United State Agency for International Development
USDA	United States Department of Agriculture
VET	Vocational Educational Training
WIPO	World Intellectual Property Organisation
WTO	World Trade Organization
ZaSCI	Zanzibar Seaweed Cluster Initiative
ZATI	Zanzibar Agricultural Transformation Initiative
ZBS	Zanzibar Bureau of Standards
ZMTID	Zanzibar Ministry of Trade and Industrial Development
ZOSG	Zanzibar Organic Spice Growers' Association
ZSCs	Zonal Stakeholder Committees
ZSTC	Zanzibar State Trading Corporation

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## EXECUTIVE SUMMARY

This report presents the findings of a project “*Targeted support to strengthen capacity of policymakers, exporters, and trade associations to assess and review trade and related economic policies to promote trade competitiveness and diversification for widening trading opportunities with the EU*” funded by the European Union (EU) through the EU-ACP TradeCom II Programme. The overall objective of the programme, which includes working with both multiple stakeholders as host beneficiaries, is to contribute to sustainable economic development and poverty reduction in the United Republic of Tanzania through closer regional integration and increased participation in the global economy. The report has been prepared to contribute to the project by identifying and proposing responses to the bottlenecks to improving competitiveness and diversification in selected agricultural export-oriented sectors along Tanzania’s main export corridors.

Tanzania is an emerging and evolving economy in Africa thanks to long-term growth rates of over 6% per annum since 2005. Its political stability, advantageous geographical location (with a 1,424 km long coastline and eight neighbours), a youthful and growing population (est. 57.6 million in 2020). Membership to regional trading blocs such as the East Africa Community (EAC) and the Southern African Development Community (SADC) provide plenty of promise for trade and investment. Yet, Tanzania suffers from a relatively low agriculture-export base, dominated by a few products with limited value addition.

Tanzania’s current trade and investment priorities are defined in its Third Five-Year Development Plan (FYDP III) 2021–25 which seeks to realise competitiveness and industrialisation for human development (United Republic of Tanzania 2021). The plan emphasises interventions to promote competitiveness, industrialisation, including establishing special economic zones, export processing zones, industrial parks, the strengthening of research and development, promoting local content, and developing capacity. With agriculture and agro-processing being one of its priority sectors, FYDP III also supports value addition and beneficiation towards improving agricultural productivity and deepening agricultural value chain.

The current trade policy frameworks (2003 for mainland Tanzania and 2006 for Zanzibar) are outdated to effectively promote competitiveness and diversification in an era where quality matters as much as prices. Efforts are under way to develop a new trade policy with the World Bank supporting an updated Diagnostic Trade Integration Study (DTIS) – published in 2017, and Zanzibar’s drafted (but not enacted) revised trade policy in 2020. DTIS seeks to inform development of new trade policy for Tanzania with a focus on three key areas: agriculture, mining and extractives, and tourism as well as sanitary and phytosanitary (SPS), technical barriers to trade (TBT), regulatory and other institutional bottlenecks hindering trade and investment in mainland Tanzania and Zanzibar.

Using a value chain approach, a detailed review of the performance and competitiveness potential of a growing non-traditional agricultural export, horticulture. A case study approach was adopted to provide fresh insights into underlying issues to achieve a greater understanding of the potential for enhancing agricultural competitiveness and diversification along the export corridors. Horticulture was selected based on its tremendous export potential is apparent; where quality upgrading is possible and most urgent; and those which can take advantage of the existing sources of comparative and competitive advantage.

The report assesses ways of improving the competitiveness and diversification of the horticulture value chain in Tanzania by mainly focusing on the Northern Export Corridor. Analysis finds that:

- Horticulture is the fastest growing industry within the agricultural sector in Tanzania

recording an annual average growth rate of 9–11% in the past five years (TAHA, 2021). The industry holds great potential for increasing export of premium quality horticultural products, increased agricultural investments, creating jobs through MSMEs across the value chain from input supply, packaging, value addition, processing, transportation and marketing. It offers diverse employment opportunities, the majority being women at about 65–70% (TAHA, 2021).

Four main issues – i.e. challenges related to access, availability and cost of seeds, chemicals/fertiliser, labour and land – lie at the centre of the agro-input node of the horticulture value chain. For smallholders, the cost of inputs (seeds, fertilisers, pesticides, labour) is high, while land is administered in a complex system, posing challenges for local and international investors.

- The most common constraints affecting horticulture development and competitiveness include weak logistics and transport infrastructure, product quality requirements, unconducive regulatory business environment and the paradox of land shortages.

#### Box 1: Horticulture – key recommendations

- i. Enhancing the quality of fresh produce and other horticultural crops by ensuring coherence between TBS and TFDA marketing standards rule on labelling, adopting and implementing Global GAP standards, providing standards information to producers/consumers and enhancing traceability.
- ii. Redoubling efforts to secure and penetrate new regional and international exports markets, promoting business to business linkages across the value chains.
- iii. Achieving transport logistics efficiency and a sound regional transport system will facilitate horticultural export competitiveness and investments.
- iv. Enhancing support to the newly established research network that fosters collaboration between institutions such as the Fresh Produce Centre, TMEA, TAHA and REPOA on horticultural trade related researchers and experts towards a common, multi-actor, systematic approach and framework for knowledge sharing to fill the gap by increasing the connectivity and efficiency between research findings or outcomes and policy or knowledge implementation..

The respective analyses identified various success factors and initiatives that could be replicated in order to enhance competitiveness across the four other value chains that this EU-supported project focused on, with a major focus on the production segment and marketing (see box 2 for further details).

#### Box 2: Best practices

In terms of lessons from good practices it is important to:

- i. Identify and adopt the champion approach to strengthen associations that will dramatically advance primary producers' interests towards overcoming institutional bottlenecks and enhancing value chain activities as well as to promote more effective extension services and information delivery.
- ii. Support business-to-business and public-private partnerships to drive competitiveness, industrialisation, economic transformation and human development.
- iii. Introduce district-level technological and quality infrastructure platforms.
- iv. Improve district and sector planning, i.e. every district must review and approve a comprehensive plan for value chain upgrading and agricultural trade expansion.
- v. Enhance smallholders' participation in high-end value chains.



- vi. Promote product branding and better use of biotechnology and biosafety.
- vii. Promote the synergies between agribusiness and tourism development, including agri-tourism initiatives.
- Viii. Support a national and international multi-stakeholder approach in the provision, implementation and enforcement of the appropriate regulations and legislations across the value chain.

Using a value chain approach, a detailed review of the performance and competitiveness potential of the selected export-oriented agricultural subsectors was undertaken. The last chapter provides summary, policy recommendations and strategies for implementing the recommendations.

## 1 INTRODUCTION AND BACKGROUND

### 1.2 The ACP-EU TradeCom II Programme

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The European Union (EU) supports improvements in competitiveness and exports in Tanzania's agriculture sector through the TradeCom II Programme. This programme, which was approved following a request from the Organisation of African, Caribbean and Pacific (ACP) Group of States, is designed to facilitate the integration of ACP countries in the global economy and value chains by improving their capacity to formulate and implement suitable trade policies, participate effectively in multilateral trade negotiations under the World Trade Organization (WTO) and to implement the trade agreements to their benefit, and strengthen their competitiveness.

The TradeCom II Programme has translated the needs of OACP beneficiaries into a number of relevant and implementable projects. This includes the project for which this report has been prepared. The *Targeted support to strengthen capacity of policymakers, exporters, and trade associations to assess and review trade and related economic policies to promote trade competitiveness and diversification for widening trading opportunities with the EU* project contributes to sustainable economic development and poverty alleviation through closer regional integration and increased participation in the global economy. The Programme Implementation Unit comprising of REPOA and ISS-Erasmus designed the project in collaboration with its targeted beneficiaries. This report has been prepared to contribute to the above project.

### 1.3 Tanzania's agricultural export corridors

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There are five major export corridors defined by their geographical location, each with its own major exports.

#### 1.3.1 Zanzibar-Pemba Export Corridor

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The Zanzibar-Pemba Export Corridor has direct access to the Indian Ocean and close proximity with the international sea and airports in Unguja, Zanzibar. Zanzibar's booming sectors are spices, cloves, nutmeg, cinnamon, black pepper, seaweed and tourism (the latter being a major foreign currency earner). This largely explains why Zanzibar, together with Tanzania's Mafia Island, are often referred to as the 'Spice Islands'. Zanzibar has a large fishing and dugout canoe production. In addition to the possible oil resources, the government has established a free port area since 2000. However, the spices value chain remains poorly developed and suffers from policy neglect. It is over-dependent on subsistence agricultural methods and suffers from weak production capacity, poorly resourced and fragmented trade support institutions, all of which which constrain competitiveness and diversification.

To unlock growth and export competitiveness of the spices and seasoning sector, it is critical to reform the loosely coordinated and fragmented spices value chains into better organised structures utilising economies of scale; enhance production capacities throughout the spices value chain; upscale organic certification of spices and develop product quality standards to meet export market requirements in high value markets; strengthen institutional capacities and address policy weaknesses. As a point of departure, it is paramount to implement the sector's development strategies namely the 2014 'Tanzania Spices Sub Sector Strategy' which targets improved spice production across the mainland and Zanzibar.

### 1.3.2 Northern Agricultural Export Corridor

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The Northern Agricultural Export Corridor has rich and expansive export base including long-standing traditional exports (i.e. tea, coffee, sisal). However, the surge in horticulture floriculture and new export crops of fruits and vegetables, and other food crops such as wheat, offer the great potential for continued growth. The Northern Corridor links rest of Tanzania to Kenya and has direct access to the international airport in Kilimanjaro and the Kenyan port of Mombasa.

Horticulture is the fastest growing industry within the agricultural sector in Tanzania recording an annual average growth rate of 9%-11% over the past five years. The industry holds great potential for increasing export of premium quality horticultural products and offers diverse employment opportunities throughout the supply chain particularly in rural areas. Investment contribution of horticultural businesses to total agricultural investments has averaged 17% since 2007 and there are growing linkages between large and small-scale growers. Over the past decade exports soared from US\$ 64 million in 2004 to US\$ 545.5 million in 2016. The horticulture industry signifies tremendous opportunities for the Tanzanian economy in terms of enhancing income, improving nutrition security, engaging women and youth, and creating jobs through small scale enterprises across the value chain from input supply, packaging, value addition, processing, transportation and marketing.

However, growth is affected by weak production base, low productivity, weakness in logistics and transport infrastructure, product quality requirements due to a wide range of private standards and certification schemes, uncondusive regulatory business environment especially multitude of taxes, levies, regulatory fees and declining land availability and the lack of registered land.

### 1.3.3 Southern Export Corridor

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The Southern Export Corridor is largely an agricultural corridor focusing on cereals, agroforestry, tea, coffee, pulses and horticulture. The Southern Corridor is by the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), a Public Private Partnership (PPP) focusing on development of agriculture and relevant infrastructure. The corridor links the port of Dar es Salaam and other areas in Tanzania with the countries Southern neighbours including Mozambique, Zambia and Malawi. SAGCOT is increasingly becoming one of the most agriculturally hottest regional export corridor due to tremendous agribusiness expansion opportunities, job growth, mechanised farming and huge investments.<sup>1</sup>

SAGCOT's competitive model hinges on driving agro-industrialisation through food processing enterprises which produces quality, safe and innovative food products, while enhancing the awareness of (primary) food producers to food safety, pertinent food regulations and food business related matters. Tanzania has a comparative advantage in growing some of the world's finest mild Arabica coffees (Colombian Mild Arabica) and enjoys international brand recognition for various products like Kilimanjaro coffees and Pea berries. Tanzania's sisal industry is in early stages of a potentially remarkable revival. With growing market demand and new sisal products focus falls on addressing supply-side constraints. The emergence of new sisal-based products allows for greater use of the whole plant including what was previously discarded as waste.

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<sup>1</sup> With the growing global appetite for precision agriculture as well as the demand for high tech in agriculture and the rising global adoption of drones for collecting data on crops to plan enhancing farming operations, STI will impact positively and significantly on Tanzania's productivity because it makes decisions up close, and on the ground.

### 1.3.4 Central Export Corridor

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The Central Export Corridor connects the Port of Dar es Salaam by road, rail and inland waterways to Burundi, Rwanda, Uganda and Eastern part of the Democratic Republic of the Congo (DRC) and all of central and north-western Tanzania itself. Due to its semi-arid climate, it has limited agriculture potential. The main agricultural products include nuts, some cereals and grapes. The Central Corridor is coordinated by Central Corridor Transit Transport Facilitation Agency (TTFA) a multilateral Agency formed in 2006 by five countries: Burundi, the DRC, Rwanda, Tanzania and Uganda. TTFA is charged with the promotion of transport utilisation of the Central Corridor, encouraging the maintenance, upgrading, improvement and development of infrastructure and supporting service facilities at port, rail, lake, road border posts and along the route to meet user requirements, ensure open competition and reduce the costs of transit transport for land-locked Member States.

### 1.3.5 Western Export Corridor

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The Western Export Corridor is dominated by tobacco, pyrethrum, coffee, cotton, fisheries, agroforestry and minerals. It mainly serves the DRC, Rwanda, Uganda and Burundi. It uses the same transport infrastructure as the Central Corridor.

## 1.4 Methodology and approach

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To achieve the programme objectives, the research team employed a multipronged approach that involved both primary data collection, secondary data analysis and cross-checking the various data sources for consistency. Specifically for the analysis of the horticulture value chain, primary data were gathered from structured interviews with stakeholders (private sector actors and government officials) and value chain actors along the Northern export corridor. Key secondary sources of information, (policy and strategy documents) and academic studies on the subject were studied. A case study approach was also adopted to achieve a greater understanding of the issues investigated and provide fresh insights on them through development of case studies.

The methodology was designed to comprehensively capture the programme goals, combining quantitative and qualitative sources. Three major methodological areas of concentration include:

1. Trade policy analysis and development of policy frameworks for trade, SPS, standards, and quality management<sup>2</sup>;
2. Value chain analysis with emphasis placed on supply-side constraints in the upstream segments; and
3. Capacity building, research and awareness creation/dissemination.

The methodology placed strong emphasis on the programme objectives, while strategically supporting the beneficiaries to develop effective policy and advocacy tools for increasing competitiveness of primary producers and diversification of the export base (focusing on selected value chains) to take advantage of market access opportunities in the EU.

### **Value chain analysis**

Value chain analysis is an effective tool for understanding competitiveness and to identify sources and constraints for competitive advantage for the horticulture sub sector in Tanzania. Value chain analysis focuses on the market context of identifying bottlenecks across upstream and downstream

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<sup>2</sup> See a report on the (*'Analysis of bottlenecks affecting agricultural competitiveness and export diversification in Tanzania and proposals for a trade policy framework to enhance agricultural competitiveness'*) also developed under this TradeCom II project.

segments. It also looks at broad public policy, institutional and infrastructure factors that produce constraints in the enabling business environment. By examining and mapping a value chain from production, through delivery to the end market, strategy-makers in Tanzania can better identify the areas where they can capture greater value within the national component of the global value chain. National exporters might not easily see how they can translate a trade policy or a national export strategy into concrete strategy help grow their businesses and exports. Thus, the area of greatest interest for producers and exporters will be in national programmes aimed at addressing competitiveness within their respective value chains. Such support is likely to help to achieve a greater ‘buy-in’.

One of the major challenges of developing a credible, comprehensive and integrated value chain analysis is the absence of reliable baseline data. Consequently, there is a need to rely on rigorous local research in individual in-depth stakeholders’ interviews.<sup>3</sup> This required a two-step approach: first, the fieldwork; and second, data analysis, benchmarking and report writing.

### **Sector and crop selection**

The selection of sectors and crops was made at the request of the beneficiary agencies based on their priorities, and to avoid duplication of sector studies undertaken by other development partners. The selected subsectors are leading export crops but have experienced, or continue to experience, volatile market and climate conditions, or in some cases declining trends in export quantity and quality over time. They are also characterised by inadequate capacity across different value chain actors to effectively enhance competitiveness. These agricultural subsectors are also important sources of low-skill employment and income generation especially for women and youth.

These sectors were selected based on the following criteria (see table 1):

- Sectors where quality differentiation, value addition, and upgrading are possible and most urgent;
- Sectors with unexploited productivity and export potential;
- Emerging sectors that can take advantage of with existing comparative advantages;
- Services sectors that can contribute horizontally to improved competitiveness given the importance of trade in services for selected export corridors; and
- Detailed review of the performance and competitiveness potential of four major export-oriented sectors.

In addition, the selection placed emphasis on the opportunities for value addition, competitiveness and diversification.

**Table 1: Selection of crops and sectors**

Sector/crops/export corridors	Mode of research	Methodology
Northern Export Corridor and other export corridors: <ul style="list-style-type: none"> <li>• Agribusiness and value chain development – horticulture</li> <li>• Agricultural trade drivers and inhibitors</li> <li>• Review of trade policy and strategies</li> </ul>	Interviews with key stakeholders and relevant organisations, secondary research, review and evaluation of land,	Graphics, tables, sector diagnostics, analysis, and value chain analysis.

<sup>3</sup> Intensive one-on-one interviews tend to yield detailed data and information required to develop a representative value chain analysis.

	quality, agribusiness, health, and food exports policies, programmes, strategies and initiatives.	
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The Government agencies responsible for trade and agriculture,<sup>4</sup> farmers’ groups, private sector producers, processors, marketers, aggregators, services providers, NGOs, and exporter associations were interviewed to identify subsector constraints and also areas of competitive advantage. Interviews were also held with development partners to collect data on the many sector interventions seeking to address different challenges to value chain development and the business environment. For instance, an assessment of the product quality environment was undertaken with the aim of fully understanding the roles of government agencies and institutions in enhancing or undermining quality management along those value chains as well as those agencies that are responsible for SPS/TBT compliance ensuring food safety, plant and animal biosecurity, together with the private sector beneficiaries; agribusinesses, the agricultural production base, and export clusters and associations.

***Emerging issues***

The stakeholder interviews, literature review of literature and data collection provided a picture of various bottlenecks affecting the respective entire value chain. The research team examined whether certain challenges cluster heavily along specific sections of the value chain. For instance, issues related to weaknesses in quality infrastructure that delay product standardisation and certification arose repeatedly during the interviews. On this basis, targeted interviews were pursued with the Tanzania Bureau of Standards (TBS) and the Office of the Chief Government Chemist to determine the root cause of the institutional hitches identified along the value chain.

***Validation process***

As a core component of the quality assurance of the programme deliverables, two product quality management briefings and several ‘brown-bag’ seminar series were held to discuss the programme findings, thereby soliciting feedback and clarification. A study dissemination workshop was held in April 2022 to seek views from Tanzania’s trade policy community. The output of these activities also provided material for the EU TradeCom II monthly newsletter series. Other researchers at REPOA and ISS-Erasmus also contributed to the deliverables quality assurance processes, thereby strategically informing and advancing REPOA’s research agenda as per activity A1.1 of the project document focusing on promoting trade policy research for improved competitiveness of primary producers and maximising Tanzania’s market access opportunities.

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<sup>4</sup> This included agencies responsible for food safety and quality standards and certification, customs and trade facilitation, trade statistics, trade, export and investment promotion agencies, crop boards, public research institutions etc.

# ENHANCING AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION ALONG THE NORTHERN CORRIDORS – VALUE CHAIN ANALYSIS FOR HORTICULTURE, FLORICULTURE AND AVOCADOS

## 2 HORTICULTURE

### 2.1 Introduction

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Horticulture is the fastest growing agricultural sub sector in Tanzania with an annual average growth rate of 9–11% over the past 5 years (TAHA, 2021). The sub sector holds great potential for increasing the export of premium quality horticultural products and offers diverse employment opportunities throughout the supply chain particularly in rural areas. Over the past two decades horticulture has seen a growth of medium and large-scale investors that either operate independently or have integrated smallholders as out-growers. Investment contribution of horticultural businesses to total agricultural investments has averaged 17% since 2007 (TIC, 2014/15). The industry is estimated to employ about 2.5 million Tanzanians directly and indirectly, the majority being women at about 65–70% (TAHA, 2016).

Exports have rapidly increased in the past decade from US\$64 million in 2004 to US\$779 million in 2020 (TAHA, 2021). Currently, the sector employs 4.5 million farmers comprised of both large-scale and small-scale of which majority are women and youth (TAHA, 2020). Further, horticulture production is labor-intensive dominated by smallholder farmers who account for over 70% of the producers with land size less than 2 hectares (Guadagno et al., 2019). It is estimated that by 2025, the industry will generate about US\$3 billion in exports and has been earmarked as one of the potential fast growth areas in the Tanzania Agriculture and Food Security Investment Plan (TAFSIP) (HODECT, 2010).

Horticulture offers tremendous opportunities for the Tanzanian economy in terms of enhancing income, improving nutrition security, engaging women and youth, and creating jobs through MSMEs across the value chain from input supply, packaging, value addition, processing, transportation and marketing. With long-term growth rates, the strategic programming of the industry can catalyse the role of agriculture in alleviating poverty and contributing to the country's commitment to achieving the Vision 2025 and United Nations Sustainable Development Goals 1, 2, 8, 10, 12.

### 2.2 A survey of the horticulture value chain

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#### 2.2.1 Access to agro-inputs

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Four main issues (access, availability and cost of seeds, chemicals/fertiliser, labour and land) lie at the centre of the agro-input node of the horticulture value chain. In general, for most smallholders, costs of inputs (seeds, fertilisers, pesticides, labour) are high while land is administered in a complex system, posing challenges for local (especially women) and international investors. In horticulture, two main sets of players discernible in the inputs mode on one hand, fragmented smallholder and few large organised farmers and on the other handful large firms that supply most of the inputs. For instance, Norway-based Yara, Switzerland-based Syngenta, and Bayer CropScience AG Tanzania account for most of all investment and sale in seeds, fertiliser, pesticide and other related inputs along the five regional export corridors in Tanzania. They have agro-inputs representatives across all regions of Tanzania supplying farmers and farmer groups with fertiliser, seeds and pesticides



through unrivalled extension networks that reach most towns and villages. However, some of the major competitiveness challenges that horticulture farmers face is the low use of inputs (improved seeds, fertilisers and agrochemicals), high prices of agro-inputs, low-quality agro-inputs, shortage of agro-inputs and, more importantly, the abuse of agrochemicals as well as the high level of adulterated agrochemicals that undermine competitiveness of the industry.

A major issue affecting seed supply is restrictive, lengthy and costly process for registering and certifying new seeds. According to EUBGTZ, registration for new seed varieties takes up to 3 years and costs at least US\$15,000, making the process roughly five times as expensive as a comparable seed market such as Zambia. While the 2003 Seed Act includes measures towards stimulating private sector seed production, distribution, improve seeds standards and certification but strict regulations by state-run Agricultural Seed Agency (ASA) and Tanzania Official Seed Certification Institute (TOSCI) have an overbearing effect on private seed companies. ASA's own certified seed production programme is in conflict and direct competition with private seed companies, thereby stifling the development of an open and competitive private seed sector. Institutional and policy over-regulation serves as tremendous disincentives for private seed companies to develop direct licensing agreements with the agricultural research institutes to multiply basis seed; and the time required for seed companies to introduce new seed varieties is long. However, if these regulatory bottlenecks could be removed and a more efficient institutional system is adopted, providing clear signals for attracting innovations and investments, thereby boosting productivity and fostering agribusiness competitiveness. These seed subsector regulatory bottlenecks can be eliminated if the current administration works collaboratively with private seed companies towards fostering competitiveness and thereby making Tanzania the seed hub for the East African region.

The fertiliser market is dominated by three large agribusiness firms – Yara Tanzania Limited which supplies over 50% of all imported fertiliser, with two other international companies; followed by Export Trading Group and Premium Agro-each jointly accounting for roughly a quarter of the market. Other smaller players that account for remaining market share include one domestic supplier, Minjingu Mines and Fertiliser Company Ltd, which suppliers Phosphates and NPK from a site in northern Tanzania. Notwithstanding zero taxes or tariffs on imported fertiliser, the farm gate prices of fertiliser are 40% higher than the cost of importing. This is partly explained by lack of economies of scale, high domestic distribution costs and rent-seeking behaviour. The 2008 Fertiliser Act serves as disincentives for companies from introducing specialist and customised fertilisers, as well as fertilisers that harness new technologies. Registration process for new fertilisers is long while most imported fertilisers are subsidised while compulsory Tanzanian Fertiliser Regulatory Agency (TFRA) registration can be very long and expensive, thereby undermining competitiveness and value chain upgrading. The TFRA is responsible for the regulation of fertiliser by: (i) monitoring the quality of domestically produced and imported fertiliser; (ii) regulating the importation, production, storage, distribution, sale and disposal of fertiliser; (iii) register and issue licences to fertiliser dealers and register their premises; (iv) issue import and export permits; (v) maintain a register of all approved fertilisers; and (vi) regulate fertiliser prices in light of government directives and appropriate regulations. However, created in 2012 and still in its infancy, TFRA grossly lacks funding, staffing and capacity for fulfilling these responsibilities.

### *2.2.2 Production*

Tanzania produces a wide range of traditional and non-traditional horticultural products. Among the high-value non-traditional horticultural crops grown in the region are baby corn, French beans, cut flowers, ornamental young plants, herbs, baby carrots, fruits, etc. Some of the notable vegetable crops include butternut, capsicum, passion fruits, tomatoes, onions, snow peas,



corn, stewing carrots and potatoes (see table 15). The major growing regions are in the northern region (Arusha, Kilimanjaro, Meru, Morogoro and Tanga) as well as the highland regions of Mbeya, Njombe and Iringa. Vegetables such as pulses, sweet potatoes, onions, beans, cowpeas, mung beans, field peas, sunflowers, cabbage, tomatoes, spinach, cabbage and chillies are also grown in the semi-arid central region of Dodoma and Singida. To the south of Dar es Salaam, Manga growers in Lindi region focus on horticulture crops such as certified clean seed potatoes and other related crops – maize, soya and barley crops, cattle and sheep farming. TAHA’s has secured a 600-acre farm in Mwangi Kilimanjaro for producing orange sweet flesh potatoes for export to the EU. Table 2 provides details of horticultural products by region, number of farmers, average farm size, total regional sales in quantity and value as well as average income.

**Table 2: Types of horticultural crops in Tanzania**

Vegetables	Fruits	Cut flowers and ornamental plants	Spices, herbs and nuts
<ul style="list-style-type: none"> <li>• Green Beans</li> <li>• Baby Corn</li> <li>• Broccoli</li> <li>• Baby Carrots</li> <li>• Snow Peas</li> <li>• Green Peas</li> <li>• Peppers</li> <li>• Amaranth</li> <li>• Pumpkin</li> <li>• Cassava Leaves</li> <li>• Chilli Peppers</li> <li>• Asparagus</li> <li>• Snap Peas</li> <li>• Tomatoes</li> <li>• Onions</li> <li>• Cabbages</li> <li>• NighTZSade</li> <li>• Okra</li> <li>• Tubers, sweet and Irish potatoes</li> </ul>	<ul style="list-style-type: none"> <li>• Apples</li> <li>• Berries</li> <li>• Jack Fruit</li> <li>• Mangoes</li> <li>• Oranges</li> <li>• Papaya</li> <li>• Pawpaw</li> <li>• Passion Fruits</li> <li>• Pears</li> <li>• Pineapple</li> <li>• Plums</li> </ul>	<ul style="list-style-type: none"> <li>• Roses</li> <li>• Chrysanthemum</li> <li>• Cuttings</li> <li>• Other ornamentals</li> </ul>	<ul style="list-style-type: none"> <li>• Cardamom</li> <li>• Cinnamon</li> <li>• Clove</li> <li>• Nutmeg</li> <li>• Vanilla</li> <li>• Herbal Medicines</li> <li>• Macadamia Nuts</li> </ul>

Field survey observed that one of the main challenges facing the subsector was lack of skilled manpower. There is mismatch between the skills needs by farmers and the horticultural training offered by the various colleges such that graduates are not well equipped to handle production issues and support the industry to attain competitiveness and value chain upgrading.

**Box 3. Production and growers cooperatives – MUVIKIHO (Union of Horticultural Producer Groups) and MVIWATA**

Farmers’ cooperatives such as MUVIKIHO (Union of Horticultural Producer Groups) and MVIWATA are assisting their membership leverage on the group negotiating power, the collective action as well as playing very active

role in offering marketing, finance and training services to their members on the new wave of good agricultural practices, including basic agribusiness practices, improved agricultural practices and technologies, better post-harvest processing, record keeping and financial management. As a cooperative, farmers have invested more, and experienced increased productivity and improved nutrition. The roles of cooperatives are becoming more effective due to the decline in the funding of extension and advisory services in Tanzania (2017 Oxfam study).

### 2.2.3 Marketing and exports

the EU—especially Belgium, Germany, Netherlands—is the most important and lucrative market for Tanzania’s horticultural exports mainly because of, the: perishable nature of horticultural products, reasonably cheap freight costs, and geographical proximity. The success of the horticultural sector is attributable to sector organisational coordination spearheaded by TAHA. One of the major achievements of TAHA is increased volume of sales as well as the rise in average income for horticultural farmers (in six regions) to TZS500,000 to TZS10.4 million annually. Table 3 presents average annual income of farmers for key horticultural crops.

Access to markets is one of the biggest bottlenecks being faced by the horticulture value chain primary producers. For example, Tanzania horticultural exports to Kenya plummeted in the last 2 years due to lack of preferential treatment for certain goods produced in the citing Rules of Origin and application of non-tariff barriers. Further there are existing cartels and middlemen by traders who supply selected markets. In view of this, since 2014, with the support of EU, Aga Khan Foundation has strengthened the market system in Lindi and Mtwara Regions for vegetables in partnership with Tanzania Horticulture Association (TAHA). The project<sup>5</sup> has reached more than 6,000 smallholder farmers through a range of value chain interventions, ‘including increasing access to inputs, mobilising and supporting farmer business groups, and introducing improved technology and markets’. TAHA also operates a digitalised market information system (MIS) reporting on 18 crops, 18 different ecologies; capture and dissemination of weather reports; varieties of horticultural crops as well as providing extension services for farmers. The TAHA MIS is updated every three weeks. It also operates market support centre, practical training centre and demonstration.

**Table 3: Volume of sales and average Income for horticultural farmers in six regions in Tanzania**

Crops	# of farmers	Average farm size	Total regional sales (tonnes)	Total regional income in TZS millions	Average income per farmer in TZS millions
<b>ARUSHA</b>					
Onion	200	0.5	300	300	1.5
Tomato	200	1	6,000	1,500	7.5
Green beans	150	1	225	180	1.2
Capsicum	50	0.03	125	312.5	6.25
Watermelon	100	1	900	450	4.5
Irish potato	300	0.5	4,200	336	1.12
<b>KILIMANJARO</b>					

<sup>5</sup> EU-AKF project on ‘horticultural value chain development in Lindi and Mtwara Regions, Tanzania’. Its overall objective is to support poverty alleviation in Lindi and Mtwara Regions through value chain development in the horticultural sector. Its specific objectives are: (i) to increase productivity and diversity of horticultural production by female and male smallholder in Lindi and Mtwara Regions, and (ii) to strengthen smallholder farmers’ linkages to inputs, support services and markets in Lindi and Mtwara Regions.

Crops	# of farmers	Average farm size	Total regional sales (tonnes)	Total regional income in TZS millions	Average income per farmer in TZS millions
Onion	30	1	432	162	5.4
Tomato	55	1	177	82.5	1.5
Capsicum	16	0.03	79	158.4	9.9
Cabbage	35	1	473	31.185	0.89
Green pepper	35	1	84	126	3.6
<b>DAR/PWANI</b>					
Tomato	39	1	459	392.9	10.07
Watermelon	40	1	150	417.13	10.43
Green pepper	34	1	149	147.21	4.33
<b>MOROGORO</b>					
Onion	86	2	688	481.6	5.6
Tomato	200	2	24	900	4.5
<b>IRINGA</b>					
Tomato	2,100		32,812	7,400	3.52
<b>NJOMBE</b>					
Avocado	1,161		600	600	0.52

Source: TAHA (2020)

Other issues of concern to horticultural exports are and implementation of the East African Community (EAC) directives including the Single Customs Territory system to hasten clearance of goods across the borders.

#### Box 4. Composite service (one-stop shop):

Quality Food Products Ltd (QFP) is a farming services, crop processing and marketing company which started in 2002 and located in Arusha. QFP is an innovative agribusiness that offers a variety of farmer services, marketing, and access to credit, quality inputs, and mechanization. It contracts farmers to produce crop, with the contracts clearly specifying the price that QFP will purchase and the prices of the inputs they can provide. Each farmer has an individual account with the company and the harvest of each farmer is entered in the account and balance paid out in cash. With this off-take contract from QFP, farmers can for the first time go to the bank to access input finance for agricultural inputs against agreed budgets. To take this a little further, not many organisations are in the business of providing customized training opportunities to selected horti-exporters to prepare them for accessing national, regional and global export market, especially the EU markets.

### 2.3 Challenges affecting horticulture competitiveness

From field interviews and secondary data analysis, the most common constraints affecting horticulture development and competitiveness include: weak production base, low productivity, limited access to finance, especially long-term financing and micro-credit facilities for primary producers, obsolete technology, stringent international standards and consumer demand for high-quality and safer produce, land ownership and titling, inadequacy of infrastructure, low-quality produce, poor packaging, shallow entrepreneurship spirit, high electricity costs, rising fuel prices, foreign currency exchange rates, high transportation costs, huge postharvest losses, weak

agri-industry linkage, inadequate market development support, shortage of skilled manpower, inefficient investment environment, and insufficient awareness among Tanzanians about the enormous socio-economic potentials of horticulture. These are grouped and elaborated under four themes; weakness in logistics and transport infrastructure, product quality requirements, unconducive regulatory business environment and the paradox of land shortages.

### *2.3.1 Logistics and transportation infrastructure*

Almost 90% of Tanzania's horticultural exports are managed through port of Mombasa via Namanga (border with Kenya) which is soon to be transformed into a one-stop border post under the EAC trade facilitation programme. The transport infrastructure along the Export Corridor is characterised by high costs (transportation, backhauling, at weighbridge, police checkpoints, border crossing inland container depots lengthy clearance times, inefficient customs. Lengthy cross-border formalities and use of several blocks make sea freight transport costly because of the perishable nature of horticultural crops. On the other hand, the air freight is faster more predictable, but expensive, and requires specialised airport storage systems and lacks direct flights from the international airports of KIA and Dar es Salaam to certain markets. When using road transport, producers complained about delays with customs officials delaying clearance of their time-sensitive reefer containers. The limited availability of cold chain infrastructure in Tanzania is a cross-cutting challenge for exporters of specialty foods. A USAID Competitiveness study found that the existing cold storage facilities are subject to unstable electricity supply.<sup>6</sup> Some larger, mostly foreign multinational producers own their own cold storage facilities, which are rarely available for the small-scale specialty food manufacturer. This forced some producers to resort to using air and sea ports in Kenya.

The situation is gradually changing with cold storage investments at both the airports and sea ports. For example, in 2016, cold storage facilities at Julius Nyerere International Airport (JNIA) in Dar es Salaam were upgraded, expanded and modified under the management of SwissPort Tanzania to meet the specifications of perishable export items. Scanning and screening can now be directly undertaken into the cold room, minimizing the opportunity for products to get spoiled. Tanzania's key development blueprints, the third five-year development plan 2021/22 – 2025/26, ASDP II and the Tanzania Horticultural Development Strategy (2012- 2021), all recognize that inadequate cold chain infrastructure is a competitiveness constraint. The strategies identify as priorities investments in cold storage facilities, trucks, pack houses and other cold storage infrastructure at key distribution points and market centres. The horticulture strategy also prioritized conducting a feasibility study for investment in cold chain and pack house facilities in high potential horticulture areas.

### *2.3.2 Product quality requirements*

Quality and certification issues constitute one of the major institutional bottlenecks affecting the horticultural value chain activities. In the last decade, the global horticultural landscape is increasingly being characterised by a wide range of private standards and certification schemes. This emerging trend is driven by the new institutional arrangements along the horticultural supply chain in which supermarket chains and retail cooperatives started playing critical roles by becoming rule-setters and game changers in ensure high safety and quality, thereby creating effective demand for exotic product (Fuchs et al., 2011). These transformations resulted in the development of global

<sup>6</sup> See East Africa Trade Hub. (2012). *Specialty Foods Supply-Side Constraints*. East Africa Competitiveness and Trade Expansion Program Report prepared for the United States Agency for International Development (USAID) Compete.

good agricultural practices (GLOBAL GAP) a private voluntary standard established by a consortium of major European retailers.

#### Box 5. TAHA- GLOBALG.A.P Trainings and Knowledge Acquisition on Farming Technologies:

TAHA has been playing a crucial role in capacitating farmers with trainings on GAP. The training emphasis issues of responsible use of natural resources and climate adaptability, responsible use of agro-chemicals improving working conditions and increased transparency, information sharing, cooperation, training. TAHA, in collaboration with the Post-Harvest Education Foundation based in the U.S, offered post-harvest management training of trainer's programme, with the objective to equip the field officers with post-harvest management techniques whereby these officers and the RAAs would later train farmers in their respective locations to reduce post-harvest losses, especially in the highly perishable crops sector like horticulture. These training focus on essential steps along the food chain system from harvesting to marketing, food safety, cleaning, packing and storing fresh foods as well as value addition to perishable foods into projects with longer shelf life. Participants are also introduced to the World Vegetable Centre (AVRDC) tools used for protecting food quality, nutritional values and shelf life for fresh produce.

Tanzania is actively promoting a set of GAP standards for both on-farm and post-farm activities with the aim to enhance its horticultural quality and safety levels, as well as increase the competitiveness of its horticultural sector. Some of the factors driving the adoption of standards in Tanzania include education, availability of family labour, training, development partners support, previous experience in high-value supply chains, and costs of compliance. Though there is increasing emphasis on accurate labelling of produce, current legislation in Tanzania does not adequately address the food quality issues. It is still not a requirement that every farm must obtain GAP certification. There is a need for guidelines that shed light on this situation and to ensure that primary producers are informed in the right direction.

Another challenge is the rising trends of fake and low-quality agricultural products in Tanzania resulting in bans and counter-ban of agricultural products within EAC food market. An effective approach to fighting the fake labelling and standards is via the geographical indications (GI) approach and more uniquely is to serialise the original agricultural products and empower consumers to check the goods. Accordingly, Tanzania has invested in TBS and TFDA and related agencies towards enhancing the quality of agricultural food and exports and collaborating with the law enforcement agencies to govern quality enforcement regulations and controlling for unauthorised practices at all (including production and marketing) levels and reporting the results to the appropriate organisations. However, much still needs to be done, and especially on creating geographical indications to help protect and promote agricultural products with unique characteristics.<sup>7</sup>

#### 2.3.3 Unconducive agribusiness business environment

An unfriendly business environment with specific reference on taxes, levies, regulatory fees and immigration continues to be one of the key challenges for industry growth. TAHA has identified a total of 46 regulatory fees, central and local government levies and taxes that affect horticultural producers. Multiple business registration procedures and delays in obtaining permits and licences further limit horticultural enterprises from operating efficiently and effectively. For instance, registered farmers must deal with at least 15 regulatory bodies and address about 46 different levies, fees and taxes. Operational challenges in logistics, non-tariff barriers, and bureaucracy in importing agricultural inputs and packaging materials negatively impact businesses. For instance,

<sup>7</sup> France and Italy top the list of food products registered under EU quality schemes, with protected products ranging from fresh meat and fruits to vegetables, oil, cheese, wine and organic products, etc.

while most imports of agricultural inputs are VAT exempt, a range of modern horticultural inputs and equipment have been left out from the VAT exemptions. According to TAHA, the horticulture industry loses between 30% and 60% of its potential yield due to a lack of reliable collection, grading and cold storage equipment, so these facilities are essential (EUGTZ, 2016). Another challenge is that the list of allowable chemicals set by Tanzania’s Tropical Pesticides Research Institute (TPRI) is restrictive and does not reflect the global shift away from blanket pesticides and insecticides towards softer and more modern pest-specific products. On the other hand, more recent varieties of pesticides are not easily affordable and available in Tanzania.

Table 4 provides some of the salient institutional bottlenecks faced by each node along the value chain. A proper understanding of these barriers is critical to recommending the appropriate policy reforms to enhancing competitiveness and diversification.

**Table 4: Major regulatory and institutional bottlenecks along the horticulture value chain**

Inputs	Farming	Exporting
Limited access to skilled labour, land and technology	Business environment is inimical to new agri-investments	Certification and standards for export are difficult to meet
Limited access to finance and credit facilitates	Poor irrigation and land management; poor handling of products in transit	Limited cold storage at key points, e.g. airports
From a researcher’s viewpoint, one key challenge facing the horticulture industry is access to real production data. TAHA is attempting to overcome this bottleneck by doing data capturing.		

### 2.3.4 The paradox of land shortage in the midst of plenty

One of the institutional challenges confronting agribusiness expansion along Tanzania export corridors is declining land availability and the lack of registered land partly due to the acute shortage of professional surveyors. Documentation of land rights is through traditional methods, which limit secure land tenure necessary to use land as collateral for access to credit. The role of technology, which is widely available and most cost-effective GPS-enabled smartphone, coupled with cloud-based data processing, or the use of ortho-maps, cannot be over-emphasised in accelerate Tanzania’s pace of agribusiness transformation.

## 2.4 Recommendations to boost competitiveness of horticulture

Horticulture is one area that has been studied extensively and the main recommendations to enhance competitiveness in the industry include the following:

### **Product quality, processing/value addition and product development**

- Enhancing the quality of fresh produce and other horticultural crops is critical. It is crucial that standards are practical, cost-effective and as much as possible benchmarked to global GAP which raises the bar on standards practice among value chain actors. Coherence between marketing standards rule on labelling and those of TBS and TFDA on food is important enhancing safety and quality, aligning official control systems with regional (East Africa – EAGAP, Horticulture Council of Africa) and international best practice;. More importantly is the need for a PPP in which private standards (Global GAP, IFS, etc.) could assist public authorities to secure compliance with the regulations.
- Consumers need information about where and in which particular farm their food is produced. This calls for the increasing need for primary producers to adopt GAP which

enhance their capacities to be more transparent about their production and marketing operations. GAP build the product quality and also enhance trust of workers, consumers, labour advocates and investors, and send a strong message that the agro-enterprise does not fear being held accountable.

- The issuance, adoption, implementation and application of GAP and good manufacturing practices on fresh fruits and vegetables is very critical<sup>8</sup> to foster a fresh produce food safety culture. Agricultural extension should offer food safety training to farmers and handlers and food handling and protection agencies could also provide food handling certification programmes.
- Reducing contamination by adopting science-based, minimum standards for the safe growing, harvesting, packing and holding of produce on farms to reduce to the barest minimum the contamination in horticultural value chain ‘farm to restaurant’, ‘sell what you grow to restaurants’ initiatives. Cooperatives such as MUVIKHIHO should help growers and primary producers earn the GAP certification. The logo sends a clear food safety message to consumers and big store clientele that they use practices that reduce risk of contamination within the supply chain.
- Contract farming business model should be encouraged and implemented among the farming communities in the country.
- TAHA needs to further explore innovative platforms that will create more awareness and sensitise on rapidly emerging production, processing and marketing opportunities.

### **Market access**

- To penetrate and sustain new regional and international exports markets, TAHA should redouble its efforts by securing reliable (new) profitable markets towards ensuring that producers are linked with these markets on a sustainable and viable manner.
- For smallholder horticulture farmers, there is a need to enforce the use of standardised measurements and weighing scales at village or ward levels, improving availability of quality seeds to enhance quality of produce, addressing the issue of mixing of impurities in crops such as pulses, spices and oilseeds to increase weight, support of local government authorities in establishing proper infrastructure or collection points for sale of horticulture produce, promoting rental or leasing market in rural areas for accessing equipment and machines, and the need to build trust among farmers and buyers who are interested in long-term relationship through contract farming.
- Service providers and targeted markets must partner cooperatives on innovative approaches to address systemic constraints in the value chain.
- The EU should support Tanzania products to attract new emerging markets within the EU

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<sup>8</sup> Good Agricultural Practices (GAPs) relate to water and soil quality, especially as impacted by wildlife and livestock management; worker health and hygiene including proper produce handling during production, harvest, and post-harvest; and ensuring traceability of the product from the farm to the marketplace. Growers can incorporate these practices to reduce produce contamination.



and other emerging markets which are seeking quality agricultural products.

### **Logistics and transport**

- Tanzania should improve and strengthen the capacities of all its ports to provide competitive services especially for horticulture exports.
- Achieving transport logistics efficiency and a sound regional transport system will facilitate horticultural export competitiveness and investments. Increased investments in road and port infrastructure will reduce transportation costs, make sea freight more economical, and making Tanzanian horticultural products more competitive in the regional and international markets. Tanzania is constructing new rail networks as well as upgrading its railway into the standard gauge to connect to land-locked Zambia, Uganda, Rwanda, Burundi and eastern Democratic Republic of Congo to its Dar es Salaam port through a 1,300 km central conduit. Further there needs to be substantial investment in regional transport infrastructure to make the all its export corridors more competitive and diversified. Further, automation at weigh stations will enhance competitiveness and diversification.

### **Research**

- In collaboration with NBS, Bank of Tanzania, and MAFSC, there is a need for a special statistical intranet on a unique database for easy access to key data on production, trade and consumption of horticultural products. On this basis, a consumption monitor report should be developed and aim to analyse the production, trade and consumption trends for horticultural produce in Tanzania. The data should be regularly updated, and the tool should serve as a statistical and monitoring instrument for wide use by members, professionals and policymakers.
- There is need to enhance support to the newly established research network that fosters collaboration between institutions such as the Fresh Produce Centre, TMEA, TAHA and REPOA on horticultural trade related researchers and experts towards a common, multi-actor, systematic approach and framework for knowledge sharing to fill the gap by increasing the connectivity and efficiency between research findings or outcomes and policy or knowledge implementation. Further support in terms of financial resources is required to allow the network to focus on the critical issues for competitiveness, diversification, innovation and value chain upgrading potential of the Tanzanian horticultural industry.
- Knowledge and innovation: due to the huge gaps in fully utilising its research capacity in the local R&D system for diagnosing problem and providing solutions, there is the dire need for continuous innovation to remain competitive. Recommendations include: (i) develop research capacity by improving financial, human and physical resources; (ii) enhance collaboration between entrepreneurs and local research systems to more effectively make use of the available research capacity; (iii) create incentives for 'hortipreneurs' to invest in research and innovation via innovative funding mechanisms; (iv) invest in IT for linking supply chain members and product traceability; (v)



improve specialised horticulture extension services and training.

### **Advocacy, gender and youth engagement**

- Empower and attract the new cadre of young, energetic, and talented ‘agripreneurs’ at every stage of horticultural value chain (from lab to farm to fork) by enabling them to establish viable and profitable horticulture enterprises, jobs and better incomes for themselves and their communities. This should not exclude strategic off-farm activities such as transportation, packaging, ICT, light infrastructure, logistics that add value to on-farm productivity, efficiency and competitiveness.
- The Youth-in-Horticulture Network: an apprenticeship programme in collaboration with selected secondary schools as well as SOA. Some of the major disciplines in horticulture include ornamental plants, vegetable, nurseries, gardening and landscaping, perennial gardening, and plant consultancy, which will open up the diverse paths in the industry and make it more competitive. TAHA to organise competition among youth gardeners, and also annually promote events focusing on Miss Horticulture or Miss Flower who will represent the green industry in the public and the media.

### **Policy reforms**

- There is also the need to ratify and implement the EAC Sanitary and Phytosanitary Measures (SPS) Protocol, which requires partner states to establish regulatory institutions and harmonies control measures. Relevant ministries to convene regular bilateral meeting to resolve some agritrade issues.
- Government could stimulate fruits consumption through a proposed School Feeding Programme where schools are encouraged to cultivate and consume fruits on a daily basis. Further, some unsold fruits, and which are not processed into paper-packed juice, can be purchased by the government and administered among pupils in public schools.

## **3 CONCLUSIONS AND RECOMMENDATIONS**

### **3.1 Conclusions**

Tanzania’s horticulture sector is growing rapidly and has increasingly become one of the major contributors of the agricultural sector, with annual average growth of 11 percent which is two times the annual overall growth rate of agriculture. However, the sector needs to heed the lessons of experiences of Tanzania’s other post-independence cash crops like coffee and cotton which suffered from policy mis-steps, subsequent market liberalization without accompanying supporting measures coupled with changes in the global market and commodity prices had resulted in significant decline in output for several traditional exports and loss of market share. Horticulture has yet to respond competitively to global production and market changes characterized by lowering of the costs of ICTs, fragmentation of production, trade liberalization and erosion of trade preferences, increasing concentration of lead firms (buyers and traders) in the end markets, and increasing mechanization and use of inputs (improved varieties and fertilizers) to increase productivity, increased incidence of non-tariff barriers, the growing importance of standards and food safety (SPS and TBT issues) especially in sub-sectors like horticulture and the corresponding need for quality infrastructure and

related regulations. With appropriate policy interventions, horticulture will exhibit significant comparative advantage and potential for export and value chain upgrading.

The Northern Export corridor analysed, exhibited some institutional bottlenecks detrimental to its competitiveness. For example, issues which largely impact the production segment of the value chain include poor quality infrastructure, a weak enabling environment, burdensome regulations and taxes, poor quality extension services, limited access to finance, subsistence agriculture with low mechanization, low adoption of technology and good agricultural practices, limited use of inputs leading to low productivity, weak supporting institutions with limited resources like local government authorities and crop research institutions etc. Further, the corridor suffers from region specific bottlenecks including access to land and climate change were.

There is currently no shortage of agricultural sector policies seeking to promote value chain development and competitiveness in horticulture. However, the key challenge has long been poor and ineffective policy implementation, as well as policy inconsistency and sometimes government retreat from fully supporting the agriculture sector. Most of the recommendations to enhance agricultural competitiveness had been discussed in recent forums but there has been limited action on the ground, for example, the strengthening of extension services, support for irrigation, the neglect of agriculture research institutions etc. The issue of piecemeal / stop-start reforms in agriculture by the state was impeding efforts to adopt a coherent and broad-based approach to enhancing competitiveness. As such, several promising sub-sector initiatives that had been adopted with donor support came to an end once donor funding had ran out.

The role of quality infrastructure (QI) for agricultural exports is of paramount importance. QI in Tanzania is weak which is exacerbated by regulatory and institutional weaknesses. Many small holder farmers lack capacity and resources to comply with QI issues such as standards, food safety and certification. This resulted in loss of market and export opportunities. Among the other constraints, in much of Tanzania, for example, testing capacity is limited to microbiology, some food and water chemistry tests, product physical parameters and limited aflatoxin testing. There is currently no capacity for testing pesticide quality and residue or for food adulterants and contaminants – which are the key challenges for export products such as spices.

Farmer groups are an important part of an ecosystem to value chain development and competitiveness. However, poor governance of farmers/growers (cooperative societies and unions) is a major bottleneck in the production segment of the horticulture value chain. Since liberalization of the economy in the 1990s, agriculture cooperatives have been plagued by governance challenges and inefficient cooperatives have been unable to effectively address the demands facing farmers in today's market driven agricultural value chains. On the other hand, effective agricultural cooperatives enabled farmers to realize economic benefits that they could not otherwise achieve alone. Groups of agricultural producers improve their bargaining power in the marketplace, reduce costs by pooling capital and resources through cooperative enterprises, and make expensive services cheaper, enable farmers to improve product and service quality and reduce risks. Best performing farmers groups (like MVIKIHO) exhibit certain characteristics. They tend to be commercially oriented with proper accounting and transparency. Some have registered as private companies, some have recruited dedicated business managers and agronomists to manage the cooperative, formed business partnerships with buyers and commercial farms, as well as NGOs to support them in finding export markets, training on GAP for members and obtain certification in areas like organic agriculture.

Related to the theme of inclusiveness and diversification, the research found that while women and youth are highly represented in horticulture, their participation focuses mainly on low value activities.

### 3.2 Recommendations

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To address the above constraints and enhance competitiveness in the horticulture value chain, several agricultural policy recommendations which build on lessons from previous and on-going agriculture value chain initiatives are made:

1. It is important to focus on implementation of existing policies and sub-sector strategies which already contain a wealth of initiatives targeting improved competitiveness and productivity. Improving implementation entails better utilization and allocation of resources. It also calls for improved coordination and capacity between all stakeholders, including central and local government and farmers.
2. There is a need for a modest approach, avoiding over-ambitious targets, that are unmatched by resources.
3. There is need to focus on achievable policy recommendations that provide synergy with existing initiatives by inter alia: (i) emphasis on implementation of existing policies and strategies; (ii) emphasis on addressing supply-side issues and strengthening the production segment of the value chain by drastically improving productivity through increased mechanization, adoption of good agricultural practices, development and use of high-yield and climate resilient seed varieties; (iii) facilitating greater adoption of out-grower/contract-farming schemes, which have been successful in developing competitive exports for crops like avocado and specialty coffee, with emphasis on quality and product certification; (iv) adopting a multi-year programme to strengthen national quality infrastructure covering institutions, product standards, infrastructure such as laboratories and other testing facilities and accreditation; (v) establishing a compact to facilitate the private sector as the driver of the agricultural sector; (vi) improve marketing, transport and logistics infrastructure along key corridors, including, pack sheds, cold chain, storage and warehousing and so on. In addition to the value chain recommendations, the programme proposed trade policy measures to reduce trade costs and promote international competitiveness and export diversification. These measures include: (i) emphasis on addressing trade barriers that impede market access (especially to regional trade), including, regulations that raise the costs for imported inputs; (ii) reform and simplify marketing arrangements for certain export crops like cloves and coffee to improve prices for producers and so on.
4. Adopt a commercial approach to agriculture. There is need for a more commercial approach to agriculture to develop value chains, improve competitiveness and boost exports. A major take away from the field research was that sub-sectors that have done well, have undergone a shift in approach, moving away from over reliance on government support, towards greater reliance on a mix of private sector and support from development partners.
5. Improving quality standards for competitiveness. A robust National Quality Infrastructure (QI) is critical to ensure agricultural production, agro-processing, intermediary and final goods and services conform to specified quality standards, in order to access markets like the EU and also to protect consumers.
  - The QI requires on-going reforms to strengthen missing links, address overlapping and unnecessary institutional duplication, improving streamlining of documentation and standards.

- QI and standards challenges could be addressed with appropriate multi-year interventions that target all stakeholders in the QI ecosystem.
- For sustainability, the role of value chain lead firms and cooperative societies is critical to ensure on-going compliance with industry and market standards.
- To support smallholder farmers to meet standards and certification issues it is critical organize them under effective cooperatives or under a viable out-grower scheme where a commercial farm or lead firm provided support with compliance with standards.
- The roles of QI agencies need to be streamlined and setting up a one-stop shop or single national window for QI and other licensing and certification issue where exporters could obtain all their QI related certification documents is ideal.

Collaboration and synergies between the TBS and other testing agencies needed to improve in order to cut unnecessary costs and duplication.

- Government should commit more resources for the development of QI, training of personnel and purchase of laboratory equipment. This includes improving capacity for organic certification and testing which was key concern for sectors like horticulture and spices which were not targeting volume increases but value addition in premium markets for organic and specialty products.
  - To enhance awareness and capacity to comply with quality standards among local producers, emphasis should be placed on addressing quality issues across trade and agriculture legislation and policies, targeting training for agriculture producers (especially smallholder farmers) on quality issues and standards compliance, and strengthening of SPS enquiry points in the trade ministry.
6. Improving governance of farmers/growers' associations and apex bodies in export and value chain development.
    - Support the formation of best performing autonomously managed farmers group, with minimal government interference and dependency that are structured as profit-making business units.
    - Government should support business to business linkages and provide support to AMCOS through co-operative education and training to improve business acumen and governance. Challenges facing farmers groups must be addressed together with those facing crop boards, marketing systems, LGAs, extension services, agriculture research institutions and SACCOS – as they all impact the production and marketing segments of the value chain.
  7. The private sector should be at the heart of any competitiveness reforms together with strengthened and better organized agricultural cooperative societies to ensure sustainability of subsector initiatives.
  8. Initiatives to improve value chain competitiveness must incorporate women and youth, including graduates from agricultural training colleges. Address the bottlenecks that impede women and youth from engaging in agriculture such as lack of access to land, lack of access to finance and training, etc.

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