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Case Study No. 4- Enhancing Access to Export Markets by Sub Saharan African (SSA) Countries through Sustainable Investments for Improved Quality and Quantity of Agri-food Commodities: The cases of Tanzania, Uganda, Ethiopia, and Ghana

MAIN REPORT (Final Draft 3)

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[1] Dr Daniel Ngowi sadly passed on the 10th November 2023. May the Almighty God rest his soul in eternal peace. Amen.

ECONOMIC AND SOCIAL RESEARCH FOUNDATION

Deliverable title: Case Study No.4 Enhancing Access to Export Markets by Sub Saharan African (SSA) Countries through Sustainable Investments for Improved Quality and Quantity of Agri-food Commodities[2]: The cases of Tanzania, Uganda, Ethiopia, and Ghana in MATS

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Declaration

1. In the implementation of this Case study No. 4, involving four African countries of Tanzania, Uganda, Ghana and Ethiopia, the Research Team ensured that: Data management is compliant with the EU's Guidelines on Findable, Accessible, Interoperable and Reusable (FAIR) Data Management in Horizon 2020.
2. All personal data are treated as strictly confidential and processed in compliance with General Data Protection Regulation 2016/679.
3. Anonymized data from surveys and interviews are securely stored in a safe location at partners' facilities (internally, anonymized data may be shared) (see also the D7.4 'Data Management Plan' and D8.1-8.3 'Ethical Requirements' on MS Teams).

[2] This title was agreed upon during a team meeting on 4th December 2022 after going through the Minutes from the Maastricht meeting and the Questionnaire sent by UH Team. The previous title in the Concept Note until October 2022 in Maastricht was *Priority Intervention Requirements to Enhance the Capacity of Sub Saharan African (SSA) Countries to Improve the Volume and Quality Agri-food Exports. The cases of Tanzania, Uganda, Ethiopia and Ghana*

[3]The authors are most grateful to Professor Fortunata Makene, the Executive Director of ESRF, for her overall leadership, and to the Head of Commission Studies, Mr Abel Songole for his technical support and co-ordination role, and to Ms. Agatha David Kiama and Maximillan Yanda for their committed logistical support throughout the study.

[4] R = Report, P = Prototype, D = Demonstrator, O = Other

[5] PU = Public, CO = Confidential, only for members of the consortium (including the Commission Services)

Summary

Introduction

The title of the Case Study No.4 is "**Enhancing Access to Export Markets by Sub Saharan African (SSA) Countries through Sustainable Investments for Improved Quality and Quantity of Agri-food Commodities: The cases of Tanzania, Uganda, Ethiopia, and Ghana**" as part of Making Agriculture Trade Sustainable (MATS) project, Work Package 3.4[6]. The choice of the study title fits into the 3rd Quadrant of the scheme of main categories of the 15 studies conducted by MATS (Figure 1):

Figure 1 Four Main Thematic Areas of the 15 Case Studies under MATS

Our study falls under the theme of "Market and Investments," hence the title carrying the two themes of "market access" and "sustainable investments" that will lead to increased production of surplus of high quality agri-food commodities for the export markets.

This main report combines work from four country studies, whose individual reports were prepared separately and synthesised to prepare this volume.

Context and Rationale

[6] The original project document referred to Case Study No.4 as "Accessing export markets with high quality/social/ environmental standards."

Context

The report has attempted to answer several key questions also covered in other 14 case studies in MATS, based on the analytical evidence from the four countries: (a) current situation and potentials of the selected agri-food commodities in contributing to the respective country's export trade volumes and earnings based on national and international investments channelled into the sub-sectors; (b) potentials of the agri-food commodities to positively impact on the livelihoods of smallholder farmers and therefore contributing to the attainment of sustainable development goals (SDGs); (c) identified main drivers for increasing produced quantities for good quality exported volumes to the European Union (EU) and other international markets; (d) required interventions by national and international institutions to support the respective value chain actors to increase exported quantities that conform to international standards; and, (e) ensuring both environmental and socio-economic sustainability along the agri-food value chains. The study has also contributed to what should be done to support equitable agri-food systems and effective sustainability transitions.

The views gathered from different stakeholders helped to identify capacity building needs to enhance the responsibilities of the public and private sector to enforcement of agreed sustainability goals and standards required by both industry and government.

Rationale for the choice of countries:

The four SSA countries were picked to represent typical agricultural sector dependent countries in the four main economic blocs under the African Union, namely Southern Africa Development Community (SADC -Tanzania), East African Community (EAC-Uganda), Common Market for Eastern and Southern Africa (COMESA-Ethiopia) and Economic Community of West Africa States (ECOWAS-Ghana).

Rationale for the Choice of Commodities

The choice of agri-food commodities was guided on their impacts on local and national socio-economic conditions, economic development sustainability, environmental sustainability, and observation of human rights in the production and value addition processes. The initial analysis, which had a longer list of commodities to objectively choose from, suggested that the following agri-food commodities be included for each of the study countries**:** Tuber (cassava) (Tanzania), fruits (banana), cocoa (Ghana) and meat (goat) (Ethiopia). The four commodities (see Photo 1) have in common two main features: they are grown mostly by smallholder farmers and are used for food (providing energy sources in the case of cassava, banana, and cocoa) and protein (meat and milk from goats)

as well as a source of cash income from selling in the domestic and international markets.

Photo 1 Photographs of the selected agri-food commodities

Horticultural crops (banana): Uganda 	Root/tuber crops (cassava): Tanzania 
Beverages (cocoa): Ghana 	Meat (goats): Ethiopia 

The Study Approach involved three steps

(a) *Secondary data review and analysis*: This involved review of secondary data gathered from domestic sources (e.g. national bureaux of statistics, agricultural research institutions and ministries responsible for agriculture (crops and livestock); and international organisations such as the World Trade Organisation (WTO), United Nations Conference on Trade and Development (UNCTAD), International Centre on Sustainable Trade Development (ICSTD), and International Trade Centre (ITC).

(b) *Primary information from stakeholders* included key informant interviews (KIIs) in all the four countries and focus group discussions (FGDs) specifically done in Tanzania. Researchers ensured that there was engagement with key actors who are (i) instrumental in shaping agricultural trade and its sustainability and investment implications; and (ii) organisations expected to use the research results to address sustainability challenges.

(c) *Information triangulation:* The information from secondary data was triangulated with views provided by stakeholders in understanding the impact of agri-food international trade on some selected SGDs, mainly SDG 1 (contributing to poverty alleviation), SDG 2 (ensuring food security (zero hunger), SDG 15 (enhancing life on land) and SDG 13 (climate change mitigation). Among the

selected agri-food products, those with the highest score in terms of meeting sustainability conditions are cassava for Tanzania, banana for Uganda, goat meat in Ethiopia, and cocoa in Uganda, as shown in Table 1.

Table 1 Initial Commodities Screened for Inclusion in the Final Analysis

Export Commodity	Tanzania	Uganda	Ghana	Ethiopia
Fruits		Banana		
Beverages			Cocoa	
Meat				Goats
Tubers	Cassava			

Relevancy of the Selected Commodities to SDGs

About 90-95 percent of the selected commodities are predominantly cultivated by small-scale farmers, who make up between 65 and 75 percent of the population in the four case study countries. These commodities possess several inherent strengths that contribute to their social and economic benefits, playing a crucial role in achieving the SDGs. Notably, they generate income for rural households (SDG 1), empowering them to access nutritious food and support healthy families (SDG 2). Cultivated using good agricultural practices (GAPs), these crops promote sustainable land use (SDG 15) and encourage climate-friendly farming and post-harvest methods (SDG 13).

Take goats, for example: they are well-suited to harsh climates and habitats, making them an ideal asset for impoverished pastoral communities (Solomon et al., 2014). Goats serve as both a form of property security and financial savings (SDG 1), providing a crucial safety net in times of agricultural failure (Feki, 2013). Beyond their economic value, goats offer multiple benefits: they produce milk (SDG 2), wool, and dung, which enhance soil fertility and boost food production (SDG 2). When slaughtered, they provide meat (SDG 2) and skins that can be sold for additional income (SDG 1). Furthermore, goats hold cultural and religious significance, such as their use in marriage dowries.

Merits of the Selected Agri-food commodities

The overall inherent strengths of the selected agri-food commodities are (i) their high potential to contribute to the achievement of SDG 2030, in particular, SDG goals 1,2, 13 and 15; (ii) producers have some long term historical experience and therefore can be couched to adopt new approaches to winning international markets; (iii) there are already established supportive national policies with respective institutions and legislations to promote the commodities from research and development, extension services, marketing, processing, safety, standards, and environmental considerations; (iv) there is a growing regional and international market for consumption and industrial use; (v) there is an established international trading framework on expected qualities and standards;

(vi) there is partnership between national and international agencies to support producers and processors to adhere to expected trade standards, and (vii) they can produced and processed without adverse effects on the environment and disruption of social-harmony.

Challenges faced by stakeholders in the commodity value chains

Cross-cutting challenges:

The selected commodities, however, had some commonly shared challenges, most critical ones were those related to: (a) low application of GAPs, be it in crop farming or animal husbandry. This was attributed to several factors, including low funding of funding of research and extension services, coupled with weak research-extension service-farmer linkages; (b) poor supportive rural infrastructure for transportation and post-harvest handling of agri-food commodities; (c) unpredictable marketing policies, resulting to weakly organised domestic marketing system, leading to uncompetitive pricing system; and, (d) unsupportive rural and/or agricultural financing system, characterised by unsustainably priced credit facilities. These factors have held back the ability of producers and processors to invest in upgrading and using appropriate technologies, including the use of high productivity crop varieties and animal breeds.

Commodity-specific challenges

Cassava Value Chain: Competition between different end users of cassava and its products, who offer different price incentives, relay different signals to smallholder farmers on their decisions to invest in production and post-harvest management conditions. The market for raw cassava for snacks in homes and hotels require certain non-bitter varieties with different cookability qualities. On the other hand, cassava for industrial starch requires stricter post-harvest management practices compared to that needed for bio-fuel production, but the later offers the least producer prices. Moreover, the law on contract farming did not adequately safeguard the interest of smallholder farmers.

Banana Value Chain: Among the special challenges encountered by banana *value chain* stakeholders, in addition to the common low productivity per plant and per unit areas, whereas over 95 percent of the smallholder banana producers do not use improved banana cultivars, included (i) weak implementation of existing banana value chain improvement policies and strategies; and, (ii) frequent droughts, floods, hurricanes, and other natural disasters due to climate change that disrupt the development of the banana plant cycle, leading to yield losses and price swings.

Goats Value Chain: Keeping of low productivity indigenous goats is being tackled by programs to upgrade the stock through crossbreeding. However, the effort is

hampered by lack of sufficient and superior quality feeds and forages, a necessary condition for the survival of improved/crossbreeds (Abebe, 2022). Moreover, weak documentation of breeding[7] and dissemination programs, uncontrolled diseases, poor extension and veterinary services, and lack of appropriate infrastructure, are among the most limiting factors that have hampered the success of goat production improvements by smallholder farmers in Ethiopia. Trekking of animals due to poor roads, and lack of fattening infrastructure before sale, result to weakened animals that fetch low prices offered to sellers.

Cocoa Value Chain: Among the challenges included (i) old tree stocks with declining yield per tree; (ii) low access to financial facilities; (iii) lack of irrigation facilities, thus subjecting the crop to fluctuations in yields due to inadequate soil moisture from natural precipitation; (iv) poor rural roads increases transport costs; and, (v) monitoring compliance to labour laws that restrict the employment of children in cocoa picking.

Opportunities and Potentials for Socio-economic development

There are opportunities for investing in programmes that can lead to motivated farmers to adopt GAPs and improved post-harvest handling approaches and technologies. Among the cross-cutting opportunities applicable to all the four-commodity *value chain (VC)* include:

a) Institutional support for research and development (R&D) to have improved crop varieties and animal breeds that can lead to improved productivity and qualities that comply to international market standards.

b) Programmes for the multiplication of improved seeds and animal breeds (e.g., the Somali Borena breed and Afar breed, that are most preferred in the Middle East and Asian countries).

c) Motivation of private sector to invest in technology transfer along the various nodes of the four VCs.

d) Building the capacity of stakeholders to comply to sanitary and phytosanitary standards (SPS) and Voluntary Sustainability Standards (VSS).

e) Building the capacity of producers to venture into traceability schemes for organically produced products.

In *cassava CV,* for example, enhanced private and/or public sector investment in establishment of farm machinery hire centres for land preparation, planting of cuttings, and harvesting is needed to modernize and improve efficiency of farm operations. This is a critical requirement for raising yields and profitability at farm level. Cooperative societies and contract farming arrangements assures farmers

[7] is an important aspect of traceability certification need for the export market

of market for their cassava. Common large-scale facilities for drying of cassava chips is also needed to improve the quality of dried chips.

In the *banana CV*, there is an opportunity for investing in (i) mass production of high yielding banana rhizomes (off-shoots) for distribution to farmers to upgrade their plant stocks and replace traditional low yielding varieties; and (ii) establishment of cold storage facilities of harvested banana before export.

In the *goats CV,* among the unique investment opportunities is enhancing the potential of goat meat to capture regional and international markets, which include (i) obtaining technical assistance to enable Ethiopia to comply with EU import conditions for goat meat; and (ii) provide support to institutions, livestock cooperatives, livestock research institutes and meat exports regulatory organisations to properly undertake their duties.

In *cocoa CV*, support is needed to support smallholder farmers replace their aged plants with new stocks of disease tolerant and higher yielding cocoa plants. There is also an opportunity to support programmes for cocoa traceability and certification that is internationally recognised by bodies such as the Rain Forest Alliance (RFA), Fair Trade and ORGANIC.

Recommendations

Cross-cutting recommendations for all the four commodities include the need to support:

(a) Commodity research-extension-farmer linkage system for adoption of GAPs by producers through the adoption of improved high yielding and pest/disease/drought tolerant crop and livestock breeds that will contribute to enhanced productivity and quantity/quality of agri-food commodities.

(b) Programmes for implementation of commodity agri-food CVC improvement policies and strategies.

(c) Programmes that enhance ease of access by stakeholders to competitively and sustainably priced financial credit for agri-food value chain development.

(d) Programmes for mitigation of effects of climate change that has resulted to frequent droughts, floods, hurricanes, and other natural disasters that disrupt the development of plant cycle, leading to yield losses and price swings. This should include programmes for the development of irrigation systems (for crops) and small dams (goats) for countering the effects of recurring droughts.

(e) Institutional arrangements at national and sector levels: The CVCs requires a well-functioning institutions arrangement that complement each other in the value system. Typically, it is expected that that

research institutions to work closely with extension service providers as well as training institutions that provide extension agents and researchers. There should also be close working relationships with regulatory agencies to ensure quality seeds, fertilizers, pesticides, and animal drugs.

(f) Policy interventions at the macro level. The CVCs requires a well-functioning policy support. For example, currency over-valuation due to artificially pegged currency exchange rate, not only implicitly taxes producers of the export products, but it also suppresses producer prices and the development of competitive domestic and export markets. Policy interventions are needed to create a more flexible exchange rate policy that can respond to the changes in the domestic and foreign livestock product markets.

(g) Infrastructural development along the CVCs. A well-functioning infrastructural network is critically needed in terms of rural access roads, stable and reliable electricity, adequate water supply and several others needs improvement to support a thriving crops and livestock sub-sectors.

Commodity-specific recommendations

Cassava in Tanzania: There is need for the private sector to invest on its own or in partnership with government under public-private partnership (PPP) framework, which includes deployment of contract farming arrangements, in the establishment of (i) farm machinery hire centres for modernization of farm operations; (ii) irrigation schemes for cassava farming (iii) shared facilities for cassava chips drying, (iv) private sector involvement in massive production of certified cassava cuttings to enable more smallholder farmers use improved higher yielding cassava cultivars; (v) processing of cassava into different products beyond chips and flour such as production of industrial starch and ethanol; (vi) production of blended cassava flour for the domestic and regional markets; and, (vii) identification of new markets for the different products.

Banana in Uganda: There is need to establish (i) laboratories for banana genome multiplication laboratories; (ii) learning from other countries such as Jamaica on the use of improved agronomical practices that include control of cross-pollination and contamination; (iii) cold chain facilities at collection centres in rural areas and at airports; (iv) value addition of banana such as production of chips, flour, and beverages; (v) market identification and promotion for organically produced banana including capacity building for certification of organic products.

Goats in Ethiopia: There is need to (i) promote the brand of Ethiopian goat meat as unique compared to other countries. This will require some efforts to identify it with its special refined quality attributes that meets international food quality standards and certified by reputable organisations; (ii) build the

capacity of farmers, traders, processors, and exporters, to be aware and sensitive to the international requirements of the specified brand qualities with respect to meat quality and safety. This will require attracting foreign firms that have better market networks and marketing experience could help other firms to learn from them; (iii) improve livestock extension services support. This will require retooling of the extension services and modernising the services using ICT-based communication systems with producers; (iv) Capacity building for livestock research institutions to provide desirable goat breeds for the export market; (v) facilitate improvement in the supply of desirable types of goats whose meat products are most demanded in various importing markets, including those of the EU.

Cocoa in Ghana: Support is required to enable farmers to (i) replace and plant newer higher yielding cocoa tree; (ii) easily access reasonably priced bank credit; (iii) use irrigation systems to stabilize production and mitigate effects of droughts; (iv) improvement of rural roads to reduce transport costs; and (v) enforcement of compliance to labour laws that restrict the employment of children in cocoa picking. There will also need to support technology adoption by private sector processors to produce intermediate and final products that can effectively compete in the international market.

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List of Abbreviations

AGOA	African Growth and Opportunity Act
AGRA	African Green Revolution Alliance
AMIS	Agriculture Marketing Intelligence System
ASA	Agricultural Seeds Agency
ASDP	Agricultural Sector Development Programme
ATI	Agriculture Transformation Initiative
BSE	Bovine Spongiform Encephalopathy
CAADP	Comprehensive African Agriculture Development Programme
CHAG	Cocoa Hauliers Association of Ghana
CHED	Cocoa Health and Extension Division
CMC	Cocoa Marketing Company
COCOBOD	Ghana Cocoa Board
CO-COSHIE	Cocoa, Coffee, and Shea nuts Farmers Association
COMESA	Common Market for Eastern and Southern Africa
COSTECH	Commission for Science and Technology
CPB	Crops and other Produce Board
CREFAA	Convention on the Recognition and Enforcement of Foreign Arbi- tral Award
CRGE	Climate Resilient Green Economy
CRIG	Cocoa Research Institute of Ghana
CSDS	Cocoa Sector Development Strategy
CSOs	Civil Society Organizations
CVC	Commodity Value Chain
DCIC	Department of Crop Inspection and Certification
DRC	Democratic Republic of Congo
DWCP	Decent Work Country Programs
EAC	East African Community
EC	European Commission
ECOWAS	Economic Community of West African States
EEA	Ethiopian Economic Association
EIAR	Ethiopian Institute of Agricultural Research
EIC	Ethiopia Investment Commission
EMPEA	Ethiopian Meat Producer-Exporters Association
EPA	Environmental Protection Authority
EPRC	Economic Policy Research Centre
EPZ	Export Processing Zones
EPZA	Export Processing Zones Authority
ESPP	Expanding Social Protection Programme
ESRF	Economic and Social Research Foundation

EU	European Union
FAO	Food and Agricultural Organization
FASDEP	Food and Agriculture Sector Development Policy
FCDO	Foreign and Development Office
FDI	Foreign Direct Investment
FFS	Farmer Field Schools
FGD	Focus Group Discussion
FIES	Food Insecurity Experience Scale
FOB	Free on Board
FYDP	Five-Year Development Programme
GAPs	Good Agricultural Practices
GATS	General Agreement of Trade in Services
GATT	General Agreement on Trade and Tariffs
GCFRP	Ghana Cocoa Forest REDD+ Programme
GDP	Gross Domestic Product
GEPA	Ghana Export Promotion Authority
GHGs	Greenhouse Gases
GHP	Good Hygienic Practice
GIA	Ghana Investment Authority
GMP	Good Manufacturing Practice
GOG	Government of Ghana
GSFP	Ghana School Feeding Programme
GSS	Ghana Statistical Service
GSP	Generalized System of Preferences
GTP	Growth and Transformation Plan
HAACP	Hazard Analysis Critical Control Points
HDI	Human Development Index
HFAAD	Health and Food Audits and Analysis Directorate
ICIEC	Islamic Corporation for the Insurance of Investment and Export Credit
ICT	Information and Communication Technology
ICSID	International Centre for Settlement of Investment Disputes
ICSTD	International Centre on Sustainable Trade Development (ICSTD)
IDEG	Institute for Democratic Governance Capacity Building Project
IITA	International Institute of Tropical Agriculture
ILMIS	Integrated Land Management Information System
IPA	Investment Promotion Agency
IPM	Integrated Pest Management
IPPC	International Plant Protection Convection
ILRI	International Livestock Research Institute
ISO	International Standards Organisation
ISSER	Institute of Statistical Social and Economic Research
ISTA	International Seed Testing Association
ITC	International Trade Centre
KII	Key Informant Interview
KSA	Kingdom of Saudi Arabia
kWh	Kilo watt hour
LDCs	Least Developed Countries
LEAP	Livelihood Empowerment Against Poverty

LGAs	Local Government Authorities
LICOBAG	Licensed Cocoa Buyers Association of Ghana
LIPW	Labour-Intensive Public Works
LMIC	Lower Middle-Income Countries
LMIS	Ethiopia Livestock Marketing Information System
EPAMATS	Making Agriculture Trade Sustainable
MDAs	Ministries, Departments and Agencies
METASIP	Medium-Term Agriculture Sector Investment Plan
MFN	Most favoured Nation
MoA	Ministry of Agriculture
MoFA	Ministry of Food and Agriculture
MIGA	Multi-lateral Investment Guarantee Agency
NARO	National Agricultural Research Organisation
NBRP	National Banana Research Programme
NBS	National Bureau of Statistics
NCDP	National Cassava Development Programme
NEMA	National Environmental Management Act
NEMC	National Environment Management Council
NEP	National Entry Point
NEPAD	New Partnership for Africa's Development
NFNC	National Food and Nutrition Council
NHIS	National Health Insurance Scheme
NILUPP	National Integrated Land Use Planning and Policy
NSPP	National Social Protection Policy
NTM	Non-Tariff Measures
NWU	North-West University
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OIE	Organisation for Animal Health
OPIC	Overseas Private Investment Corporation
OSHA	Occupational Health and Safety Act
PIBID	Presidential Initiative for Banana Industrial Development
PTA	Preferential Trade Area
QCC	Quality Control Company
R&D	Research and Development
RFA	Rain Forest Alliance
SADC	Southern Africa Development Community
SDG	Sustainable Development Goals
SEZ	Special Economic Zones
SME	Small and Medium Enterprises
SPD	Seed Production Division
SPS	Sanitary and Phytosanitary Standards
SSA	Sub-Saharan Africa
TACAPPA	Tanzania Cassava Producers and Processors Association.
TADB	Tanzania Agricultural Development Bank
TAN-TRADE	Tanzania Trade Development Authority
TARI	Tanzania Agricultural Research Institution

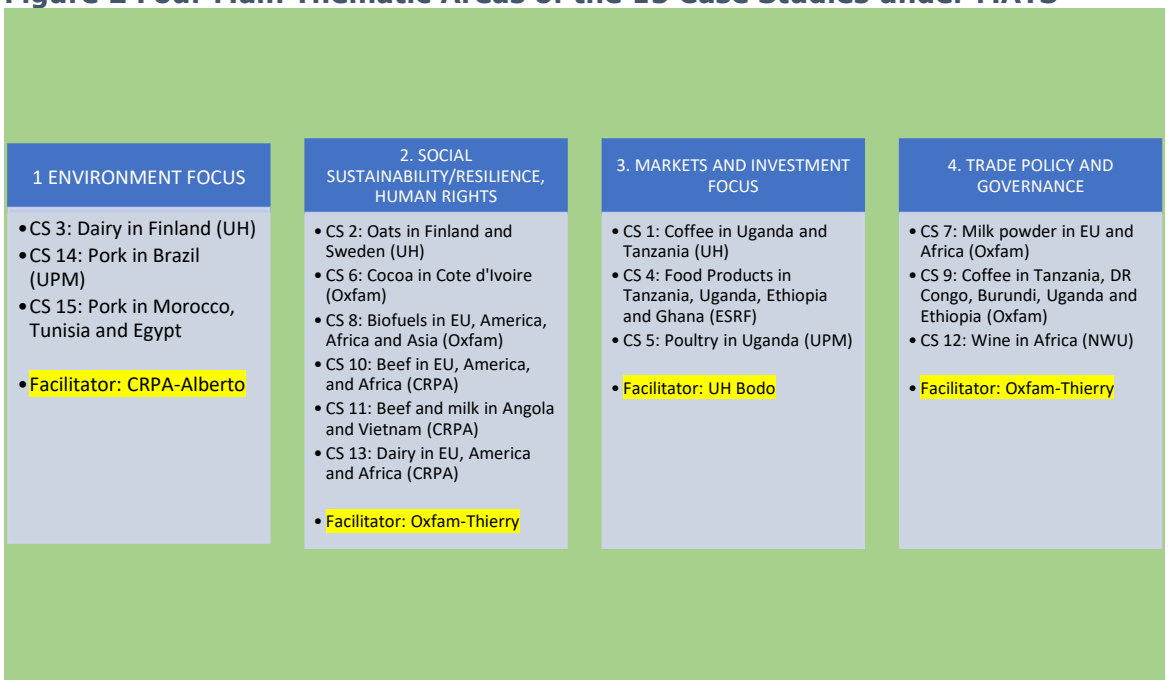
TASAF	Tanzania Social Action Fund
TBT	Technical Barriers to Trade
TDV	Tanzania Development Vision
TBS	Tanzania Bureau of Standards
TFRA	Tanzania Fertilizer Regulatory Authority
TIC	Tanzania Investment Centre
TIRDO	Tanzania Industrial Research Development Organisation
TOSCI	Tanzania Official Seed Certification
TPHPA	Tanzania Plant Health and Pesticides Authority
TRIMS	Trade Related Investment Measures
TRIPS	Trade related Aspects of Intellectual Property Rights
UAE	United Arab Emirates
UEPB	Uganda Export Promotion Board
UFNP	Uganda Food and Nutrition Policy
UH	University of Helsinki
UIA	Uganda Investment Authority
UNBS	Uganda National Bureau of Standards
UNCTAD	United Nations Conference on Trade and Development,
UNDP	United Nations Development Programme
UNFCCC	UN Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
URT	United Republic of Tanzania
USA	United States of America
USDOL	U.S Department of Labor
VC	Value Chain
VSD	Veterinary Services Department
VSS	Voluntary Sustainability Standards
WB	World Bank
WFCL	Worst Forms of Child Labour
WOAH	World Organization for Animal Health
WTO	World Trade Organisation

1. Chapter 1: Introduction

1.1 Study Objective

The goal of WP3 is to provide a comprehensive assessment of the linkages between agricultural trade, agricultural and rural investments, environmental sustainability, and human well-being. The title of the Case Study No.4 is the identification of "**Enhancing Access to Export Markets by Sub Saharan African (SSA) Countries through Sustainable Investments for Improved Quality and Quantity of Agri-food Commodities: The cases of Tanzania, Uganda, Ethiopia, and Ghana**" as part of Making Agriculture Trade Sustainable (MATS) project, Work Package 3.4[8]. The choice of the study title fits into the 3rd Quadrant of the scheme of main categories of the 15 studies conducted by MATS:

Figure 2 Four Main Thematic Areas of the 15 Case Studies under MATS



Our study falls under the theme of "Market and Investments," hence the title carrying the two themes of "market access" and "sustainable investments" in producing surplus high quality agri-food commodities for the export markets.

The four countries were picked to represent typical agricultural sector dependent countries in the four main economic blocs under the African Union, namely SADC (Tanzania), Uganda (EAC), COMESA (Ethiopia) and ECOWAS (Ghana).

[8] The original project document referred to Case Study No.4 as "Accessing export markets with high quality/social/ environmental standards."

1.1 Context and Rationale

Context

This report addresses two primary questions alongside 14 other case studies within MATS, drawing on analytical evidence from four countries. Firstly, it explores how each country's trade regimes, local and international investments in agri-food value chains and implemented sustainability standards have influenced socio-economic and environmental conditions at local, national, and international levels. Additionally, the study examines the impact of investments and proposes strategies to foster equitable agri-food systems and facilitate effective sustainability transitions. This analysis encompasses considerations such as the cost of compliance with voluntary sustainability standards (VSS) and the promotion of labour rights.

The second question addressed by the report is how governments, with support from the international community, can maximize the positive and minimize the negative impacts of agri-food trade and trade policies on sustainable development and human rights. The analysis is supported by identifying capacity-building needs that will strengthen the roles of both the public and private sectors in enforcing agreed-upon sustainability goals and standards, whether driven by industry or government.

Rationale for the choice of countries:

The overarching rationale is that the four selected countries from Sub-Saharan Africa (SSA), do represent other typical agricultural sector dependent countries in the four main economic blocs under the African Union, namely the Southern African Development Community (SADC), the East African Community (EAC), Community of East and Southern Africa (COMESA), and Economic Community of West African States (ECOWAS).

(a) **Tanzania** (61 million people in 2022, gross domestic product (GDP) of USD 70,309 million (USD 1,200 per capita, and Human Development Index, HDI of 0.549) (World Bank,2022). The country is part of the SADC, with 15 countries, with a total population of 389.4 million people and a combined GDP of USD 758,867 million (USD 2,041 per capita).

(b) **Uganda** (42.46 million people, USD 1,055 GDP per capita, Exports in 2021 USD 4,200.2 million (9.78 % of GDP), and HDI of 0.544 (World Bank,2022). The country is part of EAC with 7 countries, with a total population of 312.4 million people.

(c) **Ethiopia** (99.7 million people, GDP of USD 99,269 million, USD 996 GDP per capita, export earnings per GDP of 4.04 percent), and HDI of 0.498 (World Bank,2022). The country is among 21 member-states of the COMESA, with a total population of 639.52 million people.

(d) **Ghana** (33.1 million people, GDP USD 77,590 million, GDP per capita of 2,521, and HDI of 0.632) (World Bank,2022). The country is a member of ECOWAS, with a total population of 424.34 million people and a combined GDP of USD 726,421 million (USD 1,783 per capita)[9]. Ghana electricity consumption per capita was 351 kWh in 2022.

Rationale for the Choice of Commodities

The choice of agri-food commodities was guided on their impacts on local and national socio-economic conditions, economic development sustainability, environmental sustainability, and observation of human rights in the production and value addition processes. The initial analysis, which had a lengthy list of commodities to objectively choose from, suggested that the following agri-food commodities be included for each of the study countries**:** tubers (cassava) (Tanzania), fruits-banana (Uganda), cocoa (Ghana) and meat-goat (Ethiopia).

1.2 Scope of Case Study

This case study aimed to identify the key interventions needed in SSA countries to foster access of agri-food products (cassava, banana, goat meat and cocoa) to the EU and other international markets. Some capacity needs assessment (CNA) was conducted in each country to obtain information on prevailing situation and what is needed to address the identified challenges and gaps for four agri-food commodities. Specific areas of inquiry included challenges and gaps related to meeting rules and regulations on required quality standards to access the EU and other international markets. The case study also identified institutional frameworks, policies and regulations impacting on international trade. Additional considerations included aspects such as sustainability of the production and processing metrics, benefits accruing to youth and women. Some of the cross-cutting issues for consideration included environmental conservation, including minimal pollution of water bodies and preservation of forests. Another important aspect was that on the adherence to labour regulations such as those safeguarding the welfare of children. The case study is expected to contribute to SDG1, 2, 3, 13, and 15. This report is assembled such that it can be used (a) to prepare policy briefs and articles for publications; and (b) by other agencies to prepare capacity building materials for different stakeholders in the four study countries or other SSA countries.

1.3 Common set of core indicators

In line with the MATS Guideline, the Case Study No.04 has examined 12 core indicators from across three thematic areas as follows:

[9] www.countryeconomy.com/ecowas

(a) *Economy and Markets dimension,* whose related indicators include: (i) average income of small-scale food producers, by sex and indigenous status (SDG 2.3.2); (ii) proportion of agricultural area under productive and sustainable agriculture (SDG 2.4.1); (iii) total resource flows for development, by recipient and donor countries and type of flow (SDG 10.b.1); (iv) annual growth rate of real GDP per capita (SDG 8.1.1); and, (v) total official development assistance grants that focus on poverty reduction as share of recipient country's gross national income (SDG 1.a.1).

(b) *Social and Human Dimension* whose related indicators include: (i) prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES) (SDG 2.1.2); (ii) prevalence of undernourishment (SDG 2.1.1); (iii) proportion of the population living below the international poverty line by sex, age, employment status and urban/rural (SDG 1.1.1); (iv) prevalence of malnutrition based on WHO Child Growth Standards) among children under 5 years of age (SDG 2.2.2); (v) proportion of population living in households with access to basic services (SDG 1.4.1); and, (vi) Human Development Index (HDI) (combining health, education, shelter, income, etc).

(c) *Environmental dimension,* whose SDG indicators include share of renewable energy as a proportion of total energy consumption (SDG 7.2.1) and the proportion of farmed land under irrigation (SDG 15).

2. Chapter 2: Methodology

2.1 Methodological Approach

Case Study No.4 adopted a multi-methods approach combining secondary data analysis and primary information gathered through stakeholder interviews and discussions. The former involved examination of public sector official reports from state ministries, departments, and agencies (MDAs) and non-state routine, special and research reports by national and international organisations, whose analysis and interpretation are presented in chapter 3. This involved (i) analysis of publicly available macro-economic statistics, current legislations, existing studies, and triangulation; (ii) analysis of publicly available economic, agricultural, environmental and climate statistics and existing studies.

Participatory qualitative research approaches, key informant interviews (KIIs) (in all the four countries) and focus group discussions (FGDs) (in Tanzania) were applied. The results of the stakeholder views and opinion are presented Chapter 5 of this report. There was close collaboration with local partners in each of the selected SSA countries of Tanzania, Uganda, Ethiopia, and Ghana. These were picked based on the rich knowledge and involvement in agri-food value chains development, international trade policies, rules, and regulations. The partners provided some ground support in the (i) identification of stakeholders and arranging for logistics during conducted virtual interviews; (ii) identification and gathering of sources of secondary data collection from official sources for use in the study analysis; (iii) peer reviewing of the draft reports prepared by ESRF's core team. This approach was used to ensure that the analyses undertaken are meaningful and could be applicable in different contexts, and especially in proposing practical policy recommendations for the respective countries and the European Commission (EC). The collaborating partners in each country will be involved in the dissemination webinars and workshops. The recommendations are also expected to feed into other study tasks such as Task 6.3 on 'Facilitate a civil society-stakeholder-policy dialogue,' led by the OXFAM team.

Key stakeholders in the case study: There were five key categories of stakeholders that were consulted during the study as follows:

- Agri-food value-chain actors: farmers and small and medium businesses enterprises (SMEs) involved in commodity value addition and exporting.
- Civil Society Organizations (CSOs) including Private sector associations.
- Research and Capacity Building Institutions.
- Government MDAs, including those involved in statutory enforcement of laws and regulations on standards, quality, and environmental conservation.
- Development Partners.

Consent for Stakeholders Consultations were observed as follows:

- A special Consent Form was prepared for participants to sign agreeing as participants to the study.
- Approval to conduct they survey involving FGDs was requested and provided by the Commission for Science and Technology (COSTECH).

Stakeholders were asked for their permission to take some photographs (see Photos 1 and 2) and record their contributions during KIIs. Transcripts of the conservations with key informants are deposited in MATS shared resources under ESRF.

Photo 1 A Farmer showing a virus-infected cassava plant

Handeni district: A farmer showing cassava plants suffering from newly introduced breed	
	
Both photographs taken by Dr. H.B. Lunogelo, July 2023	

Photo 2 Cassava tubers harvested from a farmer's field in Handeni

Handeni District, Tanzania: Ms Agatha Kiama, ESRF Researcher allowed to uproot cassava from a cassava field (left) and sacks on the road-side ready for collection by transporters (right)

(Both photographs taken by Dr. H.B. Lunogelo, July 2023)

2.1.1 Data Collection Tools

Tools for KIIs (see Annex 2) and FGDs (see Annex 3) were designed to obtain stakeholder views and opinion on the following aspects:

(a) Institutional, legal. research, technical, and capacity building interventions needed to foster access to the EU and other international markets: This involved finding out:

- Existing and potentials in the international market for agricultural food products produced by selected African countries.
- Technical barriers to access EU and other international markets.
- Products quality and accreditation standards.
- Sanitary and phytosanitary standards (SPS).
- Rules of origin, EU, and other international trade policy requirements.
- Enhanced agri-food value chain efficiency.
- Required technologies for processing agri-food products to add value.
- Traceability of the commodity with respect to water footprint and carbon footprint.
- Compliance to adherence to gender labour rights, which is women and children rights.
- Compliance on environmental sustainability.

(b) The most important WTO and EU rules and regulations regarding market access, which covered:

- WTO market access rules – GATT and Doha agreements.
- WTO special and differential treatment provisions for LDCs.
- EU rules and regulations on market access for LDCs.
- EU standards to foster greening agenda.

2.1.2 Tools for Data Analysis

The analysis employed tools such as SWOT matrices, priority ranking of challenges and interventions based on stakeholder views, time series export data analysis, and comparative mapping of commodity potential in international markets. Additionally, the report mapped the linkages between actors and stakeholders in the value chains of the four communities to understand the governing institutional arrangements.

2.2 Research Team

The ESRF's Core research team (Dr Lunogelo, Dr Ngowi and Prof Rwehumbiza) was assisted by some co-opted researchers from Uganda's Economic Policy Research Centre (EPRC: Dr. Brian Sserunjogi), Ethiopian Economic Association (EEA: Dr. Alemu Lambamo), and Ghana's Institute for Democratic Governance Capacity Building Project (IDEG: Dr. Eric Cornelius). The researchers in these countries conducted KIIs, provided secondary data as well as peer reviewing the draft reports.

2.3 Study Limitations

Although KIIs were used in all the four countries, the use of FGDs was limited to Tanzania's stakeholders alone and could not be applied to those in Uganda, Ethiopia, and Ghana due to logistical constraints.

2.4 Report Outline

This report consists of Chapter 1 that presents the introduction, with a summary of the basic data for the case study in text box; Chapter 2, with methodology and approach; Chapter 3, provides some brief overview of the four countries taken for Case Study No.04. Chapter 4 presents discussions on secondary data findings regarding key features of the selected four value chains in relation to supportive policies for enhancing productivity and production, trade policy regimes, national and super-national institutional arrangements, investments in agri-food value chains, and sustainability standards. Chapter 5 is dedicated to presenting stakeholders' views as obtained from KIIs and FGDs. Chapter 6 presents recommendations for future interventions considering how to foster the positive impacts of

agri-food trade. The Bibliography and other supportive materials are provided in the Appendix part of the report.

Chapter 3- About the Case-Study Sub-Sahara African Countries of Tanzania, Uganda, Ethiopia, and Ghana

3.1 General Social and Economic Characteristics of the Four Sub-Saharan African Countries

The four study countries from among SSA countries represent four regional economic communities of SADC (Tanzania), EAC (Uganda and Tanzania), COMESA (Ethiopia, Uganda, and Tanzania) and ECOWAS (Ghana). They have a with a combined human population of more than 267 million, whose life expectancy ranges from 66.1 years (Tanzania) and 67.9 (Ghana) (Table 2). They have a combined GDP of USD 340 million, with Ghana and Tanzania having per capita income levels of USD 2,101 and USD 1,200, respectively, characteristic of lower middle-income countries (LMICs). However, all the four countries have at least one third of the population living below the USD 1.99 poverty line, with unemployment rate ranging from 2.8 percent (Tanzania) to 4.3 percent (Uganda). The countries are experiencing high public debt ratios relative to their GDPs, with Ghana (77%) and Ethiopia (55%), having the highest debt burdens (Table 2).

Table 2 Key Socio-Economic Characteristics of the Case Study Countries

Indicators	Units	Tanzania	Uganda	Ethiopia	Ghana	Note
Land Area (sq.km)	Sq.km	945,087	241,038	1,112,000	238,533	Out of Africa's land area of 30,365,000 sq.km
Population in 2023	Million people	63.3	47.25	123.38	33.45	Out of Africa's population of 1.46 billion people
Life expectancy (2023)	Years	66.1	64.38	66,9	67.8	www.macro-trends.net
GDP in 2023	USD Billion	79.65	48.29	136.8	75.03	www.tradingeconomics.com
GDP growth 2022 to 2023	Percent	5.1	6.5	5.8	1.7	3.3 percent growth rate in Sub-Saharan Africa (SSA) (AfDB,2022)
Per Capita income in 2023	US Dollars	1,200	1,055 10	925.1	2,101	www.tradingeconomics.com
Inflation rate	Percent	4.3	7.2	33.9	31.3	12.5 percent inflation rate in SSA in 2023
Foreign exchange	Months	4.7[a]	4.2[b]	1.7[c]	4.3[d]	[a]www.theeastfarican.co.ke;

[10] According to World Bank's Atlas method, in 2020/21 GNI per capita for Uganda was USD 1,055

Indicators	Units	Tanzania	Uganda	Ethiopia	Ghana	Note
reserves to cover imports (mid 2023)						[b]www.themonitor.co.ug; [c]USD 1.7 billion in 2023: www.Fitchsolution.com; [d]www.ceicdata.com
Balance of Trade	USD Billion	-3.16	-4.77	-12.78	-0.58	https://www.macrotrends.net/global-metrics/countries/...
Public Debt	USD billion	11.96[a]	20.99	52.6	28.14[d]	[a]www.tradingeconomics.com; [d]www.mofep.gov.gh
Debt to GDP Ratio in 2022	Percent	38.3[a]	48.6[a]	55.0[a]	77.6[a]	[a]tradingeconomics.com
Fiscal Deficit in 2022	% of GDP	5.7	5.3	4.2	12.1	www.afdb.org (Economic Outlook of African countries)
Unemployment rate	% of active population	2.8	4.3	4.0	3.9	www.tradingeconomics.com

Sources: as shown under the last column with notes

Promoting sustainable international trade is important in generating the prerequisite foreign exchange earnings necessary to cover import requirements, with Ethiopia for example, having had enough to cover only 1.3 months of imports in mid-2023 against the recommended period of 4 months (Table 2).

3.2 Specific Social and Economic Features of Tanzania

3.2.1 Tanzania's Political Economy

The United Republic of Tanzania (URT) was formed in 1964 as a union between mainland Tanzania (Tanganyika, which got independence from British rule in December 1961 and granted as a Republic in 1962) and the Zanzibar isles (Unguja and Pemba, which formed a Revolutionary Government after overthrowing the Sultanate of Oman in January 1963). Tanzania is immediately surrounded by 8 countries: Kenya and Uganda (Northern side), Rwanda, Burundi, and Democratic Republic of Congo (DRC) of Congo (Western side), Zambia, Malawi, and Mozambique (Southern side). The Indian Ocean is on its Eastern side with the Islands of Comoro and Seychelles as independence states. The main staple foods are rice, maize/cassava/millet/sorghum porridge (ugali), eaten with legumes, vegetables, meat, and fish. The country is governed through three pillars: The Presidency, the Judiciary, and the Legislature. The President and Members of Parliament are

democratically elected through multi-political party system whereby the party with most MPs elects the Speaker.

3.2.2 Role of Agriculture in economic growth

Agriculture accounts for 26.7 percent of Tanzania's GDP and provides employment for about two thirds of the nation's population (NBS,2022). Opportunities exist for agriculture businesses across domestic, regional, and international markets, for both traditional and new products. The main staple food crops produced in the country, with respective yields per hectare, are maize (1.55 t/ha), rice (2.4 t/ha), pulses (0.72 t/ha), cassava (5.2 t/ha), and wheat. Traditional cash crops are cotton (0.65 t/ha), sugar (8.4 t/ha), cashewnuts (0.25 t/ha), coffee (0.75 t/ha), tea (0.6 t/ha), sisal (1.1 t/ha for smallholder farmers and 2.5 t/ha from sisal estates), and tobacco (0.4-0.6 t/ha) (NBS,2022). The levels of productivity for these crops are significantly below the full potential under ideal GAP due to over-dependent on rain-fed production and limited use of improved seeds and fertilizers by smallholder farmers, who dominate the agricultural sector.

As for the livestock sector, Tanzania has the third largest livestock population in Africa, after Ethiopia and Botswana, comprising 25 million cattle, 98 percent of which are indigenous breeds, complemented by 16.7 million goats, 8 million sheep, 2.4 million pigs, and 36 million chickens. The sector contributes 7.4 percent to the country's GDP and the annual growth rate of the sector is low at 2.2 percent (NBS,2022). The sector is still experiencing low levels of productivity per animal or bird (measured in carcass weight, milk, or eggs) due to low livestock reproductive rates, high mortality, and high disease prevalence.

Fishery resources provide vital livelihoods to communities along the 850 km stretch of the Indian ocean's coastline and along fresh water inland lakes of Victoria, Tanganyika, Nyasa, Rukwa, and Manyara. The sub-sector is dominated by small-scale artisanal fisherfolks, who account for most of the fish catch produced in the country. They operate in shallow waters within the continental shelf, using traditional fishing vessels including small boats, dhows, canoes, outrigger canoes and dinghies.

Tanzania Mainland is also richly endowed with forest resources which cover 48.1 million hectares which is an equivalent of 55 percent of the total surface land area, including woodlands, catchment forests, mangroves, coastal forests, and government forest plantations. However, deforestation rate is high due to demand for firewood as a major source of energy in most households, clearance of land for farming and industrial purposes etc. For instance, between 1990 and 2015 the country lost about 17 percent of its forests. Despite the country's eligibility to global funds for climate change mitigation and green growth, there are still very few programmes for accessing those funds.

3.2.3 Export Characteristics of Roots and Tubers (HS 071410)

In 2021, Tanzania's total exports of roots and tubers "cassava" (HS 071410) amounted to 2.29 billion USD (Table 3). The difference (negative balance) between the value of exports and imports could be attributed to (among other factors) the fact that exports are typically reported in FOB – Free on-board terms and imports are typically reported in CIF – Cost, Insurance and Freight terms. Over the last five years, the annual growth in value and quantity was 3 percent and 10 percent respectively, implying that roots and tubers were sold cheaper from exporting countries.

Table 3 ***Export potential of Tanzania's roots and tubers across markets as of 2021***

S/N	Export Markets	Tanzania				
		Export potential (Thousand USD)	**Actual exports (Thousand USD)**	**Untapped potential (Thousand USD)**	**Remaining room for export growth (%)**	**Applied Tariff (%)**
1	DR Congo	752	987	-	N/A	10
2	Burundi	636	627	9	1.42	0
3	Uganda	602	482	120	19.93	0
4	China	437	59	379	86.73	0
5	Kenya	233	4.6	228	97.85	0
6	Rwanda	95	127	-	N/A	0
7	Netherlands	59	0	59	100	0
8	USA	34	0	34	100	0
9	UAE	31	0	31	100	5
10	Spain	29	0	29	100	0
11	Portugal	21	0	21	100	0
12	France	20	0	20	100	0
13	Belgium	18	0	18	100	0
Top 13 Total			2286.6	N/A		

Source: Calculations based on ITC (2021) Export Potential Map/Tanzania

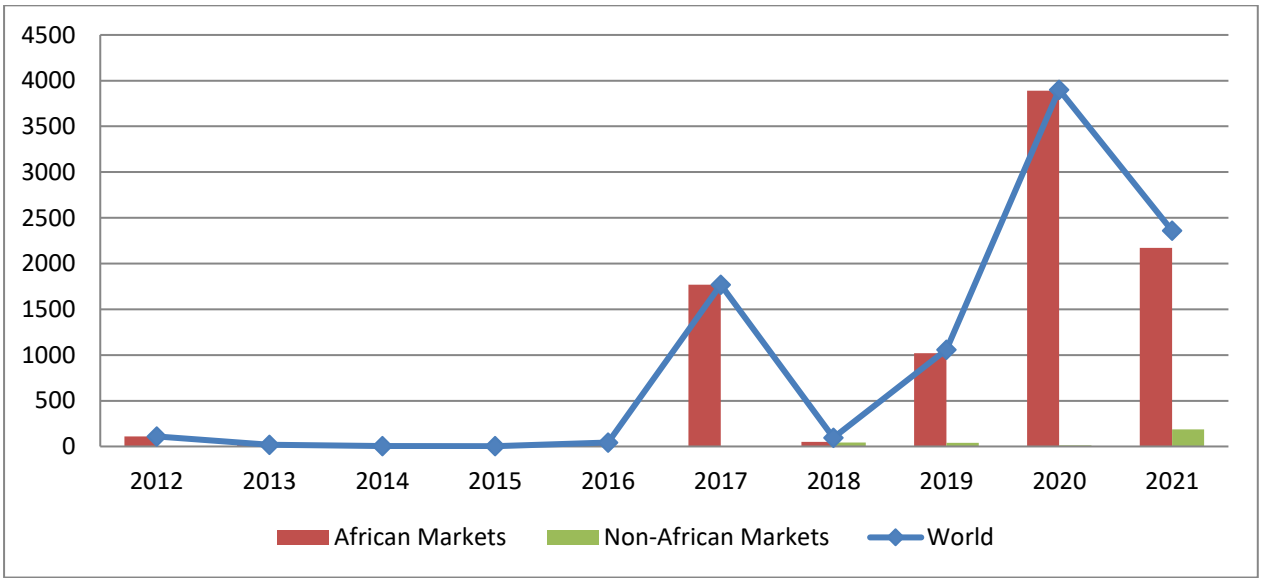
There are approximately 80 countries exporting roots and tubers around the world led by four major countries, namely Thailand, Lao, Viet Nam, and Costa Rica, which together make a total share of 95.6 percent of all imports (Table 3). This share makes the world supply of roots and tubers highly concentrated in these markets. Over the period (2020–2021), the annual growth rate in value of each of these four countries, i.e., Thailand (86%), Lao (39%), Viet Nam (57%) and Costa Rica (59%) is promising and thus worth-emulating (ITC, 2022)[11].

[11] ITC calculations based on UN COMTRADE and ITC statistics

3.2.4 *Contribution of Major Markets to Tanzania's Exports of Roots and Tubers of Manioc (cassava)*

Figure 3 shows Tanzania's exports of roots and tubers of manioc or cassava to African and non-African markets. Before 2018 Tanzania's exports of roots and tubers were dominated by African markets (by 100%), with negligible exports to non-African markets such as USA and the rest of the world (i.e., non-preferential markets outside Africa). The country's exports of roots and tubers started picking up from 2017 to African markets, and later from 2029 to the rest of the world as well.

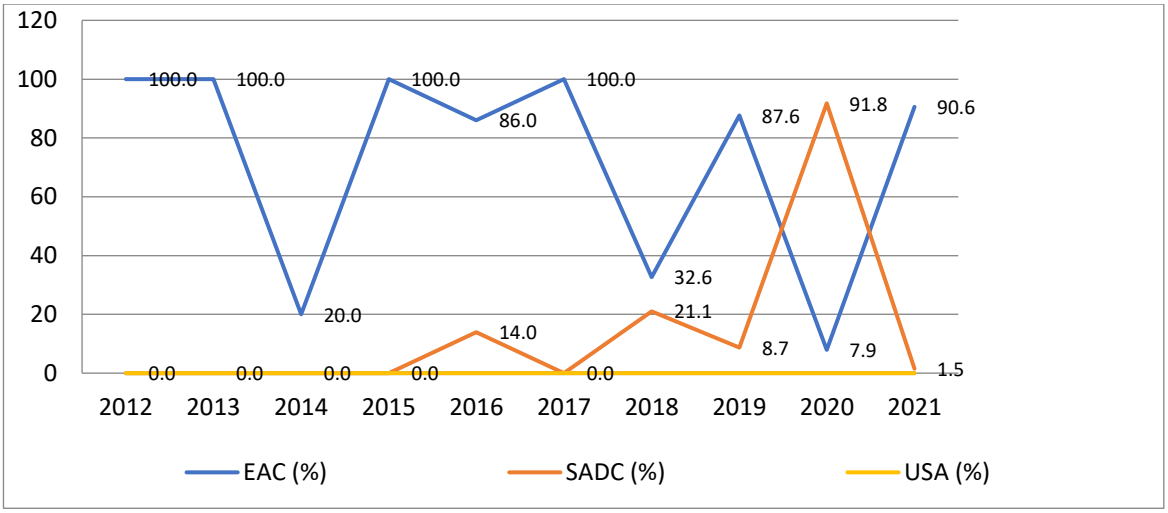
Figure 3 Tanzania's exports of roots and tubers (USD '000) to African and non-African markets



Source: ITC based on National Bureau of Statistics – NBS statistics (2016 – 2021)

Figure 4 shows that were over the period 2012 -2015 exports were to EAC countries, until 2016 when exports to SADC started to grow, although in smaller percentage. The USA and EU have also been among the markets for Tanzania's cassava, albeit in smaller amounts.

Figure 4 Percent contribution of major markets to Tanzania's exports of roots and tubers



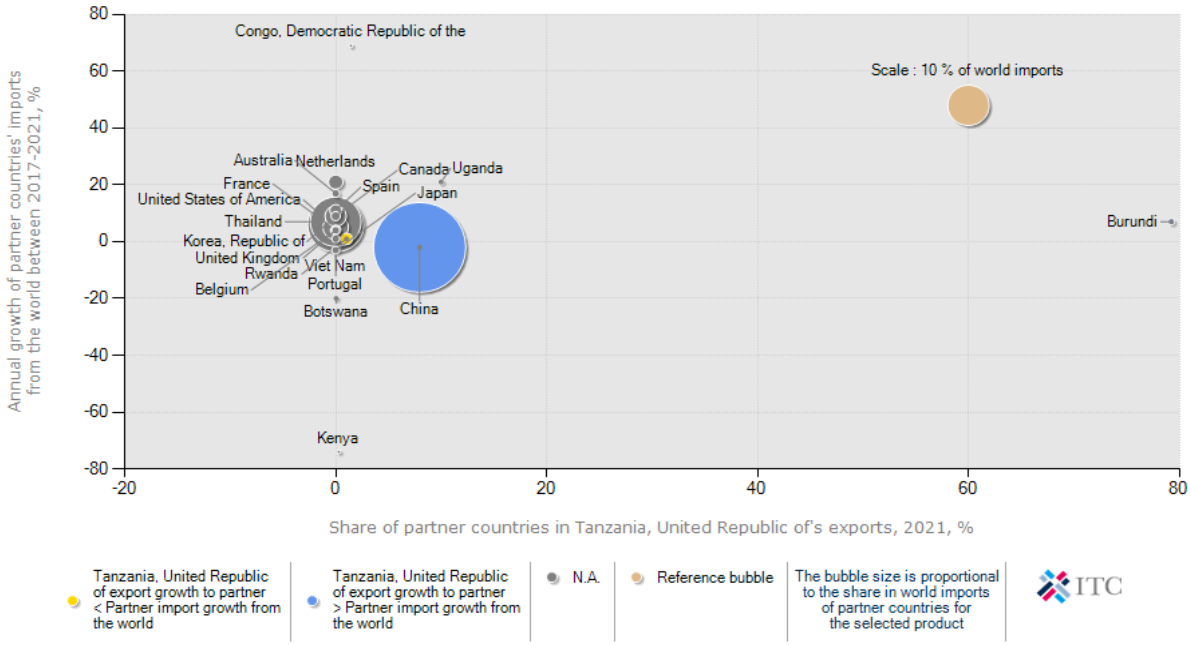
Source: ITC based on National Bureau of Statistics – NBS statistics (2016 – 2021)

3.2.5 Export Performance of Tanzania's Roots and Tubers of Manioc (Cassava) in the European Union

Tanzania's exports represent 0.1 percent of world exports for roots and tubers. Despite the small contribution the country is ranked the 13th globally out of about 80 exporters. The average distance to importing countries is 1,414 km and the export concentration is 0.64.

Burundi, Uganda, and China are the main and most promising export markets for Tanzania's roots and tubers. Over the past five years 2017 – 2021, Tanzania exported the highest value to Burundi, whose total import growth in value increased by 7 percent over that period. Other countries that have had promising total import growth in value are Uganda (21%), Thailand (7%), Viet Nam (6%) and USA (5%) (Figure 5). Based on these statistics, Europe does not constitute a major export destination for Tanzania's exports of roots and tubers, although there are some import potentials by the Netherlands, Spain, France, Portugal, and UK (Figure 5).

Figure 5 Prospects of market diversification for roots and tubers exported by Tanzania in 2021



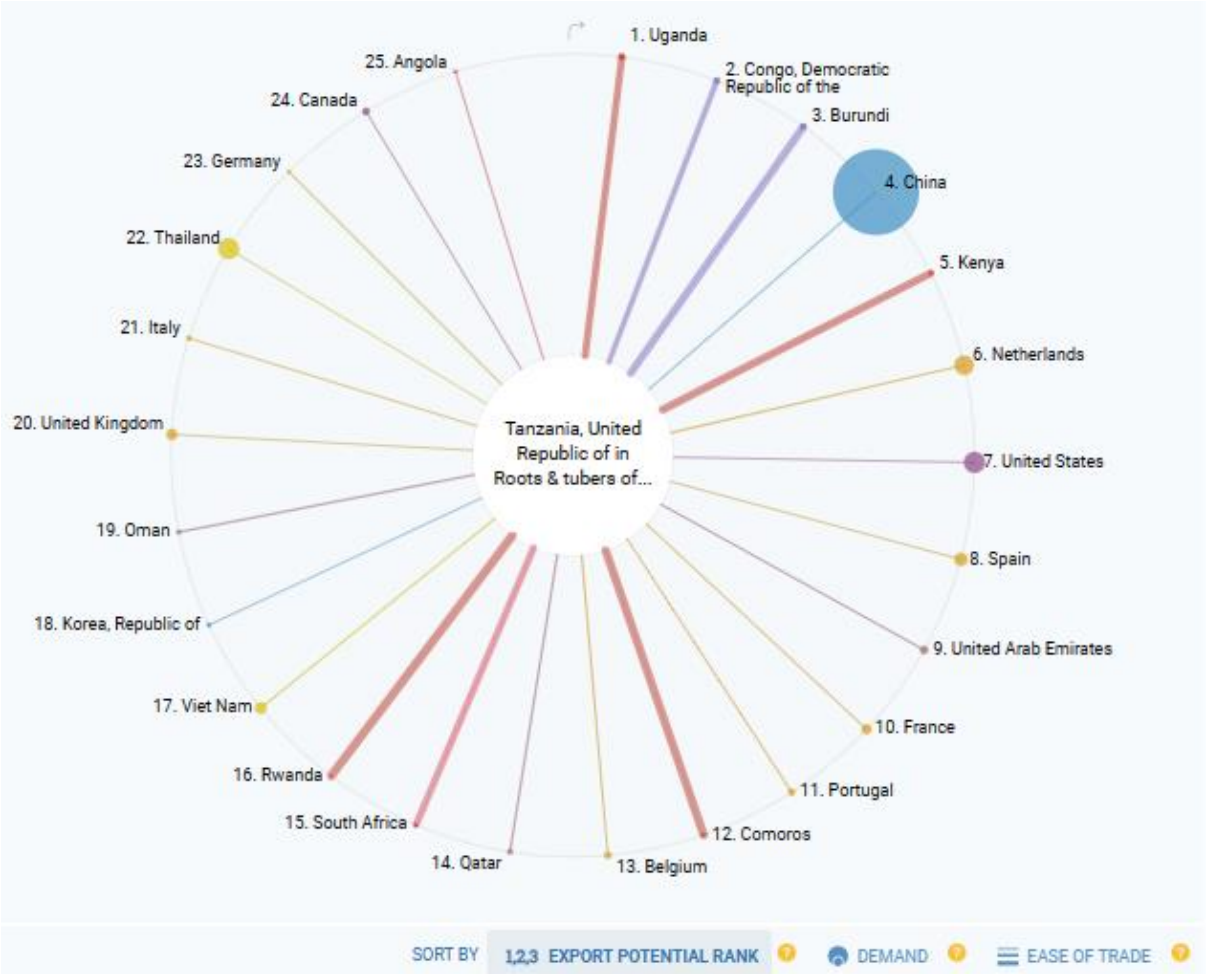
Source: ITC Trade Map of Roots and Tubers of Manioc

The yellow bubble represents an exporting country's loss in market share, where this country's export growth is supposed to be less than an importing country's import growth from the world. The bubble's size is proportional to the market share in world imports of partner countries for the selected product. The countries in which Tanzania is gaining a market share are China and Burundi (Figure 8). This implies that Tanzania's export growth in these countries is greater than of these countries' import growth from the rest of the world. Despite the percentage share of the target markets in Tanzania's exports (horizontal axis), Tanzania loses its market share in Rwanda (Figure 5). This means Tanzania's export growth is less than Rwanda's import growth from the rest of the world.

3.2.6 Growth Potential of Roots and Tubers for Export Markets

The total untapped export potential of Roots & tubers of manioc stands at USD 1.3 billion. China is the market with the highest demand potential for Tanzania's roots & tubers. Other markets with greatest potential for Tanzania's roots and tubers of manioc (HS 071410) are DRC, Burundi, and Uganda (Figure 6). China shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth $379,000. Tanzania enjoys the highest level of ease of exporting to EAC Partner States and SADC countries of South Africa and Comoros (Figure 6).

Figure 6 Markets with potential for Tanzanian roots and tubers



Notes: **Supply** is reflected in the relative length of the lines in the radial image (supply performance is held constant in all potential target markets). **Demand** is reflected in the size of the bubbles attached to the lines; and **ease of trade** for each product is reflected in the thickness of the lines in the radial image based on the "export market" option.

Source: ITC (2021) (Export Potential Map (intracen.org)

3.3 About Uganda

3.3.1 The Political Economy of Uganda

The Republic of Uganda obtained independence from British rule in December 1962 and granted as a Republic in 1963). The country is immediately surrounded by five countries: Kenya (East), South Sudan (North), DR Congo and Rwanda (West) and Tanzania (South). It is a landlocked country whose sea access to international markets is through the Indian Ocean ports located in Kenya (Mombasa) and Tanzania (Tanga and Dar-es-salaam). Among its inland water resources is Lake Victoria, the source of River Nile, which it shares with Kenya and Tanzania. The river goes through Lake Okioga located in Central Uganda, before proceeding to South Sudan in the North. The main staple foods are cooking bananas (matoke),

cassava, sweet potatoes, white potatoes, and yams. The country is governed through three pillars: The Presidency, the Judiciary, and the Legislature. The President and Members of Parliament are democratically elected through multi-political party system whereby the party with most MPs elects the Speaker.

3.3.2 The Contribution of Agricultural Sector to Economic Growth

The country's leading exports include coffee, fisheries and legumes as shown in Table 4. Banana, which is also grown by smallholder farmers has traditionally been grown as a staple food but in recent years it has shown to have potential as an export crop, whereby in 2022 it generated about USD 3.6 million.

Table 4 Uganda: Value of Exported Commodities in 2022

Country Attributes	Value
Main exports	
Coffee (USD)	719.0 million
Fish & Fish products (USD)	116.2 million
Beans & other Legumes (USD)	102.3 million
Animal/Veg Fats & Oils (USD)	101.2 million
Maize (USD)	52.1 million
Banana (USD)	**3.6 million**

Source: Author's compilation based on Uganda Bureau of Statistical Abstract, 2022 & MoFPED debt sustainability Report 2021/22.

Banana is a highly perishable crop due to its high-water content, disease susceptibility and quick ripening after harvest. As a result, banana suffers significant economic losses across its marketing chain. A breakthrough towards reduction of the bulk of the losses incurred, especially at the retail level, has been achieved through a technological innovation that extends the shelf-life of fresh cooking banana in peeled and packaged form. However, post-harvest loses in Uganda continue to be high. It is estimated that 14.9 percent of the volume of bananas produced in Uganda is lost at the post-harvest level which translates into a loss of 1.1 million metric tonnes per year (Kikulwe *et al.,* 2018).

3.3.3 Export Characteristics of Banana

Regarding the type of banana exports, Uganda exports the fresh or dried plantains. In 2021, Uganda exported fresh or dried banana plantains worth USD 3.2 million. Considering import destinations, Uganda also imports bananas from the DRC and Tanzania. Bananas destined for the export market are normally washed, cut into bunches, labelled, and packed into boxes for shipping. If the banana must be consumed fresh, they are transported and stored in refrigerated environments. Globally, bananas are the fourth most important food crop after wheat, rice, and maize in terms of production and the world's favourite fruit in terms of consumption quantity.

As of 2021, the global export market of banana was USD 12.3 billion (ITC TradeMap, 2023). Ecuador was the largest exporter of bananas, accounting for 28.5

percent of global exports. The Philippines, Guatemala, Costa Rica, and Colombia are the other leading banana-exporting countries in the world.

3.3.4 Export Markets of Banana

In 2021, the country exported bananas worth USD 3.6 million (UBoS, 2022) against imports worth USD 60,000 (Table 2). However, Uganda remains a minor export at the world market. In 2021, Uganda share in world banana exports was only 0.03 percent. Regarding export destinations, Uganda exports majority of its banana exports to the East African region. As of 2021, Kenya imported 52 percent (USD 1.8 million) of Uganda's banana exports. Kenya is followed by South Sudan (27.6%), USA (10.3%), Australia (2.7%) and Canada (2.3%) (ITC TradeMap, 2023).

The United States America (USA) is the world's leading importer of bananas, with a 19.2 percent share, followed by China (7.7%), Germany (6.4%) and Japan (5.9%). Uganda is a net exporter of bananas, ranking the 54th largest exporter in the world (OECD, 2022).

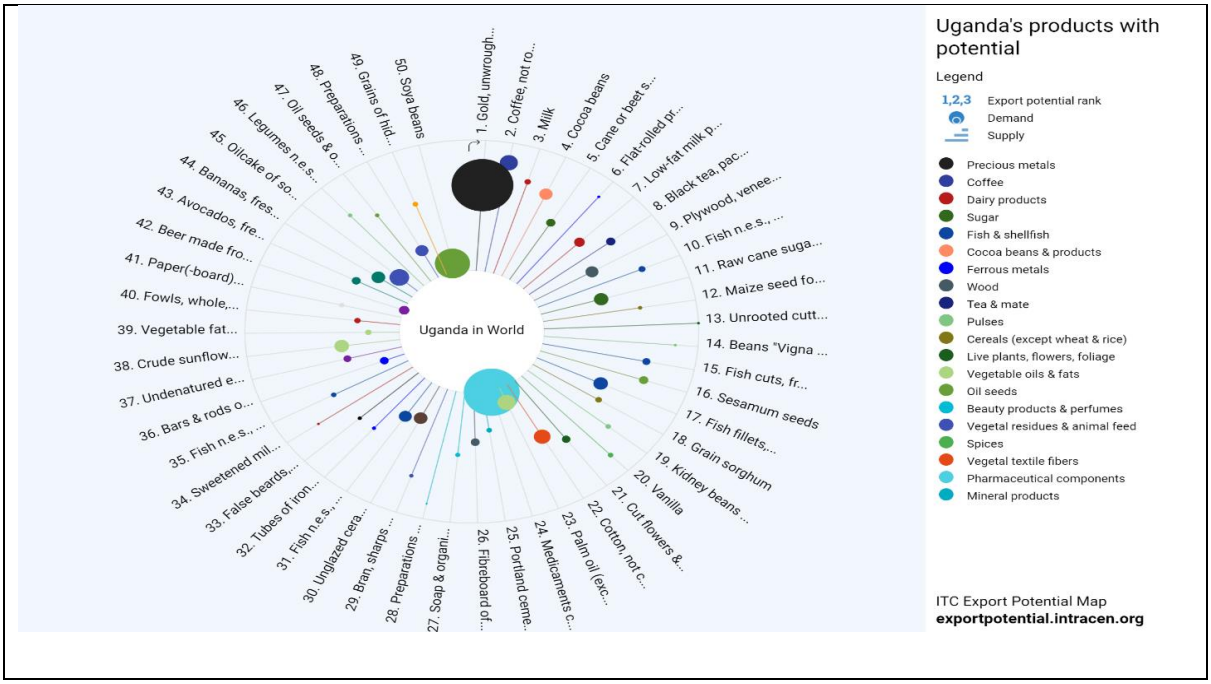
3.3.5 Export Performance of Bananas to the European Union

The European Union (EU), the United States, and China were the largest importers in 2022, importing about 5.2, 5.0, and 1.8 million metric tonnes, respectively (UN Comtrade, 2022). The combined banana imports from the three importers were worth about USD 11 billion (Voora *et al.,* 2020).

3.3.6 Growth Potentials of Banana Globally (ITC Maps)

Although minor compared to non-food export potentials like gold and portland cement, the export potentials of banana compare with those of fish, avocado, crude sunflower oil, raw cane sugar, cotton, etc. (Figure 7). The exports market map shows that there is still unfulfilled demand for banana in the world market.

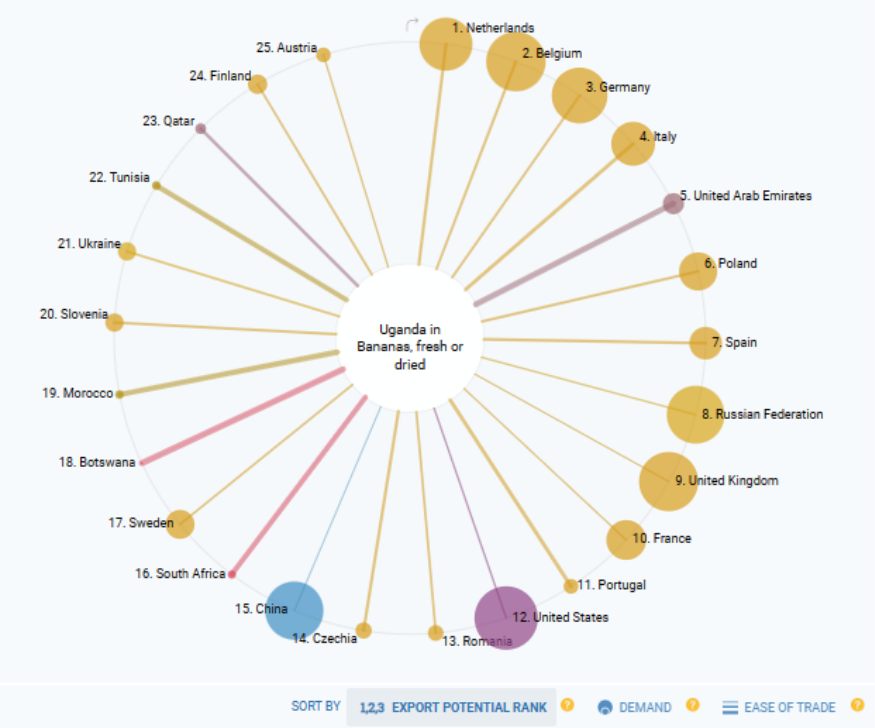
Figure 7: Uganda exports market potential



Source: ICT Export Potential Map for different commodities.

Among countries ranked highest in export potential for Uganda to send its bananas are Netherlands, Belgium, German, Italy, and United Arabs Emirates. Those with a large market demand (demonstrated by size of bubbles in Figure 8) are China, USA, UK, Russia, Belgium, German, and the Netherlands. However, countries which Uganda can trade with ease include the United Arabs Emirates, African countries (South Africa, Botswana, Morocco, and Tunisia) and a few European countries such as Portugal, Spain, Netherlands, and Italy (Figure 8).

Figure 8 Ranking of potential markets for Uganda's banana



Source: ITC Trade Map for Banana: [Export Potential Map (intracen.org)]

3.4 About Ethiopia

3.4.1 The Political Economy of Ethiopia

Ethiopia never experienced colonial rule and has Federal system of government with nine Federal Governments. The Central government is located at Addis Ababa (which is also the headquarters of the African Union). The country is immediately surrounded by five countries: Kenya (South), Djibouti (East), Sudan and South Sudan (West), Somali (North-east) and Egypt (North). The country is landlocked with only reliable access to the Indian Ocean provided by Djibouti. The country is governed through three pillars: The Prime Minister (who appoints the President), the Judiciary, and the Legislature. The Prime Minister and Members of Parliament are democratically elected through multi-political party system whereby the party with most MPs elects the Speaker. The Prime Minister is Ethiopia is the head of government and commander in–chief.

3.4.2 The Agricultural Sector

As shown in Table 5, in 2021/22, Ethiopia's main exports were gold (21%), coffee (19%), live animals, oilseeds, flowers and khat. The dominant agricultural exports during that period comprised of (a) coffee, tea, mate and spices (USD 814 million); (b) edible vegetables, tubers and roots (USD 555 million); (c) oilseeds, oleagenic fruits, grain (USD 441 million); (d) live trees, plants, bulbs and roots (USD 217 million); (e) meat and edible meat offals (USD 66.8 million); and, (f)

live animals (USD 42.5 million), among other products with smaller export amounts. The value of goat's meat was USD 6.2 million. The country's share of agricultural versus non-agricultural export earnings is small, less than 10 percent of non- agricultural products in foreign exchange earnings, consisting of electrical equipment, and machineries parts. In addition to tangible economic value of live-stock, they have some social roles as they are used for different social functions including payment of dowry and in most cases as a social status symbol for owners (Tade and Melesse, 2023).

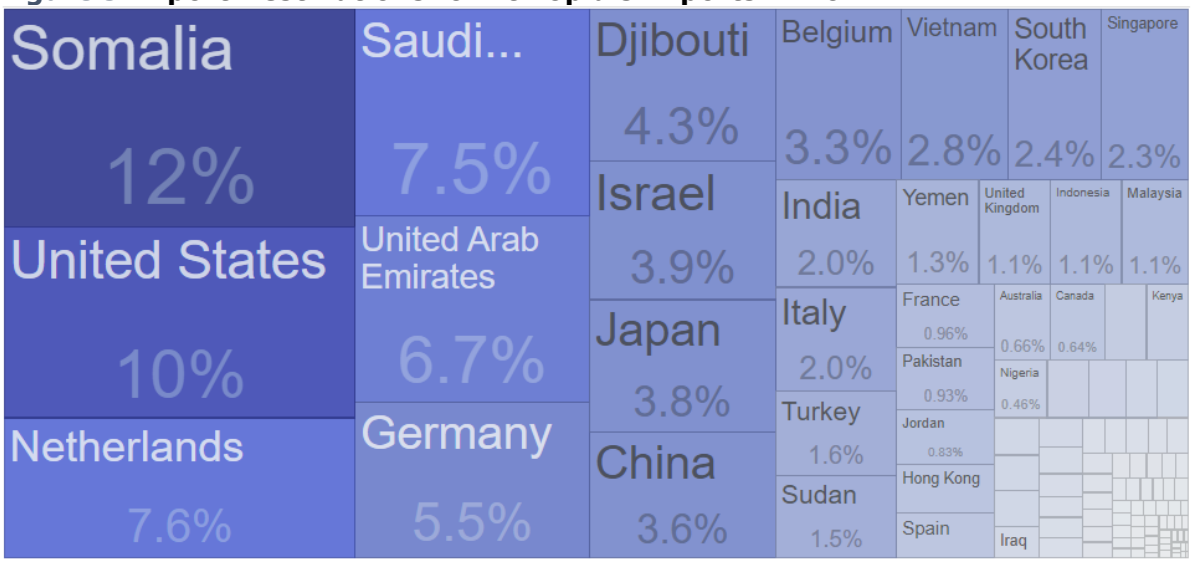
Table 5 Ethiopia's Main Agricultural Exports in 2021

Main Exports	Export Earnings USD Million
1. Coffee, tea, mate, and spices	814
2. Edible vegetables, tubers, and roots	555
3. Oilseeds, oleagenic fruits, grain	441
4. Live trees, plants, bulbs, and roots	217
5. Meat and edible meat offals (f) live animals (USD42.5 million	66.8
6. Live animals	42
7. Goat meat (USD)	6.2

Source: Ethiopia National Bureau of Statistics (2022)

In 2021/22, Ethiopia's main export destinations of exported agri-food commodities included: (i) Somalia (USD 294 million), China (USD 91.4 million), USA (USD 259 million), Netherlands (USD 190 million), Germany (USD 139 million), Italy (USD 49.1 Million), United Kingdom (UK) (USD 28.6 million), Austria (USD 16.6 million), and Spain (USD 16.9 million). Other countries with less than USD 15 million per country are Norway, Sweden, Portugal, Turkey, and France. Figure 9 shows the main export destinations.

Figure 9 Export Destinations for Ethiopia's Exports in 2021



Source: www.tradingeconomics.com

Meat production

In 2021, Ethiopia produced about 275,149 tons of meat, about 3.55 percent of world meat production. The meat comprises of that from camels, cattle, goats, and sheep (Table 6).

Table 6: Ethiopia Meat Production 2021

Meat type	Ethiopia Meat production (tons)	World Meat production (tons)	Share of Ethiopia as a proportion of world production
Camel Meat	44,514	563,472	7.9%
Beef	802,055	58,932,544	1.4%
Goat Meat	275,149	7,830,055	3.5%
Sheep Meat	217,723	9,338,769	2.3%
Grand Total	1,339,440	76,664,840	1.7%

Source: Central Statistics Agency, CSA, 2021

The main destinations for exported meat are Yemen and Kuwait as shown in Table 7. Smaller amounts are exported to Djibouti and Bahrain.

Table 7 Value of Ethiopia's meat exports to different destinations

Importers	Exported value in 2018	Exported value in 2019	Exported value in 2020	Exported value in 2021	Exported value in 2022
World	16,366	23,376	11,542	10,511	7,770
Yemen	12,396	20,013	9,403	6,035	7,124
Djibouti	1,320	674	1,042	1,904	348
Bahrain	456	1,635	0		152
Oman	350	811	0	181	132
Libya, State of	0	0	0	28	15
Somalia	0	16	122	6	
Kuwait	1,650	127	589	2,356	
Saudi Arabia	0	0	385		
United Arab Emirates	194	100	0		

Source: Central Statistics Agency, CSA, 2021

Goat production: Globally the leading countries in goat production are China, India, Pakistan, Nigeria and Bangladesh. In 2020, Sub-Saharan Africa's Nigeria had the largest goat's population, 84 million heads. Ethiopia and Chad followed, each with a goat stock of 53 million and 41 million heads, respectively. Overall, Africa has 490 million heads of goats, making the continent one of the major goat producers in the world.

Ethiopia's livestock production systems are subsistence characterized by low productivity per animal, with goat average carcass weight of 10 kg, lower than other neighbouring countries such as Somalia and Sudan (Mamo,2019). Small ruminants like sheep and goats contribute a quarter of the domestic meat

consumption in the country, 40 percent of the household income and 92 percent of the value of semi processed skin and hide export trade of the country.

There are different breed types of goats found in Ethiopia as shown in Table 8. The Borana breed is part of the Somali family of goats.

Table 8 Common Goat Breeds in Ethiopia

Family Name	Breed Name	Other Local Names
Nubian family	Nubian	
Rift valley family	Afar	Adal, Danakil
	Abergelle	
	Arsi-Bale	Gishe, Sidama
	Woito-Guji	Woyto, Guji, Konso
Somali family or Borana	Hararghe Highland	
	Short-eared Somali	Denghier or Deghiyer
	Long-eared Somali	Large white Somali, Degheir, Di-goli, Melebo
Small East African family	Central Highland	Brown goat
	Western Highland	
	Western Lowland	Gumz
	Keffa	

Source: USAID et.al. (2019)[12]

The market supply of animals originates from highly dispersed, small farms that supply small numbers of nonhomogeneous goat animals. Goat production system is undertaken in highlands, mixed crop-livestock system, pastoral and agro-pastoral production system, ranching, and to a lesser extent urban and peri-urban production system. According to Ethiopia's abattoirs and live animal exporters, the Ethiopian goat breeds most preferred in the Middle East and Asia market are the Black Head Somali or Borana and Afar sheep.

3.4.3 Export Characteristics of Goats and Goat Meat

The main market actors in the goat meat value chain are smallholder farmers, rural traders/aggregators who transact at farm level, larger traders/wholesalers, abattoirs, importers, and exporters. The local market is not particular with respect to preferred goat breeds, unlike the export market whose buyers prefer *Borana* goats. Challenges facing goat production and trade are like other animals like beef (Mamo, 2019). Among them is a shortage of numbers of uniform size and age of animals for the export slaughter facilities. Due that shortage of *borana* breeds, there has been a gradual shift to buy other breeds sourced from Guji, Bale/Ginhir, South Omo/Jinka, Konso, and parts of Afar and Somali.

[12] USAID, MOARD, et.al. (2019). Technical Bulletin No.27. Goat breeds of Ethiopia: A guide for identification and utilization. Ministry of Agriculture and Rural Development (MOARD).

The United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA) are the main traditional destination markets of Ethiopian goat meat importing over 95% of the chilled carcass. The requirements for goat meat in various importing countries is shown on Table 9.

Table 9: Market requirements of some importing Middle East and Asian countries for goat meat

Consumers	Product requirements	Other attributes
Middle East (KSA, UAE/Dubai)	Carcass: Pink (light red) colour Weight: 6-8 kg	• Preference for Borana and Afar breeds • Preferred compared to the highland breeds (East African family) whose meat darkens after slaughter.
Malaysia	Lean goat carcass less than 10 kg	
Taiwan	Lean 14-16 kg goat carcass	

Source: Yami, Alemu and Gelaw (2018)

3.4.4 Global Markets for Goats and Goat Meat

The global market for goat meat in 2015 was estimated at USD 37.4 billion worth of 5.6 million tons, with China consuming 38.6 percent. Other nine countries, which together with China consume 70.2 percent of the global supply of goat meat are India (9.3%), Pakistan (5.6%), Nigeria (4.5%), Bangladesh (3.7%) and Sudan (2.1%). Other countries each with less than one percent share is Chad (1.8%), Tanzania (1.6%), Mongolia (1.5%), and Myanmar (1.4%) (Indexbox, 2020).

The three biggest exporters of goat meat are Australia, Ethiopia and Kenya. Combined, that trio of leading suppliers generated well over three-quarters (78.9%) of globally exported goat meat in 2022[13]. The full list of 15 leading exporting countries of goat meat in 2022 were: Australia: USD191.1 million (46.7% of total goat meat exports); Ethiopia: USD82.2 million (20.1%); Kenya: USD 49.4 million (12.1%); Spain: USD 20.3 million (5%); France: USD 18.4 million (4.5%); Greece: USD 10.8 million (2.6%); New Zealand: USD 6.9 million (1.7%); Tanzania: USD 4.9 million (1.2%); Netherlands: USD 4.5 million (1.1%); China: USD 4.2 million (1%); Mongolia: USD 4.1 million (1%); Italy: USD 3.1 million (0.8%); Cameroon: USD 2.3 million (0.6%); Pakistan: USD 1 million (0.3%); and, Mexico: USD 848,000 (0.2%).
Ethiopian goat meat export to European countries has been low. Export to the EU between 2010 and 2021 has averaged 58,000 kilograms, about USD 426,300. In 2021/22 Ethiopia earned USD 6.2 million in export earnings of goat meat, from Asian countries.

[13] Top Goat Meat Exports by Country 2022 (worldstopexports.com)

3.4.5 Export Performance of Goats and Goat Meat

Eligibility Conditions to Export to the European Market

Ethiopia is eligible to export goat meat and its products to the EU market under the "All but Arms" agreement. However, all goat meat and products must fulfil the following requirements related to the overall condition that all meat and meat products exported to the EU must fulfil exacting standards with respect to hygiene and all aspects of consumer safety as well as their animal health status. These are as explained below:

a) Exporting countries must have a competent authority recognized by the World Organisation for Animal Health (WOAH), which is responsible throughout the food chain. The authority must be empowered structured and resourced to implement effective inspection and guarantee credible public health and animal health attestations in the health certificate to accompany meat and meat products that are destined for the EU. This includes setting standards of abattoirs and equipment, testing of meat for undesirable residues and contaminants, and submitting meat safety monitoring reports to the EC.

b) Imports are only authorised from approved establishments (e.g., slaughterhouses, cutting plants, game handling establishments, cold stores, meat processing plants), which have been inspected by the competent authority of the exporting country and found to meet EU requirements. When it signs the export health certificate, the authority is certifying that it provides the necessary guarantees, conducts regular inspections of establishments, and takes corrective action.

c) For the export of meat from bovine, ovine or caprine animal species (cattle, sheep, and goats) to the EU, exporting countries must apply for a determination of their Bovine Spongiform Encephalopathy (BSE) status. This status is based on a risk assessment and is linked to specific BSE-related import conditions; and,

d) Audits by the EU Commission's Health and Food Audits and Analysis Directorate are conducted to verify compliance with the above requirements. Audits establish confidence between the Commission and the competent authority of the exporting country.

3.4.6 Ethiopia's Preparedness to Meet EU Meat Standard Requirements

a) Ethiopia's export abattoirs are private with state-of-the-art Halal-certified slaughterhouses with livestock reception pens, automatic and semi-automatic mechanical slaughter and processing equipment, chilling rooms, air-

conditioned deboning facilities, packaging equipment, freezing facilities, and rendering and effluent treatment.

b) The slaughterhouses are facilitated by the Ethiopian Meat Producer-Exporters Association (EMPEA) which was established in July 2003. EMPEA has 13 members that are engaged in meat processing and export.

c) There are an additional 10 meat export abattoirs that are currently under development and will begin processing soon.

d) EMPEA members participate in Hazard Analysis Critical Control Points (HAACP)[14] and engage regularly with international experts to ensure that their facilities and procedures meet global standards.

e) In addition, all Ethiopian export abattoirs are ISO 22000 and ISO 9000 certified.

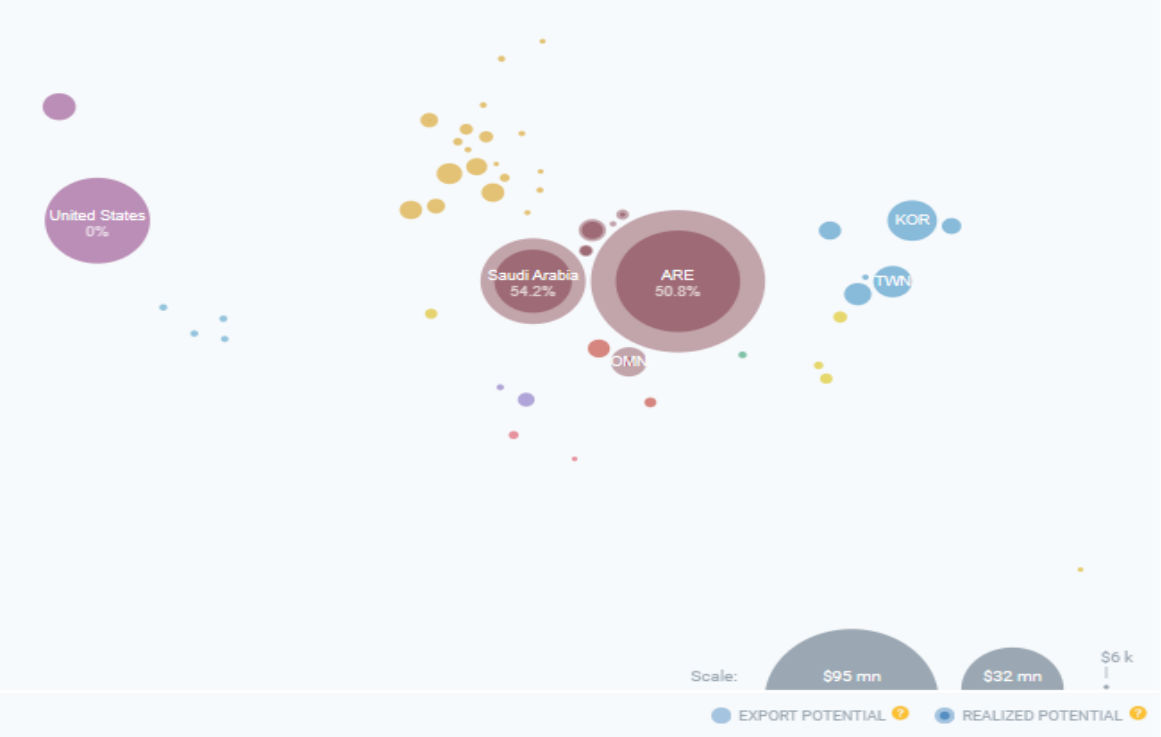
Ethiopia has also one of the most advanced modern beef processing plants in Africa, capable of meeting all international standards. The Allan group established world class, integrated, abattoir complexes in Ethiopia. The plant is built at Adami Tulu southern parts of Ethiopia in Oromia State, 163 km from Addis Ababa. Build on a 75-hectare land, the plant was erected with an investment capital of about USD 69.0 million (Ethiopian Birr 1.8 billion). It has a capacity of slaughtering 3,000 cattle and 6,000 sheep and goats daily upon operating at full capacity, enabling the company to produce 300 tons of meat a day. The company has a presence in more than 70 countries, which makes it one of the leading meat processing industries in the world.

3.4.7 Growth Potential of Goat and Goat Meat

Goat Meat (code 020450): The markets with greatest potential for Ethiopia's exports of goat meat are United Arab Emirates, Saudi Arabia, United States of America and Korea. United Arab Emirates exhibits the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth USD 47 million (Figure 10).

[14]HACCP is an internationally recognized method of identifying and managing food safety related risk and, when central to an active food safety program, can provide customers, the public, and regulatory agencies assurance that a food safety program is well managed.

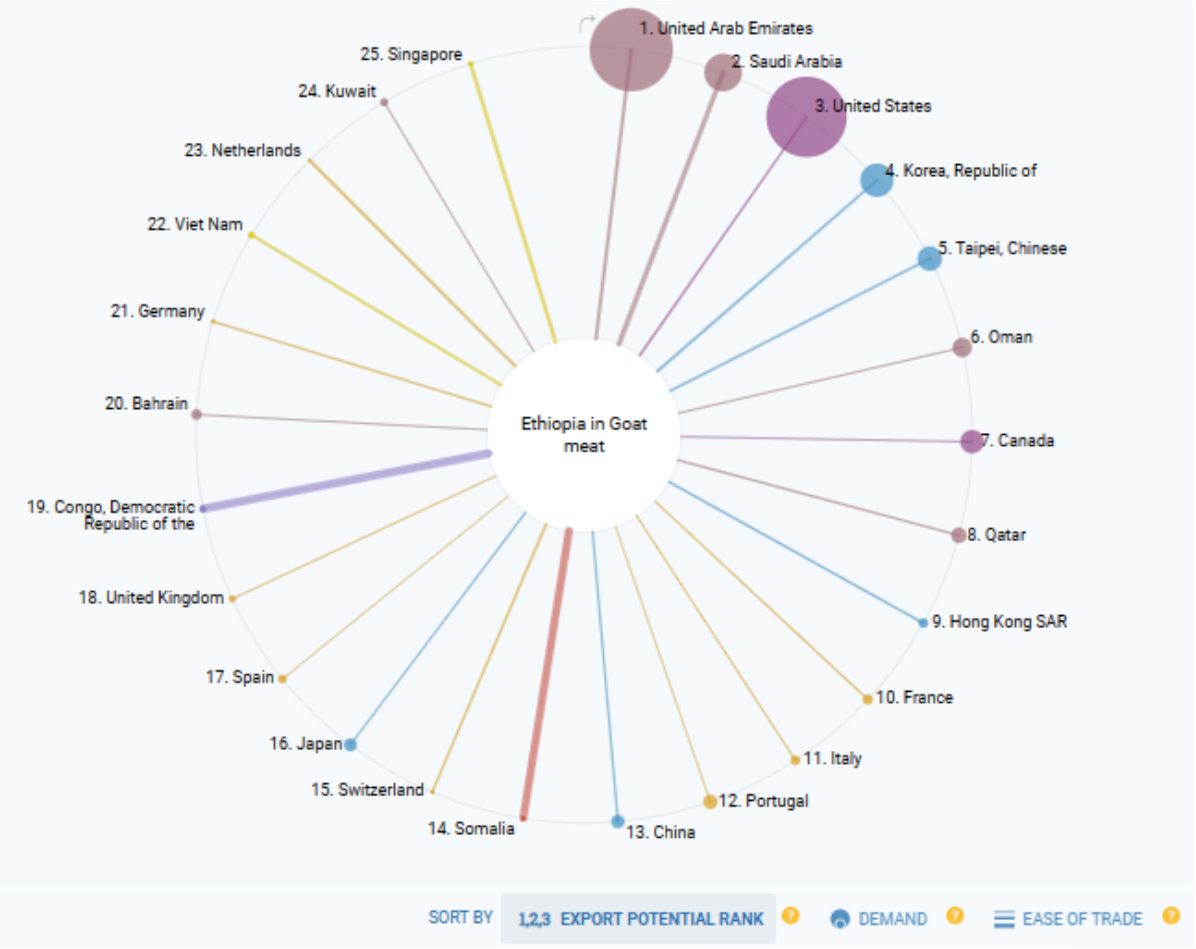
Figure 10 Potential markets for Ethiopian goat meat



Source: ITC 2023- Trade Map for Goat Meat

However, as per ease of doing business for exporters, countries ranked high (as represented by the thickness of line in Figure 11) are DR Congo, Somalia and Saudi Arabia. EU countries with simpler procedures are the Netherlands and German.

Figure 11 Ranking of Countries with Export Potential for Goat Meat from Ethiopia



Source: ITC Export Potential Map for Goat meat from Ethiopia 2023.

3.5 About Ghana

3.5.1 The Political Economy of Ghana

The Republic of Ghana obtained independence from British rule in December 1957. The country is bordered by the Republic of Togo to the east, Burkina Faso (formerly Upper Volta) to the north-west and north, and the Republic of Côte d'Ivoire to the west. The Gulf of Guinea, which is part of the Atlantic Ocean lies south of the country, and it forms a 550 km-long coastline. The Volta River basin, including the artificially created Lake Volta, dominates the country's drainage system. Ghana has access to the Atlantic Ocean on its southern shores with main ports of Tema (handling more than 70 percent of exports), Takoradi (serving several land-locked countries of Burkina Faso, Mali and Niger), and other three smaller ports of Saltpond (fishing and oil), Elmina (historically important port) and Sekondi (used by the navy). The country is governed through three pillars: The Presidency, the Judiciary, and the Legislature. The President and Members of Parliament are

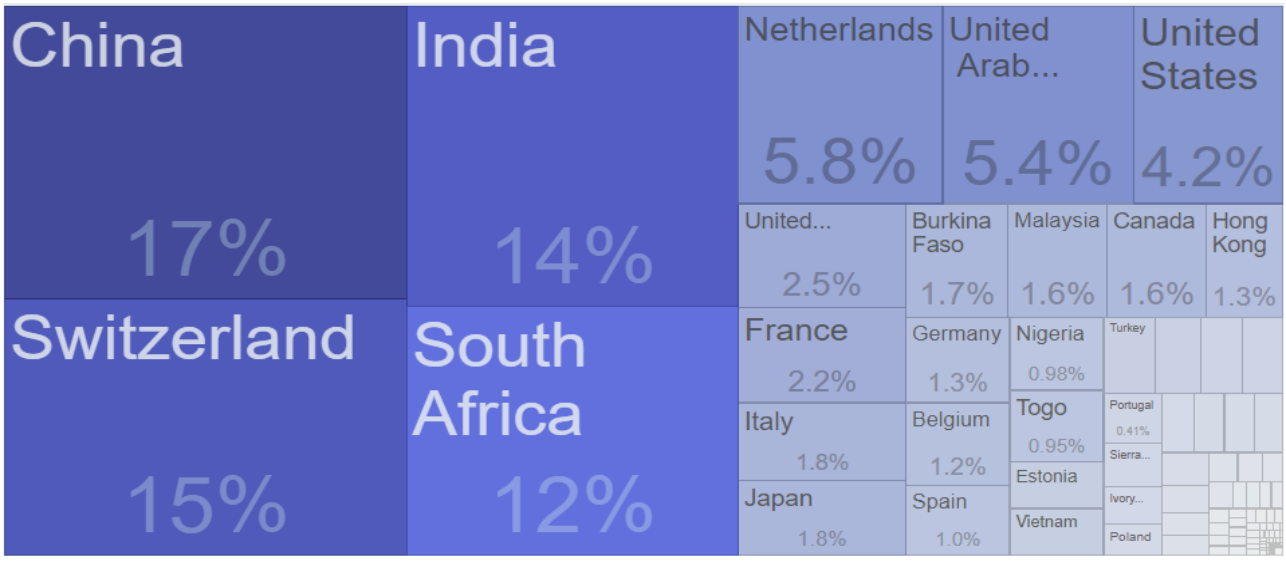
democratically elected through multi-political party system whereby the party with most MPs elects the Speaker.

3.5.2 The Agricultural Sector

The agriculture sector contributes about 20 percent to GDP. Despite its agricultural potential, Ghana is increasingly a net-food importer. Agricultural policy is geared towards ensuring food security, while aiming at reducing imports – particularly of rice. Cassava, yams, and plantains are the main staples, together with rice and maize. Livestock production, whose population in 2021 comprised of 2.2 million cattle, 5.7 million sheep, 8.4 million goats and 81.5 million poultry (MOFA,2022), is a major feature in Ghana's agriculture and contributes largely towards meeting food needs, providing draught power, manure to maintain soil fertility and structure as well as to provide income, particularly for farmers in the northern part of the country. The livestock sector contributes to crop productivity through manure and draught power in land preparation and transportation.

Agricultural commodities contribute to export earnings, with leading importers including China (mostly cotton and cereals), Switzerland (mostly edible fruits, nuts, and vegetables), India (mainly food products, edible fruits and nuts), South Africa (mostly cocoa and cocoa preparations, milling products and edible fruits/nuts), the Netherlands (mostly cocoa and cocoa preparations, animal, vegetable fats and oils, edible fruits and nuts, vegetables, and meat, fish and seafood preparations. (Figure 12).

Figure 12- Ghana's destinations of its agri-food exports



Source: www.tradingeconomics.com

Since 2017, Ghana's crop production improved with the launch of a new agricultural programme ("Planting for Food and Jobs"), which is underpinned by, inter alia, fertilizer and seed subsidies. Some limited price support was provided to the major staple crops.

Role of Cocoa

Cocoa farming provides direct livelihoods to more than one million farm families, with approximately 5 million people. It is the leading foreign exchange earner among exports. For that reason, the commodity is highly supported by government in terms of provision of research and extension services, provision of marketing services through the state-owned Ghana Cocoa Board (COCOBOD), product price subsidization through a pan-territorial pricing system, provision of seedlings, provision of 50 percent of the required fertilizer and pesticides per farmer, and free block fungicide spraying. Despite that support, farm productivity is around 450 kg/ha, against a potential of 2,500 kg/ha under ideal GAP recommended by researchers and realized by some progressive farmers. Nevertheless, the country's cocoa is known for its excellent quality and highly demanded in the international market.

Exports of cocoa beans, the main agricultural export commodity, are under monopoly of the state-owned COCOBOD. However, its activities have not yet been notified to the WTO under Article XVII of the GATT 1994. There are no statutory export taxes on cocoa beans. The world's two leading cocoa exporters, Ghana, and Côte d'Ivoire are working together with the aim to improve their cocoa terms of trade, and thereby raise cocoa farmers' incomes. In 2020, these countries jointly introduced a premium of USD 400 per tonne to ensure that farmers earn decent living income.

3.5.3 Global Market Export Characteristics of Cocoa

In 2021, the total exports of cocoa beans (HS 180100) amounted to USD 11.06 billion. The annual growth in value and quantity between 2017 and 2021 was 2 percent and 1 percent respectively, implying faster appreciation of earned value relative to the quantity exported by producing countries. There are approximately 100 countries exporting cocoa beans around the world led by five major countries: Côte d'Ivoire, Ghana, Ecuador, Belgium, and Cameroon, which altogether account for 77.8 percent. The world supply of cocoa beans is diversified. The annual growth rate in value of the five leading suppliers between 2021 and 2021 was dominated by Côte d'Ivoire (42.8%), followed by Ghana (16.3%), Ecuador (7.4%), Belgium (5.7%) and Cameroon (5.6%) (Statistica, 2023).

Value of Cocoa Exports

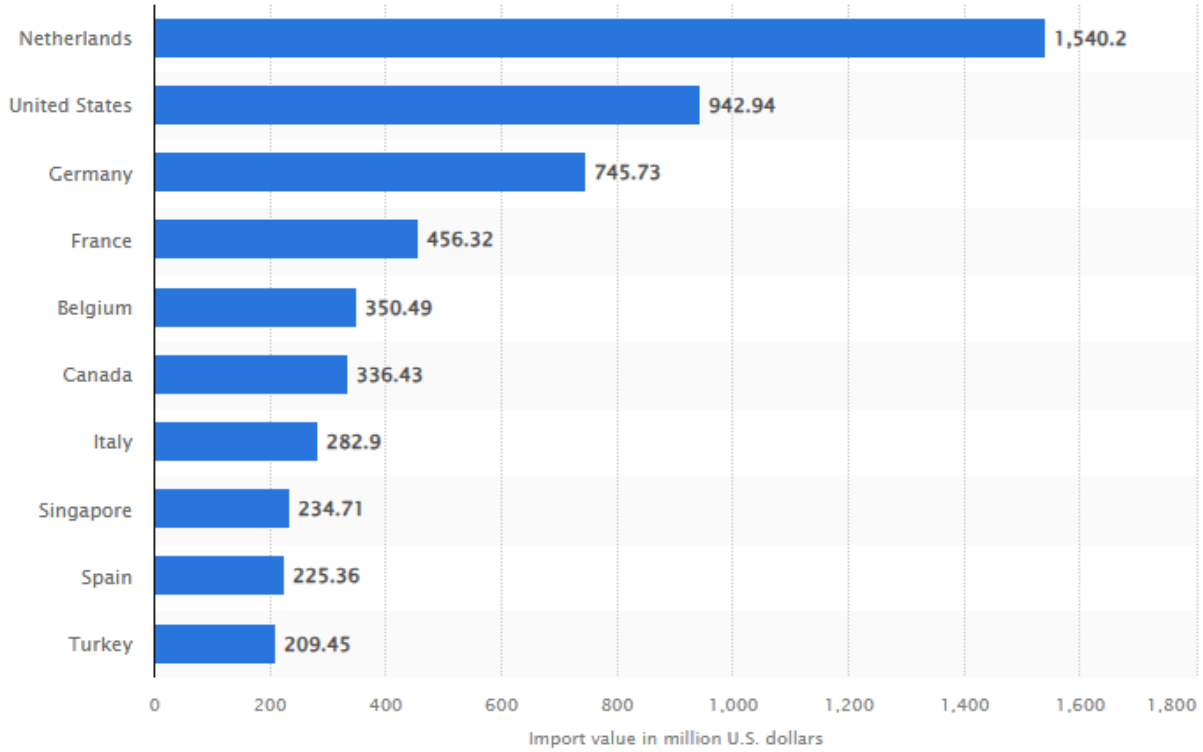
In 2020, Ghana exported USD 1.28 billion in cocoa beans, making it the 2nd largest exporter of cocoa beans in the world. At the same year, cocoa beans was the 3rd most exported product in Ghana. The main destination of cocoa beans exports from Ghana were: Netherlands (USD 179 million), United States (USD 136 million), Malaysia (USD 116 million), France (USD 103 million), and Japan (USD 98.1 million). The fastest growing export markets for Cocoa Beans of Ghana between 2019 and 2020 were Brazil (USD 47.8 million), United Kingdom (USD 25.2

million), and Germany (USD 22.6 million) (Statistica, 2023). All food exports from Ghana comply with HACCP. The system is central to an active food safety program, as it provides customers, the public, and regulatory agencies assurance that a food safety program is managed (WTO, 2020).

Imports

The leading top five importers of cocoa beans in 2022 were the Netherlands (USD 1,540.2 million), followed by USA (USD 942.94 million) and Germany (USD 746.73) and France (USD 456.32) (see figure 13)

Figure 13 Leading global cocoa beans importing countries



Source: Statistica.com (2023)[15].

Although the country is among the major producers of cocoa, the country also imported cocoa beans worth USD 11 million in 2020, becoming the 31st largest importer of cocoa beans in the world. However, the product was the 254th most imported product in Ghana, imported primarily from Nigeria and Germany[16]. The average tariff for Ghana in Cocoa Beans was 4.73 percent. The countries with the highest import tariffs for Cocoa Beans were Angola (Most Favoured Nation (MFN) duty rate treatment, 5 percent), Burundi (MFN duty rate treatment, 5 percent), Botswana (MFN duty rate treatment, 5 percent), Central African Republic (MFN

[15] Major cocoa bean importers worldwide 2022 | Statista

[16] EU countries only (largely France), excluding exports to United Arabs Emirates (UAE), Kingdom of Saudi Arabia (KSA), China, East African Community (EAC) who are the largest importers

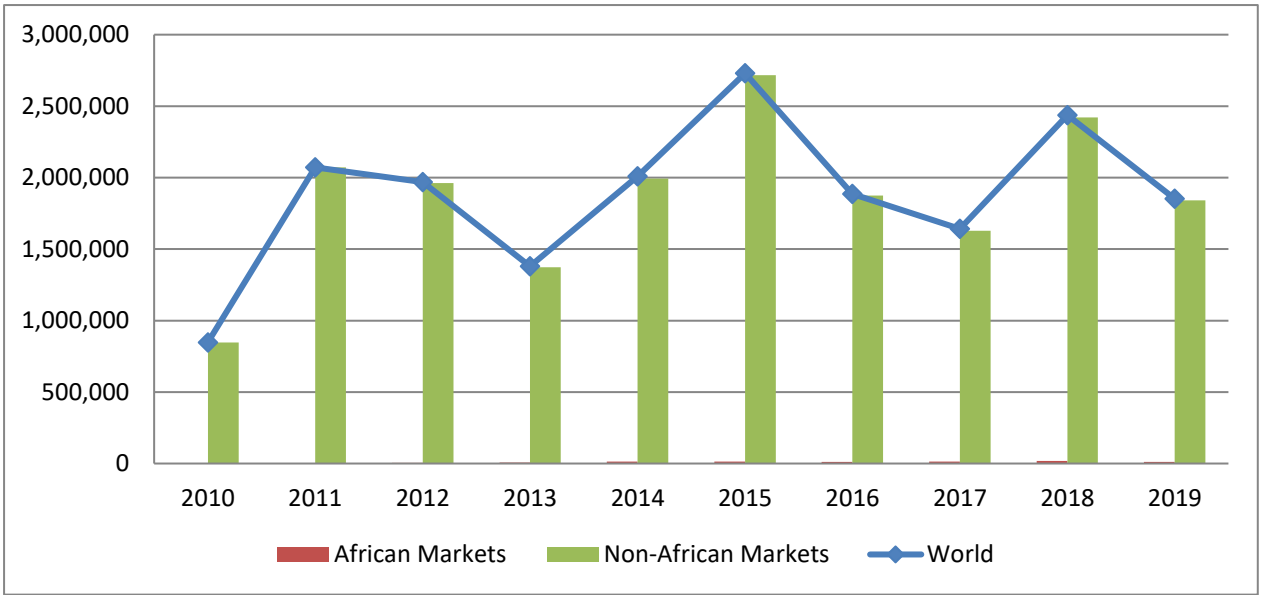
duty rate treatment, 5 percent), and Cameroon (MFN duty rate treatment, 5 percent).

3.5.4 Export Performance of Cocoa

Figure 13 shows Uganda's exports of coffee to African and non-African markets. For the entire (2010 – 2019) period Ghana's exports of cocoa beans were dominated by non-African markets, which constituted at least 99 percent. Exports to African markets contributed a maximum of 1 percent to Ghana's total exports of this product during the entire period.

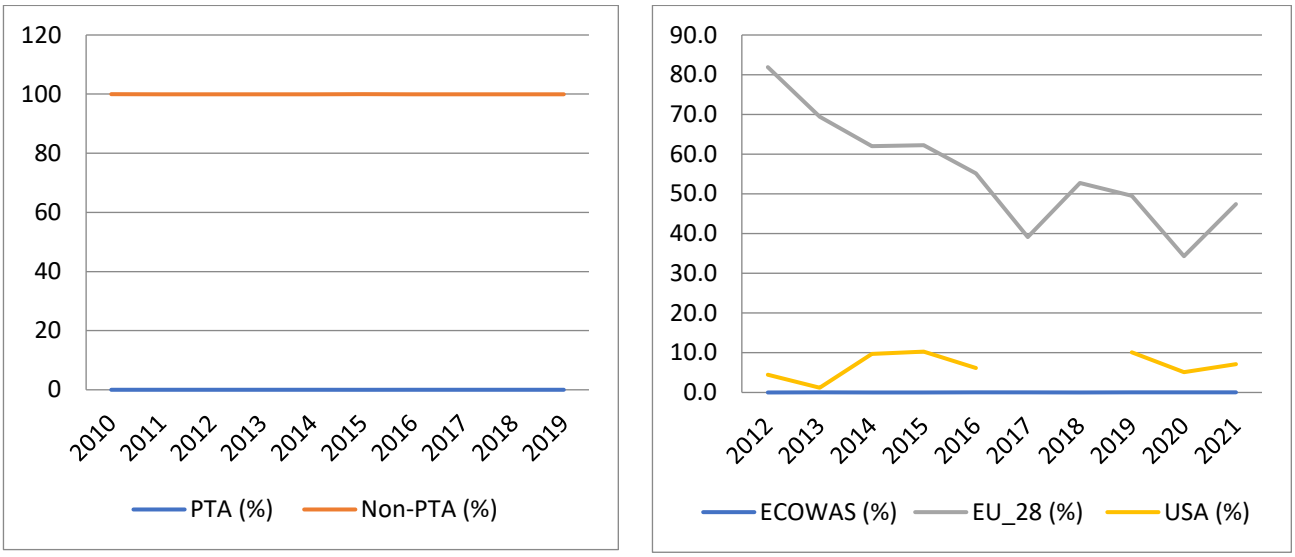
Ghana's exports of cocoa beans were over the period 2010 -2019 dominated by non-preferential markets (Figure 14). Exports to the EU and USA were negligible over the entire period. The smallest amount that was exported to the preferential markets (i.e. ECOWAS, EU, and USA) was attributed to the EU that contributed between 34.3 percent and 81.9 percent of Ghana's exports to these markets.

Figure 14 Value of Ghana's exports of cocoa beans to African and non-African markets (USD `000)



Source: ITC calculations based on GSS - Ghana Statistical Service

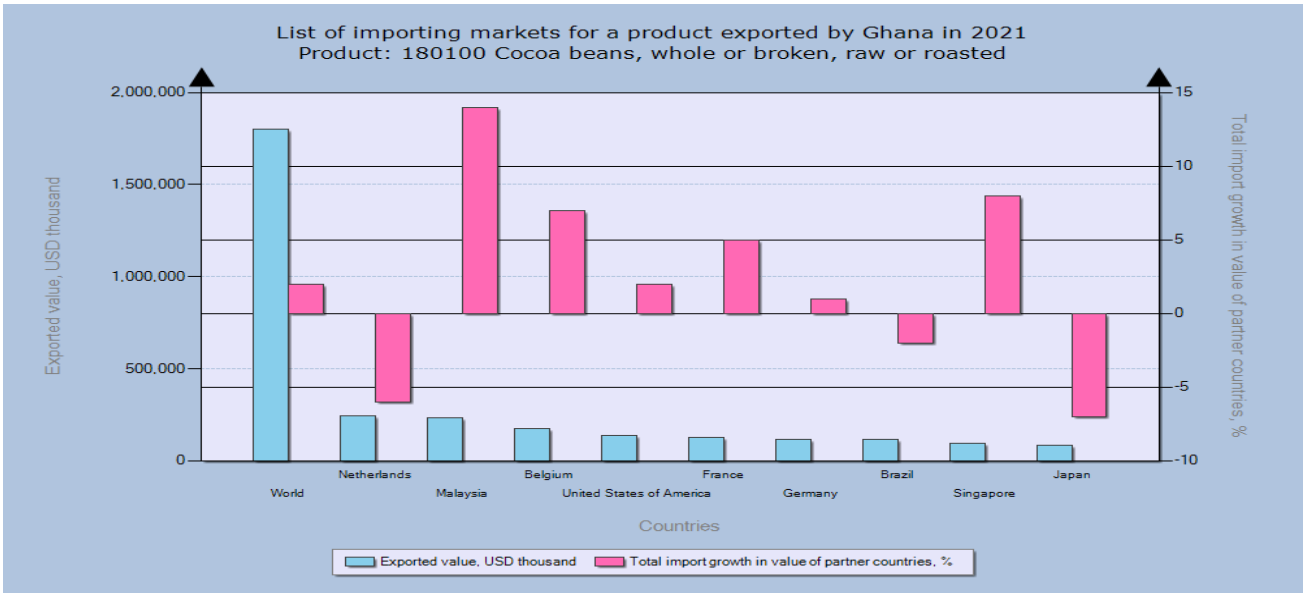
Figure 15 Percent contribution of major markets to Ghana's exports of cocoa beans



Source: ITC calculations based on GSS - Ghana Statistical Service

Figure 16 shows that within the EU, Belgium is the main export destination for Ghana's cocoa beans. Over the past five years 2017 – 2021, Ghana exported the highest value of cocoa beans to this market and the import growth in value increased by 7 percent. Other EU countries that had promising total import growth in value are France (5%) and Germany (1%).

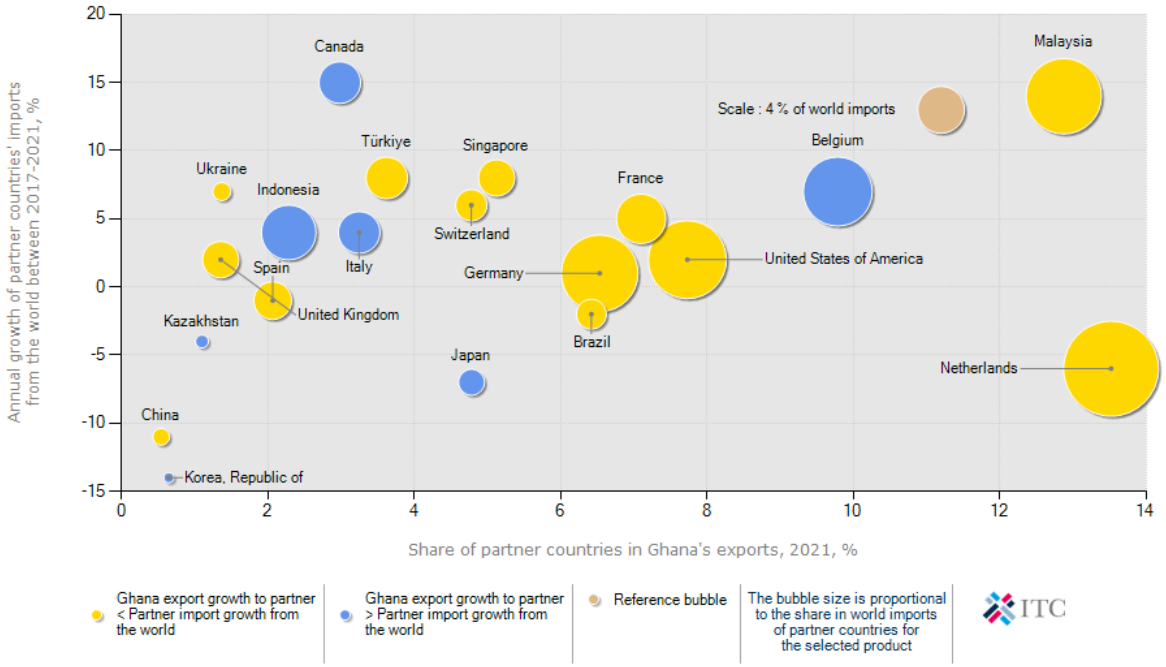
Figure 16 Countries importing cocoa beans from Ghana



Source: ITC Trade Map

In Figure 17, the yellow bubble represents Ghana's loss in market share, where this country's export growth is supposed to be less than an importing country's import growth from the world. The bubble's size is proportional to the market share in world imports of partner countries for Ghana's cocoa beans. The EU countries in which Ghana is gaining a market share are Italy and Belgium (Figure 16). This implies that Ghana's export growth for coffee in these countries is greater than of these countries' import growth from the rest of the world. Despite the percentage share of the target markets in Ghana's exports (horizontal axis), Ghana loses its market share in Germany, Spain, Switzerland, France, and Netherlands (Figure 17). This means Ghana's export growth is less than these countries' import growth for cocoa beans from the rest of the world.

Figure 17 Prospects of market diversification for Ghana's cocoa beans (2021)



Source: ITC Trade Map for Cocoa

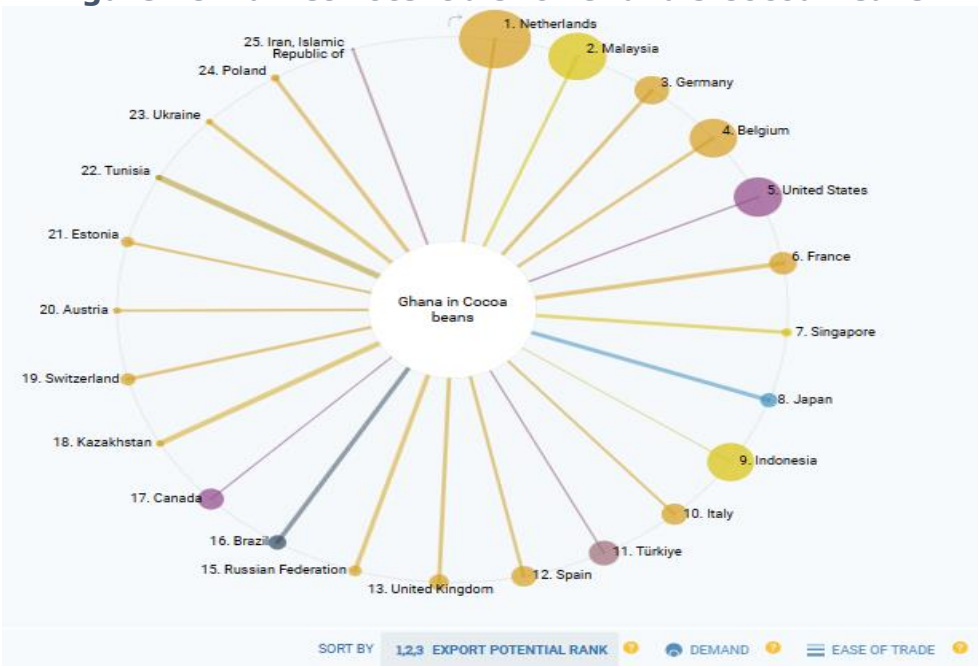
3.5.5 Growth Potential of Cocoa

Ghana's exports represent 17.2 percent of world exports for cocoa beans, it is ranked second in world exports. The average distance of importing countries is 7362 km and the export concentration is 0.08. The top five markets with greatest potential for Ghana's exports of Cocoa beans (HS180100) are Netherlands, Malaysia, Germany, Belgium, and USA (See ranking in Figure 18). Further examination of cocoa beans reveals that Netherlands is the market with the highest demand potential for Ghana's Cocoa beans (based on the size of bubble), followed by Malaysia, Indonesia, and USA (Figure 18). In terms of ease of doing trade (thickness of connecting line) in Figure 18, the first five countries that are easiest

for Ghana to export cocoa beans to are Tunisia, Kazakhstan, Singapore, Ukraine, and Brazil. Except for Tunisia and Brazil that charge 5 percent and 10 percent respectively on cocoa beans imported from Ghana, tariffs in other three countries are zero-rated.

UAE, France, and Poland are characterised with ease of doing trade for Ghana's cocoa paste (Figure 18) in these countries that among the top 7 with high potential.

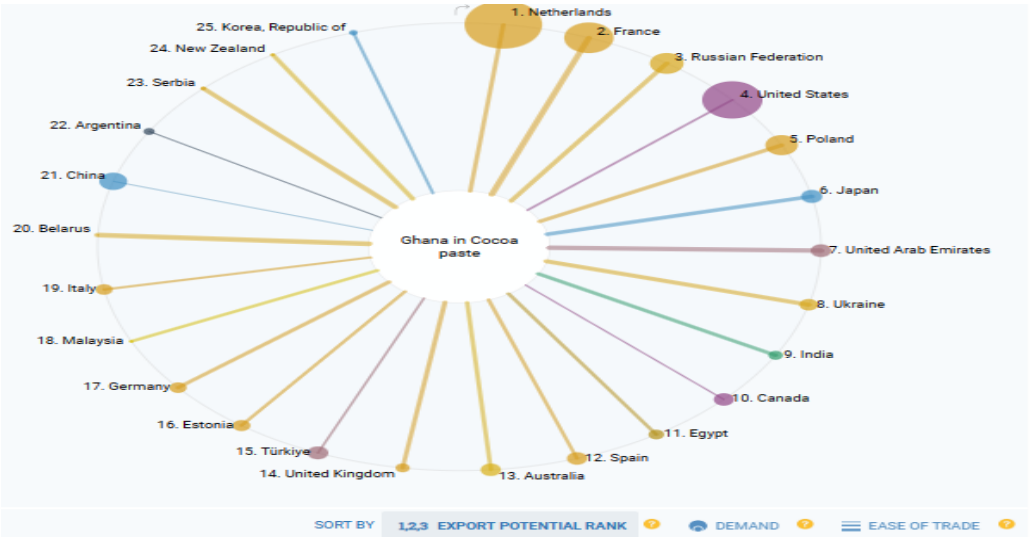
Figure 18 Market Potentials for Ghana's Cocoa Beans



Source: Export Potential Map (intracen.org)

As for Ghana's cocoa paste, the top three ranking are Netherlands, France and Russia Federation (Figure 19), which is the same ranking for cocoa butter, fat and oil, except for the third position taken by USA (Figure 20).

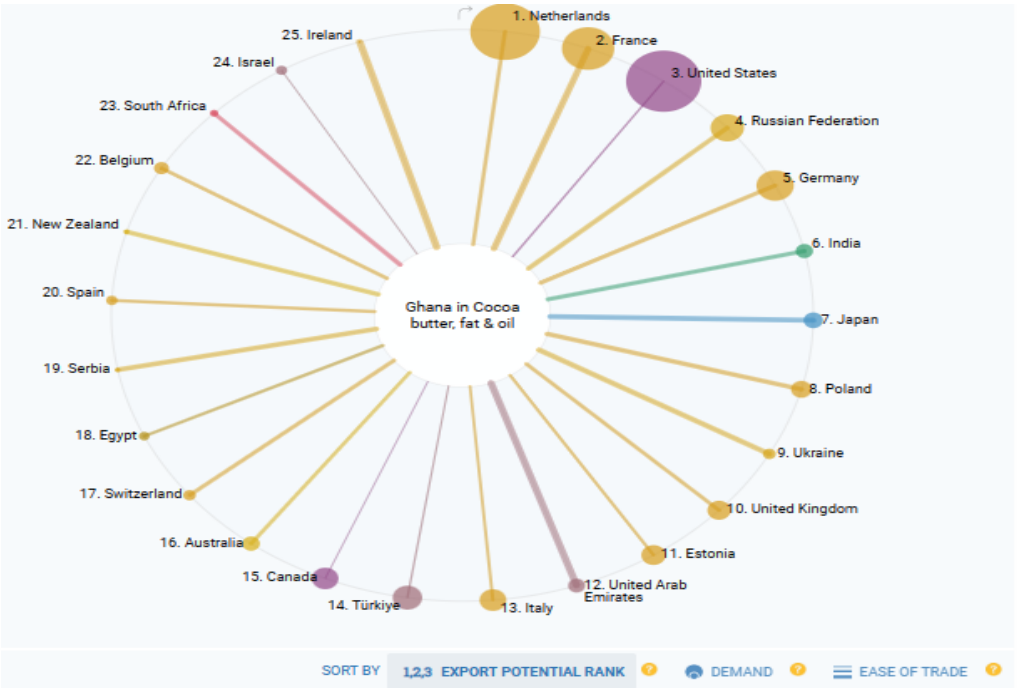
Figure 19 Market Potentials for Ghana's Cocoa Paste



Source: Export Potential Map (intracen.org)

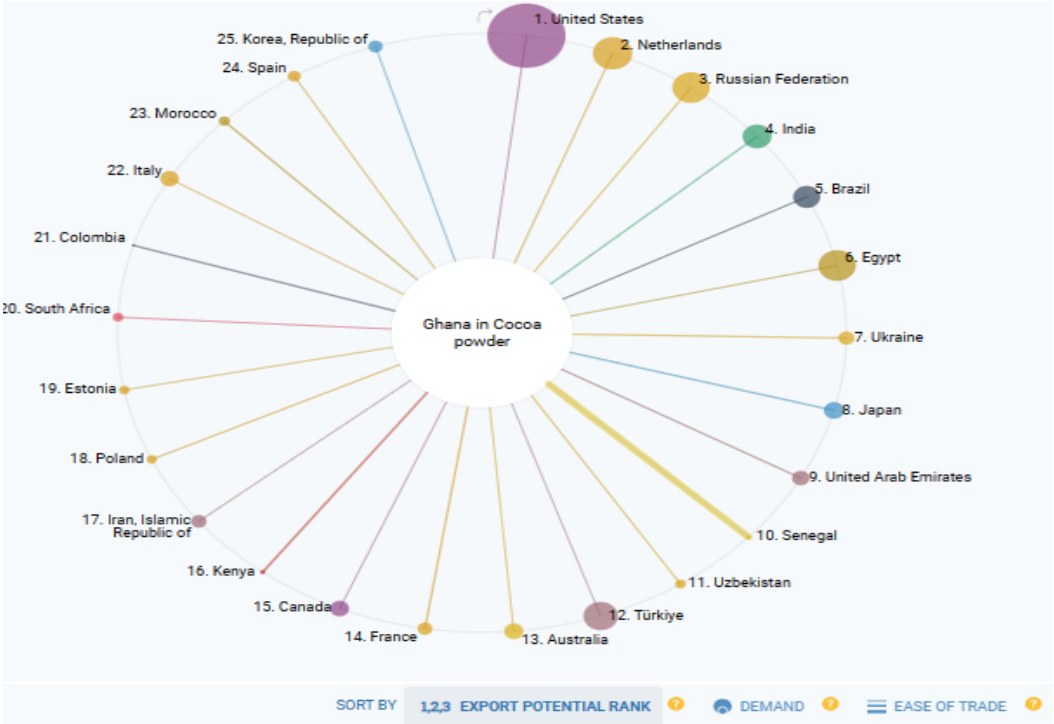
As for cocoa powder, it has the highest market potential and largest demand (bubble size in Figure 20) in USA, but easiest to trade (line thickness in Figure 20) with Senegal.

Figure 20 Market Potentials for Ghana's Cocoa Butter, Fat and Oil



Source: Export Potential Map (intracen.org)

Figure 21 Market Potentials for Ghana's Cocoa Powder



Notes: **Supply** is reflected in the relative length of the lines in the radial image (supply performance is held constant in all potential target markets). **Demand** is reflected in the size of the bubbles attached to the lines; and **ease of trade** for each product is reflected in the thickness of the lines in the radial image based on the "export market" option.

Source*:* ITC (2021) Export Potential Map/Ghana

While the world total untapped export potential of Cocoa beans stands at USD 5.7 billion that of Ghana stands at USD 2.2 billion. This country's actual export of cocoa beans is USD 1.7 billion making the unrealized potential remaining in individual countries stand at USD 689 million. Table 10 shows that the Netherlands has the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth USD 235 million.

Table 10 Export potential of Ghana's cocoa beans across markets as of 2021

S/N	Export Markets	Ghana				
		Export potential (Million USD)	Actual exports (Million USD)	Untapped potential (Million USD)	Remaining room for export growth (%)	Applied Tariff (%)
1	Netherlands	503	268	235	46.72	0
2	Malaysia	296	174	123	41.55	0
3	Germany	260	104	155	59.62	0
4	Belgium	155	123	32	20.65	0
5	USA	144	150	-	-	0
6	Singapore	104	88	16	15.39	0
7	France	99	124	-	-	0

S/N	Export Markets	Ghana				
		Export potential (Million USD)	Actual exports (Million USD)	Untapped potential (Million USD)	Remaining room for export growth (%)	Applied Tariff (%)
8	Japan	81	97	-	-	0
9	Indonesia	66	27	39	59.09	0
10	Turkey	66	56	10	15.15	0
11	Brazil	57	84	-	-	10
12	Spain	55	45	9.8	17.82	0
13	UK	50	37	13	26.00	0
14	India	45	0.71	45	100	30
15	Italy	45	51	-	-	0

Source: Calculations based on ITC (2021) Export Potential Map/Ghana

3.6 In Summary

In this chapter it has been demonstrated that the four agri-food commodities selected, namely cassava in Tanzania, banana in Uganda, goats in Ethiopia and cocoa in Ghana, have potentials to contribute further to the livelihoods of a considerable proportion of citizens if sustainable international trade was promoted.

The next chapter is dedicated to discussing what should be done in terms of adopting the right measures to promote investments that could lead to enhanced sustainable productivity, increased production of commodities with acceptable quality standards, value addition, and fetching better prices that are translated to better farm incomes and human development.

4 Supporting Policies and Legal Frameworks for Enhanced Export Trade of the Selected Agri-Food Commodities

4.1 Cross-cutting support policies

(a) Land Policies

All the four countries have policies and legislations on land that are friendly to the farming of the agri-food commodities. For instance, in Tanzania there are the Land Use Policy of 2009 and the Village Land Act that places authority on Village Governments to allocate and oversee its proper utilization but still face challenges of conflicting usage between nomadic livestock pastoralists and crop farmers. Support is needed to the gigantic task of land use planning, surveying, and titling of land parcels. A framework for collaboration with the private sector is in place and is highly appreciated by government. There are also land policies in Uganda (1998 Land Act and the Uganda National Land Policy (2013)), Ethiopia (National Integrated Land Use Planning and Policy (NILUPP)) and Ghana (National Land Policy of 1999. Enforced by the Land Use and Spatial Planning Act of 2016).

(b) Local Support Systems

Information from published reports obtained as part of literature review as well as opinion collected from KIIs and FGDs, suggest that all the four countries have in place policies, strategies, and programmes for the development of cassava, banana, goats, and cocoa value chains. The instruments include those for creating enabling environment for local and international investors to participate in the production and productivity enhancement, research and extension, value addition, marketing, exportation of the commodities; and regulations on export procedures, quality standards, social accountability, and environmental sustainability as summarized in Table 9.

In Tanzania, for example, the National Cassava Development Programme (NCDP, 2020-2030) aims to boost cassava productivity from an average of 8.3 tons per hectare (2018/2019) to 16 t/ha hectare, hence triple production from 8.2 million tons (mt) in 2020 to 24 mt by 2030 through intensive type of farming (MoA, 2020). Similarly, in Uganda, the Presidential Initiative for Banana Industrial Development (PIBID) launched in 2005 aims to attract private sector investment in establishing processing facilities for the value addition of banana. In Ethiopia, the National Food and Nutrition Council (NFNC) has coordinated efforts by public and private sector actors in promoting investments in modern slaughterhouses that meet international standards for exported goat meat. In Ghana, Cocoa Sector Development Strategy (CSDS) has continued support to smallholder farmers, cooperatives, and private sector actors, to increase cocoa productivity and invest in sustainable value addition (Table 11).

Table 11 Mapping of Legislations and Institutions governing CVCs in Tanzania, Uganda, Ethiopia, and Ghana

Policy Area	Tanzania (Cassava)	Uganda (Banana)	Ethiopia (Goats)	Ghana (Cocoa)
Food/Agriculture Policies	National Agricultural Policy Agricultural Sector Development Programme (III) National Cassava Development Strategy (NCDS, 2020-2030) Tanzania Food and Nutrition Centre	National Agricultural Policy (2013); Uganda Food and Nutrition Policy (UFNP) 2003. Presidential Initiative for Banana Industrial Development launched in 2005	Food and Nutrition Policy National Food and Nutrition Council	Cocoa Sector Development Strategy Document (CSDS II); COCOBOD Law 1984
Land Use Plans	Land Use Policy of 2009. Exists: Integrated Land Management Information System (ILMIS)	1998 Land Act and the Uganda National Land Policy (2013)[17].	National Integrated Land Use Planning and Policy (NILUPP)	National Land Policy of 1999. Enforced by the Land Use and Spatial Planning Act of 2016
Public budget allocation to the agricultural sector	Allocation below 4 percent for many years until 2023	Allocation below 4 percent	Allocation about 15 percent for many years	Allocation between 5 and 6 percent
Commodity Development	Crops and other Produce Board (CPB) (is not specific for cassava)	Uganda National Farmers' Association	National Livestock Transformation Plan (2019-2028)	Ghana Cocoa Board (COCOBOD)
Investments Promotion	Tanzania Investment Centre (TIC); signatory to Multi-lateral Investment Guarantee Agency (MIGA)	Uganda Investment Authority (UIA); signatory to MIGA	Ethiopian Investment Commission (EIC); signatory to MIGA	Ghana Investment Authority (GIA); Signatory to MIGA
Banking Facilities	Tanzania Agricultural Development Bank (TADB)	Agricultural Credit Facility and Various financial	Amhara Credit & Saving Institute, Dedebit Credit & Saving Institute, Oromia	Hauliers Bank of Ghana

[17] protects the rights of women over customary land

Policy Area	Tanzania (Cassava)	Uganda (Banana)	Ethiopia (Goats)	Ghana (Cocoa)
		programmes supporting smallholder farmers[18]	Credit & Saving Institute, Omo Credit & Saving Institute and Addis Credit and Savings Institute	
Research and Extension	Tanzania Agricultural Research Institution (TARI)	National Agricultural Research Organisation (NARO)	Ethiopian Institute of Agricultural Research (EIAR)	Cocoa Research Institute of Ghana (CRIG); Cocoa Health and Extension Division (CHED) of COCOBOD; Institute of Statistical Social and Economic Research (ISSER)
Trade and Marketing	Tanzania Trade Development Authority (TanTrade) Agriculture Marketing Intelligence System (MIS)	Uganda National Export Strategy	Ethiopian Meat and Dairy Industry Development Institute Ethiopia Livestock Marketing Information System (LMIS)	Cocoa Marketing Company (CMC)
Export Promotion	Tanzania Trade Development Authority (Tantrade) (www.tantrade.go.tz) Tanzania Trade Portal (www.trade.tanzania.go.tz)	Uganda Export Promotion Board (UEPB) General Certificate of Origin and Preferential Certificate of Origin	Ethiopia Export Promotion Agency (www.ethiomarket.com)	Ghana Export Promotion Authority (GEPA) (www.gepaghana.org)

[18]Such as *Emyooga,* the Parish Development Model revolving loans, Uganda Women Entrepreneurship Fund, Youth Livelihood Programme, the Block allocation financial product under the Agricultural Credit Facility to support agro-related micro, small and medium enterprises.

Policy Area	Tanzania (Cassava)	Uganda (Banana)	Ethiopia (Goats)	Ghana (Cocoa)
Private Sector Organisation	Tanzania Private Sector Foundation is the umbrella organisation. TACAPPA is the short form of Tanzania Cassava Producers and Processors Association.	Uganda Horticulture Exporters and Processors Association. Compliance with Voluntary Sustainable Standards (VSSs) National Organic Agriculture Movement of Uganda	EMPEA (est. July 2003)	Cocoa, Coffee, and Shea nuts Farmers Association of Ghana (COCOSHIE). Licensed Cocoa Buyers Association of Ghana (LICOBAG). Cocoa Hauliers Association of Ghana (CHAG)
Standards and Safety of products	National Standards and Quality Policy Tanzania Bureau of Standards (TBS) ISO 9001:2015	National Standards and Quality Policy Uganda National Bureau of Standards (UNBS) Department of Crop Inspection and Certification (DCIC) (Phytosanitary and Quarantine Inspection Services)	Meat Inspection Proclamation No 81/1976 and Veterinary Drug and Feed Administration and Control Proclamation No. 728/2011.	Quality Control Company (QCC)
Value Addition Development	Export Processing Zones Authority (EPZA) (www.epza.go.tz) Tanzania Industrial Research Development Organisation (TIRDO)	Integrated Agro Industrial Park	Industrial Parks (e.g. Hawassa) Special Economic Zones (have 5 prominent ones: Gada SEZ, Bole Lemi, etc)	Ghana Free Zones Authority (https://gfza.gov.gh)

Policy Area	Tanzania (Cassava)	Uganda (Banana)	Ethiopia (Goats)	Ghana (Cocoa)
Social accountability	Occupational Health and Safety Act (OSHA), 2003 (www.osha.go.tz)	OSHA 2006	Occupational Safety, Health, and Working Environment Department Decent Work Country Programs (DWCPs)[19]	Labour Act, 2003 Act 651, Article 118:1, with respective guidelines for each sector Under the Ministry of Employment and Labour Relations
Environment and Climate Change *(All four countries are signatories to the UN Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, UN Convention on Biological Diversity, the Convention to Combat Desertification and Montreal Protocol. They are also eligible to Green Climate Funds, Adaptation Funds, and the Global Environment Facility funding).*	National Environmental Management Act (NEMA) established under NEM Act no.20 of 2004 and its Council (NEMC)	The National Environment Act (Cap 153); National Environmental Management Authority (NEMA); Climate Resilient Green Economy (CRGE)	Ethiopian Environmental Protection Authority (EPA). Ethiopia's National Adaptation Plan (NAP-ETH) CRGE[20]	Environmental Protection Agency Ghana (www.epa.gov.gh) established in 1994 under Act no.490. The erstwhile Environmental Protection Council (EPC) was established by the Environmental Protection Council Decree1974 (NRCD 239) as amended by the EPC (Amendment) Decree 1976 (SMCD 58) (www.gepcghana.com)
Membership/compliance with Hazard Analysis Critical Control Points (HACCP)	TBS (ISO 9001) organises trainings on HACCP	ISO 17025	Goat meat: ISO 22000 and ISO 9000	SNI 2323-2008 (moisture)

[19] Which has resulted to Ethiopia's recorded a Gender Inequality Index (GII) value of 0.508 and a Gender Development Index (GDI) of 0.844 in 2018, compared to global average figures of 0.439 and 0.941, respectively.

[20] Which has included implementing the Green Legacy Program (GLP) for forest-landscape transformations and better livelihoods involving planting about 18 billion seedlings since 2019 planted (MoPD (2022);

Policy Area	Tanzania (Cassava)	Uganda (Banana)	Ethiopia (Goats)	Ghana (Cocoa)
Accreditation to other International Organisations/ Certification Agencies	International Institute of Tropical Agriculture (IITA)	International Institute of Tropical Agriculture (IITA)	International Livestock Research Institute (ILRI)	International Institute of Tropical Agriculture (IITA). Signatory to Harken-Engel Protocol[(a)] Rain Forest Alliance, UTZ, FAIR TRADE and ORGANIC

Note: [(a)]to address the worst forms of child labour (WFCL)

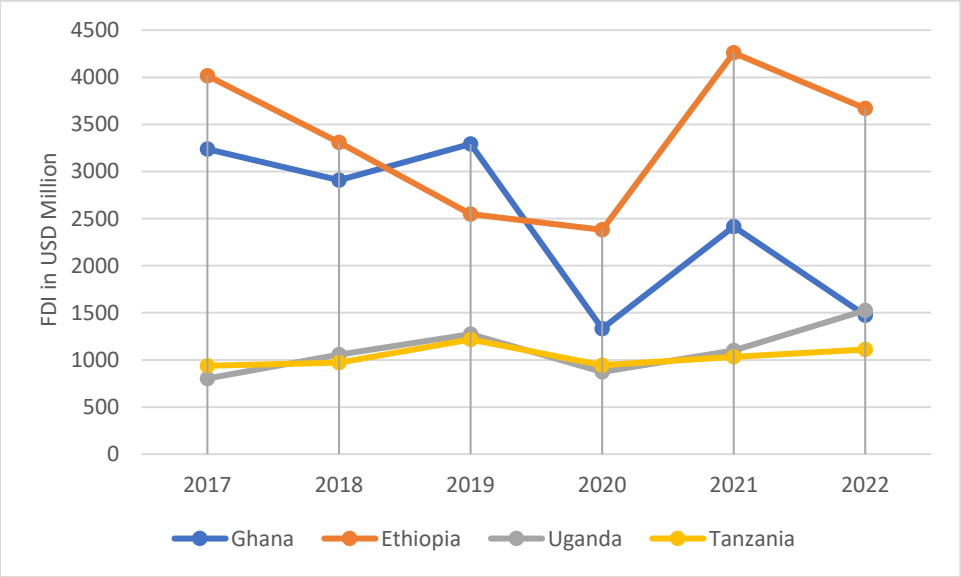
Source: Working papers (II.A Tanzania, II.B Uganda, II.C Ethiopia, and II.D Ghana) presented under a separate cover page.

(c) International Agreements on Investments and Trade

The four countries, Tanzania, Uganda, Ethiopia and Ghana are signatories to major international investment and business protocols, including: Multi-lateral Investment Guarantee Agency (MIGA), Overseas Private Investment Corporation (OPIC) of USA, Convention on the Recognition and Enforcement of Foreign Arbitral Award (CREFAA), Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), International Centre for Settlement of Investment Disputes (ICSID), Agreement on Trade Related Investment Measures (TRIMS), General Agreement of Trade in Services (GATS), and Agreement on Trade related Aspects of Intellectual Property Rights (TRIPS), Duty and quota free access into China (quota free access for over 650 products), the USA (AGOA) and Generalized System of Preferences (GSP) scheme with EC, EU (Everything but Arms) markets.

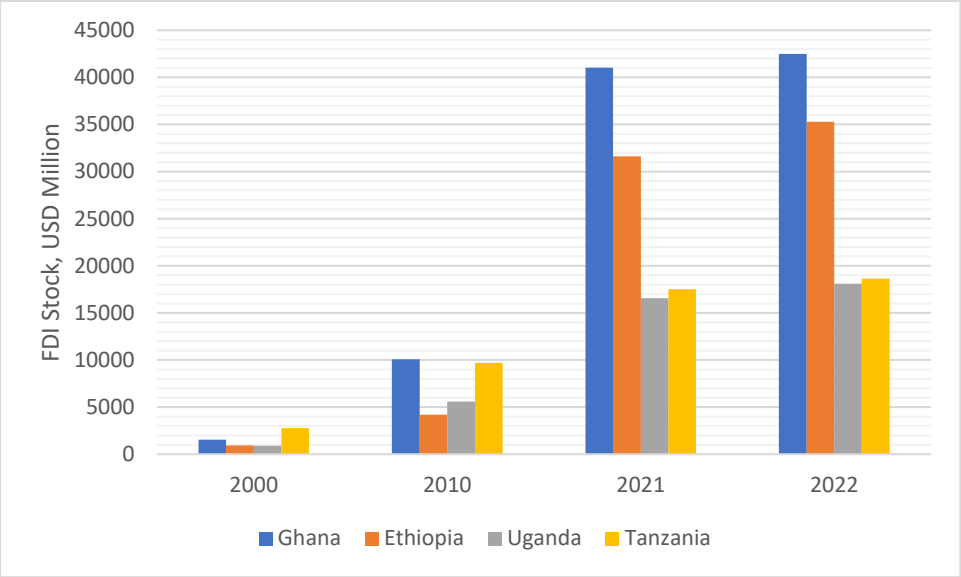
These international instruments have motivated the flow of foreign direct investment (FDIs) into the four countries as shown in Figure 23. Ethiopia attracts the largest chunk of FDI from 2017 to 2022, except in 2029, with Tanzania and Uganda being on the lower end. The received FDI have been invested in industries and businesses, whose stocks have also been on the increase as shown in Figure 22.

Figure 22 Trend of Foreign Direct Investment (in USD Million) to Ghana, Ethiopia, Uganda, and Tanzania



Source: UNCTAD (2023)

Figure 23 Growth of FDI Stock in Ghana, Ethiopia, Uganda, and Tanzania (2000-2022)



Source: UNCTAD (2023): Table 2.

4.2 Country-specific policies and legislations

4.2.1 Tanzania

(a) National Policies

Tanzania Development Vision (TDV) 2025 (MoF,2000) specified dual roles of the agricultural sector: first to ensure it produces enough food stuff to enable the country attain basic food self-sufficiency (UN SDG 2: End hunger, achieve food security and improve nutrition); and second to produce raw materials for the industrial sector expected to contribute towards a middle income (UN SDG 1) and inclusive semi-industrialized economy (UN SDG 8 and SDG 9), using environmentally sustainable approaches/technologies (UN SDG 2) by 2025. TDV2025 is implemented through various sector programmes that are incorporated as part of Five-Year Development Programme (FYDP). The Agricultural Sector Development Programme (ASDP-II) (GOT, 2017) is responsible for ensuring the country attains the goals related to the sector as stipulated in TDV2025, but also complies to African Union's aspirations as provided under the New Partnership for Africa's Development (NEPAD) framework, and in particular undertakings for the Comprehensive African Agriculture Development Programme (CAADP) (www.NEPAD.org).

(b) Support to Productivity and Production Enhancement

Research to enhance crop productivity is under the mandate of Tanzania Agricultural Research Institute (TARI[21]) with stations located in various parts of the country based on agro-ecological zone. TARI works in collaboration with other international institutions including the International Institute of Tropical Agriculture

[21] www.tari.go.tz

(IITA). Although cassava grows in all zones of the country, its research is coordinated by Ukiliguru TARI station in the Lake Victoria zone, after taking over from Kibaha TARI station located with the Indian ocean coastal zone. TARI has been able to produce an assortment of improved cassava breeds that are higher yielding, disease resistant and without bitter taste (low in cyanide levels) compared to the traditional varieties. However, local varieties are more drought tolerant and can store longer under the ground, compared to the improved varieties. Research on processing technologies is usually done by Tanzania Industrial Research and Development Organization (TIRDO[22]). The update of production and processing technologies is developed by TARI are undertaken by the extension department of public (Ministry of Agriculture (MoA) and Local Government Authorities (LGAs)[23] as well as private non-state actors (NSAs- companies, NGOs, and donor-funded projects) involved in the promotion of cassava production by farmers. Multiplication of certified seeds is usually done by the Agricultural Seeds Agency (ASA[24]) but now it does not include cassava cuttings. However, the National Cassava Development Programme (NCDP: 2020-2030) has provisions to adapt a system that will encourage the private sector to invest cassava seeds production (Market Axis, 2022).

(c) Standards and Safety Compliance Frameworks

The institution responsible for enforcing stipulated standards for crop seeds is the Tanzania Official Seed Certification (TOSCI), a government Institute under the MoA established under the Seeds Act No. 18, 2003. The Act has some provision for joining the International Seed Testing Association (ISTA) for seed testing procedures and the Organization for Economic Cooperation and Development (OECD) Seed Schemes as a requirement for facilitating international seed trade (TOSCI,2018). TOSCI has in place a 5-year Action Plan for Cassava Seed Certification (2018/19-2022/23) whose expected outcome is improved quality and efficiency of cassava seed systems. Although currently very little artificial fertilizer is applied on cassava seeds, the Tanzania Fertilizer Regulatory Authority (TFRA) (www.tfra.go.tz) ensures farmers get fertilizer with the right standards, and safe without radioactive elements as tested by the Tanzania Atomic Energy Commission established under the Atomic Energy Act no.7 of 2003. Matters of pests and pesticides are overseen by the Tanzania Plant Health and Pesticides Authority (TPHPA), established by the Act No.4 of 2020. TPHPA has been established to comply with requirements of International Plant Protection Convection (IPPC) on sanitary and phytosanitary measures (www.tphpa.go.tz)[25].

Other aspects of fertilizer quality are overseen by the Tanzania Bureau of Standards (TBS) (www.tbs.go.tz). Tanzania ratified the East African Sanitary and

[22] www.tirdo.or.tz. TIRDO is a multi-disciplinary research and development organization established by an Act of Parliament No. 5 of 1979 and it became operational on 1st April 1979.
[23] Which uses staff seconded by MOA as part of decentralization governance system?
[24] www.asa.go.tz
[25] Created following the merger of the Plant Health Section under Ministry of Agriculture and the Tropical Pesticides Research Authority (TPRI). The establishment of the Authority was intended to smooth coordination, proper utilization of resources and remove duplication of roles in order to enhance efficiency and effectiveness in service delivery.

Phytosanitary Protocol (SPS) 2013, meant to improve access to a wider selection of safe food and create regulations for dealing with aflatoxins, which pose a risk to human and animal health. The country has also complied with WTO requirements for members to establish a National Entry Point (NEP) to ease access to information by businesses on SPS standards and other technical requirements in the destination countries.

(d) Overall recommendations

(i) Licensing of private sector actors in the multiplication of certified seeds to improve the supply of adequate and superior quality cassava cuttings.

(ii) Involvement of private sector actors by to open distribution centres in each of the districts to ease access to improved seeds by farmers interested in cassava farming.

(iii) Contract farming arrangements to be improved to enforce accountability by parties in the arrangements.

(iv) Establishment of machinery hire centres to allow more farmers to properly prepare their farms for enhanced productivity per unit area.

(v) Technology transfer also needed for enabling private sector actors to diversify cassava products beyond chips and flour.

4.2.2 Uganda

National Policies

Uganda Vision 2040 aims to transform Uganda from a peasant and low-income country to a competitive upper middle-income country. One of the Framework Implementation Plan is focussed on fruits and vegetables, including banana, which has been specifically promoted by the PIBID launched in 2005.

Support to Productivity and Production Enhancement

Uganda's National Agricultural Research Organisation (NARO), just like TARI in Tanzania for cassava, has collaborated with the International Institute of Tropical Agriculture (IITA), under the National Banana Research Programme (NBRP), to produce new banana breeds such as the KABANA 6H and KABANA 7H (for cooking), which are high-yielding and disease/pests-resistant.

Standards and Safety Compliance Frameworks

Uganda's trade related legal and regulatory framework is robust. Standards are drafted and enforced by the Uganda National Bureau of Standards (UNBS), which is supervised by the Ministry responsible for Trade and Industry. Uganda is a member of the International Organization for Standardization (ISO), the African Regional Organization for Standardization, the East African Standards Committee, COMESA, the FAO/World Health Organization Codex Alimentarius Commission on International Food Standards, and the World Trade Organization (WTO). Priority areas for standards with potentially large opportunities exist in the agri-food and agriculture sector in general.

The Uganda National Bureau of Standards (UNBS) is charged with developing and checking standards. UNBS develops some of the standards, but in some cases adopts those developed by others. UNBS is a member of ISO, Codex Alimentarius, the International Organization of Legal Metrology, and Afrinet. Uganda applies EU directives and standards, with some modifications.

The ePing SPS and Technical Barriers to Trade (TBT) platform (https://epingalert.org/), or "ePing", provides access to notifications made by WTO Members under the Agreements on SPS and TBT, distributed by the WTO from January 16, 1995 to present. ePing is available to all stakeholders free of charge and does not require registration unless the user wishes to receive customized e-mail alerts.

Uganda's Plant Protection and Health Act, 2015 (GOU,2015) provides for the prevention of the introduction and spread, and eradication of pests and diseases destructive to plants. The Act regulates the introduction of exotic plants and micro-organisms. The commissioner for agriculture collaborates with inspectors to control the importation and exportation of articles that can result in the spread of diseases or pests. The Act therefore guarantees food production safety as it seeks to eradicate pests that destroy crops and prevents the introduction of exotic plants not approved by government, which seeks to protect the indigenous species. Uganda's Food and Drug Act, Cap 278 (GoU,1959) provides for offences connected with the preparation and sale of injurious foods and adulterated drugs. The Act also provides for standards for foods and drugs safety.

The legal and regulatory environment in Uganda is conducive for all forms of investment, including in organic agriculture. The Investment Code Act, 2019 governs investments in the country and Uganda Investment Authority (UIA) is the primary Investment Promotion Agency (IPA). It is a One Stop Centre with a role of promoting, attracting, facilitating, registering, monitoring, and evaluating all forms of investments and business activities in Uganda.

Uganda's OSHA of 2006 consolidates, harmonizes, and updates the law on safety and health (GoU,2006). It repealed the Factories Act, Cap 220 and enforces, among others, the Employment Act No. 6 (2006), Labour Union Act No 7 (2006),

Labour Disputes Arbitration and Settlement Act No 8 (2006), and the National Social Security Act (1985).

Among the key recommendations to improve quality of selected fruits and vegetables at various stages of the value chain as mentioned by in different reports (Wageningen Economic Research, et.al.,2020), include:

(a) Increase regulation and enforcement on the sales of agrochemicals and seeds by agro-input dealers by ensuring that only licensed agro-dealers sell authentic agrochemicals and that agro-input dealers sell quality seed (e.g. Ban the importation or production of counterfeit agro-inputs).

(b) Recruit extension workers equipped with knowledge and skills in fruits and vegetables and facilitate them to undertake their work.

(c) Develop public private partnership in research and development in the horticulture sector, in particular to (i) improve GAPs among the entire value chain; (ii) increase training of agro-input dealers on quality specifications of the inputs and their use and safe chemical handling; (iii) improve sustainable and responsible pest control at farm level (e.g., Adoption of Integrated Pest Management; IPM) and more awareness among traders; (iv) support the training of farmers on doing farming as a business; (v) ensure that data is periodically collected on fruits and vegetables sub sector; (vi) support uptake of climate smart innovations, including irrigation and water harvesting; (v) improve access to finance for farmers and other VC actors; and, (vi) improve the current export inspections and procedures to be aligned with international standards.

(d) Recruit more inspectors and facilitate them to undertake inspections at the production sites, pack houses and airports.

(e) Regulate exporters of fruits and vegetables and put in place deterrent penalties in cases of non-compliance by the exporters.

(f) Improve infrastructure such as cold chain facilities, packing materials and pack houses to increase product quality.

(g) Support the established of well-equipped testing laboratories to do (random) test on MRLs before products are shipped.

(h) Improve the branding of produce from Uganda by improving packing materials.

(i) Encourage and provide incentives for private sector to invest in vegetables and fruits.

(j) Provide farmer friendly credit with flexible repayment terms to farmers of fruits and vegetables.

4.2.3 Ethiopia

(a) National Policies

Ethiopia's "Growth and Transformation Plan (GTP) II (2015/16 – 2018/20) provides broad guidance for inclusive and sustainable transformation in the years ahead and achieving the "country's vision to become a lower-middle-income country by 2025". It is currently implemented through the Agriculture Transformation Initiative (ATI), which envisioned that, by 2025, smallholder farmers are commercialized with greater incomes, inclusiveness, resilience, and sustainability, contributing to Ethiopia's achievement of middle-income country status (FAO, 2022).

According to FAO[26] there is need for sound policies and institutions to transform the livestock sector, so that it can effectively contribute to economic growth and development. A pro-poor livestock sector policy agenda is needed that goes beyond generalities (such as "improve the delivery of veterinary services") and helps policy-makers and development practitioners design and implement pro-poor livestock sector policies and institutional reforms. Policies will necessarily include measures to improve access of smallholders and pastoralists to productive resources, information, technology, training, assets, and credit and to strengthen producer groups. Trade reforms, investments, and innovations will also be needed (FAO,2018).

(b) Support to Productivity and Production Enhancement

The LMP sets out investment interventions for farmers to adopt livestock with better genetics and improve feed and health services. The aim is to improve productivity and total production in the key livestock value chains for poultry, red meat-milk, and crossbred dairy cows.

(c) Standards and Safety Compliance Frameworks

Ethiopia is a member of the World Organisation for Animal Health (OIE) and has designated the government's Veterinary Services Department (VSD) as the country's competent authority (CA) to ensure effective enforcement of all necessary animal health controls. The CA guarantees that the relevant hygiene and public health requirements with respect to the structure of establishments, equipment, and operational processes for slaughter, cutting, storage and handling of meat. These provisions are aimed at ensuring that food is produced safely and that contamination of the product during processing is prevented. Audits by the EU Commission's Health and Food Audits and Analysis Directorate (HFAAD) are conducted to verify compliance with the above requirements.

Ethiopia's export abattoirs are private with state-of-the-art Halal-certified slaughterhouses with livestock reception pens, automatic and semiautomatic mechanical slaughter and processing equipment, chilling rooms, air-conditioned deboning facilities, packaging equipment, freezing facilities, and rendering and effluent treatment. The slaughterhouses are facilitated by the EMPEA which was established in July 2003.

[26] www.fao.org/3/cc5356en/cc535en.pdf

There are ongoing investments in Ethiopia to ensure slaughterhouses process meat (including goat meat) that comply to protocols under the Hazard Analysis Critical Control Points (HAACP) framework. As such goat meat abattoirs are ISO 22000 and ISO 9000 certified. The investment in modern meat handing facilities is a result of Government's efforts to encourage private sector investments.

One of the largest and modern meat processing plant is at Adami Tulu southern parts of Ethiopia in Oromia State, 163 km from Addis Ababa, with initial investment of USD 69 million built on a 75-hectare land. It has a capacity to slaughter 3,000 cattle and 6,000 sheep and goats per day, thus producing 300 tons of meat a day.

4.2.4 Ghana

(a) National Policies

Ghana's Ministry of Food and Agriculture (MoFA) has been implementing the Food and Agriculture Sector Development Policy (FASDEP), its related Medium-Term Agriculture Sector Investment Plan (METASIP), and the Planting for Food and Jobs Program for 2018-2020, which MoFA is currently developing with support from the African Green Revolution Alliance (AGRA) (World Bank,2017).

National-level policies have been implemented, such as the Cocoa and Forests National Implementation plan, the Ghana Cocoa Forest REDD+ Programme (GCFRP), and the National Climate-Smart Agriculture and Food Security Action Plan (UNEP,2022).

(b) Support to Productivity and Production Enhancement

The Government of Ghana, through the COCOBOD, had for many years provided elevated levels of subsidized inputs (fungicides, pesticides, and fertilizers), equipment (e.g., sprayers) in addition to free research and extension services. However, in recent years, a cost-sharing system was introduced that compelled farmers to increasingly bear the cost of planting and pest control. This decision has resulted to decreasing levels of farm productivity as farmers fail to apply the recommended packages of GAPs.

(c) Standards and Safety Compliance Frameworks

The country's cocoa production and processing operations comply with the HAACP and have obtained SNI 2323-2008 for control of cocoa beans moisture. COCOBOD provides regulatory guidelines and enforcement mechanisms to ensure health of cocoa tree and pod and bean quality assurance. There is a working partnership with private sector actors who are compelled to ensure good agricultural practices (GAPs) are applied at the farm level, most importantly using clean planting material under the supervision of the Cocoa Health and Extension Division (CHED) and the Seed Production Division (SPD). The transporters and warehouse operators are required to take care of the harvested beans before they are taken for processing and later for export. The Quality Control Company (QCC) oversees all quality assurance protocols, including disinfection and fumigation of warehouses.

4.3 Key impacts of agri-food trade on sustainable development and on human rights

4.3.1 Impact on Family Incomes

Cassava in Tanzania, as typical of other smallholder food crops assumes a dual role as a basic food item for families, and as a source of income after selling to the market. However, given its tolerance to moisture stress, the cassava is specially taken as an insurance crop against drought. This implies if the crop is cultivated in adequate amounts, it can provide both food and money to families in all years irrespective of weather conditions.

In Uganda, banana farming has been an important source for both food and money for the majority of farmers given that the crop is grown in most parts of the country. Besides the leaves being used for roofing of huts and making baskets, the plant remnants are usually recycled as compost manure, thus boosting yields of other crops that are inter-cropped with banana plants.

In Ethiopia, promoting goat and goat meat trade is likely to positively contribute to family incomes in the rural areas, especially in places that are not well suitable for ordinary crop farming given the drought resilience of goats.

In Ghana, cocoa is a perennial crop and so once planted, and allowed to grow under shade, assures the owner of continues stream of income for more even 100 years. Part of the cocoa trade proceeds is used to build the capacity of cocoa cooperative societies and unions so that they responsibly manage resources (e.g., improve record keeping and access marketing information), and enhance their eligibility to access financial services from banks. A total of 512 Farmer Cooperatives and 830 Farmer Associations/Groups have benefited from the initiative to enhance financial services inclusion.

COCOBOD has annual budgetary provisions based on the gross FOB value of exported cocoa, for building the capacity of cooperative societies and to fund COCOBOD's child education support programmes involving construction of classrooms, libraries, and hospitals, thus ensuring school-age children are removed from the streets and attend classes. There is also provision of freshwater boreholes for cocoa growing communities to prevent waterborne diseases among farmers.

4.3.2 Impact on Social Welfare

Cassava in Tanzania: Although land preparation for cassava production can mechanically done using ox-ploughs and tractors, the work of harvesting (uprooting), peeling and drying is still manually operated, mostly involving women (uprooting, carrying the tubers home, and peeling) and children (peeling). Peeling is regarded as a light job but can have risks of injury from knives. Among the recommendations therefore to liberate women and children is the introduction and adoption of mechanical peeling machines. Women's workload of peeling cassava was lessened by special peeling machines provided on loan or hire by private companies that

are involved buying cassava chips for export. A study on women's empowerment in cassava smallholder farming revealed that women, and especially unmarried ones, were more disempowered compared to men when it comes to securing land resources and accessing credit (Masamba, et.al., 2017). Unlike the situation at family level, labour rights for workers employed by companies in value addition and transportation are protected by national laws that govern working hours, remuneration, annual leave, maternal leave, and paternal leave days (GOT,2004). Persons below 18 years of age are considered as children and therefore not allowed to be employed.

Banana in Uganda: The crop is mostly grown on smallscale farms using family labour and outsourced part-time labourers during peak demand for farm operations. Children at family level are usually assigned light tasks like cleaning of banana stools and peeling of banana for family food. Although women in Uganda have for many years been disempowered in accessing land, a new law was passed by Parliament in 2021 that overhauled all outdated and discriminatory legislation that were unfavourable to women (CPA Uganda, 2019; UN Women, 2021). Overall, Uganda's laws prohibit employment of persons under 18 years, have wage guidelines for workers in different sub-sectors, including agricultural establishment. There are also dedicated commercial and industrial courts for quick resolution of business disputes.

Goats in Ethiopia: In terms of employment, goat rearing is traditionally regarded as "light task" that can also be done by youthful persons, who also be below 18 years, which is contrary to the established labour laws internationally and nationally. Indeed, the Ethiopia Labour Proclamation No 1156/2019 and 377/2003 prohibit employment of persons under 15 years of age. One of the interventions ahead will be to launch awareness campaigns that discourage the engagement of children in goat rearing and ensuring enforcement of the law.

Cocoa in Ghana: Ghana has the necessary legal framework that ensures social sustainability in the cocoa value chain. The country has since 2010 been collaborating with the U.S Department of Labor (USDOL) and the International Chocolate industry to support the implementation of the Harken-Engel Protocol (Declaration) to address the worst forms of child labour (WFCL) in cocoa growing areas.

Ghana's cocoa trading activities have not yet been notified to the WTO under Article XVII of the GATT 1994. There are no statutory export taxes on cocoa beans. Ghana and Côte d'Ivoire, the world's two leading cocoa exporters, are working together with the aim to improve their cocoa terms of trade, and thereby raise cocoa farmers' incomes. In 2020, these countries jointly introduced a premium of USD 400 per tonne (the so-called Living Income Differential), which is charged to buyers on top of the terminal market price of cocoa (WTO,2022: para 15-16).

4.3.3 Impact on Environment

Cassava in Tanzania: Successes in obtaining increased export demand for cassava will require increased production through productivity enhancement rather than land area expansion, to avoid negative consequences of vegetation clearance in starting new farms. As already mentioned elsewhere in this report, this approach is appreciated in the country's national cassava development programme (NCDP: 2020-2030).

Banana in Uganda: Banana crop, just like coffee or cocoa, can be sustained on the same spot for more than 50 years, making it an environmentally sustainable crop. However, in recent years, with the introduction of new breeds, the life cycle for replanting has been shortening to less than 10 years (MAAIF,2016). This implies that once a banana stool is established it can provide food and income to families for a prolonged period. Banana farming does not necessitate area expansion to increase production levels if GAPs are strictly followed by farmers. Among the climate-smart approaches recommended is the use of appropriate banana cultivars that protects the soil and uses minimal water (Bahati, 2022).

Goats in Ethiopia: One of the consequences of promoting goat meat trade will be continued or increased emission of greenhouse gases (GHGs) from livestock production. Livestock contribute about 15 percent of GHG emissions, which are the major cause of global warming and climate change. In Ethiopia, the agriculture sector accounts for about 74 percent of total national GHG emissions, with over 60 percent coming from livestock (Gerber *et al*., 2013; MEF 2015), mostly dominated by cattle, sheep, and goats. The population of about 149.99 million herd (66.26 million cattle, 38.01 million sheep, 45.72 million goats) in 2021/22 (CSA, 2022) generates and releases into the air more than 110 Mt CO_2e of GHG per year, which represents more than 50 percent of the total agriculture GHG emissions in Ethiopia.

Cocoa in Ghana: Among the four agri-food commodities, cocoa is undeniably the most environmentally friendly plant, acting as a carbon-dioxide sink during its lifetime. Based on the cocoa cultivation area of 1.45 million hectares, the cocoa sector in Ghana potentially could store 118.6–223.2 Gg C in cocoa systems with cocoa systems aged within 30 years regardless of shade management. It is for that reason that the cocoa sector is included in the national carbon accounting emissions budget of Ghana (Mohammed, et.al., 2016). However, global warming is already showing negative consequences to cocoa yields (Bunn, et.al., 2017). As if that is not enough, growing demand for more cocoa could compels farmers to clear new land. Such expansion of area into forest land will have negative effects on the environment and contribute to climate change and therefore further affecting cocoa yields.

4.4 Linkages: From trade policy regime, investments, and sustainability standards to impacts

In line with the MATS Guideline, this Case Study No.04 has examined 12 core indicators from across three thematic areas, namely, (i) economy and markets whose SDG indicators are shown in Table 13; (ii) social and human dimension (with SDG indicators shown in Table 14); and (iii) environmental dimension (whose SDG indicators are shown in Table 15). These are briefly presented and discussed below.

4.4.1 Economy and Markets dimension

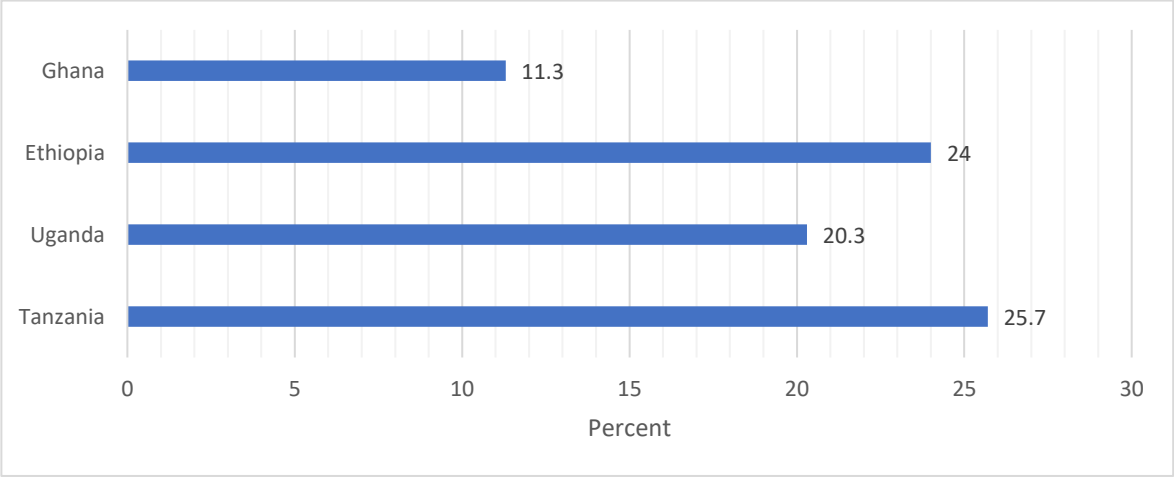
(a) Allocation of public resources to the agricultural sector

Given that the agricultural sector supports the livelihoods of more than two thirds of the population, the four countries are party to the Malabo Declaration that required African countries to allocate at least 10 percent of the national budget to the agriculture sector (covering crops, livestock, fisheries and forestry). Only Ethiopia has managed to surpass the target, with Ghana allocated about 6 percent, while Tanzania and Uganda have, for many years, been allocation less than 4 percent of their budget to the agricultural sector. Tanzania improved the situation since 2023/24 when the ratio was raised to above 6 percent.

(b) Average per capita daily income

Overall population: Ghana has the lowest ratio of population (11.3%) living with income below USD 1.9 per day, with Tanzania and Ethiopia having about 25.7 and 24 percent, respectively (Figure 24).

Figure 24 Proportion (%) of population living with daily income below USD 1.9 per day.



Source: World Bank (2022)

Poverty prevalence is higher in rural areas compared to urban areas. All the countries have interventions targeting the poor as part of social protection/welfare programmes. Tanzania Social Action Fund (TASAF) is funded by the World Bank, UN agencies, and domestic resources targeting the poorest of the poor in both

urban and rural areas (UNSDG,2022)[27]. In Uganda, the Expanding Social Protection Programme (ESPP) is jointly funded by government, Irish Aid, and the Commonwealth, Foreign and Development Office (FCDO) (UK). ESPP include cash transfers to vulnerable groups, pensions for the elderly, grants to children-headed households, and people with disabilities to cater for food, health, shelter, etc. (Uganda,2020)[28]. Ethiopia has the National Social Protection Policy (NSPP) with five interrelated priority focus areas: promotion of productive safety nets; promotion of employment opportunities and livelihoods; promotion of social insurance; enhancement of equitable access to and use of basic services; and provision of legal protection and support services for those vulnerable to violence and abuse. Its collaboratively funded with Development Partners such as UNICEF (2017)[29]. Ghana has made critical investments in social protection over the past 10 years, investing in the five flagship social protection programmes, namely the Ghana School Feeding Programme (GSFP), the Labour-Intensive Public Works (LIPW) programme, the Capitation Grant, the National Health Insurance Scheme (NHIS) and its premium-exempt categories, and the Livelihood Empowerment Against Poverty (LEAP) programme (UNICEF, 2020)[30].

The four commodities, one in each of the four countries, have a high potential for income generation through trade that provides fair returns to efforts by farmers. Of the four, cocoa has historically been internationally traded, while cassava, banana and goats are new export crops from the respective countries.

(c) *Average income of small-scale food producers*

Rural population constitute more than two thirds of the population, most of whom rely on crops and livestock production for the livelihoods. In comparing per capita income levels of smallscale food producers among the four countries taken for the case study, the rural population in Uganda (USD744) and Ethiopia (USD 816) has lower income levels compared to their counterparts in Tanzania (USD 960) and Ghana (1,800) (Table 13). As common among developing countries, the rural population has lower income levels compared to the urban population (UNDP, 2021).

(d) Proportion of agricultural area under productive and sustainable agriculture

Since 2000, forest area across the world has declined by 2.4 percent, an area equivalent to the size of Egypt, such that by 2020 only 31 percent of land surface was covered by forests (World Bank,2023). SDG 15 requires countries to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss. Actions being taken by Tanzania, Uganda, Ethiopia, and Ghana to achieve SDG 15 by 2030 include the implementation of interventions to promote the conservation and sustainable use of forest resources, restoration of

[27] https://jointsdgfund.org/programme/strengthening-social-protection-system-tanzania

[28]https://socialprotection.go.ug/who-we-are/...

[29](https://www.unicef.org/ethiopia/sites/unicef.org.ethiopia/files/2020-01/National_Social_Protection_Budget_Brief_2017_18.pdf)

[30](https://www.unicef.org/ghana/media/2306/file/Budget%20Brief%20-%20Social%20Protection.pdf#...

degraded natural forests, establishment of new forests, and creating awareness among citizens to promote the use of efficient charcoal and wood stoves as well as yearly planning of trees to and use of solar, wind and electricity for cooking.

According to the World Bank[31], Uganda has the largest proportion of land mass (71.9%) categorized as "agricultural land," compared with both Tanzania and Ethiopia (44%) (Table 12). Land categorized as "arable land" for farmers out of total "agriculture land" is lowest in Ethiopia (14.5 %) (Knoema,2021) and highest in Uganda (34.3 %) (IndexMundi, 2022). It is observed that there is still room to expand farmed land, since out of this suitable arable land, the proportion that is actually been cultivated is about 35 percent for Tanzania and Ethiopia; and 11.3 percent for Uganda and Ghana (Statistica, 2022) (Table 12).

Sustainable farming practices are regarded as crucial for the long-term viability of agriculture (Ecoscout, 2023). Some of the sustainable farming practices that can be used by farmers include crop rotation, diversification, use of organic fertilizers, and organic pest control methods (Ecoscout, 2023). Regenerative agriculture is another sustainable farming practice that is gaining popularity in countries like Ghana. It employs techniques such as cover cropping, minimal tillage, integrated livestock management to promote soil fertility, and carbon sequestration (Business Ghana, 2022).

Table 12 SDGs Indicators for Economy and Markets examined in the Case Study

Indicators that comply with SGD indicators	SDG Reference	Tanzania	Uganda	Ethiopia	Ghana
Average income of small-scale food producers, by sex and Indigenous status	2.3.2	960(a)	744(b)	816©	1,880 (d)
Proportion of agricultural land		44%	71.9%	44%	55.39%
Proportion of arable agricultural area	2.4.1	15.4%	34.3%	14.5%	20.7%
-under production (out of arable land)	2.4.1	35%	11.3%	35%	11.3%
Total resource flows for development to Tanzania, Uganda, Ethiopia and Ghana by Donor countries and type of flow	10.b.1	See Table 11 and Figure 24			
Total official dev assistance grants that focus on poverty reduction as share of recipient country's gross national income	1.a.1	See Table 12 and Figure 25			

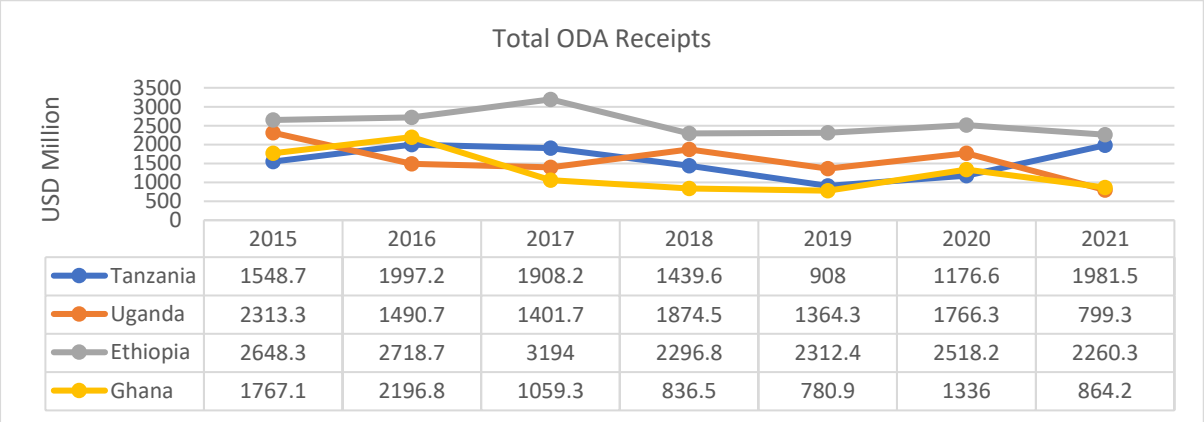
Notes: [(a)]Assumed 80% of USD 1,200 per capita for the overall population in 2022 (data.worldbank.org); [(b)]Assumed 80% of USD 930 per capita for the overall population in 2022 (www.macrotrends.com: 2023); [(c)]Assumed 80% of USD 1,020 per capita for the overall population in 2022 (data.worldbank.org); [(d)]Assumed 80% of USD 2,350 per capita for the overall population in 2022 (data.worldbank.org; statistica.com)

[31] Data.worldbank.org/indicator/ag.ind.arblha?locations=ug

(e) Total resource flows for development, by recipient and donor countries and type of flow

According to SDG2030, developed countries are required to commit some of the resources to support sustainable development initiatives in least developed and developing countries. Official records show that Ethiopia has been the largest beneficiary of official development assistance (ODA), followed by Uganda from 2015 to 2021 (ODA,2023). However, there has been a declining trend of ODA since 2015, except for flows to Tanzania, which showed some recovery since 2019 (Figure 25).

Figure 25 Trend of Total ODA receipts



	2015	2016	2017	2018	2019	2020	2021
Tanzania	1548.7	1997.2	1908.2	1439.6	908	1176.6	1981.5
Uganda	2313.3	1490.7	1401.7	1874.5	1364.3	1766.3	799.3
Ethiopia	2648.3	2718.7	3194	2296.8	2312.4	2518.2	2260.3
Ghana	1767.1	2196.8	1059.3	836.5	780.9	1336	864.2

Source: OECD (2023).

(f) ODA Resources Flow to Tanzania

The volume of total ODA from multilateral organizations, bilateral organisations and other sources received by Tanzania between 2015 and 2021 was highest in 2016 (USD 1,642.9 million) and lowest in 2018 (USD 1081.6 million) (Table 13). Out of this amount, the largest proportion has been allocated to economic infrastructure (e.g., transport and energy) except in 2019. The highest share was recorded in 2017 (see Figure 26).

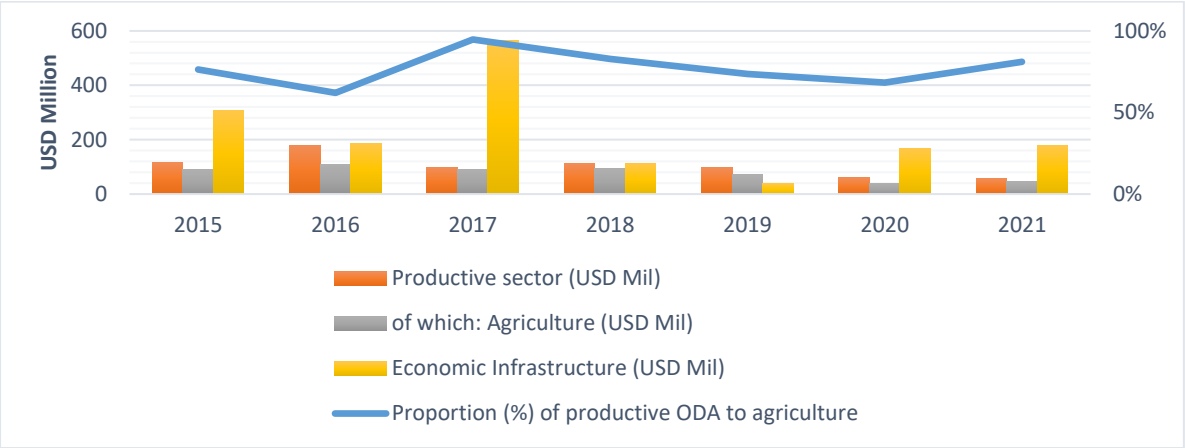
Table 13 Purpose of ODA Disbursements (USD Mil) by Multilaterals to Tanzania

	2015	2016	2017	2018	2019	2020	2021
Total Disbursed	1597	1642.9	1178.6	1073.6	1081.6	1438.4	1354.5
Productive sector	116.1	177.8	97.3	112	96.5	59.4	57.2
of which: Agriculture	88.6	110.3	92.2	92.7	71	40.6	46.4
Economic Infrastructure	307.6	187.5	565.1	111	39.8	166.7	178.8
Proportion (%) of productive ODA to agriculture	76%	62%	95%	83%	74%	68%	81%

Source: OECD (2023). (oecd-ilibrary.org) (Tanzania: page 700)

The second sector to benefit from ODA after economic infrastructure has been the productive sector, of which the agriculture sector dominates by receiving the largest share, ranging from 62 percent as the lowest in 2016, to 95 percent in 2017 and 81 percent in 2021. (Table 14 and Figure 26).

Figure 26 Trend of ODA financial resources (USD Million) to Tanzania 2015 to 2021



(g) ODA Resources Flow to Uganda

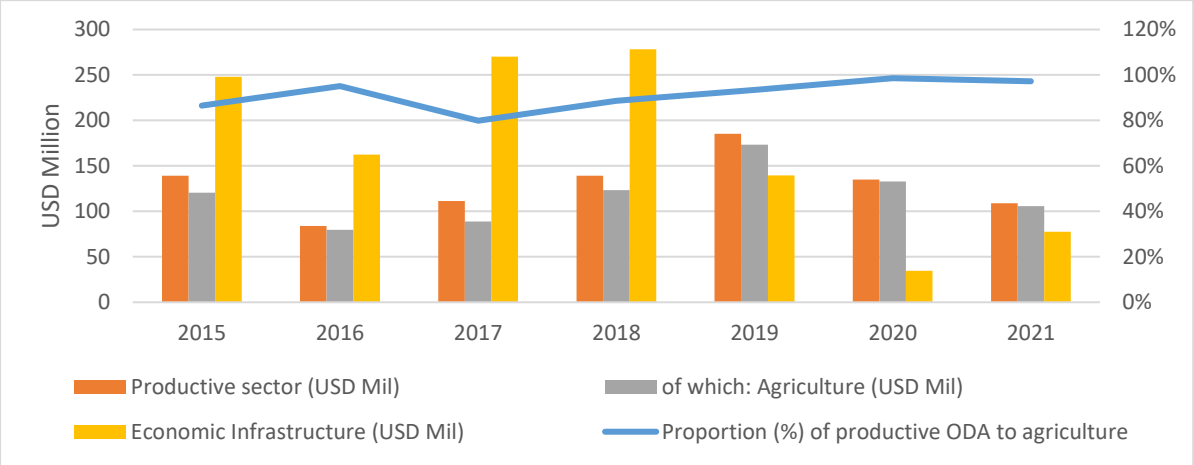
The volume of total ODA from multilateral organizations, bilateral organisations and other sources disbursed to Uganda between 2015 and 2021 was highest in 2019 (USD 1,766.7 million) and lowest in 2020 (USD 1,129.3 million) (Table 14). Out of this amount, economic infrastructure (e.g., transport and energy) received the largest share from 2015 to 2018, and after that allocation to the productive sector has the largest share (see Figure 26). The agriculture sector in Uganda received the largest share of resources allocated to the productive sector. It ranged from 80 percent as the lowest in 2017, to 99 percent in 2020 and 97 percent in 2021. (Table 14 and Figure 27).

Table 14 Purpose of ODA Disbursements (USD Mil) by Multilaterals to Uganda

	2015	2016	2017	2018	2019	2020	2021
Total Disbursed	1284.5	1240	1259.5	1406.5	1766.7	1129.3	1346.8
Productive sector	139.2	83.9	111.3	139.2	185.4	134.8	109
of which: Agriculture	120.4	79.8	88.9	123.3	173.3	132.9	105.9
Economic Infrastructure	247.9	162.6	270.2	278.4	139.7	34.8	77.5
Proportion (%) of productive ODA to agriculture	86%	95%	80%	89%	93%	99%	97%

OECD (2023). (oecd-ilibrary.org) (Uganda: page 740)

Figure 27 Trend of ODA financial resources (USD Million) to Uganda 2015 to 2021

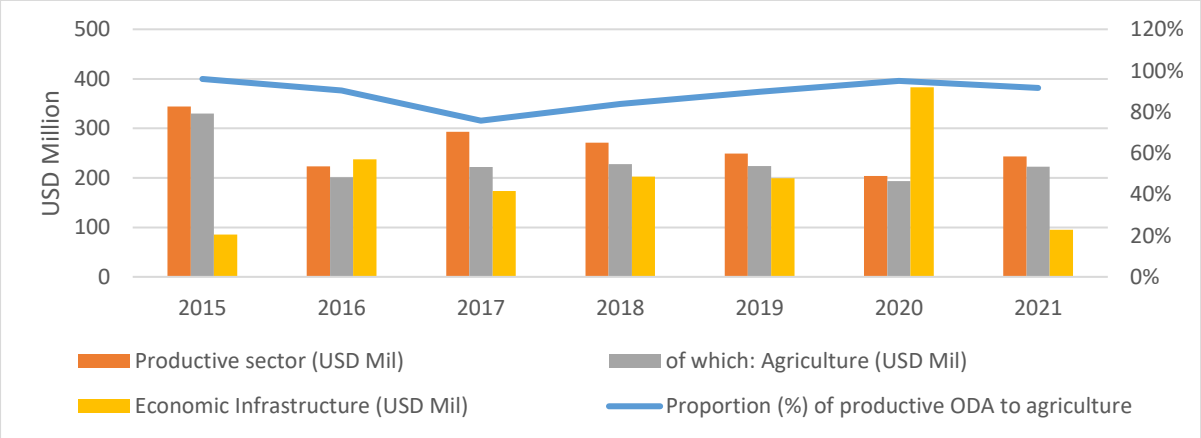


Source: Table 15

(h) ODA Resources Flow to Ethiopia

The volume of total ODA from multilateral organizations, bilateral organisations and other sources disbursed to Ethiopia between 2015 and 2021 was highest in 2020 (USD 2,780.4 million) and lowest in 2015 (USD 2,078.6 million) (Table 15). Just like the case in Tanzania and Ghana, economic infrastructure (e.g., transport and energy) received the largest share throughout the reference period, followed by allocation to the productive sector (see Figure 28).

Figure 28 Trend of ODA financial resources (USD Million) to Ethiopia, 2015 to 2021



Source: Table 15.

The agriculture sector in Ethiopia also received the largest share of resources allocated to the productive sector, ranging from 76 percent as the lowest in 2017, to 96 percent in 2015 and 95 percent in 2020 (Table 15).

Table 15 Purpose of ODA Disbursements (USD Mil) by Multilaterals to Ethiopia

	2015	2016	2017	2018	2019	2020	2021
Total Disbursed	2078.6	2292.6	2401.5	2113.5	2427.2	2780.4	2663.8
Productive sector	343.8	223	293.2	271.3	249.1	203.8	243.2

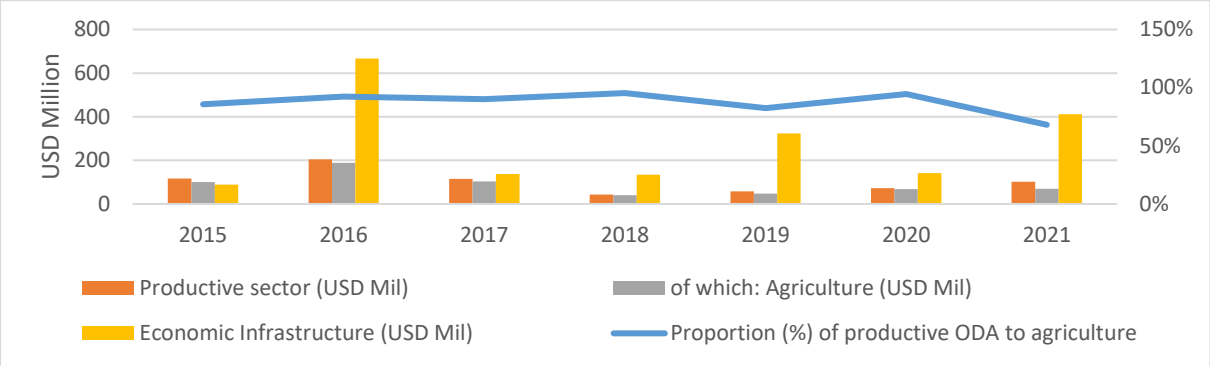
of which: Agriculture	329.8	201.4	222	227.4	223.6	193.6	222.6
Economic Infrastructure	85.2	237.6	173.6	202.7	199.1	383	95
Proportion (%) of productive ODA to agriculture	96%	90%	76%	84%	90%	95%	92%

OECD (2023). (oecd-ilibrary.org) (Ethiopia: page 380)

(i) ODA Resources Flow to Ghana

The volume of total ODA from multilateral organizations, bilateral organisations and other sources disbursed to Ghana between 2015 and 2021 was highest in 2016 (USD 1,236.5 million) and lowest in 2020 (USD 1,129.3 million) (Table 16).

Figure 29 Trend of ODA financial resources (USD Million) to Ghana, 2015 to 2021



Source: Table 17

Out of this amount, economic infrastructure (e.g., transport and energy) received the largest share throughout this reference period, with the highest share in 2026. The allocation to the productive sector was accorded the second highest priority, with the agriculture sector receiving the largest share of resources throughout (Figure 29), with the lowest share of 68 percent recorded in 2021 (Table 16 and Figure 29).

Table 16 Purpose of ODA Disbursements (USD Mil) by Multilaterals to Ghana

	2015	2016	2017	2018	2019	2020	2021
Total Disbursed	684.2	1236.5	502.6	520.5	782.3	628.3	866.4
Productive sector)	116.6	204.7	114.7	42.6	58	71.8	102.4
of which: Agriculture	100	188.9	103.2	40.6	47.8	67.8	69.7
Economic Infrastructure	88.3	667.5	137.7	133.5	323.5	141.9	411.8
Proportion (%) of productive ODA to agriculture	86%	92%	90%	95%	82%	94%	68%

OECD (2023). (oecd-ilibrary.org) (Ghana: page 400)

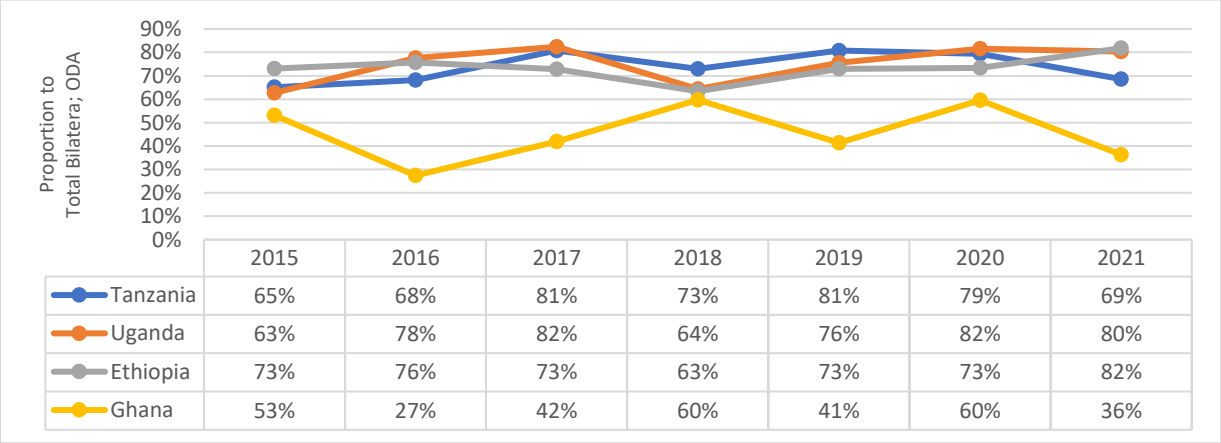
(j) Total Official Development Assistance Grants (ODA) that Focus on Poverty Reduction

It is observed that all the four countries have a adopted a planning framework that is aligned with the fundamental principles of Sustainable Development Goals (SDGs). The countries have been integrating SDGs into their medium- and long-term planning frameworks. For example, Ethiopia's Growth and Transformation Plan (GTP-II) was scored 78.4 percent in alignment with SDGs. The SDGs have been integrated into the budget system as well by allocating substantial share of

the budget to pro-poor sectors and a dedicated budget to SDGs (AFDB, 2017). Overall, it is noted that for the past 10 years the study countries have been increasingly allocating more budgetary resources to pro-poor and growth-enhancing sectors such as roads, education, health, agriculture, and water and sanitation. These sectors have claimed between 60 and 70 percent of the total regional government spending.

The trend of share of Bilateral ODA allocated to pro-poor sectors and interventions from 2015 to 2021 has been almost stable between 60 and 80 percent for Tanzania, Uganda, and Ethiopia, with Ghana registering less than 60 percent for the reference period, and in 2016 and 2021 dropping to 27 and 36 percent, respectively (Figure 30).

Figure 30 Trend of Proportion of Total Bilateral ODA Assigned to Pro-Poor Interventions

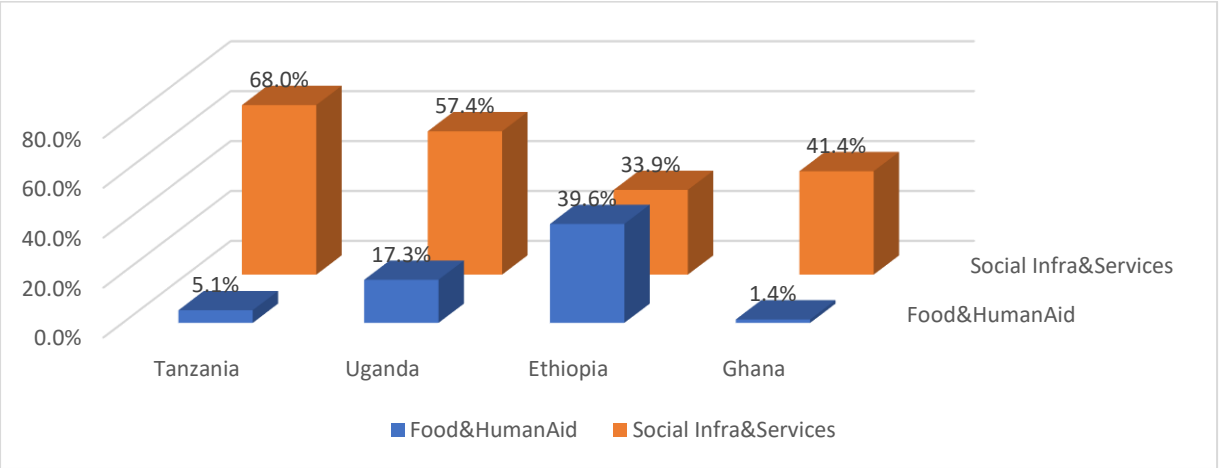


	2015	2016	2017	2018	2019	2020	2021
Tanzania	65%	68%	81%	73%	81%	79%	69%
Uganda	63%	78%	82%	64%	76%	82%	80%
Ethiopia	73%	76%	73%	63%	73%	73%	82%
Ghana	53%	27%	42%	60%	41%	60%	36%

Source: Tables 13-16

Ghana is not among the list of least developed countries (LDCs) after graduating to middle income status in 2011 (World Bank, 2011). That explains the observation that Ghana has been receiving less bilateral ODA for pro-poor interventions. The pro-poor ODA is used for either food and humanitarian aid or for social infrastructure and services, with Ethiopia splitting on almost equal basis (Figure 31). However, the other three countries food aid and humanitarian aid receive a smaller proportion, priority being to social infrastructure and services.

Figure 31 Average Share of ODA Resources to Pro-Poor Sectors and Interventions from 2015 to 2021



Source: Table 17

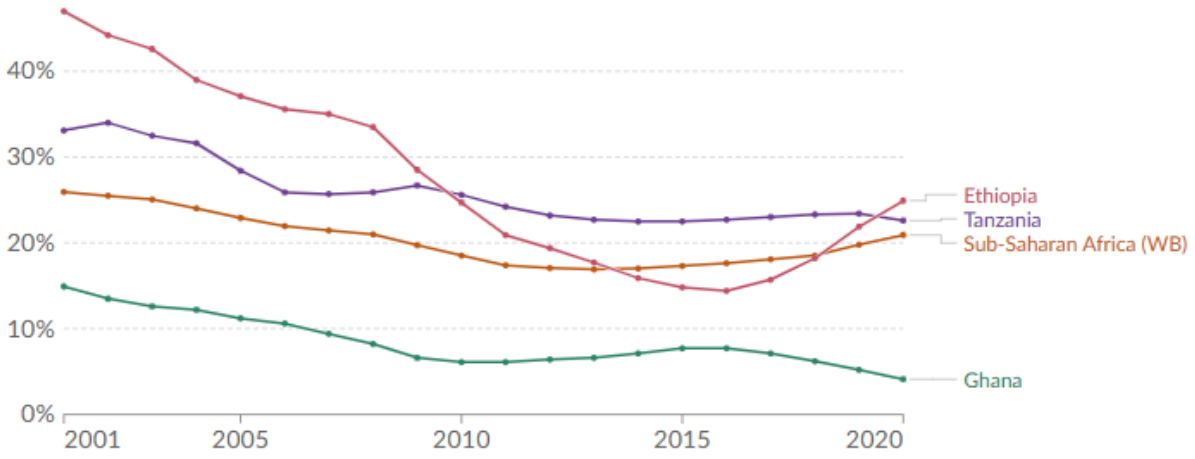
Table 17 Trend of Bilateral ODA Committed to Pro-Poverty Interventions in the Case Study Countries

		2015	2016	2017	2018	2019	2020	2021	average
Food & Humanitarian Aid (FHA)(USD Mil)	Tanzania	64.3	85	74.4	66.1	68.7	85	31.7	67.9
	Uganda	124.8	178	338.5	211.1	324.3	265.4	187	232.7
	Ethiopia	623.1	943	1028.8	663.8	889	943.9	1552.2	949.1
	Ghana	61.9	0.4	2.8	0.4	1.3	4	1	10.3
Social Infrastructure&Services (SIS) (USD Mil)	Tanzania	975.9	1034.4	877.8	716.9	804.7	1057.2	897.9	909.3
	Uganda	680.2	783.7	699.3	694.9	1010.4	656.1	894.2	774.1
	Ethiopia	895.4	792.3	718.5	676.6	880.9	1097.8	626.7	812.6
	Ghana	301.5	338.8	207.9	310.2	321.7	369.6	313.6	309.0

4.4.2 Social and Human Dimension

All four countries have some good record of reducing hunger and malnutrition, with Ethiopia registering the sharpest decline, from about 50 percent of the population suffering from malnutrition om 2001, to about 12 percent in 2017, despite some reversals of the success story from 2018 (Figure 32).

Figure 32 Trend of population suffering from malnutrition



Source: ourworldindata.org

The observed successes in reducing malnutrition were a consequence of applying innovative practices through programmes supported by development partners (WHO,2017; FAO et.al., 2020). Tanzania, for example, invested in nutrition campaigns at district level. The approach aimed to scaling up social and behaviour change communication at the community level to improve maternal, infant, and young child feeding practices. It also invested in strengthening nutrition surveillance within the health system. Ethiopia embarked on, among others, using outreach strategies to disseminate of nutrition messages and strengthening technical skills of health workers to improve coverage of nutrition services (WHO,2017). On the other hand, Uganda opted to use bring stakeholders together around evidence-informed nutrition actions through participatory district assessments; and developed nutritious, locally available, and affordable recipes for complementary feeding to babies (*ibid.*).

Uganda's Global Hunger Index (GHI) showed some improvement from a GHI of 41.2 percent in 2000 to 31.2 percent in 2018 (Global Hunger Index, 2019). There is also observed substantial progress in reducing child stunting and child mortality rates from 48.4 percent and 17.0 percent in 2000 to 28.8 percent and 5.3 percent in 2018, respectively (Table 18). A comparable situation is observed in Tanzania and Ghana.

Table 18 SDGs Indicators for Social and Human Development examined in the Case Study

Indicators that comply with SGD indicators	SDG Reference	Tanzania	Uganda	Ethiopia	Ghana
Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	2.1.2	n.a.	n.a.	n.a.	n.a.
Prevalence of undernourishment/malnutrition- all population (all ages) (UNICEF,2023)[32]:	2.1.1	See breakdown below:			

[32] www.unicef.org/transmonee/media/1186/file...

Indicators that comply with SGD indicators	SDG Reference	Tanzania	Uganda	Ethiopia	Ghana
- Stunted children below 5 years	Year:2012	38.1	33.3	42.1	22.0
	Year:2022	30.6	23.4	34.4	12.7
- Wasting of body below 5 years		3.3 (2022)	3.6 (2020	6.8 (2019)	6.8 (2017)
Proportion of the population living below the international poverty line	1.1.1				
Population (%) below poverty line of USD 1.90 PPP (World Bank, 2021b)	1.1.1	37.0	30	30.7	27
Population (%) below USD 1 (World Bank, 2022)	1.1.1	25.7	20.3	24.0	11.3
Human Development Index (HDI) (combining health, education, shelter, income, etc)	1.1.1	0.549	0.525	0.498	0.632
Global Poverty Ranking out of 189 countries (World Bank,2022)	1.1.1	160th	167th	175th	133rd

4.4.3 Environmental dimension

Greenhouse gases emission

According to the African Economic Outlook 2022, African countries contribute 3 percent of cumulative worldwide carbon dioxide (CO_2) emissions, although it hosts 17 percent of the global human population (AfDB, 2023). The low emission is a consequence of low levels of industrial development rather than adoption of sustainable modes of production and transport systems. Despite their low contribution to GHG, climate change and extreme weather events disproportionately affect African countries, with severe economic, social, and environmental consequences for its people.

The four countries have their per capita GHG emission about one half of that in the EU. Tanzania's level was below that of EU but higher than the average for African countries (Figure 33). The main contributing sectors to the emission of GHGs are agriculture (leading source in Uganda, Ethiopia, and Ghana), followed by land-use changes and deforestation (leading source in Tanzania) (Table 19). Others are transport, buildings, waste, manufacturing and construction, and industry. Ghana is having some positive balance of GHG due to afforestation programmes conducted over the years.

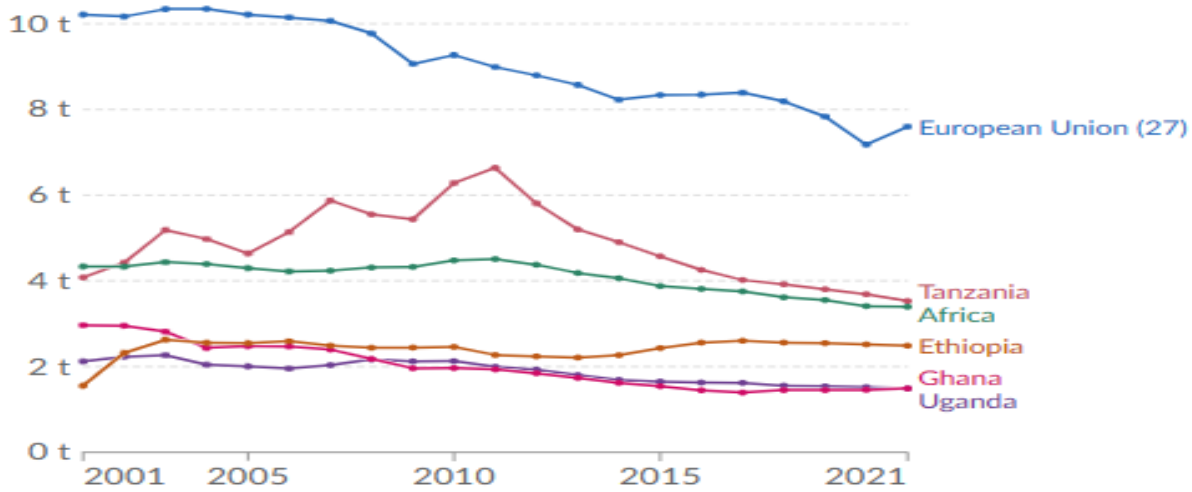
Table 19 Sources of GHG emissions by sector in the four case study countries

	Emission of GHG (Million Tons) in 2020			
Sector	**Tanzania**	**Uganda**	**Ethiopia**	**Ghana**
Agriculture	61.36	28.57	129.76	11.83
Land-use change and deforestation	69.56	14.33	31.97	-24.66
Transport	6.78	3.49	7.56	9.42
Buildings	5.43	2.63	13.86	1.62
Waste	6.38	2.06	5.07	3.81
Manufacturing and construction	2.2	1.42	5.32	2.12
Industry	3.56	0.5	4.55	1.49
Electricity and Heating	2.67	0.06	0.0	6.46

Source: ourworldindata.org

The main impacts of climate change experienced in the four countries include increasing frequency and intensity of extreme weather events such as heat waves, droughts, floods, and tropical cyclones. Despite having low levels of industrial development, and hence low GHG emissions relative to the global average, the four countries have joined global efforts to invest in low-carbon development as well as improve awareness raising, education and institutional and human capacity on mitigation, impact reduction, early warning, and adaptation to climate change.

Figure 33 Trend of Per Capita Green House Gas Emissions from 2001 to 2021 in the four study countries



Source: Per capita CO_2 emissions (ourworldindata.org)

The four countries are party to the implementation of international environmental and climate change agreements, the UN Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, UN Convention on Biological Diversity, the Convention to Combat Desertification and Montreal Protocol. They also have programmes that allow them to access international resources such as the Green Climate Funds, Adaptation Funds, and the Global Environment Facility. Examples of strategies include Uganda's National Adaptation Plan and fast-tracking implementation of the CRGE strategy.

Clean Energy

Three of the four case study countries have a mixture of renewable and non-renewable energy sources, with Ethiopia showing almost 100 percent dependent on renewable energy sources (Table 20). These comprise of hydro and marine energy, solar energy, bio-energy, and geo-thermal energy. The application of bio-

energy, however, consists mostly of charcoal and firewood, which come from natural forests and plantations.

Table 20 Use of Renewable Energy as One of the SDGs Indicators for Environmental Sustainability

Indicators that comply with SGD indicators	SDG Reference	Tanzania	Uganda	Ethiopia	Ghana
Total Installed Electricity Generation (GWh)		7,966	4,854	15,817	22,098
-Renewable energy share in the total final energy (GWH)	7.2.1	3,407	4,749	15,817	7,690
-Share of renewable energy to total		43%	98%	100%	35%

The carbon footprint of export bananas is exceptionally low in comparison with other foods and comparable with different fresh fruit (Poore & Nemecek, 2018). This is because shipping is far more efficient than road haulage and international transport adds little to total emissions (Li *et al*., 2022). In the future, Iriarte *et al*., 2014) suggest switching from ammonium nitrate to urea fertilizer as a means to reduce the carbon footprint of banana production. Although cocoa plant acts as a sink for carbon dioxide, the process of land clearance before it is planted and, in the transportation, and processing adds to the balance of the carbon footprint (Vervuurt, et.al., 2022).

4.5 The role of national and supranational legal and policy frameworks with particular attention paid to the EU and the WTO

(a) Promotion and Safeguarding of Investments

The four countries have policies that require dedicated institutions to promote investments necessary for the value addition of agricultural commodities for the domestic and international markets. These are Tanzania Investment Centre (TIC), Uganda Investment Authority (UIA); Ethiopian Investment Commission (EIC); and the Ghana Investment Authority (GIA). The countries are signatories to several international agreements and frameworks, the most common being the Multi-lateral Investment Guarantee Agency (MIGA); Convention on the Recognition and Enforcement of Foreign Arbitral Award (CREFAA), International Centre for Settlement of Investment Disputes (ICSID), Agreement on Trade-Related Investment Measures (TRIMS), General Agreement of Trade in Services (GATS), and Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), Duty and quota-free access into China (quota-free access for over 650 products), the USA (AGOA), Generalized System of Preferences (GSP) scheme with EC, and the EU (Everything but Arms) markets. Uganda is also a member of the Overseas Private Investment Corporation (OPIC) of USA and the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC),

The countries have strategies to establish special economic zones, which include dedicated export processing zones (EPZ), all meant to facilitate and fast-track the process of setting up new industries by investors. These are coordinated under EPZA (www.epza.go.tz), under the TIC, in Tanzania; the Integrated Agro Industrial Park in Uganda; and the Ghana Free Zones Authority (https://gfza.gov.gh). Ethiopia has several standalone Industrial Parks (e.g. Hawassa) and five prominent Special Economic Zones such as that at Gada and Bole Lemi. The Investment Promotion Authorities are under the respective sector ministries responsible for industries and trade, which officially represent the countries at meetings convened by the World Trade Organization (WTO).

(b) Promoting and safeguarding quality standards

Furthermore, each country has dedicated agencies for enforcing compliance with international standards for all locally made agri-food products such as the Tanzania Bureau of Standards (TBS), the Uganda National Bureau of Standards (UNBS) and cocoa's Quality Control Company (QCC) in Ghana. All the four countries have dedicated departments under the ministries responsible for agriculture/livestock to oversee compliance with international regulatory requirements on sanitary and phytosanitary conditions. In Ethiopia, the Meat Inspection Proclamation No 81/1976 and Veterinary Drug and Feed Administration and Control Proclamation No. 728/2011 are in place to ensure that exported goat meat comply with international standards. All the key exit points for international trade have quarantine facilities as well as quality testing laboratories located at separate locations but not necessarily at each exit point. Good testing equipment and microbiology laboratories that are accredited to International Standards ISO 17025 are deemed necessary for exportation of perishable food stuff such as banana and meat. The tests ensure that the exported foods are free from germs such as *Staphyloccocus aureus*, Salmonella, *Vibrio cholerae, Escherichia coli*, yeast, and moulds.

(c) Promotion of International Trade

The four countries have also specialised institutions for export trade promotion, which also undertake capacity building for processors and exporters to access international markets. They include: Tanzania Trade Development Authority (TANTRADE)); Uganda Export Promotion Board (UEPB); Ethiopia Export Promotion Agency (www.ethiomarket.com); and, GEPA (www.gepaghana.org). These agencies are legal responsible for issuing General Certificate of Origin and Preferential Certificate of Origin, which they normally delegate to private sector associations such as Chambers of Commerce, Industry and Agriculture, whose members include commodity-specific associations such as the Uganda Horticulture Exporters Cocoa Hauliers Association of Ghana (CHAG), and Licensed Cocoa Buyers Association of Ghana (LICOBAG)[33]. These agencies are also responsible for organised

[33] There are two types of Certificates of Origin: General Certificate of Origin and Preferential Certificate of Origin. For the EU, the Registered Exporter (REX) system is used for certification of origin of goods. The exporter is

trade exhibitions and facilitating participation of national actors in international trade forums.

(d) Ensuring social and environmental Sustainability

Among the extra requirements for most importing countries besides meeting quality standard thresholds, is the need to ensure that products are (i) not produced under unfair or inhumane conditions, and do not involve child labour; and (ii) not produced in conditions harmful to the environment. The two aspects are observed as follows:

(a) All four countries have laws and statutory bodies responsible for safeguarding the welfare of persons at the workplace. The institutions are established under the following legislations: the OSHA, 2003 (www.osha.go.tz) in Tanzania; OSHA 2006 in Uganda; and in Ethiopia it is the Labour Act, 2003 Act 651, Article 118:1, with respective guidelines for each sector under the Ministry of Employment and Labour Relations.

(b) All four countries have programmes for accreditation to international schemes such as the Harken-Engel Protocol, Rain Forest Alliance, UTZ, FAIR TRADE and ORGANIC.

4.6 Key determinants/topics shaping future developments and sustainability impacts.

Key determinants that are likely to shape future developments and the sustainable impact on farmers' incomes and livelihoods from the four commodities dealt in this study can be related to (i) the pace of technology adoption to enhance farm-level productivity; (ii) cost-effectiveness and price competitiveness; (iii) meeting established quality standards thresholds for entry into the international market; (iv) global technological developments; and, (v) global market changes in tastes and preferences.

4.6.1 Technology Adoption for Enhanced Productivity

The existing farming systems result to low yield per unit area, hence low income to cassava, banana, goat, and cocoa farmers. Commitments by different actors, government, and non-state actors alike, to support and facilitate crop farmers and goat keepers to obtain better returns compared to what they currently obtain, and compared to returns from other enterprises on the same land. For example, it has been established that cassava yield can be increased ten-fold through cost recoverable support to use of improved cassava breeds, proper mechanized land tillage, and post-harvest handling of cassava (e.g., chipping, and drying facilities). The same applies to goat farming, cocoa farming, and banana farming by applying diverse types of improved on-farm technologies, including improved feeds for

required to pre-register on the system to enable verification in the EU at the time of export. Registration is done online at https://customs.ec.europa.eu/rex-pa-ui/;

goats. For that to happen, it will require increased budgetary support to the provision of public goods, mainly R&D and extension services on one hand, and the motivating private businesses to engage in the provision of improved crop varieties and animal breeds, (e.g. early cassava seed multiplication and selling to farmers in Tanzania), as well as buying, processing, and selling products to domestic and international markets like it is done by COCOBOD in Ghana.

Currently, the domestic utilization of cassava and banana is mostly confined to human consumption as boiled, fried chips and flour meals; and selling as dried chips for industrial use, mostly converting to starch, whose domestic demand is low. The future will require enhanced support to industrial R&D to diversify and raise domestic industrial demand for locally produced starch as well as utilization of cassava and banana for making different food and drink products as already identified in the National Cassava Development Strategy 2020-2030 and the commercialization strategy for banana in Uganda. As for cocoa, additional effort is needed to encourage investments for domestic value addition to produce final products, most of which are currently manufactured in Europe and the USA.

4.6.2 Cost effectiveness and price competitiveness

Currently, less than 10 percent of bank loans are disbursed to upstream agricultural sector undertakings. Reforms in the financial sector, which can lead to competitively priced loans to the agricultural and industrial sectors, will also have an influence in the ability of Uganda and Tanzania to provide value-added banana and cassava products, respectively, to the international market.

4.6.3 Meeting conditions over and above established quality standards thresholds for entry into the international market

Maintaining established customers and attracting new markets for agri-food products from Sub-Saharan African countries will depend, most importantly, on the ability to conditions over and above already established and known quality standards for the international markets. These include accreditation to international bodies for fulfilling sustainability conditions on several aspects, most common being:

(a) social accountability (e.g., payment of producer prices that can suffice as living income, use of contract farming and out-grower schemes, non-exploitative labour wages in factories, and non-employment of children or forced labour)

(b) minimizing environmental damage such as expansion of farming land by clearing natural vegetation/forests, and instead using land intensification methods to increase productivity

(c) minimizing water footprints to ensure that the production process does not disadvantage poor communities to adequate supply of water for their livelihoods and adopting conservation practices.

(d) Use environmentally friendly practices to minimize carbon footprint from the production process, to processing and to transportation.

4.6.4 Global Technological Developments

The agricultural sector in SSA will inevitably change by adopting technological advancements that impact productivity and cost of production. Among the innovations ready for embracing include precision farming equipment, the use of drones, improved irrigation systems that optimize water management and increased yields, genetic engineering leading to plants that are resistant to pests and diseases (thus allowing plants to grow in harsher environment), and the adoption of smart farming technologies such as IoT sensors that allow farmers to apply the right fertilizers to soils and monitor plants and soil in real-time (FAO,2022). However, there is caution that such developments should alien smallholder farmers without alternative sources of livelihood (SIG,2019). However, that should not stop SSA from taking advantage of scientific developments to access and utilize technologies that enhance productivity along the CVCs and thus producing cost-effective and high-quality products that compete in the international markets. In so doing, the agri-food products from SSA can continue to offer better incomes to farmers and contribute to their enhanced livelihoods.

4.6.5 Global market changes in tastes and preferences[34]

The world is witnessing a dynamic market that is constantly changing in terms of the tastes and preferences of customers for different commodities. The United Nations predicts that by 2050 there will be 9.7 billion people, of whom 68 percent will be in urban centres with 50 percent of them being middle income. This implies that among changes will be the way food is prepared, mixed, packaged and marketed. The emerging phenomenon of premium products, processing of superfoods and special foods for the aging population will be dominating (SIG,2020). This means factories will have to change and adapt to take the way change to take care of the changes in tastes and preferences. This will include changing the way cassava and banana chips are prepared and packages, and the way chocolates are blended (e.g., sugar-free blended with vitamins) and goat meat is prepared (e.g., lean, and fatless cuts). Other important considerations in the agri-food market of the future will be growing interest in plant-based foods as alternative to meat, dairy

[34] Photo of food plates courtesy of www.sig.biz

products, and eggs (FAO,2022). Preparedness is essential enable farmers reap the benefits from the increased population and enhanced purchasing power.

4.7 Key Responses to COVID-19 and Russia-Ukraine War

African countries, including Tanzania, Uganda, Ethiopia, and Ghana, were not exempted from the economic and humanitarian fallout of COVID-19. The initial responses to manage the spread the pandemic varied between African countries, but they included taking some governance measures restricting people's movement (BMJ Global Health, 2020) through travel bans and/or border closures pursued by three-quarters of the countries. One-third of the countries resorted to declaration of a state of emergency. These restrictions affected the production of goods and rendering of services, such as transportation, thus affecting the transboundary movement of people and trading of goods. Imported inputs for factories became scarcer and more expensive, thus affecting final prices of consumer goods. There was a decline in FDIs, especially from China (OECD,2020). Exporters also faced a declining demand for their goods in overseas markets. Besides manufacturing, other sectors adversely affected included tourism, which hit hard countries like Tanzania and Uganda, whose tourism had been on the rise before the onset of COVID-19. Governments took special actions to minimize the effects of the slowed movement of goods across borders, just like traders also resorted to some innovating means to transact trade such as using ICT and mobile money payments to minimize face-to-face encounters (ESRF,2021). Other types of responses by governments were to implement some macro-economic measures related to fiscal policies (78.6%) and monetary policies (66%) (UNSDG, 2022). Socio-economic interventions took by some governments aimed at relieving the financial burdens carried by small and medium enterprises (SMEs), pursued by 39.3 percent of African governments, while 35.5 percent and 32 percent embarked on enhanced social programmes and income support to families, respectively.

Among the response measures taken by Tanzania included seeking support to provide adequate financial resources to priority facilities and medical services so that they were equitable access by the population irrespective of income levels (WB, 2020) and accepting support from the International Monetary Fund for macro-economic stabilization interventions. Uganda had its unique interventions that included providing "funding to critical activities to save livelihoods of the most vulnerable and realigned its spending to give priority to education and health sectors" (World Bank, 2021). The country could not escape an economic slowdown, which was lowest in 2000 (UNU-WIDER, 2021). Ethiopia also suffered some decline in economic growth, exports, imports, and public revenue (UNCTAD,2021). It therefore implemented several measures to address the impact of COVID-19, which included provisional financial assistance (cash transfers) and food to vulnerable households, including loans and grants to firms (UN, 2020; GAGE, 2021). The government of Ghana implemented various discretionary policy measures in addition to the general tax benefit system that was already in place. Just like the other three countries just discussed, the policy measures were also directed at the

lowest-income households (UN-WIDER, 2021). Other discretionary measures pursued included personal income tax waivers, reduction in tariffs for key utilities, and increased food rations for some beneficiaries of the country's cash transfer programme for poor households (World Bank, 2021).

The onset of Russia-Ukraine war has dampened efforts by countries for post COVID-19 economic recovery as wheat prices, a staple food for most middle- and high-income population in SSA countries, increased to unbearable levels. This was coupled with a hike in fuel prices, which affects all sectors, mostly via transport costs, disproportionately impacting the poor. The war has fueled global inflation and tighter monetary policies, leading to what the International Monetary Fund has called "The Big Funding Squeeze" (IMF, 2023) as SSA countries like Tanzania, Uganda, Ethiopia and Ghana struggle to cope with rising foreign debts. This is likely to compel countries to "reduce resources for critical development sectors like health, education, and infrastructure, weakening the region's growth potential (ibid.).

5 Chapter 4 Feedback from Value Chain Actors of the Selected Agri-Food Commodities

5.1 Preamble

The analysis in the preceding chapter was mostly based on secondary data and information by mapping the prospects and potentials in the international markets for the four agri-food commodities. In this chapter we deep-dive to understand the prevailing policy and legal frameworks and what is needed and hopes for the future based on the key actors involved in the four commodities. The presented stakeholder views are based on KIIs conducted in Tanzania, Uganda, Ethiopia, and Ghana, and four FGDs for cassava VC in Tanzania.

5.2 Feedback from VC Actors in Tanzania (cassava), Uganda (banana), Ethiopia (goats) and Ghana (cocoa)

5.2.1 *On the strengths and merits of the selected agri-food commodities*

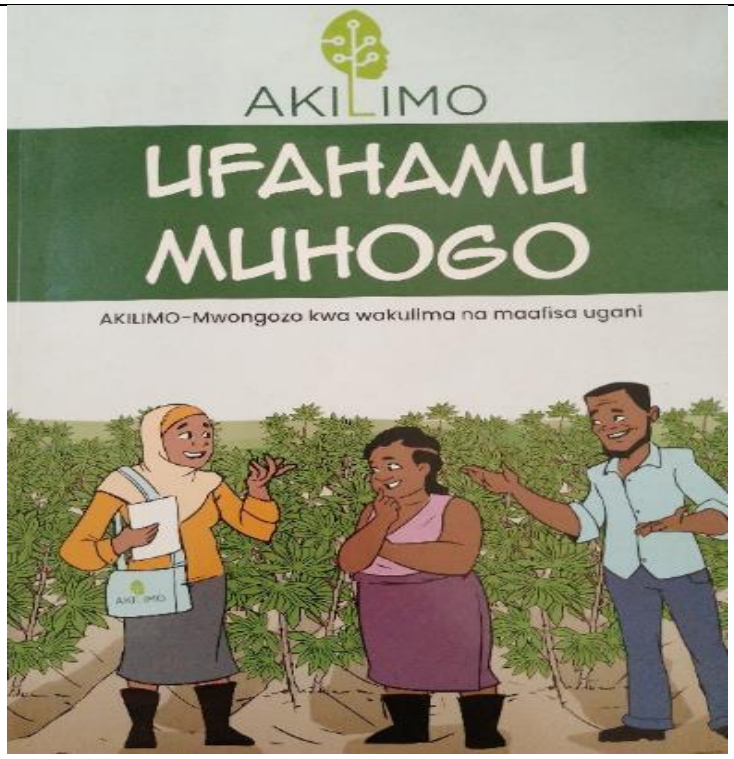
All the interviewed actors in the four countries shared the view that the selected agri-food commodities had several common merits, among which are (i) grown by smallholder farmers, who constitute the majority of citizens. Any support to enhance productivity and provide competitive producer prices will have some positive impact on SDG 1 and SDG 2; (ii) supportive public policies, legislations, and institutions already established, and specifically with a relatively longer history for cocoa in Ghana; (iii) the private sector is also organized as companies, associations and cooperatives, working closely with the government in promoting the commodities to serve established and emerging domestic and international markets; (iv) there is increasing investment in value addition of the products, whose demand is likely to expand due to an increase in middle-income segment of the world population; (v) all the commodities have some identified different export markets within Africa and in the Middle East, Asia, Europe and USA; and, (vi) VC actors, including farmers, are aware of international requirements for sustainable practices in supplying the agri-food commodities.

However, they also mentioned some merits unique to each of the four CVCs as follows:

Cassava: Cassava is a popular crop commonly grown throughout the country except in cold highland zones. It is normally cultivated in soils not necessarily suitable for other food crops due to its ability to cope with drought conditions. Cassava has been grown for generations and is usually considered as a "food bank" crop. The crop has therefore a ready-to-buy market domestically for boiled

or fried cassava snacks and cassava flour meals. There is also growing market for dried chips for industrial usage locally and overseas. In recent years there has been official demand for exported cassava chips to countries like China. National and international research institutions have screened from among tens of varieties with distinct characteristics through cross-breeding to get varieties that can offer better qualities, including higher yields per unit area. Farmers share some evidence of how yields have increased more than tenfold after adopting the prerequisite soil preparation and agronomical practices. They also explained how their LGAs were supporting farmers organized in groups to increase cassava yields and properly handle the harvested tubers in order to meet local industrial demand and the emerging overseas market (Photo 3).

Photo 3 One of the booklets for training of farmers on improved cassava farming in Kigamboni district



Translation: Ufahamu mhogo=understand cassava crop. Mwongozo kwa Wakulima na maafisa ugani= Guide to farmers and extension officers

Source: Ministry of Agriculture, Tanzania

Government officials confirmed that at national level, cassava is taken a priority crop and was intervening to ensure that farmers received some support to adopt improved varieties and use modern equipment for land preparation (to enable higher yields) and access to appropriate structures for post-harvest management of cassava chips. Private sector operators have also invested in processing of cassava into different products, mostly industrial starch. Companies like JV

Biotech Industries (Photo 4) indicated they were members of Tanzania Cassava Producers and Processors Association.

Photo 4 Poster of a private company engaged in cassava value addition

More of local companies like this BECO are needed to add value on agri-food products

Source: ESRF Researchers (Photo by Dr H.B. Lunogelo), courtesy of JV Biotech Enterprises Co. Ltd

Moreover, cassava gained currency after the Prime Minister of the United Republic of Tanzania signed a Memorandum of Understanding with the Government of China to supply cassava to China. This point was reiterated by a private company official[35] involved in cassava purchase and export in Tanzania who was quoted saying "… *when they asked me why China and not the United Kingdom*?" I said "yes, China has a large population, and many cars, and so they are looking for alternative source of energy, and so cassava has it. They import not for starch but for fuel."

Banana: The crop can be grown in almost one half of the country, thus positively impacting on incomes and livelihoods of most smallholder farmers. Like cassava, the crop doubles as a staple food item and for earning income from sale of surplus. Farmers explained that banana has the advantage of surviving under multiple cropping system with coffee, for example. Although it does not have a dedicated crop board, the private sector is organized in associations and cooperative to promote husbandry and marketing of the crop. The crop was used for multiple purposes such as brewing of local beer, while the barks of the stems and leaves are used to make baskets. In terms of agronomical practices, some farmers were embracing new production and post-harvest technologies that were not there

[35]Dar Canton company official, a Brtish national based in Dar-es-salaam.

some 20-30 years ago, thanks to the support provided by international agencies such as IITA. Banana crop has the advantage of surviving on the same pool for many years before uprooting, and so farmers can increase productivity on the same piece of land, saving the need to clear forests for increased cultivated land area.

Goats: Interviewed farmers and officials confirmed that goats directly provided food (milk and meat) and cash (through sale of live animals, meat, milk, and skins) to mostly smallscale farmers in Ethiopia. Key informants interviewed validated the facts from literature (Wodajoa, et. al., 2020) that goat keeping is considered as "women's enterprise" and that they get most of the benefits from any improvement to the value chain. The nutritional value derived from milk and meat is critically important in reducing child malnutrition related to protein deficiency. At the same time income from sale of milk and cheese is usually dedicated to women. Interviewed goat meat processors indicated readiness to serve the international market, and especially the Middle East after they adopted state-of-the-art Halal-certified slaughterhouses. The facilities are equipped with livestock reception pens, automatic and semiautomatic mechanical slaughter and processing equipment, chilling rooms, air-conditioned deboning facilities, packaging equipment, freezing facilities, and rendering and effluent treatment. Government officials indicated that the EMPEA, established in 2003, has 13 members who are engaged in meat processing and export. An additional 10 meat export abattoirs were under development in 2023 and were expected to start operations within the year. EMPEA members participate in HAACP[36] and engage regularly with international experts to ensure that their facilities and procedures meet global standards. In addition, all Ethiopian export abattoirs are ISO 22000 and ISO 9000 certified.

Ghana: The interviewed COCOBOD officials indicated that most of cocoa farmers were organized in cooperative societies; and that since 2018 the Government of Ghana has been involved in a massive campaign supporting farmers to uproot all trees that were infected by a viral disease. Farmers admitted to getting subsidized support in costs for uprooting old trees, planting new trees, pruning, fungal fumigation and fertilizers, although they wished to get more. The private sector has also proactively worked with cooperative societies to provide farm inputs and in crop purchases, despite complaints from some farmers of what they considered were inflated costs of those inputs. The interviewed cooperative leaders wished the government recruited more extension officers to strengthen farmers' knowledge and awareness of the requirements for raising cocoa plants and appropriate methods of harvesting the beans. They also revealed that although farmers engaged in organic cocoa certification scheme were paid a premium price of 5 cedes per kilogramme, they complained it was not high enough.

[36] Hazard Analysis Critical Control Points (HACCP) is an international recognized method of identifying and managing food safety related risk and, when central to an active food safety program, can provide customers, the public, and regulatory agencies assurance that a food safety program is well managed.

5.2.2 *Shared challenges faced by actors in the selected agri-food VCs*

5.2.2.1 Cassava value chain Tanzania

Stakeholder views collected through KIIs and FGDs with respect to cassava VC challenges, proposed solutions, and who should be the lead actor are summarized in Figure 34. The most widespread problem, as voted by participants to a farmers' FGD, is that of marketing of cassava, which entails low prices and unreliable buying agents.

The challenges mentioned by farmers are briefly explained below.

On production and productivity

a) Lack of working capital for farm operations and post-harvest handling, was another constraint faced by smallholder producers. Capital is critically important in:

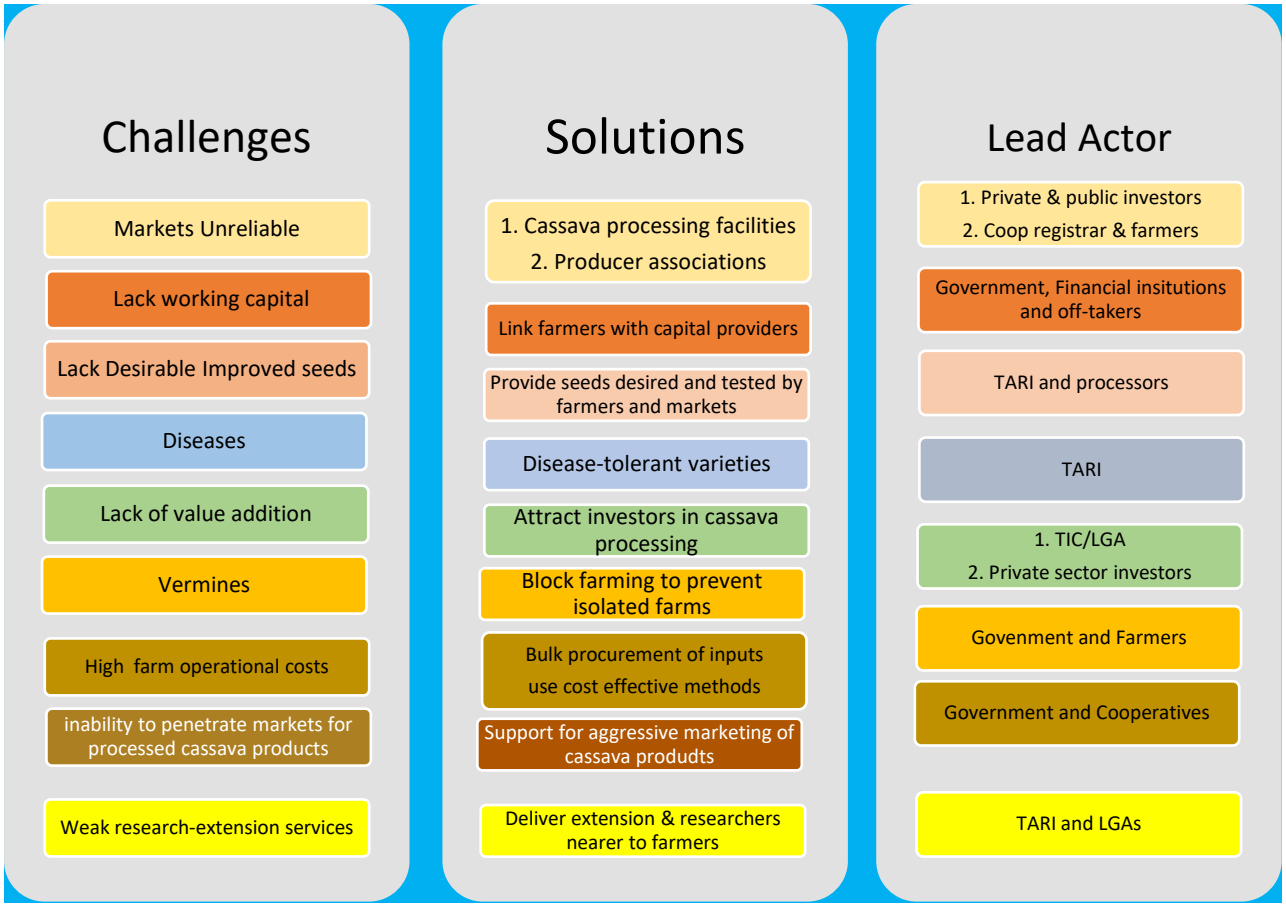
   i. Buying or hiring appropriate farm machinery for proper soil preparation (e.g., sub-soiling) that allow for more and larger cassava tubers, thus increasing yield per unit area.

   ii. Machinery for cassava post-harvest handling, peeling, chipping, and drying for maintaining the required quality (colour, texture, and moisture) of dried chips or flour.

   iii. Payment for the cost of weeding (which is 4 to 6 times before maturity and harvesting).

   Solution: There is need for government to establish specific agricultural commodity guarantee funds for financial institutions to provide tailor-made credit products suitable for cooperative societies and individuals engaged in farming, processing, and trading. This was seen as important because the only Agricultural Development Bank (ADB) was under-capitalized and could not cope with financial needs of the sector and uses third parties to disburse funds to borrowers in the agricultural sector.

Figure 34 Summary of Challenges and Suggested Solutions Provided by Cassava VC Stakeholders



Source: Field notes from KII and FGD meetings.

b) Lack desirable cassava seeds that can meet five basic conditions: disease tolerance, drought tolerance, desired tastes and cookability by the clients, long shelf-life, and high starch content. TARI tends to bring varieties preferred by exporters without regard to farmers' concerns on some other basic attributes such as short shelf life sensitive to delayed purchases by traders.

   Solution: It is important and necessary for the government to provide the prerequisite annual budgets needed by agricultural research institutions to undertake their duties properly and adequately.

c) There have been cases where diseases and pests have not spared some of the improved varieties brought by TARI, although disease tolerance was among the attributes associated with such varieties.

   Solution: TARI needs to make regular reviews of the released varieties for earlier detection of unexpected weaknesses.

Photo 2 Farmers in focus group discussions on experiences in the cassava value chain

FDG in June 2023 with Cassava Farmers in Kwamsisi village, Handeni Dictrist in Tanzania. 	Scores of most important challenges they face in cassava farming. Marketing (masoko) challenges was ranked highest (11 votes), followed by poor seed quality (mbegu bora, 5 votes) and then diseases (magonjwa, 4 votes). 

On Cassava Marketing

d) Unreliable market for cassava, which is typified by lack of trustworthy customers who are inconsistent in fulfilling agreed contracts to buy the harvested cassava. They provided examples of agents for exporters of cassava chips to China who made farmers invest heavily in cassava production but suddenly stopped to purchase the crop after the outbreak of COVID-19. Some buyers offered uncompetitive prices, and some delayed to buy the product, leading to quality deterioration. Farmers expected that the situation would have changed after COVID-19 related restrictions were relaxed. This observation is also mentioned in some reports such as that by AGRA (2019), which calls for policy reforms that involve a general regulatory framework of contract farming.

   Solution: They suggested the need to harmonize the existing laws on contract farming as provided by the Law of Contract Act, Cap.345 and the Crops Laws (Miscellaneous Amendments) Act, 2009. The reforms should involve some legislation of regulations on contract farming for purposes of providing guidelines to the stakeholders about how to enter and regulate contract farming.

e) Undeveloped domestic market for products of processed cassava such as granules and industrial starch, with clients believing in imported products. *They believed* that some aggressive marketing was needed to create awareness among domestic industries that locally made starch had the same quality standards as imported one.

f) Poor road network and long distance from farms to the nearest reliable road, compelling agents to reduce produce prices to compensate for the high transport costs. Councillors should advise the established Tanzania Rural Roads

Agency to give priority areas with surplus agricultural production requiring connection to markets.

g) Long distance from farmers to established centres for the multiplication of improved cassava seeds. This increases the cost of farm operations, thus compelling some farmers without adequate funds to continue using traditional cassava seeds.

h) Vermin and pests such as wild pigs, monkeys, and ants contribute to reduced farm yields. The situation is worse in areas where people leave large chunks of land surrounding cassava farms that are not farmed. *This can be solved* by community's resolve to follow block farming approaches where there are no isolated plots. Villagers could also enact by-laws compelling landowners to keep their fields clean to minimize transmission of diseases and discourage the hosting of wild animals.

On Policies and Regulatory Frameworks Supportive of Cassava VC

i) Enhancing farmers' understanding that cassava has a potential as commercial crop and is no longer the traditional category of a subsistence crop. Farmers should be made aware of the newly launched national cassava development programme 2020-2030.

j) Remoteness of some villages located in areas that lack electricity for value addition services have contributed to depressed farmgate prices obtained by farmers. *This will be solved* through the ongoing rural-electrification programme.

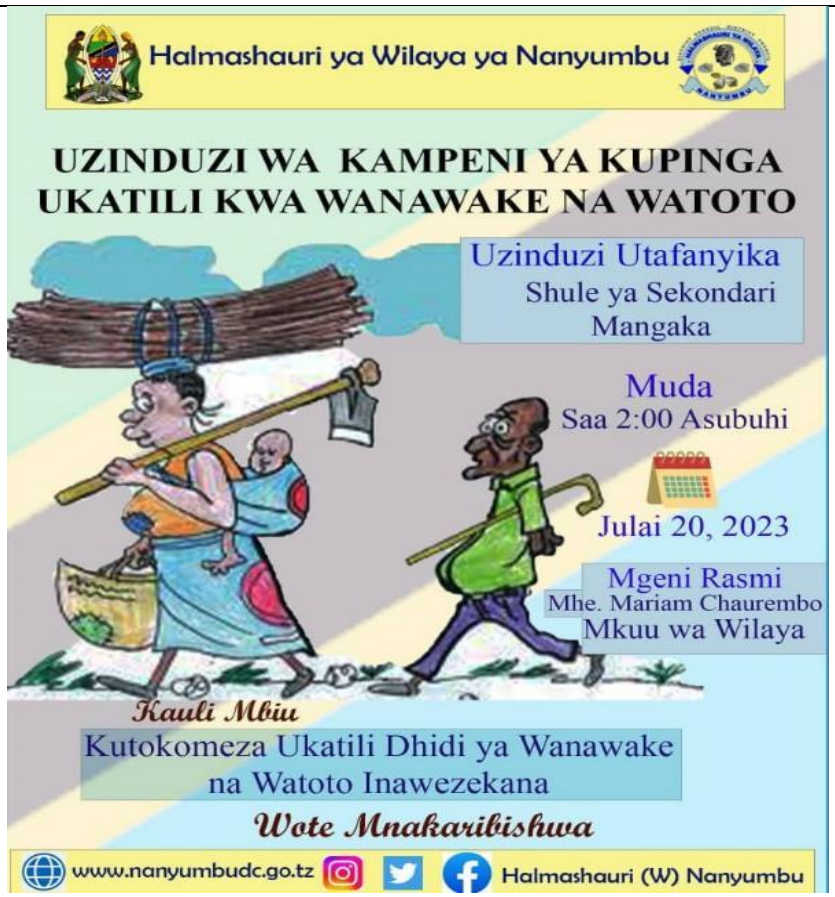
k) Weak extension and research services due to inadequate staffing (only about one half of the villages have an extension officer). *The use of farmer field schools (FFS)* and working through cooperative societies to share costs of privately recruited extension workers can help to solve the challenge.

l) Weakly organised farmers (lack of strong cooperatives) expose farmers to unfair conduct by intermediaries who buy from farmers at throw-away prices. *There is need* to continue with efforts to encourage the establishment of producer cooperative societies.

Gender considerations

In Tanzania, although women spend much of their time providing labour for household agricultural production, their control over the land use remains limited. According to a census conducted in 2022 by NBS, 33 percent of women own agricultural land compared to 47 percent of men. Only nine percent of women have sole ownership of land, and 25 percent have joint land ownership, whereas 30 percent of men have sole ownership and seven percent joint ownership (UN-Women, 2023). In Tanzania, there has been a national campaign involving local government authorities to raise awareness among the population on the rights of women, including reducing their work burden at the family level. Figure 35 shows an example of the campaign material produced by LGAs to sensitize communities on matters of gender equality and fair treatment of women.

Figure 35 Sample of Invitation to a Meeting on Campaign Against Cruelty to Women and Children



Translation: Launching of campaign against cruelty against women and children. It is possible to eliminate cruelty against women and children. Launching of the campaign at Mangaka Secondary School. Guest of Honour: Mhe. Mariam Chaurembo. District Commissioner.

Source: Nanyumbu District Council, Tanzania.

Despite policies and legislations that discourage unfair treatment of women, traditional values still linger around that expect certain tasks related to the cassava value chain to be undertaken by women. These are like planting cassava cuttings (considered easier because it simply requires one to push the cutting into the soil) and peeling cassava (whereby women are considered to have more meticulous hands to peel faster than men).

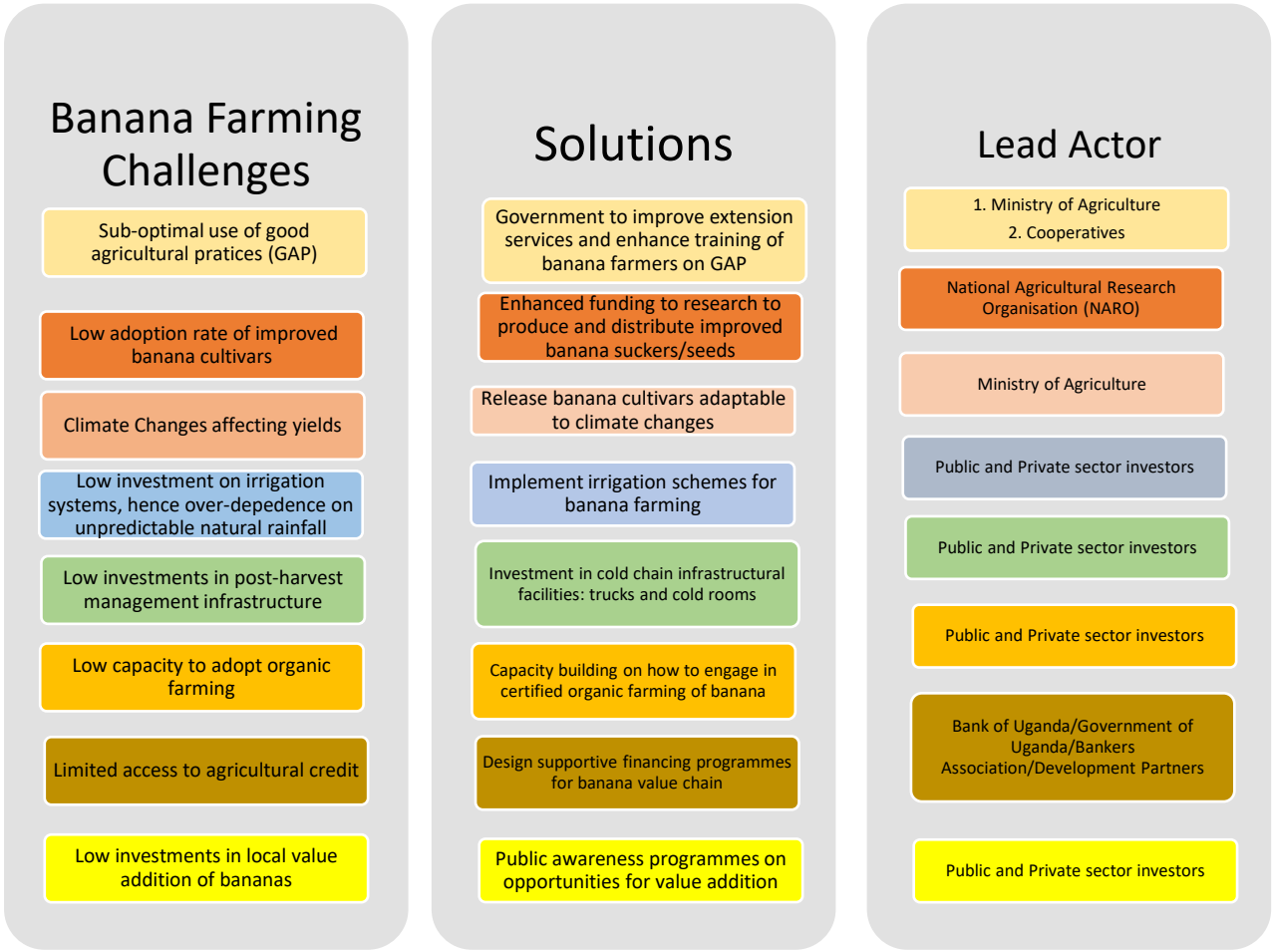
On Climate Change and Sustainable Environment

Climate change, manifested through changes in rainfall patterns and intensity, and the emergence of uncommon pests and diseases, has negatively affected the yield potentials of existing seed varieties. *This will be addressed* by adequate funding of R&D and farmers adhering to environmentally sustainable methods.

5.2.2.2 Banana Value Chain in Uganda

Stakeholder views collected through KIIs involving farmers, extension officers, researchers and traders with respect to banana VC challenges and proposed solutions are briefly explained below and summarised in Figure 36.

Figure 36 Summary of Challenges and Suggested Solutions Provided by Banana VC Stakeholders in Uganda



Source: Stakeholder consultations in Uganda

On production and productivity

a) Extension officers stressed the need to enhance efforts increase the proportion of smallholder farmers who use high yielding improved cultivars of banana. *There is need to strengthen* extension services and retooling of extension officers with specialized skills in banana production.

b) Researchers called for the need to address the low levels of application of disease and pest control regimes by farmers, coupled with low adoption of banana cultivars that are resistant/tolerant to diseases/pests and moisture stress. They requested for more funding *to boost R&D functions* to solve the challenge.

c) Farmers requested for the government to invest in more shared irrigation infrastructure for banana production, which is currently afforded by very few farmers. Moisture stress led to smaller banana bunches with low quality and therefore fetch lower prices.

d) There was also consensus among stakeholders that poor harvesting and handling practices that damage the fruits lead to lower wholesale and retail prices

of banana fruits, *hence the need* to introduce incentives for private sector actors to invest in post-harvest management of banana crops.

On banana marketing

a) There was concern that the government has not adequately invested in providing adequate and timely market information systems for farmers to understand domestic and international trends. Also, market experts are unable to undertake the requisite analysis, negotiation, and development of international market opportunities. However, interviewed senior government officers hoped that the weakness would be addressed through the National Development Plan III (2020/21-2024/25).

b) Experts cautioned that retaining captured international markets requires sustaining both the quantity and quality of bananas. Hence the need to ensure that there was reliable supply capacity and ability to adhere to international standards. That includes adherence to international quality certification procedures, and, complying with Non-Tariff Measures (NTMs) such as sanitary and phytosanitary measures. This will require collaboration between government agencies with the support of private sector actors and developing partners.

c) Government should continue with efforts to improve market infrastructure in rural and urban areas, including logistics facilities for product marketing and distribution.

On policy and regulatory framework

a) Officers confided that one of the reasons for weak implementation of the legal, institutional, and policy frameworks, which creates uncertainty for agri-food businesses and investors was inadequate and uncertain in the actual disbursement of funds to the sector. *Hence a need* to allocate the prerequisite public budgets for policy and legal reforms that can adequately support the banana VC.

b) Farmers reported of lack of access to affordable agricultural credit for production and post-harvest handling of the crop. *Hence a need for financial sector reforms* that can be more supportive to the sub-sector.

c) There was also mention that most government officers lacked the requisite knowledge/awareness on agri-food products hygiene, phytosanitary and food safety requirements for various international markets, including those of the EU. *There is need to embark* on human resource capacity development to appropriately serve the sector.

Business Environment for Investments

Stakeholders had views that despite government's efforts to create a favourable environment, the business climate in Uganda remains constrained by several factors:

a) High electricity costs and power outages affect the operations of cold chain facilities. It was hoped that the *challenge* would gradually be resolved after the government accomplished its rural electrification program.

b) Unfavorable tax policy and prohibitive cost of credit for setting up new businesses and operating new ones. *This is being overseen* as part of the business environment improvement program.

c) Low utilization of the stock market for raising capital. Officials cited reports alluding that the majority of firms have never used the capital market to raise capital. This is due to lack of knowledge on how the stock market works *and hence the need* for public awareness among private sector actors on the opportunity.

d) Lengthy procedures for the registration of new businesses, involving access to land for setting up business, involving multiple institutions, leading to losses of time and money.

e) Farmers' associations could not afford to pay for professional auditors to enable them to submit audited books of accounts in applying for bank loans. This has prevented them from accessing credit from financial institutions.

Gender considerations

There exists gender related constrains that affect the quantities and quality of banana exports to the EU markets. These include:

a) Discussions with stakeholders confirmed what is already known from the literature, that, women's limited ownership of productive assets such as access to land, finance, and agriculture knowledge tended to curtail their full participation in the banana value chain (as shown by Burke and Kobusingye, 2014 and (Mwesigye and Matsumoto, 2016).

b) Stakeholders also shared their fears about the failure of the Ugandan agri-food system to generate inclusive and attractive livelihood opportunities for young people, especially in rural areas. They also share already known concern that young people are compelled to migrate to urban centres, leaving agriculture to the elderly who are less energetic, less educated, and less innovative in enhancing agricultural growth.

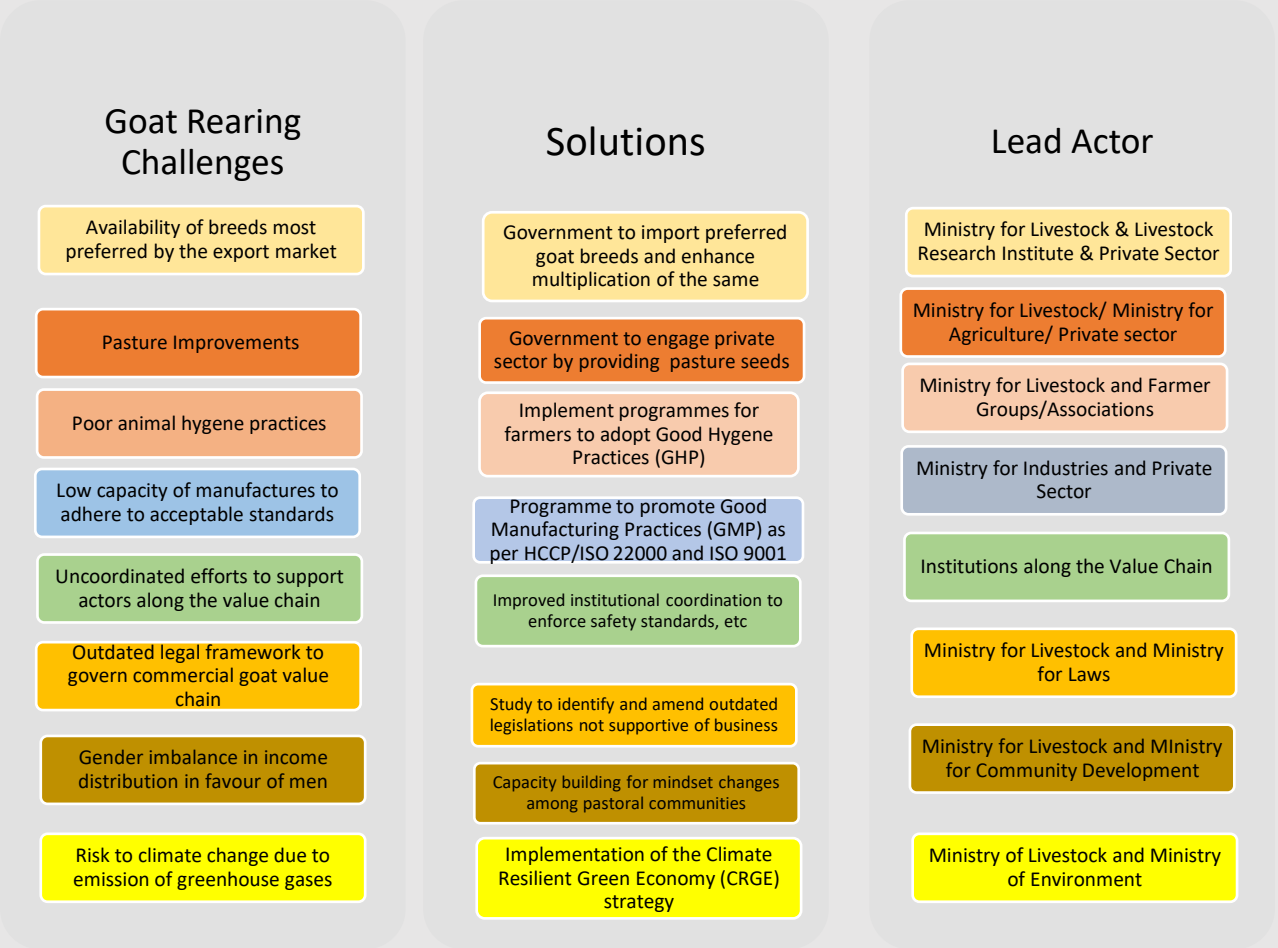
Climate changes and environmentally sustainable practices

c) Farmers also noted that changes in weather condition, which they have been educated is due to climate change effects. They have witnessed frequent droughts, floods, and strong wings tearing banana leaves into shreds, which tend to disrupt the development of the banana plant cycle, leading to yield losses and price swings.

5.2.2.3 *Goats Value Chain in Ethiopia*

Stakeholder views collected through KIIs involving farmers, extension officers, researchers and traders with respect to goats VC challenges and proposed solutions are summarized in Figure 37 and also briefly explained below.

Figure 37 Summary of Challenges and Suggested Solutions Provided by Goats VC Stakeholders



Source: Stakeholder consultations in Ethiopia

Production and productivity challenges

a) Production is traditional and in most cases under small-scale subsistence and not targeting market requirements. Goats are reared as multipurpose animals (domestic consumption of milk, meat, income) and not specifically bred for meat production or fast growth rates for the export market. There is also inadequate knowledge and skills in improved husbandry practices among producers. Consequently, there is low performance of the traditional goats in terms of growth rates to attain the desired weight at an early age.

   The suggested solutions were to hasten the multiplication of desired goat breeds (based on imported and locally available stocks) and strengthen extension system to train goat farmers on good husbandry practices.

b) Most of the small and medium-scale goat meat processing establishments lack the requisite capacity to produce meat under internationally accepted safety and hygiene conditions.

   The suggested solution is undertaking capacity building and training to enhance the adoption of GHP, Good Manufacturing Practice (GMP), food safety management systems based on HACCP/ISO 22000 and quality management systems based on ISO 9001 to help food processing industries to maintain food quality and safety to foster Ethiopia's high goat meat demand in the world market.

c) Shortage of feed especially during dry season, partly because grazing is the main method of production. It was *therefore suggested* that the private sector should be supported (e.g., ensure adequate supply pasture seeds) and encouraged to engage in commercial pasture production.

d) Inadequate animal health with limited access to vaccines and veterinary services. The proposed solution was for government to strengthen public provision of veterinary services and train more extension staff who have specialized in livestock production and marketing.

Marketing challenges

a) Stakeholders reiterated the challenge of inadequate support services in the entire goat value chain (example: credit, health, feed supply, targeted ruminant-specific extension, etc.) for intensification/market orientation to meet global goat meat requirements. They called for government to enhance its support for a more efficient goat marketing and value addition system.

b) Improved technologies to produce products that target market requirements are not used. Government was expected to provide adequate resources to institutions that provide technologies and know-how for improved production and marketing system so that what is produced ultimately meets market requirements.

c) Most transactions are done on a per animal basis without weighing, which leads to rejection at the export market where strict weight requirements are observed. It was suggested that for the introduction and enforcement of weight-based auction system, which should encourage farmers to properly take care of their animals and attain weight levels that attract higher prices.

d) Existence of informal routes and trade which reduces competitiveness and provides wrong signal for decent quality goat meat which is traded in formal approved routes.

Policy, Institutional and legal arrangements

a) Implementing organisations to ensure food safety and quality have not been harmonised, especially between the roles and responsibilities of the Ministry of Health, Ministry of Agriculture and Ministry of Trade and Industries agencies regulatory mandates. *Hence there is need to* strengthen the national and

regional structures that coordinate food safety system components, harmonizing and simplifying disparate policies, laws, standards, and regulations.

b) Old and outdated policies and legislations that are out of tune with modern times. *Hence the need* to revise or adopt new legislations that take into consideration global demands for exacting standards of food safety, hygiene, and green growth. In addition, the new legislations need to be broadened to accommodate all aspects of the meat supply chain.

c) Inadequate supervision and safety controls. Some raw food is still transported in an unorganized and thus potentially contaminated manner. *There is need* to strengthen the public system to enforce compliance and adherence to food hygiene requirements, especially in Municipal abattoirs and local butcheries.

d) The legal framework applies only to the formal market, while Ethiopia has a large informal livestock market. There is no law mandating public regulators to inspect informal market areas. This denies most low-income households from consumptions of safe foods. *There will therefore need to* develop legal and regulations for food safety in traditional markets which are viewed as "illegal" to allow governing bodies the authority to enforce compliance of food safety regulations in the informal market.

e) The legal basis is narrow in scope covering only livestock meat, neglecting other animal source foods such as poultry, fish and other aquatic foods, dairy products and several others causing gaps in regulatory coverage.

Gender considerations

a) Stakeholder expressed views that the distribution and ownership of sheep and goats among people in Ethiopia is associated with social, cultural, and economic factors. In most areas, sheep and goat ownership and management is a joint task between men, women and children, depending on the task. However, as a source of income, ownership and control is men. Management practices of goat production such as feeding, cleaning, watering, and milking is done by women. Herding is done by men and boys. In most cases, women control income from sale of milk, cheese, and butter.

b) The animals have additional advantage of having high nutritional value derived from milk and meat, especially for children and other family members to fulfil dietary needs.

Climate change and sustainable environmental practices

Interviewed experts cautioned that goats, like all animals, are known to emit GHGs. It was therefore urged that the international community should support Ethiopia in putting measures for the implementation of the CRGE strategy and the second Growth and Transformation Plan (GTP II) to address climate and environmental vulnerabilities.

5.2.2.4 Cocoa Value Chain in Ghana

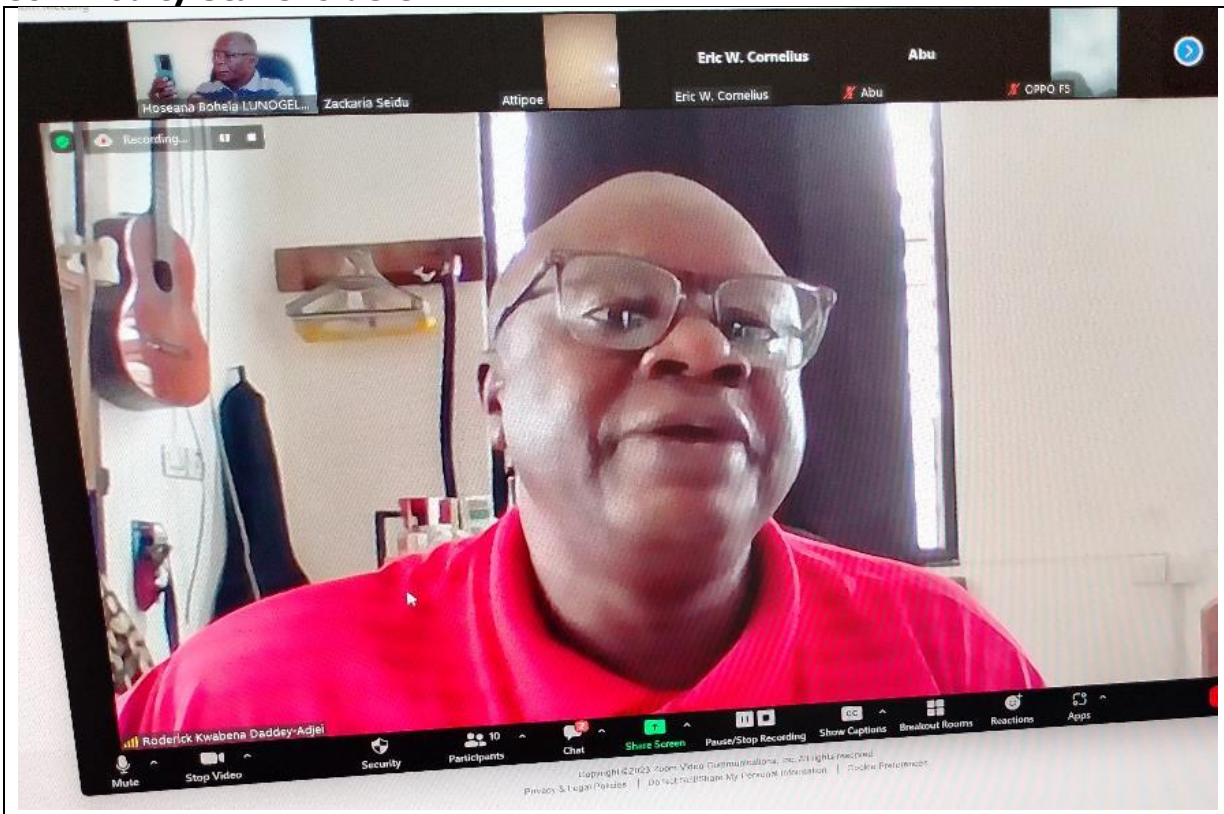
In addition to face-to-face interviews with key informants in Ghana, the team also conducted some virtual online meetings with cooperative union leaders, extension officers, and researchers (Photo 5). The online meeting was attended by 8 participants from Ghana representing government extension staff, COCOBOD, Cooperative union leaders, and 2 Tanzanians representing ESRF.

Among the key challenges mentioned by key informants representing the Cocoa Board, cocoa farmers cooperatives, extension agents, researchers, processors and exporters, several challenges have beset the cocoa industry value chain are summarized in Figure 38 and explained thereafter.

On Production and Productivity enhancements

a) Misconception that the Government of Ghana (GOG) will be always there to solve their problems. This is based on historical experience whereby they were supported in subsidizing costly farm operations such as land preparations, pruning and spraying for pests and fungal infections.

Photo 5 Virtual meeting between ESRF researchers and Ghana Cocoa Commodity Stakeholders



Dr Roderick Kwabena from Ghana's COCOBOD explaining support provided to cocoa farmers.

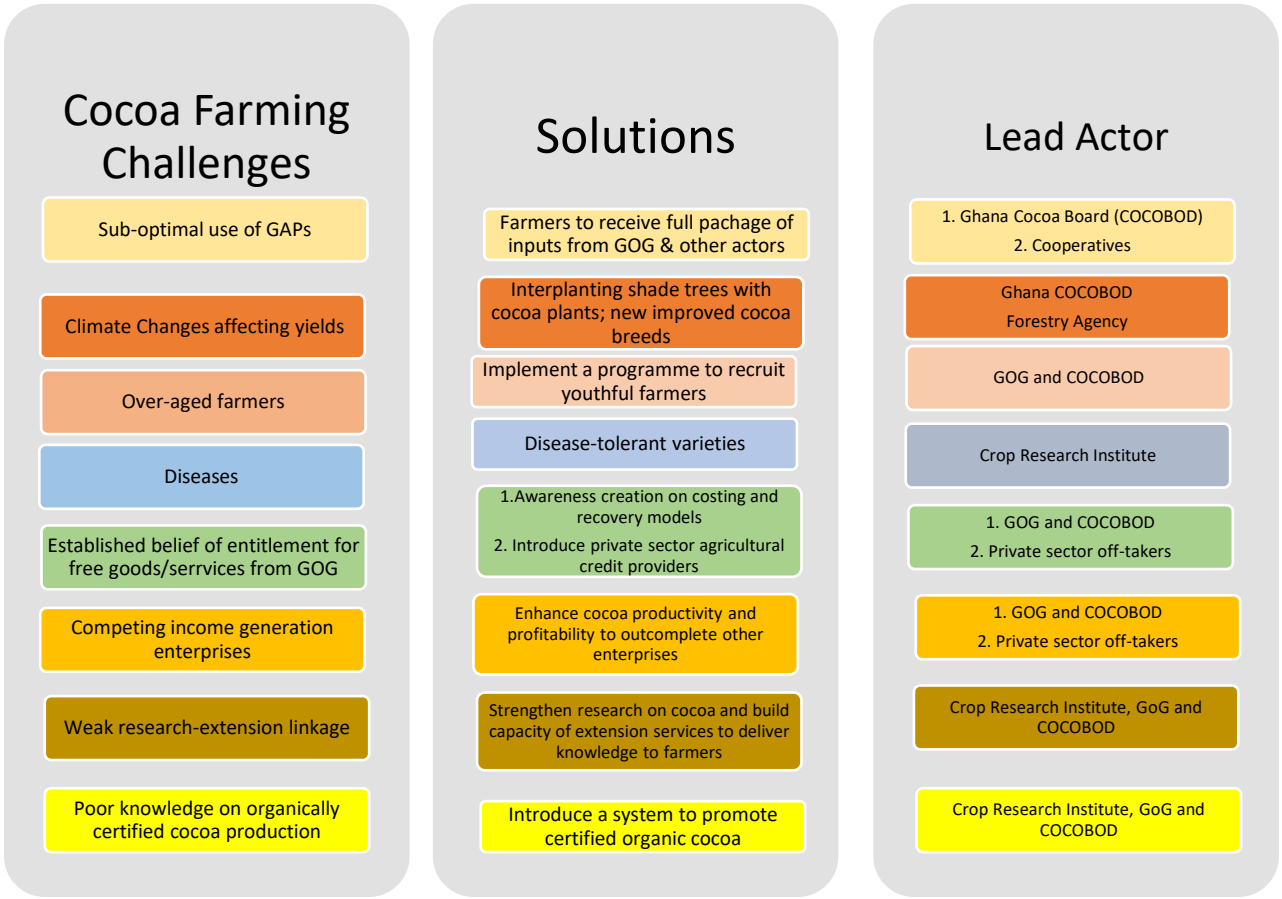
b) Seeming unwillingness of farmers to adopt GAPS beside the support provide by the GOG to demonstrate how it should be done. *This will require special*

interventions aimed at Strengthening of research-extension-farmer linkage through interventions that will ensure (i) training for retooling existing staff and training of new extension workers; (ii) use of FFS and Cooperative Society as centres for training of farmers on recommended GAPs; and (iii) providing special incentives such as transportation facilities and allowances to motivate extension officers.

c) The characterization of firms involved in the dairy processing was based on the number of employees per firm (MIT, 2012: Figure 4); and therefore, included micro-firms, small-firms, small-medium firms, and small-large brand-oriented firms.

d) Under-funding of R&D for cocoa will have to be addressed so adequate funds are available to produce cocoa varieties with special qualities. They gave as an example the need for a special genotype for high-flavoured cocoa and with the desired characteristics such as a shorter fermentation period to produce superior quality cocoa beans and resistance to fungus infestation.

Figure 38 Summary of Challenges and Suggested Solutions Provided by Cocoa VC Stakeholders



Policy and regulatory reforms

a) Lack of sustainable financial arrangements to support local companies engaged in the cocoa value chain. Foreign companies are better supported by overseas financial institutions, but their interest has been in semi-processed products for export and less in basic production or manufacturing of final cocoa products,

b) Local processors cannot engage in high-quality processing and packaging due to the absence of continuous learning and adaptation to modern technologies.

c) Difficulties in accessing technologies and machinery to enable quality processing of cocoa beans. This is an important requirement from primary processing to have consequent excellent quality liquor, cocoa butter, cocoa cake, or cocoa powder.

d) Restriction to local processors to access higher quality semi-processed materials from factories established in EPZ. They are expensive as such materials are charged 65 percent tax. Consequently, locally produced chocolate bars are 5-10 percent more expensive than imported ones.

Post-Harvest Management of Cocoa

Inadequate private sector investment in post-harvest handling of cocoa. *It was suggested a need* to have incentives that will attract of private sector to invest in different technologies along the cocoa VC including those for harvesting of beans, drying to attain the desired moisture contents, and minimizing fungus infestation, sorting for grades based on size uniformity, moisture testing and packaging properly to prevent moisture absorption, and testing for determination of foreign matters before export.

Marketing of Cocoa

a) Inability to adequately take advantage of high-priced organic cocoa in the international market. *This requires a special campaign* to educate and encourage farmers to venture into organic cocoa farming and its associated certification and product traceability schemes. This should be accompanied by some capacity-building programmes for processors to venture and collaborate with farmers into traceability schemes for organically produced products. The ideal situation is that of using electronic traceability codes for commodities from the farm to the markets overseas.

b) Poor post-harvest handling of cocoa beans by farmers, resulting to contamination with aflatoxins.

c) Competition from competing economic opportunities, including alternative crops such as rubber, which is aggressively promoted by companies who offer more attractive incentives.

d) Poor rural roads that increase the cost of transportation from farms to the market.

e) Underdeveloped domestic market for finished cocoa products such as chocolate bars. There will therefore be needed to undertake a marketing campaign to change the mindset of African continent's consumers who believe "chocolate bars" and "chocolate drinks" are meant for affluent segments of the society. Ghana has already a special "demystification" campaign by introducing a "chocolate day."

Climate change and sustainable environmental practices

a) Farmers shared their experience that climate changes that have negatively affected rainfall patterns and therefore cocoa yields.

b) Farmers also related the impact of climate changes on yields to the inability of agricultural experts to design and apply forecast models on the probability of diseases, pests, and extreme weather conditions. This will require will retooling capacity building programmes for the experts.

6 Conclusions and Recommendations on accessing export markets

6.1 Conclusions

Merits of the Selected Agri-food commodities

The overall inherent strengths of the selected agri-food commodities are their high potential to contribute to the achievement of SDG 2030, in particular, SDG 1 (enhanced income and poverty reduction through improved commodity producer prices), SDG 2 (access to food all the time by families through own farm production or ability to buy using income obtained from other economic undertakings), SGD 13 (sustainable land use in crop farming and livestock husbandry), and SDG 15 (environmental sustainability by minimizing the emission of GHGs in farming, transport and processing). The producers of cassava, banana, goats, and cocoa have some long historical experience in dealing with the commodities and therefore can be couched to adopt novel approaches required to winning international markets. The farmers operate under the support of already established supportive national policies with respective institutions and legislations to promote the commodities from research and development, extension services, marketing, processing, safety, standards, and environmental considerations. We are also living in a period of increasingly expanding regional and international markets for the consumption and industrial use of agri-food commodities due to a growing population of middle-income consumers. There is also an established international trading framework governing expected qualities and standards and hence the need for partnership between national and international agencies to support producers and processors to adhere to expected standards. Equally important, there is a requirement for production and processing systems that do not impact adverse effects on the environment and disrupt social harmony.

Common characteristics of the selected commodity value chains

The selected commodities, however, had some commonly shared characteristics worth considering while designing policies and interventions to enhance their role in sustainable international trade:

(a) Low application of good GAPs be it in crop farming or animal husbandry. This was attributed to several factors, including low funding of funding of research and extension services, coupled with weak research-extension service-farmer linkages.

(b) Sub-optimal supportive rural infrastructure for transportation and post-harvest handling of agri-food commodities.

(c) Unpredictable marketing policies, resulting to weakly organised producers and domestic marketing system, leading to uncompetitive pricing system; and,

(d) Unsupportive rural and/or agricultural financing system characterised by unsustainably priced credit facilities. These factors have held back the ability of producers and processors to invest in upgrading and using appropriate technologies, including the use of high productivity crop varieties and animal breeds.

Commodity-specific characteristics

Cassava value chain: Cassava is widely grown in all parts of Tanzania, with an estimated area of 990,000 ha divided into 1.9 farm holdings (MoA, 2020). However, most smallholder farmers persisting the use of traditional varieties they trust as part of insurance against famine. They cultivate many varieties that are subjected to competition between different end users of cassava and its products, often offering different price incentives. This has relayed different signals to farmers regarding the choice of production and post-harvest management practices. For example, fresh cassava tubers used to make snacks in homes and hotels require certain non-bitter varieties with different cookability qualities. On the other hand, cassava for industrial starch requires stricter post-harvest management compared to that needed for bio-fuel production, but the latter offers the lowest producer prices. Overall, producers have been facing uncertainty of dependable buyers, even in cases where they have been written agreements for them to supply some specified amount of cassava.

Banana value chain: Banana is also among the most popular crops grown under rainfed conditions with an estimated area of 2.3 million hectares, divided into 766,667 farm holdings averaging 1.9 ha (Kilimo Trust, 2012). It is used as both a staple food and a cash crop. However, over 95 percent of the smallholder banana producers use traditional banana cultivars characterized by low productivity per plant and per unit area. Recent developments in climate change effects of frequent droughts, floods, hurricanes, and other natural disasters have affected yield stability and hence negatively affected the ability of bananas to contribute to food security objectives and farmers' incomes. The government has been implementing policies and strategies meant to improve the performance of the country's banana value chain. This has involved the introduction of improved higher-yielding banana cultivars and investment in irrigation farming and post-harvest management systems.

Goats value chain: There are about 52.5 million goats kept by 11.3 million farmers in Ethiopia (CSA,2021). Keeping of low productivity of indigenous goats is being tackled by programs to upgrade the stock through crossbreeding, coupled with efforts to improve the availability of superior quality feeds and forages, a necessary condition for the survival of improved/crossbreeds (Abebe, 2022). Trait

traceability of the breeds has been difficult due to weak documentation of breeding[37]. The animals also suffer from animal diseases, farmers do not get the prerequisite extension and veterinary services and operate under the environment that lacks appropriate infrastructure. Trekking of animals due to poor roads, and lack of fattening infrastructure before sale, results to weakened animals that fetch low prices offered to sellers. All these have hampered goat production improvements by smallholder farmers in Ethiopia.

Cocoa value chain: Cocoa is a leading cash crop in Ghana, covering about 2.3 million hectares divided into 850,000 farms[38]. It is a leading foreign exchange earner among crops. Among the challenges include (i) old tree stocks with declining yield per tree; (ii) low access to financial facilities; (iii) lack of irrigation facilities that subject the crop to fluctuations in yields due to inadequate soil moisture from natural precipitation; (iv) Poor rural roads increases transport costs; (v) compliance to labor laws that restrict the employment of children in cocoa picking.

6.2 Recommendations

6.2.1 *Cross-cutting recommendations*

Cross-cutting recommendations for all four commodities include the need to support:

(a) Commodity research-extension-farmer linkage system for adoption of GAPs by producers through the adoption of improved high-yielding and pest/disease/drought tolerant crop and livestock breeds that will contribute to enhanced productivity and quantity/quality of agri-food commodities.

(b) Programmes for implementation of commodity agri-food commodity value chain (CVC) improvement policies and strategies, with special attention to outdated and/or inappropriate policies and strategies that cannot serve the objective of promoting sustainable international agri-food trade.

(c) Programmes that enhance ease of access by stakeholders to competitively and sustainably priced financial credit for agri-food value chain development.

(d) Product promotion and brand recognition in the market. Responsible agencies in the four countries need to develop holistic and integrated

[37] is an important aspect of traceability certification need for the export market

[38] www.cocobod.gh

interventions to improve the efficiency and competitiveness of branded agri-foods in the regional and global markets.

(e) Maintaining product quality is important. The global agri-food market is sensitive to issues of food quality and safety. In this regard, it is essential to increase awareness to the farmers, traders, processors and exporters on quality and food safety standards requirements through training, experience sharing, and awareness to all key CVC actors.

(f) Programmes for mitigation of effects of climate change that have resulted to frequent droughts, floods, hurricanes, and other natural disasters that disrupt the development of the plant cycle, leading to yield losses and price swings. This should include programs for the development of irrigation systems (for crops) and small dams (goats) for countering the effects of recurring droughts.

(g) Institutional arrangements at national and sector levels: The CVCs require well-functioning institution arrangements that complement each other in the value system. Typically, it is expected that research institutions to work closely with extension service providers as well as training institutions that provide extension agents and researchers. There should also be close working relationships with regulatory agencies to ensure quality seeds, fertilizers, pesticides, and animal drugs.

(h) Policy interventions at the macro level. The CVCs require well-functioning policy support. For example, currency over-valuation due to artificially pegged currency exchange rate, not only implicitly taxes producers of the export products, but it also suppresses producer prices and the development of competitive domestic and export markets. Policy interventions are needed to create a more flexible exchange rate policy that can respond to the changes in the domestic and foreign livestock product markets.

(i) Infrastructural development along the CVCs. A well-functioning infrastructural network is critically needed in terms of rural access roads, stable and reliable electricity, adequate water supply and several others that needs improvement to support thriving crops and livestock subsectors.

6.2.2 *Commodity-specific recommendations*

Cassava in Tanzania: There is a need for the private sector to invest on its own or in partnership with the government under the PPP framework in the establishment of (i) farm machinery hire centres for the modernization of farm operations; (ii) irrigation schemes for cassava farming (iii) shared facilities for cassava chips drying, (iv) private sector involvement in massive production of certified cassava cuttings to enable more smallholder farmers use improved higher-yielding cassava cultivars; (v) processing of cassava into different

products beyond chips and flour such as the production of industrial starch and ethanol; (vi) production of blended cassava flour for the domestic and regional markets; and, (vii) identification of new markets for the different products.

Banana in Uganda: There is a need to establish (i) laboratories for banana genome multiplication laboratories; (ii) learning from other countries such as Jamaica on the use of improved agronomical practices that include control of cross-pollination and contamination; (iii) cold chain facilities at collection centers in rural areas and airports; (iv) value addition of banana such as the production of chips, flour, and beverages; (v) market identification and promotion for organically produced banana including capacity building for certification of organic products.

Goats in Ethiopia: There is a need to (i) promote the brand of Ethiopian goat meat as unique compared to other countries. This will require some efforts to identify it with its special refined quality attributes that meet international food quality standards and are certified by reputable organizations; (ii) build the capacity of farmers, traders, processors, and exporters, to be aware and sensitive to the international requirements of the specified brand qualities for meat quality and safety. This will require attracting foreign firms that have better market networks and marketing experience could help other firms to learn from them; (iii) improve livestock extension services support. This will require retooling of the extension services and modernising the services using ICT-based communication systems with producers; (iv) capacity building for livestock research institutions to provide desirable goat breeds for the export market; (v) facilitating improvement in the supply of desirable types of goats whose meat products are most demanded in various importing markets, including those of the EU.

Cocoa in Ghana: Support is required to enable farmers to (i) replace and plant newer higher yielding cocoa trees; (ii) easily access reasonably priced bank credit; (iii) use irrigation systems to stabilize production and mitigate effects of droughts; (iv) improvement of rural roads to reduce transport costs; and (v) enforcement of compliance to labor laws that restrict the employment of children in cocoa picking. There will also need to support technology adoption by private sector processors to produce intermediate and final products that can effectively compete in the international market.

Bibliography

Abebe, Belete Kuraz (2022). A review of the potential and constraints for cross-breeding as a basis for goat production by smallholder farmers in Ethiopia. In: Bulletin of the National Research Centre 46(1). DOI:10.1186/s42269-022-00763-7. December 2022

AFDB (2017). Ethiopia: *African economic outlook. Technical report*, African Economic Development bank.

AFDB (2017). substantial share of the budget to pro-poor sectors and a dedicated budget to SDGs

AFDB (2022). Ethiopia: African economic outlook. Technical report, African Economic Development bank.

AfDB (2023), *African Economic Outlook 2023, https://www.afdb.org/en/knowledge/publications/afrikcan-economic-outlook*

AGRA (2019). Agricultural-Policy-Reforms-in-Tanzania.pdf (agra.org). November 2019

AU (2024). African Union Commission conducts Malabo Declaration on Agriculture Training of Trainers for Biennial Review process | African Union (au.int)

AUC (2020). Impact of the Coronavirus (COVID-19) on the African Economy. 6 April 2020. (https://www.tralac.org/news/article/14483/…)

Bahati, Joseph (2022). Overcoming barriers to sustainable and regenerative climate-smart agriculture, agroforestry and environment: The Case of Banana Industrial Research and Development Centre, Uganda. bahati.pdf (indiana.edu)

BMJ Global Health (2020). Volume 5, Issue 10. (Lockdown measures in response to COVID-19 in nine sub-Saharan African countries | BMJ Global Health)

Bunn, Christian, M. Lundy, P. Läderach, and F. Castro (2017). Global climate change impacts on cocoa. Paper presented during the 2017 International Symposium on Cocoa Research (ISCR), Lima, Peru, 13 -17 November 2017.

Burke, C. & Kobusingye, D. N. 2014. *Women's Land Rights in Northern Uganda (West Nile, Acholi, Lango, Teso and Karamoja)*. Oxfarm. February 2014. https://landwise-production.s3.amazonaws.com/2022/03/Burke_Securing-Women-Land-Rights-in-Northern-Uganda_2014-1.pdf

BusinessGhana (2023). Regenerative Agriculture: Paving the Way for Sustainable Farming Revolution. (Accessed from Regenerative Agriculture: Paving The Way For Sustainable Farming Revolution - BusinessGhana. 2October 2023)

COCOBOD (2022). Aggregates data from the various subsidiaries and Division of Ghana Cocoa Board (COCOBOD) undertaken by the Research Monitoring and Evaluation Departments.

CPA Uganda (2019). Information paper on labour law in Uganda. Revised October 2019. Institute of Certified Public Accountants of Uganda. https://www.icpau.co.ug/sites/default/files/Resources...

CSA (2021). Central Statistics Agency [CSA], 2021 (number of livestock)

CSA (2021). Central Statistics Agency, CSA, 2021 (meat production by Ethiopia in 2021- table5)

CSA. (2020). Agricultural Sample Survey 2019/20 [2012 E.C.]. Volume II report on livestock and livestock characteristics (private peasant holdings). Central Statistical Agency (CSA): Addis Ababa, Ethiopia.

Ecoscout (2023). Sustainable Farming Practices in Ghana: A Guide for Farmers. Accessed from Sustainable Farming Practices in Ghana: A Guide for Farmers | Eco Scout Ghana

ENBS (2022). Ethiopia National Bureau of Statistics (2022) (exports percentage by item)

ESRF (2021). Documenting the impact of COVID-19 on food systems and trade between Tanzania and East African Community Partner States. Volume 1: Main Report- A Rapid Survey Covering Seven Tanzanian Border Posts in December 2020. Funded by the International Development Research Centre (IDRC). (www.esrf.or.tz) March 2021.

FAO (2018). Ethiopia: Transforming the Livestock Sector Through the Sustainable Development Goals - In brief (https://reliefweb-int/report/world/...)

FAO (2022a). FAO in Action 2022. Accessed from www.fao.org/in-action/asl2050/countries/eth/en/.

FAO (2022b). Technological innovations and scientific advances (fao.org)

FAO, European Union and CIRAD (2023). *Food Systems Profile - Uganda. Catalysing the sustainable and inclusive transformation of food systems*. Rome, Brussels and Montpellier, France. https://doi.org/10.4060/cc4051en

FAO, European Union and CIRAD. 2021. Food Systems Assessment – working towards the SDGs: Interim synthesis brief. Authors: David-Benz H., Orbell C., Sirdey N., Tefft J., Magada D., Punjabi M., Herlant P. 2021. Rome : FAO, 11 p.

FAO, UNICEF, WFP and WHO. 2020. The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, FAO.

GAGE (2021). The Impact of COVID-19 in Ethiopia: Policy Brief | GAGE (odi.org). Authors: Donna Harris, Sarah Baird, Kath Ford, Kalle Hirvonen, Nicola

Jones, Munir Kassa, Christian Meyer, Alula Pankhurst, Christina Wieser and Tassew Woldehanna. November 2021.

Gerber, P., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A. and Tempio, G., 2013 Tackling Climate Change through Livestock. FAO, Rome.

Ghana (2022). GSS - Ghana Statistical Service (Figure 13)

Global Forest Watch (2022), *Global Forest Watch Report 2022,* https://www.cool-earth.org/news/globalforestwatchreport2022/

Global Hunger Index (2019), *Uganda A Closer Look at Hunger and Undernutrition. https://www.globalhungerindex.org/case-studies/2018-uganda.html#:~:text=In%20terms%20of%20the%20indicators,requirements%20on%20a%20regular%20basis*

GOT (2004). Government of Tanzania (2004). The Employment and Labour Relations Act, 2004. Ministry of Labour.

GOT (2017). The Agricultural Sector Development Programme (ASDP-II). Ministry of Agriculture. United Republic of Tanzania.

GOU (1959). Food and Drugs Act 1959 (Cap. 278). | UNEP Law and Environment Assistance Platform

GOU (2006). Occupational Safety and Health Act, 2006. Act 9 of 2006. Published in Uganda Gazette 36 on 8 June 2006. Assented to on 24 May 2006

GOU (2015). Plant protection and Health Act.compressed.pdf (ugandatrades.go.ug)

https://www.wider.unu.edu/publication/distributional-effects-covid-19-pandemic-uganda. Wider Policy Brief. October 2021. Volume 5/2021

IMF (2023). The Big Funding Squeeze. Regional Economic Outlook for Sub-Saharan Africa, April 2023 (imf.org). April 2023.

IndexMundi (2021). Uganda Land Use. (Accessed from Uganda Land use - Geography (indexmundi.com))

Intracen (2022). Export Potential Map (intracen.org) (figure 17-20)

Iriarte, A., Almeida, M. G., & Villalobos, P. (2014). Carbon footprint of premium quality export bananas: Case study in Ecuador, the world's largest exporter. Science of the Total Environment, 472, 1082–1088. https://doi.org/10.1016/j.scitotenv.2013.11.072

ITC (2021) Export Potential Map/Tanzania: see link: Export Potential Map (intracen.org)

ITC (2023). Trade Map 2023. Accessed from https://www.trademap.org/Country_SelProduct_TS.aspx?nvpm=1%7c%7c%7c%7c%7c0803%7c%7c%7c4%7c1%7c1%7c2%7c2%7c1%7c2%7c1%7c1%7c1

Kibuuka, Paul (2021). Does Tanzania need a specific law on contract farming? Article in The Citizen of Saturday, August 17, 2029, updated on April 23, 2021.

Kikulwe, E. M., Okurut, S., Ajambo, S., Nowakunda, K., Stoian, D and Diego, N. (2018). Postharvest Losses and their Determinants: A Challenge to Creating a Sustainable Cooking Banana Value Chain in Uganda. *Sustainability*. 10 (2381): 1-19.

Kilimo Trust (2012). Making Markets Work to Reduce Poverty Six Years of Kilimo Trust in East Africa 2005 – 2011, (Kilimotrust-6-Year-Report.pdf).

Knoema (2021). Ethiopia - Arable land as a share of land area. World Data Atlas, Ethiopia. Accessed from Ethiopia Arable land as a share of land area, 1960-2023 - knoema.com

Li, M., Jia, N., Lenzen, M., Malik, A., Wei, L., Jin, Y., & Raubenheimer, D. (2022). Global food-miles account for 20% of total food systems emissions. Nature Food, 3(6), 445–453. https://doi.org/10.1038/s43016-022-00531-w

MAAIF (2016). Ministry of Agriculture, Animal Industry and Fisheries (2016): banana.go.ug/media/attachments/2023/05/04/banana-production-manual-2016.pdf

Mamo, Gezahagn Dugassa (2019). Assessment on Impact of Live Animal Export on Meat Export Performance in Ethiopia; Policy Implications. Business and Management Studies Vol. 5, No. 3; September 2019.

Market Axis (2022). A Review for Sustainable Cassava Early Generation Seeds (EGS) Supply Models (SESM). -Draft Report. Submitted to MEDA by Market Axis Limited under the programme: Building an Economically Sustainable Seed System for Cassava in Tanzania. March 22, 2022

Masamba, et.al. (2017) (cassava text: women, and especially unmarried ones, were relatively more disempowered compared to men when it comes to securing land resources and accessing credit)

Ministry of Environment and Forest [MEF], 2015. Ethiopia's Second National Communication to the UNFCCC.

MoA, 2020. National Cassava Development Programme (NCDP, 2020-2030)

MoF (2000).Tanzania Development Vision (TDV) 2025. Ministry of Finance and Economic Planning. Government of Tanzania.

MoFPED (2022). Debt sustainability Report 2021/22. Ministry of Finance, Planning and Economic Development. Government of Uganda.

Mohammed, Askia M., James S. Robinson, David Midmore and Anne Verhoef (2016). Carbon storage in Ghanaian cocoa ecosystems. In: Carbon Balance and Management (2016) 11:6 DOI 10.1186/s13021-016-0045-x.

MoPD (2022), Uganda Voluntary National Review 2022. Sourced at: file:///C:/Users/dar%20laptop/Documents/Uganda/Policy%20and%20plans/Voluntary%20National%20Determened%20VNR%202022%20Uganda%20Report_1.pdf

Mwesigye, F. and Matsumoto**,** T.(2016). *The effect of population pressure and internal migration on land conflicts: implications for agricultural productivity in Uganda.* World Development, 79, 25−39.

NEPAD (2001). Comprehensive African Agriculture Development Programme (CAADP) (www.NEPAD.org

OECD (2020). Covid-19 and Africa: Socio-economic implications and policy responses. 7 May 2020. (https://www.oecd.org/coronavirus/policy-responses/covid-19-and-africa-socio-economic-implications-and-policy-responses-96e1b282/...)

OECD (2022) (text: Uganda is a net exporter of bananas, ranking the 54th largest exporter in the world)

OECD (2023). Geographical Distribution of Financial Flows to Developing Countries 2023: Disbursements, Commitments, Country Indicators (oecd-ilibrary.org) (Tanzania: page 700)

OECD (2023). Geographical Distribution of Financial Flows to Developing Countries 2023: Disbursements, Commitments, Country Indicators (oecd-ilibrary.org) (Ghana: page 400)

OECD (2023). Geographical Distribution of Financial Flows to Developing Countries 2023: Disbursements, Commitments, Country Indicators (oecd-ilibrary.org) (Ethiopia: page 380)

OECD (2023). Geographical Distribution of Financial Flows to Developing Countries 2023: Disbursements, Commitments, Country Indicators (oecd-ilibrary.org) (Uganda: page 740)

OECD (2023): OECD (2023). Geographical Distribution of Financial Flows to Developing Countries 2023: Disbursements, Commitments, Country Indicators www.oecd-ilibrary.org

Poore, J., & Nemecek, T. (2018). *Reducing food's environmental impacts through producers and consumers.* Science, 360(6392), 987–992. https://doi.org/10.1126/science.aaq0216

ReSAKSS (2023). Tracking Key CAADP Indicators and Implementation Processes (from Chapter 9_ReSAKSS_AW_ATOR_2022.pdf).

SIG (2019) https://www.sig.biz/signals/en/articles/a-changing-world

SIG (2022). Changing Tastes - The change of food and drink preferences (sig.biz)

Statistica ((2022). Share of agricultural land in Ghana from 2008 to 2021 Accessed from Ghana: share of agricultural land | Statista

Tade, Birara and Aberra Melesse (2023). Review A review on differentiation of goat populations in Ethiopia based on husbandry practices, breeding, and morphological traits: The primary step for conservation. In: *International Journal of Livestock Production Vol. 14(1), pp. 13-21, January-March 2023 DOI: 10.5897/IJLP2022.0799* Article Number: 7C4DD7870479 ISSN 2141-2448 (http://www.academicjournals.org/IJLP)

TOSCI (2018).TOSCI 5-Year Action Plan for Cassava Seed Certification in Tanzania. An output of the BEST Cassava Project supported by IITA, MEDA and the Ministry of Agriculture (TARI). February 2018.

TPHPA (2020)Tanzania Plant Health and Pesticides Authority (TPHPA), established by the Act No.4 of 2020

TradingEconomics (2023). Ethiopia Indicators (tradingeconomics.com)

TradingEconomics (2023). Ghana Indicators (tradingeconomics.com)

UAA and MAAIF (2020). Market Study to Assess Opportunities to Increase Current and New Fresh Fruit and Vegetable Exports from Uganda to High Value Markets. March 2020. Uganda Agribusiness Alliance (UAA) and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). As part of the Project: "Enhancing the Capacity of the Fruit and Vegetable Sector to comply with Phytosanitary Requirements for Export to EU, Other High-End Markets and Regional Markets," (STDF/PG/543 and RNE). Standards and Trade Development Facility (STDF) Netherlands Government.

UBOS (2022) *Annual Agricultural Survey 2019 Report*. Uganda Bureau of Statistics (UBOS). Kampala, Uganda. https://www.ubos.org/wp-content/uploads/publications/04_2022AAS2019_Report.pdf

UBoS (2022). Statistical Abstract, 2022. Uganda Bureau of Statistics (UBoS). Government of Uganda. (Accessed from https://www.ubos.org/2022-statistical-abstract/...)

UN (2022) *SDG Goal 5. Achieve gender equality and empower all women and girls*. Sustainable Development. Department of Economic and Social Affairs. United Nations. Available at: https://sdgs.un.org/goals/goal5. [Accessed 4th June 2023].

UN (2022), "Ethiopia Voluntary National Review 2022", Sourced at: https://hlpf.un.org/countries/ethiopia/voluntary-national-review-2022, September 20, 2022.

UN Comtrade. (2022). International trade statistics. UN Comtrade Database. https://comtrade. un.org/data/

UN Ethiopia (2020) Ethiopia Socio-Economic Assessment of the Impact of COVID-19 (undp.org). May 2020.

UN Women (2021). Uganda: Parliament in 2021 that overhauled all outdated and discriminatory legislation that were unfavourable to women.

UN Women (2023). Support for land use planning sees over 2000 women farmers in Tanzania become landowners | UN Women – Africa. February 2023

UNCTAD (2021). The Macroeconomic and Social Impact of COVID-19 in Ethiopia in the Global Context. Prepared by Alemayehu Geda. UNCTAD Research Paper No.75 (UNCTAD/SER.RP/2021/18). December 2021. (https://unctad.org/system/files/official-document/ser-rp-2021d18_en.pdf).

UNCTAD (2023). World Investment Report 2023. Accessed from: https://unctad.org/system/files/official-document/wir2023_en.pd

UNDP (2020). *Leaving no one behind: From the Covid-19 response to recovery and resilience building. Analysis of the socioeconomic impact of Covid-19 in Uganda*. *https://www.ug.undp.org/content/uganda/en/home/library/un-socioeconomic-impact-report-of-covid-19-in-uganda.html*

UNDP (2021). Human Development Report 2020. United Nations. Accessed from: http://hdr.undp.org/sites/default/files/hdr2020.pdf.

UNEP (2022). Identifying opportunity areas for cocoa agroforestry in Ghana to meet policy objectives. United Nations Environment Programme. ISBN: 978-92-807-3986-2

UNSDG (2022). Policy-brief-Impact-of-COVID-19-in-Africa.pdf (un.org)

UNU-WIDER (2020). https://www.wider.unu.edu/publication/distributional-effects-covid-19-pandemic-ghana

Voora *et al.,* (2020) (text: The combined banana imports from the three importers were worth about USD 11 billion)

Voora, V., Larrea, C., & Bermudez, S. (2020). *Global market report: Bananas* (p. 12). International Institute for Sustainable Development (IISD).

WER (2020). Food system models and methodologies within Wageningen University & Research: Opportunities for deepening our food systems work. Wageningen Economic Research. Authors: Just Dengerink and Herma Brouwer. March 2020, DOI:10.18174/516691

WHO (2017). World Health Organization Accelerating nutrition improvements. Best practices for scaling up. Examples from Ethiopia, Uganda, and the United Republic of Tanzania. WHO/NMH/NHD/16.4: World Health Organization. 2016. Nutrition News for Africa. Vol.1/2017

Wodajoa, et. al., (2020) (goats to food security pg21)

Wodajoa, Hiwot Desta, Biruk Alemu Gemedaa , Wole Kinatib , Annet Abenakyo Mulema (2020), Contribution of small ruminants to food security for Ethiopian smallholder farmers. Sourced at: Users/dar%20laptop/Downloads/1-s2.0-S0921448820300195-main.pdf.

World Bank (2011). Feature Story: Ghana looks to retool its economy as it reaches middle-income status. July 18, 2011 (www.worldbank.org).

World Bank (2017). Ghana: Agriculture Sector Policy Note Transforming Agriculture for Economic Growth, Job Creation and Food Security . June 2017

World Bank (2020). Tanzania Economic Update: Amid Pandemic, Tanzania has an Opportunity to Sow the Seeds of Future Resilience (worldbank.org). June 2020.

World Bank (2021). Saving Lives, Protecting People in Ghana, and Boosting the COVID-19 Response (worldbank.org). March 17, 2021.

World Bank (2021). Uganda COVID-19 Crisis Response and Recovery Budget Support to Mitigate COVID-19 Pandemic. 15 March 2021 (https://reliefweb.int/report/Uganda-...).

World Bank (2021a). World Bank Country and Lending Groups. https://data-helpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

World Bank (2021b). World Bank Open Data | Data. https://data.worldbank.org/

World Bank (2022). Population Living Below Poverty Level of USD1 per day.

World Bank (2023). Life on land | SDG 15: Life on land (worldbank.org)

Worldometer (2016), *CO2 Emissions per Capit*a. https://www.worldometers.info/co2-emissions/co2-emissions-per-capita/

WTO (2022). https://www.wto.org/english/tratop_e/tpr_e/s427_sum_e.pdf para 15 and 16

Yami, Alemu and Gelaw, Fekadu and Hinner, Koster and Siraw, Bewket (2018), Reorienting livestock production to respond to the meat quality requirements of high-end domestic and export markets. Feinstein International Center, Tufts University - Africa Regional Office, Addis Ababa, Ethiopia, October 2018.

Annex 1- List of Stakeholders Consulted

Volume I- Annex 1- List of Stakeholders Consulted

I- Tanzania: List of People and Institutions Contacted

Table I.A- Tanzania- LIST OF CONSULTED KEY INFORMANTS*

S/No.	Institution	Designation of Person Interviewed
1.	Tanzania Revenue Authority (TRA)	Customs Officer
2.	Mkuranga District Council (DC)	Agriculture, livestock and fisheries officer
3.	Mkuranga DC- Officer 1	Agriculture, livestock and fisheries officer
4.	Mkuranga DC- Officer 2	Agriculture, livestock and fisheries officer
5.	Dar Canton LTD	Director
6.	JVbiotech Under (Tanzania Cassava Producers and processors Association (TACAPPA	Processor
7.	GIPA Food Under (Tanzania Cassava Producers and processors Association (TACAPPA)	Processor
8.	Small Industries Development Organization (SIDO)	Principal Business Development Officer
9.	Small Industries Development Organization (SIDO)	Food Technology Trainer
10.	SIDO	Food Technology Trainer
11.	Tanzania Agricultural Research Institute (TARI) Kibaha	Social Economist
12.	TARI	Microbiologist
13.	TARI- Officer 1	Postharvest Officer
14.	TARI- Officer 2	Agricultural Officer
15.	Tanzania Industrial Research and Development Organization (TIRDO)	Industrial Officer

S/No.	Institution	Designation of Person Interviewed
16.	TIRDO	Executive Director
17.	Handeni District Office	Agricultural Officer
18.	TARI	Agronomist
19.	Ministry of Agriculture (MOA)	Mechanization and Value Addition Officer
20.	MOA- Officer 1	Agricultural Officer
21.	MOA- Officer 2	Head of Environment Unit
22.	MOA- Officer 2	Director National Food Security Unit
23.	MOA- Officer 3	Assistant Director Extension Services Unit
24.	Cereal and other Produce Board (CPB) Dodoma	Ag. Director Planning and Promotion

Note: *The names of persons and their phones/email addresses have been concealed but are available upon request.

Table I.2 Tanzania: Summary of consulted stakeholders for FGDs*

SN	District	Village	Women	Men	Total
1.	Handeni	Farmers-Mkata Village	4	4	8
2.	Mkuranga	Farmers-Mkuranga	3	6	9
3.	Handeni	Farmers-Kwamsisi Village	6	9	15

Note: *The names of persons and their phones/email addresses have been concealed but are available upon request.

II- Uganda: List of People and Institutions Contacted*

No	Institution	Respondent's Gender	Designation
1	Ministry of Trade, Industries and Cooperatives, Uganda	Male	Executive director, Uganda Export promotions Board
2	Ministry of Trade, Industries and Cooperatives, Uganda	Male	Uganda Export promotions Board
3	Federation of Uganda Employers	Male	Head Policy and Research
4	International labour organisation	Male	Inclusive labour market specialist
5	Department of Agricultural Extension and Skills Management	Male	Assistant Commissioner for Agricultural Extension Coordination
6	Office of the UN Resident Coordinator – Uganda	Male	Senior Economist
7	National Planning Authority	Male	Senior Agricultural Planner
8	aBiTrust Limited	Female	Product manager, FSD
9	Private Sector Foundation Uganda	Male	Investment Specialist, Business Environment
10	Budget Monitoring and Accountability Unit, Ministry of Finance, Planning and Economic Development	Female	Deputy Head , Budget Monitoring and Accountability Unit,
11	Uganda Development Bank Limited	Male	Chief Economist,
12	Southern and Eastern Africa Trade Information and Negotiations Institute (SEATINI) Uganda	Male	Program Assistant, Financing for Development
13	Uganda Free Zones Authority	Male	Research Officer
14	Presidential Initiative on Banana Industrial Development	Male	Head of Markets.
15	Ministry of Gender, Labour, and Social Development	Female	Assistant Commissioner
16	Ministry of Gender, Labour, and Social Development	Male	Principal Labour officer
17	Bioversity International	Male	Markets and Commodity systems
18	National Agricultural Research Organisation	Male	Principal Research officer- Soil scientist programme leader, Soils

No	Institution	Respondent's Gender	Designation
			Environment and agro-meteorogy Unit
19	Ministry of Agriculture, Animal Husbandry and Fisheries	Male	Commissioner Plant and Crop protection

Note: *The names of persons and their phones/email addresses have been concealed but are available upon request.

III. Ethiopia: List of People and Institutions Contacted*

Institution	Respondent's gender	Position
Ethiopian Meat Producer-Exporter Association	Male	Manager
Elfora Agro-Industry	Male	General manager
Mojo Modern Abbattoir	Male	Manager
Livestock Division-E-Agro-Industry	Male	Manager-Poultry and Livestock

Note: *The names of persons and their phones/email addresses have been concealed but are available upon request.

IV. Ghana: List of People and Institutions Contacted*

Institution	Gender of Respondent	Position
Ghana Cocoa Board (COCOBOD). Cocoa Health & Extension Division (CHED)	Male	Principal Technical Officer
COCOBOD. Quality Control Division (CCD)	Male	Principal Quality Control officer at the Tema Sea port for export of cocoa beans.
Cocoa Research Institute of Ghana (CRIG)	Male	Senior Researcher
Ministry of Food and Agriculture (MoFA). Plant Protection and Regulatory Services Directorate	Male	Head of Quarantine Division He is a Phytosanitary inspector.
Food and Drugs Authority	Male	Food safety manager

Institution	Gender of Respondent	Position
COCOBOD	Male	Community Extension Agents (CEA)
COCOBOD	Male	Community Extension Agents (CEA)
KBK Cooperative Union	Male	Cocoa Cooperative Representative
Nyame Ndae Cooperative Union	Male	Cocoa Cooperative Representative
PBC Agyenkwa Society	Male	Licensed Buying Company representative
Prime Natural Cocoa Powder Company	Male	Coco processor

Note: *The names of persons and their phones/email addresses have been concealed but are available upon request.

Annex 2- Stakeholders' Key Informant Interview Tool

Key Informant Interviews

It is important to arrive at the venue of the meeting at least 30 minutes before the agreed time, and if the interview is conducted virtually, ensure that the tele-communication system is in good order. If it is via Zoom, for example, the link should allow logging in at least 5 minutes before the start time.

Date: ……**Name of the Researcher**: ……

Name of the KI Respondent: …….

Institution:…… **Position:** ……

Telephone Number: …… **Email:** ……

1) The discussions will be preceded with salutation using the most comfortable language preferred by the respondent.
2) You will introduction yourself, explaining the institution you work with and the role in that institution.
3) You will repeat to provide a summary of the MATS project, which is already provided in the introduction letter sent out to request for the appointment.
4) You will once again remind the respondent the main objective of the interview is to seek information that will assist in designing intervention measures to enable the country's identified export commodities easily penetrate European Union and other International markets.
5) Thank him/her for the readiness to share his/her experience.
6) You should assure the respondent of the confidentially of associating the re-sponses to him and that the information will be solely used for preparing the report only.
7) Seek permission from the respondent to record the conversion to help you properly transcript the responses later.
8) Allow the conservation to flow naturally without imposing rigidity on which question he/she must answer first in case during the conversion his/her re-sponses start touching on the next question(s).

The following questions will be asked among Key Informants:

Key Informant Interview (KII) Guiding Questions (allowing for open-ended responses)
1. Main Question 1: Export Potentials: What are the main agri-food products with potential to be exported to the EU and other international markets. They will also be asked if they any reports with statistics on the mentioned products

Key Informant Interview (KII) Guiding Questions (allowing for open-ended responses)
by type, quantity traded both exports and imports over the past 5-10 years, revenue earnings, and main importing countries
Key Informant Interview (KII) questions on this aspect will include views on the following aspects: (i) Identification of the main drivers or interventions already taken to influence the observed trend in export performance, and access to the export countries. (ii) Suggestions on what is needed to improve or maintain the successes or address the factors that hindered better performance, and, (iii) Suggestions on type of future interventions are needed to maintain successful export drives to the identified destinations
2. Question 2: Production and productivity: Data on each product related to production and productivity levels (including challenges facing each product) *KII questions on this aspect will include views on the following aspects:* (i) Participant's recall or understanding of the main drivers or interventions taken to influence the level of production and productivity performance. (ii) Supportive institutions for accessing credit for farm inputs/machinery, extension services, certification of seeds and products, etc (ii) Suggestions what is needed to improve or maintain the successes or address the factors that hinder better production and productivity performance. (iii) Suggestions on the required future interventions are needed to increase production and productivity improvements.
3. National level: Associated national policies, legal and institutional frameworks and their strengths, gaps and challenges, as well recommended solutions. *KII questions on this aspect will include views on the following aspects:* (i) Policies: observed gaps, challenges, and opportunities for improvements. (ii) Legislations: observed gaps, challenges, and opportunities for improvements. (iii) Institutional frameworks: observed gaps, challenges, and opportunities for improvements.
4. Regional and International level: Associated international or global legal, regulatory, institutional and policy issues/challenges related to EU and other international market access and meeting WTO rules and regulations. *Key Informant Interview (KII) questions on this aspect will include views on the following aspects:* (i) SADC/EAC/COMESA/ECOWAS policies: any observed gaps, challenges, and opportunities for improvements. (ii) EU Policies: observed gaps, challenges, and opportunities for improvements. (iii) EU Legislations: observed gaps, challenges, and opportunities for improvements.

Key Informant Interview (KII) Guiding Questions (allowing for open-ended responses)
(iv) WTO Institutional frameworks: observed gaps, challenges, and opportunities for improvements
5. Cross-cutting issues on (a) sustainability of land and water uses and impacts on environmental conservation, and (b)social considerations such as labour rights including those for women and children. Note: The Key Informant will be asked to use own experiences or refer to public reports on the matter. *KII questions on this aspect will include views on the following aspects*: (i) On aspects of sustainability of land, forests, and water uses and impacts on environmental conservation: (ii) What are existing legislations and regulations in place to ensure sustainable utilization or land, forests and water resources in agriculture and agri-processing? (iii) To what extend stakeholders observe the laid down legislation, regulations and recommended good practices meant to safeguard land, forests, and water resources while producing and processing the identified agri-food commodity? (iv) Are there some observed signs of possible negative environmental consequences on the current utilization of land, forests and water related to the agri-food commodity? (v) What is needed to ensure the laws and regulations are observed? (vi) On aspects of Social Sustainability (vii) What are existing legislations and regulations in place to ensure there is no exploitation of workers in general and women and children employed or engaged in production or agri-processing of the commodity? (viii) To what extend stakeholders observe the laid down legislation, regulations and recommended to safeguard the welfare of workers, women, and children? (ix) Are there some observed signs of breach of the laid down legislation, regulations and recommended to safeguard the welfare of workers, women, and children? (x) What is needed to ensure the laws and regulations are observed?

Annex 3- Focus Group Discussions - Conducted in Tanzania

It is important to arrive at the venue of the meeting at least 30 minutes before the agreed time, and if the interview is conducted virtually, ensure that the telecommunication system is in good order. If it is via Zoom, for example, the link should allow logging in at least 5 minutes before the start time.

Date: …… **Name of the Researcher**: ……

Attach a List of Names of the Participants: (indicating gender, profession, institution they represent and telephone) see table at the end of this Guide)

Location where the FGD is conducted: …….

Focus Commodity: ……..……

1) **Choice of Participants**: Members of FGD will ideally be stakeholders with experience in the sub-sector as practitioners (e.g., farmers, processors, and exporters), experts (e.g., researchers and extension officers) or policy makers (directors of planning or trade). Avoid committing *sampling bias* and *selection bias* by having members from one group dominate others[39]. This is normally done by providing some guideline suggesting a minimum and maximum number of participants from each of the groups of your interest.

2) Key Requirements for the Focus Group Discussions

a) A room with ample space to accommodate 10-12 people, with good air circulation and free of noises from within or the surrounding areas.

b) Chairs and tables to be used by participants.

c) Notebooks, manilla cards, ordinary pens or pencils, marker pens, flip charts/board.

3) Salutation and Self-Introductions

a) The discussions will be preceded with salutation using the most comfortable language preferred by the respondents.

[39] There are a few sampling methods you can choose from to help you recruit and select participants in this study (a) *Convenience sampling* of those who are most readily accessible to you; (b) *Stratified sampling* of a particular age, profession, tribe, gender identity, or other characteristic of interest to you; and, (c) *Judgment sampling* of a specific set of participants that you already know you want to include.

b) You will introduction yourself, explaining the institution you work with and the role in that institution.

4) Introduction of MATS Project

a) You will repeat to provide a summary of the MATS project, which is already provided in the introduction letter sent out to request for the meeting.

b) You will once again remind the participants about the main objectives of the interview. It is to seek information that will assist in designing intervention measures to enable the country's identified export commodities easily penetrate the European Union and other International markets.

5) Consent to Conduct the FGD

a) You will thank the participants for their readiness to share their views based on their experiences in the sub-sector.

b) You should assure the respondents of the confidentially of associating the responses to anyone of them and that the information will be solely used for preparing the report.

c) Explain to the participants they will be required to freely answer questions and participate in discussions to reach some consensus on some of the issues to be raised. You will also tell them at some point each one of them will be required to write down his/her views on notebooks or cards they have been given. The ordinary pens will be used on notebooks while the marker or felt pens will be used to write points on some manila cards they will be given.

d) Finally, you will seek permission from the participants to record the conversion to help you properly transcript the responses later. Make sure the recording gadget has enough battery and memory to last the whole time of the meeting.

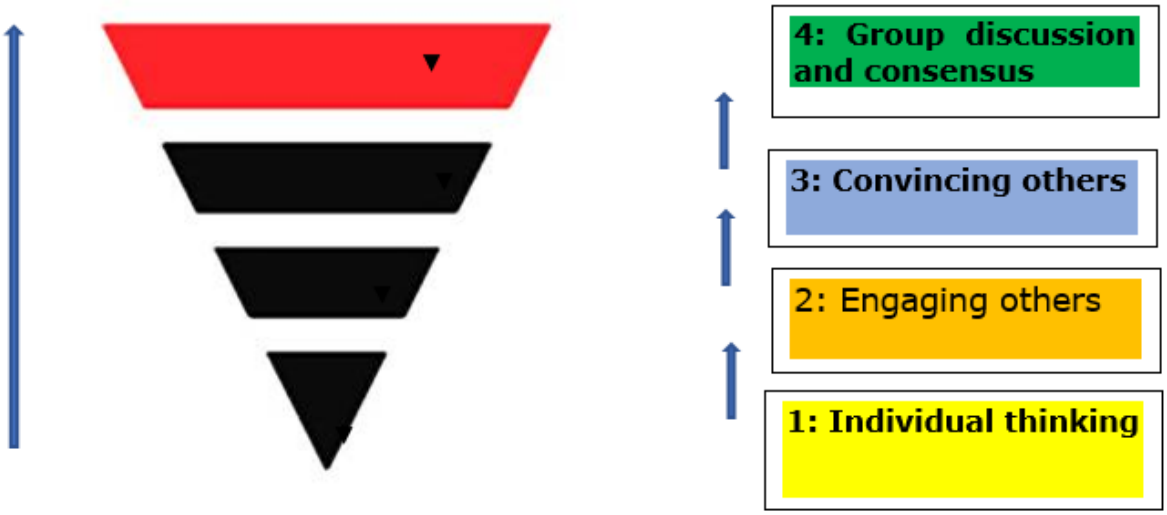
e) It is advised to start the discussions with an ice-breaker topic (e.g., *latest results in ongoing football league or latest comedy or music hit)* to induce participants to be relaxed and feel at home.

Essential Facilities Needed for FGD meetings.

1. A spacious noise free, with enough light lighted and well-ventilated room enough to accommodate between 12 and 20 people.
2. A flip chart or black-board, 15 ball pens, 36 felt/marker pens with three assorted colours (each colour 12 marker pens), 15 small notebooks, and masking tape or cello tape.
3. Bottles of drinking water for 12-20 people
4. Optional: power-point projector and laptop computer and standby generators as backup for electricity supply

The approach to be used during FGDs sessions should follow a structure of a transposed triangle (shown below), in that the interview questions would first be

targeted to individual participants but eventually end up with the whole group reaching a consensus on issues that will be put before them. This approach would ensure that every participant has an equal opportunity to influence the final group perception of the issues.



**This FGD approach encourages every participant to contribute to the discussions and discourages people who would otherwise dominate the FGD.

The following questions will be asked among Key Informants:

Focus Group Discussions Questions (Country: Tanzania)	
1.	**Main Question 1: What are the key challenges in raising productivity and quality faced by producers of the target crop selected in the MATS study? Note:** *although we expect among the challenges to include issues related to access to finance, extension services, agricultural inputs, certification, and accreditation, we do not have to lead them to provide them with answers. Let them freely mention them.*
1.1	Round One of Brainstorming
(i)	You will list down on board or flipchart as participants mention the different challenges.
(ii)	After listing down the challenges, ask them to choose a maximum of three most serious challenges on pieces of manilla cards.
(iii)	Allow each one to read the challenges one by one explaining the rationale for his/her choice.
(iv)	Ask if there is another member who has also written that challenge.
(v)	Collect the first round of cards that have similar challenges.
(vi)	Repeat the same process with respect to the second card and those supporting the proposal and group them together.
(vii)	Repeat that exercise until all cards are presented by each member and those supporting the idea are grouped together.

Focus Group Discussions Questions (Country: Tanzania)

1.2 Round TWO of Brainstorming

(i) Rank the challenges starting with those mentioned by more people and ending with those least mentioned.

(ii) Highlight the TOPMOST FIVE challenges based on frequency of mention by members,

(iii) Let members agree if that ranking is acceptable to all or if there are some to be dropped and replaced by those outside the listed top five challenges.

(iv) After that let members brainstorm, and list down suggested interventions needed to address the challenges.

Challenges (each challenge to have at least one solution)	**Suggested Interventions as a Solution**
1.	
2.	
3.	
4.	
5.	

(v) Close the discussion for that question and move to the second question.

2. **Question 2: Damaging Impacts on Land, Forests and Water:** Participants should be asked if there are any practices along the value chain of the suggested agri-food commodity that are likely to have damaging impacts on the sustainability of land and water uses, and therefore the environment in general?

   The FGD questions on this aspect will include views on the following aspects:

   (i) What are existing legislations and regulations in place to ensure sustainable utilization of land, forests and water resources in agriculture and agri-processing?

   (ii) To what extend stakeholders observe the laid down legislations, regulations and recommended good practices meant to safeguard land, forests, and water resources while producing and processing the identified agri-food commodity?

   (iii) Are there some observed signs of possible negative environmental consequences on the current utilization of land, forests and water related to the agri-food commodity?

   (iv) What is needed to ensure the laws and regulations are observed?

3. **Question 3: Social Sustainability: The questions posed to FGD aims to establish aspects of social sustainability.** Participants should be asked if there are any practices along the value chain of the suggested agri-food commodity that are already or in future likely to have damaging impacts on the welfare of workers, women, and children.

Focus Group Discussions Questions (Country: Tanzania)
The FGD questions on this aspect will include views on the following aspects: (i) What are existing legislations and regulations in place to ensure there is no exploitation of workers in general and women and children employed or engaged in production or agri-processing of the commodity? (ii) To what extend stakeholders observe the laid down legislations, regulations and recommended to safeguard the welfare of workers, women, and children? Note: Participants will be allowed to use their own experiences or public reports on the matter. (iii) Are there some observed signs of breach of the laid down legislations, regulations and recommended to safeguard the welfare of workers, women, and children? Note: Participants will be allowed to use their own experiences or public reports on the matter. (iv) What is needed to ensure the welfare of workers, women and children are safeguarded/protected?
4. Question 4: National Policies: Associated policy, legal and institutional frameworks and their strengths, gaps and challenges, as well recommended solutions. *FGD questions on this aspect will include views on the following aspects:* (i) Policies: observed gaps, challenges, and opportunities for improvements. (ii) Legislations: observed gaps, challenges, and opportunities for improvements (iii) Institutional frameworks: observed gaps, challenges, and opportunities for improvements.
5. Question 5: International Legal, regulatory, institutional and policy issues/challenges related to EU and other international market access and meeting WTO rules and regulations. *FGD questions on this aspect will include views on the following aspects:* (i) EU Policies: observed gaps, challenges, and opportunities for improvements. (ii) EU Legislations: observed gaps, challenges, and opportunities for improvements. (iii) WTO Institutional frameworks: observed gaps, challenges, and opportunities for improvements

Annex 4 – The 15 case studies in MATS

Topic	Key aspects	Main locus	Lead partner
1) Effects of trade on commercialisation and processing of food products	Improving the livelihoods of smallholder farmers through trade and food value chains; localisation of food systems, strengthening of territorial markets	Uganda, Tanzania	University Helsinki (UH), John Sumelius, with Makerere University and Moshi Co-operative University
2) Trade, resilience, and social sustainability: oats value chains in the Nordics	Resilience of trade-dependent food value chains in the context of intra-EU agri-food trade and social sustainability; sustainability and equity	Finland, Sweden, EU	University Helsinki (UH), Bodo Steiner
3) Trade, sustainability, and environmental linkages in Finnish dairy production	Mapping the linkages of dairy production and dairy trade with environmental externalities and production of ecosystem services	Finland, EU, trade partners	University Helsinki (UH), Nina Hyytiä, Antony Starr
4) Accessing export markets with high quality/social/ environmental standards	Standards and market access; challenges related to WTO Rules and Regulations and/or EU requirements; strengthening of territorial markets	Sub-Saharan Africa	Economic and Social Research Foundation (ESRF), Hoseana Bohela Lunogelo
5) Role of agricultural inputs and policy regulation in sustainable value chains	Emerging markets; poultry chains; role of policy regulation regarding animal welfare, inputs, and trade; competitiveness, sustainability, livelihoods	Ghana	Technical University of Madrid (UPM), Pablo Vidueira, with CSIR – Science and Technology Policy Research Institute
6) Farm gate prices and sustainable business models: towards living income	Experiences, obstacles, impact, and lessons learned from a multi-stakeholder initiative on sustainability standards in the cacao sector	EU, Côte d'Ivoire	Oxfam Wereldwinkels (OWW), Bart Van Besien
7) Impacts of EU policies on local dairy value chains in Africa	EU agricultural, trade, investment and development policies; impact on the development of local, fair and sustainable dairy chains	EU, Africa	Oxfam Solidarité - Oxfam Solidariteit (OXFAM), Thierry Kesteloot
8) EU climate and energy policies and their influence on trade and land use	EU biofuel policies and mandates; sustainability criteria biofuels; EU climate funding, carbon markets, offset mechanism; palm oil; land use change	EU, America, Africa, Asia	Oxfam Solidarité - Oxfam Solidariteit (OXFAM), Alba Saray Pérez-Terán
9) Human rights and environmental due diligence in the coffee value chain	Integrating human rights and environmental due diligence in coffee chains; impact on production practices and smallholder farmers	Tanzania, Burundi, Uganda, Ethiopia	Oxfam Wereldwinkels (OWW), Sarah Vaes

Topic	Key aspects	Main locus	Lead partner
10) Beef and policy coherence for sustainable development	EU agricultural, trade, investment and development policies; impact on local, fair, sustainable beef chains, including consumers and retailers	EU, Africa, South America	Research Centre on Animal Production (CRPA), Alberto Menghi, with Agri-benchmark Beef
11) Private standards and sustainable trade	Impact of processors/retailers' standards on development of local, fair, sustainable food chains; GLOBAL G.A.P.	Africa, Asia	Research Centre on Animal Production (CRPA), Alberto Menghi, with Global G.A.P
12) Ethical trade initiatives in the South African wine industry	Assessment of local and global ethical trade programmes in South Africa (e.g. Fair Trade, Ethical Trading Initiative, Ethical Trade Association)	South Africa, trade partners	North-West University (NWU), Ernst Idsardi, with Stellenbosch University
13) Dairy production, standards**,** and competitiveness in global markets	Labour costs; additional costs resulting from environmental regulation; total production costs; processing and retail	EU, Africa, America	Research Centre on Animal Production (CRPA), Alberto Menghi, with International Farm Comparison Network (IFCN)
14) Changing land-use trajectories due to the EU-Mercosur trade agreement	The case of pork exports from Brazil to the EU: trade agreements, EU-Mercosur; pork value chains, soya, and palm oil production; deforestation.	EU, Brazil	Technical University of Madrid (UPM), Pablo Vidueira, with Institute for Agriculture and Trade Policy (IATP)
15) The new generation of EU Free Trade Agreements (FTAs) and their impacts	Impact of EU-Tunisia FTA on incomes and market opportunities for farmers, fishers, breeders; ecological resilience, especially water scarcity	EU, N Africa (Tunisia)	Transnational Institute (TNI), Pietje Vervest, with Tunisian Observatory of the Economy