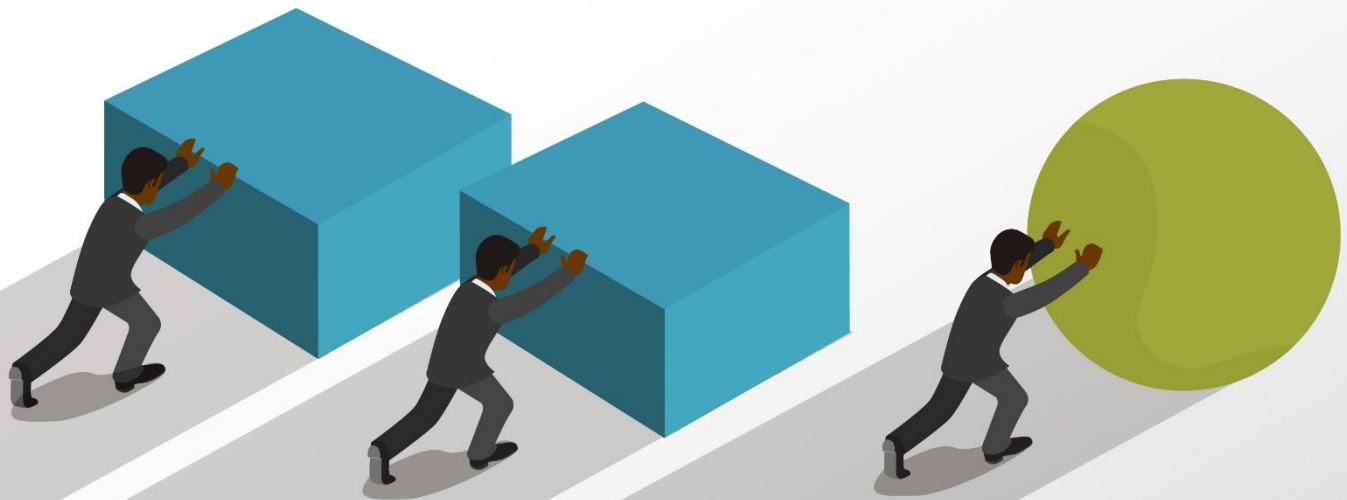




FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



SYNTHESIS REPORT

Regional Agriculture Trade Competitiveness Analysis

This publication was produced in July 2021

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Synthesis Report – Regional Agriculture Trade Competitiveness Analysis

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Acronyms

COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
DRC	Democratic Republic of Congo
ESA-EMM	Eastern and Southern Africa - Economy-wide Multi-Market Model
GDP	Gross Domestic Product
ICT	Information and Communications Technology
USAID	United States Agency for International Development
USD	United States Dollar
WDI	World Development Indicators

I. Introduction

Despite the existence of a Common Market Protocol that allows the free flow of goods and services in East Africa, trade barriers and capacity gaps constrain trade competitiveness in the region. In response to these challenges, Policy LINK, a USAID-funded Feed the Future project, is implementing the Strengthening Competitiveness in Regional Agricultural Trade Activity in nine East African Community (EAC) and Common Market for Eastern and Southern Africa (COMESA) countries (Burundi, the Democratic Republic of Congo [DRC], Ethiopia, Kenya, Rwanda, South Sudan, Tanzania, Uganda, and Zambia). Building on the work of other USAID programs such as the East Africa Trade and Investment Hub and Africa Lead, as well as the promise of the recently launched African Continental Free Trade Area, the Activity will explore ways and private sector-oriented approaches to boost competitiveness across agricultural value chains and increase intra-regional trade.

Study Purpose

To inform its programming, Policy LINK engaged AKADEMIYA2063, an Africa-based think tank supporting evidence-based agricultural policymaking, to conduct a competitiveness analysis to identify (1) the critical factors, challenges, and opportunities driving regional agriculture sector competitiveness¹, (2) value chains with the potential to be competitive and drive regional and national economic growth, and (3) potential interventions and policies to enhance the competitiveness of regional agricultural trade in selected value chains. This analysis complements a separate study, led by Dev-Pact, to identify, review, compare, and analyze private sector-led solutions, options, and approaches that can increase regional trade and agriculture competitiveness.

Methodology

The study entailed three components. First, the study analyzed the trade flows and trade performance and competitiveness of regional agricultural value chains using descriptive analysis and assessment of performance against indicators such as the Trade Expansion Index and the Trade Overlap Index. Second, the team analyzed the long-term regional trade outlook and prioritized value chains with the potential to be competitive at the regional level and to deliver meaningful socio-economic impacts at the country level. And, finally, the team assessed agricultural trade policy and program opportunities, looking at high-performing countries in Africa to identify policy options likely to boost trade. A benchmarking exercise helped prioritize intervention areas related to these options for each of the nine target countries. For full details on the methodology, please see “Final Report – Regional Agriculture Trade Competitiveness Analysis.”

Key Findings

The study confirms regional trade is about a quarter of total trade. It revealed distinct differences between globally and regionally traded commodities from the countries. For many regionally traded food commodities—especially cereals—productivity gains lag population growth, which have already been reducing the tradable surpluses around the region. If historical trends continue over the next decade, the

¹ The International Trade Center defines competitiveness as “the demonstrated ability to design, produce, and commercialize an offer that fully, uniquely, and continuously fulfils the needs of targeted market segments, while connecting with and drawing resources from the business environment, and achieving a sustainable return on the resources employed.”

trade of maize and other cereals will decrease significantly. Globally traded commodities such as tea, coffee, and cotton, on the other hand, still have significant potential for trade growth in East Africa.

Scenario testing showed that reducing the overall cost of trading commodities—by reducing trade costs by 10 percent, removing trade barriers, and increasing productivity by 10 percent (thus bringing down unit costs)²—would lead to increased competitiveness and help reduce declining levels of trade. To reduce costs associated with trade, countries must focus on eight policy options, including strengthening trade and logistics facilitation measures, increasing access to finance, and promoting technology adoption and innovation, among others. Countries should pursue the policy options deemed to be a priority through the study’s benchmarking exercise.

Report Structure

This report is organized as follows: (1) Key findings from the trade review, (2) Key findings from the value chain prioritization exercise, (3) Policy and programmatic options for improved agriculture value chain competitiveness and trade, and (4) Conclusions. Annex I provides tables and figures. Full study results can be found in “Final Report – Regional Agriculture Trade Competitiveness Analysis.”

2. Trade Review – Key Findings

As a first step, the study analyzed the trade performance and competitiveness of regional value chains and looked at the long-term regional trade outlook under baseline and alternative policy scenarios. Key high-level findings of this analysis include the following:

- The long-term regional outlooks for globally and regionally traded commodities are distinctly different. For many regionally traded food commodities, productivity is not keeping up with population growth, which will gradually reduce tradable surpluses. Globally traded commodities (tea, coffee, cotton, etc.), however, still show significant potential for growth.
- Increasing competitiveness by reducing trade costs, removing trade barriers, and increasing productivity (which would decrease unit costs) can help to address these issues.

More detailed findings on overall trade flows, the long-term regional trade outlook, and scenario testing can be found below in Sections 2.1, 2.2, and 2.3, respectively.

2.1 Overall Trade Flows

A descriptive analysis of regional and global agricultural trade and evaluation of trade performance and competitiveness produced the following main findings:

- **The role of agriculture in regional trade and the role of individual countries in intraregional trade varies widely among East African countries.** This applies to the size of regional trade flows, the share of agriculture in regional trade, and the share of regional markets in overall country trade. Kenya, Uganda, and, to a lesser extent, Tanzania and Zambia are the biggest

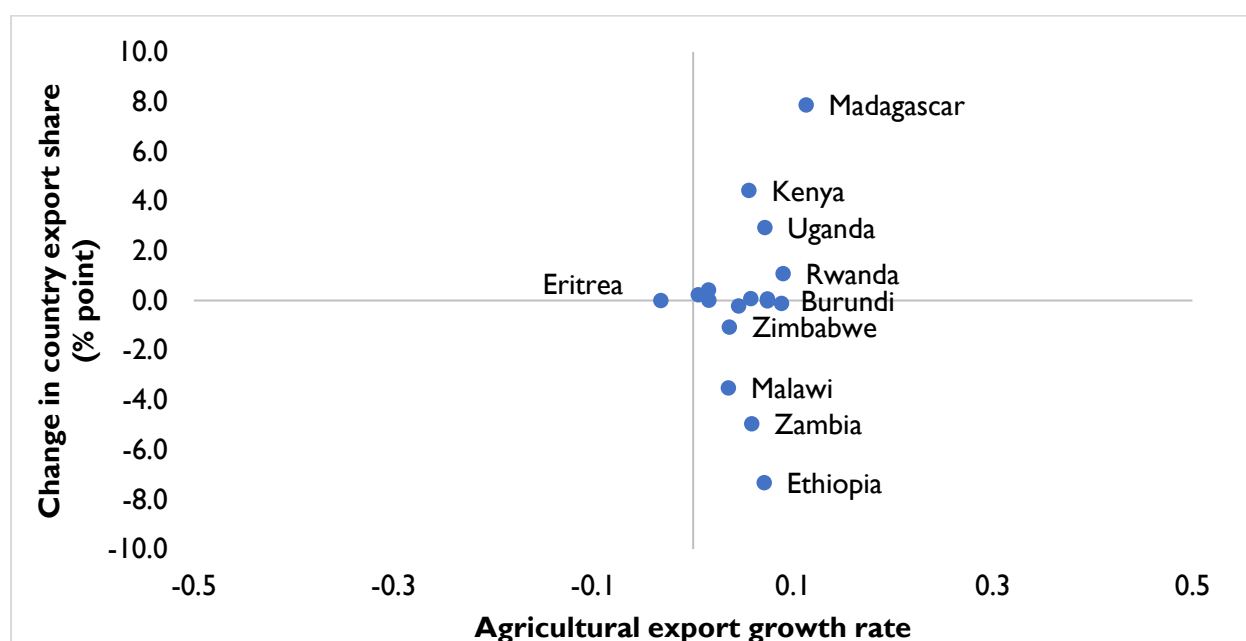
² Trading costs refer to costs incurred in getting products to market (e.g., logistics and transportation costs, border and market related costs, and distribution costs). Trade barriers entail both tariff or non-tariff barriers. Productivity refers to increased yields.

players in regional agricultural export markets. The same countries, along with Ethiopia, dominate agricultural exports to the rest of the world.

- **Regional exports are a tiny fraction of total agricultural exports among these countries** (Zambia is the exception), in part because regional markets are much smaller than global markets but also because the demand for regionally produced and traded products is relatively small compared to the demand for agricultural imports of commodities not produced in the region.
- **Regional agricultural exports have been growing for all target countries, (see Figure I).** Over the previous 10 years, all nine target countries have expanded their agricultural exports into the region, though the majority of this trade comes from commodities imported from global markets, then re-exported within the region.
- **Despite being part of the same region, target countries have relatively different sets of major trading partners.** For every country, the largest export and import partners are neighboring countries. The top five export partners account for more than 90 percent of exports by individual target countries, except for Kenya, where the top five regional export destinations account for 78 percent of its exports. That share reaches 100 percent for South Sudan, which is trading with only three countries in the region. See Figures 2 and 3 for more details.
- **East Africa has real potential to expand intraregional trade beyond current levels and with existing production patterns.** The analysis highlighted sufficient dissimilarity in the current production and trading patterns between the countries and hence the scope for transborder trade expansion in the region. Furthermore, shows some countries are exporting the same products being imported by other countries in the region. By redirecting these flows, countries should be able to expand transborder trade in the region.

For additional details, please see Annex I (Tables AI-1, AI-2, AI-3, and AI.4).

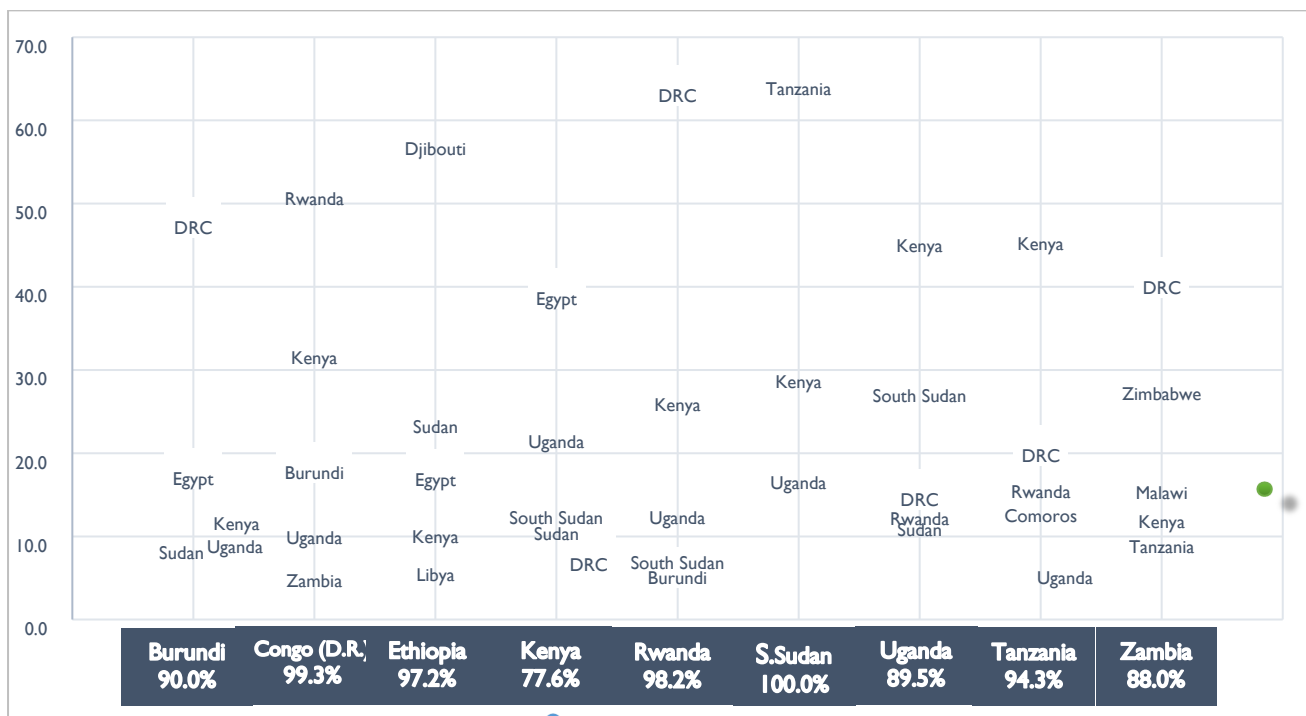
Figure I: Scatter plot of agricultural export growth against change in export shares among East African countries between 2010-2012 and 2017-2019



Source: Authors' calculations using AATM2021 database

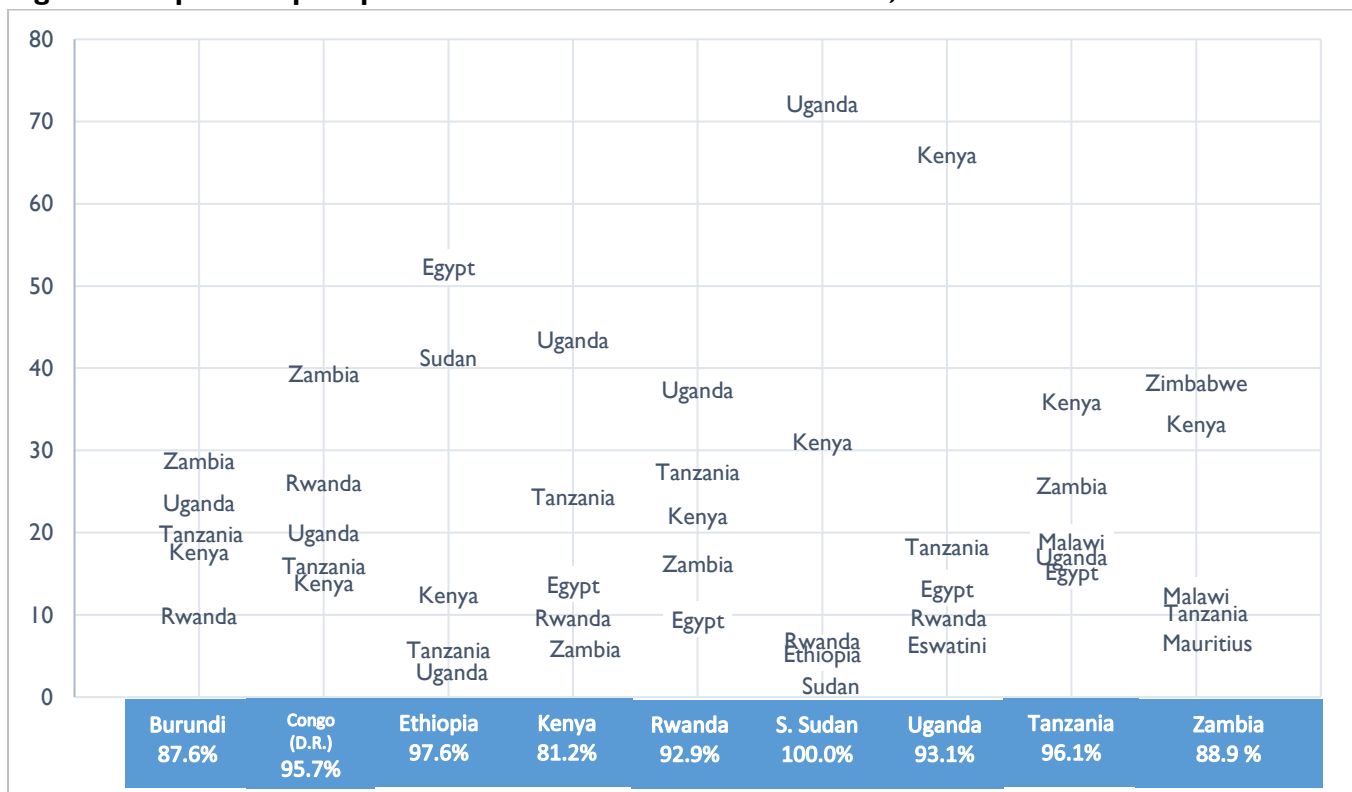
NB: The points that are not labeled in this figure represent Comoros, the DRC, Djibouti, Egypt, Eswatini, Libya, Mauritius, Seychelles, Sudan, South Sudan, and Tanzania.

Figure 2: Top five export partners in nine East African countries, 2015-2019



Source: Authors' calculations using AATM2021 database

Figure 3: Top five import partners in nine East African countries, 2015-2019



Source: Authors' calculations using AATM2021 database

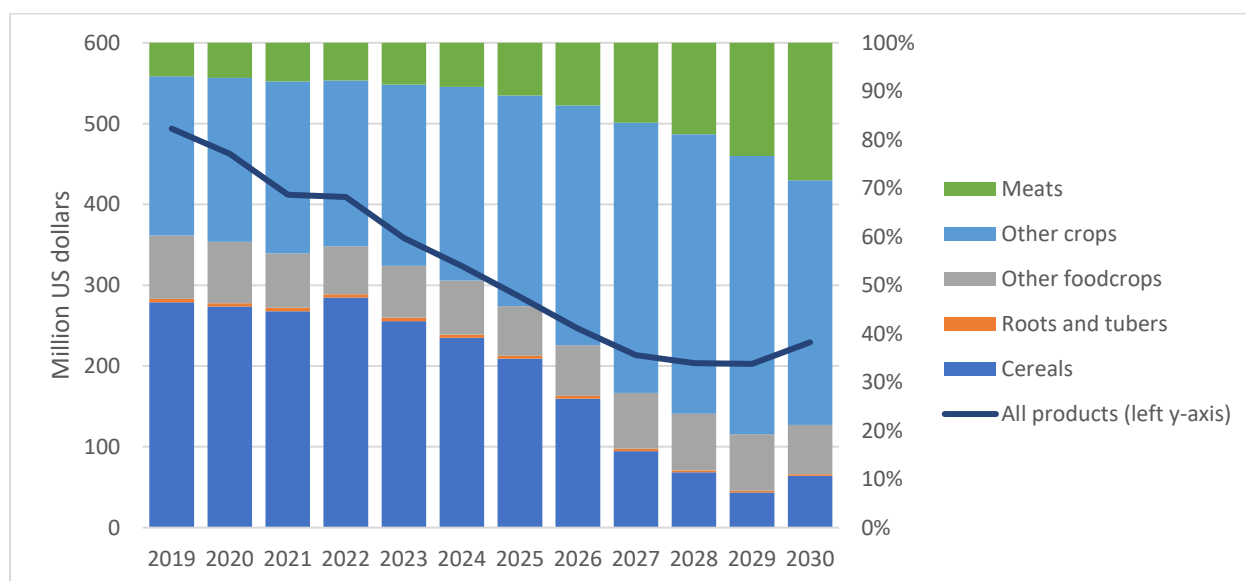
2.2 Long-term Regional Trade Outlook

Building on the preceding analysis, the study assessed the outlook for intra-regional trade expansion over the next decade, using economic modeling to anticipate trends and patterns under a baseline scenario that entailed a continuation of current supply and demand trends, including changes in crop yields, cultivated areas, outputs, and gross domestic product [GDP], and other relevant value chain dynamics (for details on scenario testing, see Section 2.3). Key findings of this analysis include the following:

- **Intraregional agriculture trade will continue its decline before stabilizing and starting to reverse around 2027/28.** The total value of agricultural exports is projected to decrease by more than half, from \$0.5 billion to a little less than \$0.25 billion. Figure 4 below details how this aggregate decrease will be distributed across commodities.
- **The decline is driven largely by a continued decrease in intraregional cereals exports, even as the exports of other crops, mostly cash crops and meat, expand significantly.** The declining level of cereals exports is primarily the result of falling cereal yields and harvested areas over the last decade in several member states. As domestic demand outstrips domestic supply, exports will decline. Declines in cereal exports will reverse around 2027-2028. This reversal is the result of emerging exports from Tanzania and other countries compensating for reductions Egypt and Malawi's exports. Other food crops are projected to decline as well, from more than \$60 million to less than \$20 million in 2013.
- **With the steady decrease in nominal values of food crops, the shares of non-food crops and meats in regional trade are projected to grow significantly (though the nominal value will not increase).** Meats will more than triple their share in regional exports, from less than 10 percent to nearly 30 percent, while the export share of non-food crops will climb to 50 percent in 2030, up from approximately 35 percent 10 years earlier.

For details, see Annex I (Figures AI-1, AI-2, AI-3, and AI-4).

Figure 4: Baseline intra-regional exports – value and composition, 2019-2030, million USD



Source: Eastern and Southern Africa- Economy-wide Multi-Market (EMM) model simulation results based on FAOSTAT and World Development Indicators (WDI) databases.

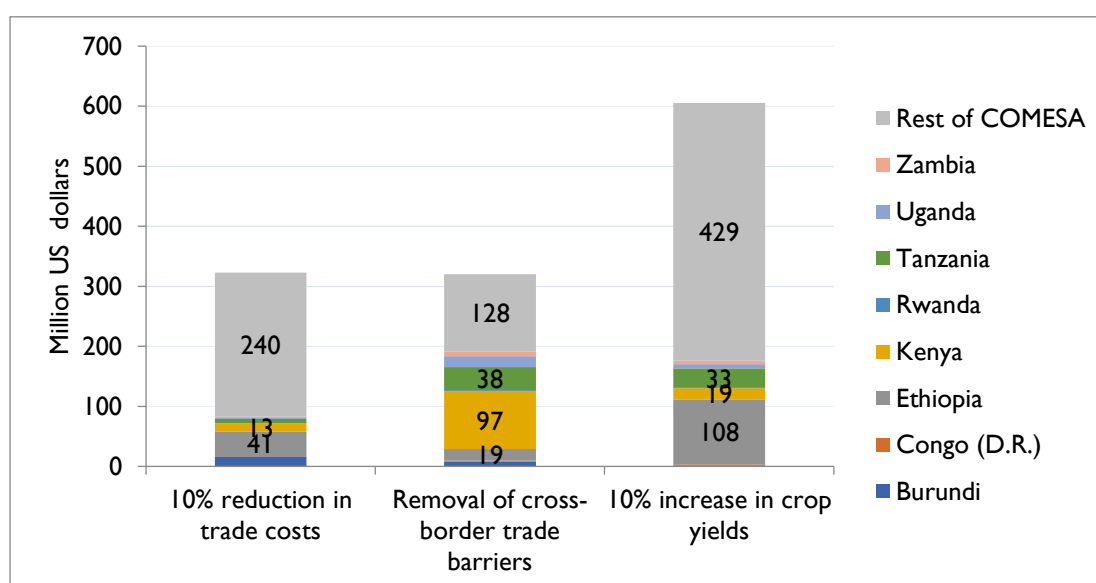
2.3 Scenario Testing

To address the issue of declining trade, the study used models to simulate the impact of three alternative competitiveness scenarios—reduced costs (e.g., associated with logistics, transportation, distribution), removal of trade barriers (e.g., tariff and non-tariff barriers), and increased productivity—on intraregional trade. To illustrate what would happen under these scenarios, we present the following examples:

- **A 10 percent reduction in trade costs, the removal of trade barriers, and a 10 percent increase in productivity across the board would lead to an extra \$1.200 billion in trade over the next 10 years.** COMESA would benefit from each scenario, realizing an increase in regional exports ranging from 50 to 100 percent of 2019 levels (\$600 million).
- **A 10 percent increase in productivity has the greatest potential to increase intraregional exports in the aggregate.** A 10 percent increase in yields across the board would raise intraregional exports by more than \$606 million. The biggest winners under this scenario are Ethiopia, Tanzania, and Kenya. See Figure 5 below.
- **Removing cross-border trade barriers and reducing trade costs also increase export revenues but to a lesser extent.** Eliminating costs related to transborder harassment would increase overall exports by slightly more than \$300 million, of which roughly a third would go to Kenya and a bit more than 10 percent to Tanzania. Total exports would increase by a comparable amount if countries cut trading costs by 10 percent each, with Ethiopia realizing the most gain.
- **Each commodity responded differently to the simulated policy changes.** The regional export of cereals, for example, would increase by an additional \$500 million by 2030 under an increased productivity scenario; however, even with reduced costs, the increase in cereal exports (by \$200 million) would be insufficient to maintain current levels (\$250 million). Other policy changes, such as food safety standards, are also commodity-specific.

For details on scenario testing results by commodity, see Annex I (Figures AI-5, AI-6, AI-7, and AI-8).

Figure 5: Cumulative change in baseline value of intra-regional exports, 2019-2030, million USD



Source: EMM model simulation results based on FAOSTAT and WDI databases

3. Value Chain Selection Exercise – Key Findings

Building on the preceding analysis and using secondary country results and trade database analysis, the study identified the agricultural value chains that performed best in the baseline and alternative policy scenarios—and, importantly, contributed to positive socio-economic impacts (e.g., income, employment, poverty reduction, and gender and youth inclusivity). Key high-level findings of the exercise include:

- **Value chains with potential were diverse, with only a few important for more than one country.** Only six value chains were identified as priority commodities for multiple countries: (1) coffee, (2) tea, (3) maize, (4) groundnut, (5) seed cotton, and (6) freshwater fish. Of those, coffee—the top-ranked commodity—was a priority for just four countries (see “Final Report – Regional Agriculture Trade Competitiveness Analysis” for what the analysis showed to be priority value chains by country).
- **Moreover, there were differences between global and intra-regional value chains.** The underlying competitiveness of globally traded commodities (coffee, tea, cotton) compared to the regionally traded commodities (maize, beans, livestock) varied greatly, indicating different sets of issues to be addressed.

It is important to note that the study’s selection process was based on secondary data and did not take into account conditions on the ground that might reduce the relevance of particular commodities (such as the potential for expansion of freshwater fish exports). To maximize the value of future efforts to understand how to enhance regional competitiveness and identify similar issues across categories of commodities, Policy LINK recommended focusing the analysis on one value chain in each category of commodities: one **globally traded commodity** (coffee); one **regionally traded staple food crop** (maize); one livestock (cattle); and one **other food crop** (beans). Analyzing the trade flows by commodity type would bring out the salient differences in competitiveness of each type of commodity.

4. Policy and Programmatic Options to Improve Agriculture Competitiveness and Trade

To identify policy and programmatic options for reducing trade costs, removing trade barriers, and increasing productivity—leading to competitiveness—the study reviewed the experiences of African countries displaying high levels of competitiveness and trade flows. The study found the following eight policy options, which can be mapped to the scenarios (see Table I), drive value chain competitiveness and trade:

- Promotion of technology adoption and innovation along agricultural value chains
- Promotion of competition in the economy (policy)
- Strengthening of trade logistics and facilitation measures
- Investment in productive infrastructure
- Facilitation of access to finance

- Technical, business management, and enterprise skills development
- Elimination of harassment at borders
- Export promotion

More details on each policy option can be found in Section 4.1.

Table 1: Policy and programmatic options for different scenarios of trade expansion

	Scenario 1: Reduction of trade costs	Scenario 2: Removal of cross-border trade barriers	Scenario 3: Increase in productivity
Policy Options	<ul style="list-style-type: none"> • Strengthening trade logistics and facilitation measures • Investment in productive infrastructure • Export promotion policy framework • Facilitation of access to finance 	<ul style="list-style-type: none"> • Technical, business management, and enterprise skills development • Elimination of harassment at borders • Export promotion policy framework • Promotion of competition in the economy 	<ul style="list-style-type: none"> • Promotion of technology adoption and innovation along agricultural value chains • Investment in productive infrastructure • Promotion of competition in the economy • Facilitation of access to finance

Building on this analysis, the study compared target country performance in applying these policy options against African and global standards to prioritize country-level activities for increasing competitiveness. See Section 4.2 for the findings.

4.1 Policy Options to Improve Trade and Competitiveness

The following eight policy options were found to contribute to competitiveness and expanded trade. For examples of how high-performing African countries have applied these policies, please see “Final Report – Regional Agriculture Trade Competitiveness Analysis.”

Promotion of Technology Adoption & Innovation Along Agriculture Value Chains

Increased competitiveness requires innovation and the adoption of technology (e.g., mechanization, the use of improved inputs—seeds and good agricultural practices, the use of information and communications technology [ICT] tools and services) along the agriculture value chain. Adopting technology increases productivity, which is an important driver of competitiveness, as well as efficiency, which reduces the cost of production, processing, and trade, and expedites overall processes. Moreover, innovative technologies and solutions can enhance business development (e.g., using marketing platforms to reach new buyers). Increased technology adoption and innovation will increase product diversification and complexity, resulting in more trade between countries.

Promotion of Competition in the Economy

Increasing the competitiveness of agriculture value chains and regional trade requires a competitive business environment. Competition policies and regulations increase efficiency as well as incentivize companies and industries to invest in productivity and production capacities. In addition, in a competitive environment, economic actors are more inclined to innovate, diversifying and making products more sophisticated so they can compete locally and abroad. A 2020 International Monetary Fund study found improved domestic competition is associated with a significant increase in the real GDP per capita growth rate, mainly through

improved export competitiveness and productivity growth (Cherif et al. 2020). Moreover, at a firm level, evidence shows that greater competition—proxied through a decline in corporate market power—is associated with an increase in a company’s investment and the labor’s share in output (Cherif et al. 2020).

The best way to protect and maintain competition in a flexible, dynamic market economy is by establishing dedicated institutions charged with promoting competition policies and enforcing related rules and regulations. Research shows that in developing countries lacking competition law and policy, enterprise development is hindered by a lack of innovation, high production costs, slow adjustments, and loss of jobs (UNCTAD 2004).

Strengthening of Trade Logistics and Facilitation Measures

Trade logistics and facilitation measures³ enhance the ability of traders and firms to trade more efficiently and become more competitive in domestic and international markets. They lower transaction costs while increasing the availability of a consistent, efficient, and timely supply for export. They are especially important for products requiring prompt transit (USAID 2007). Evidence shows that the extra cost of delays, bureaucratic inefficiency, and, in some cases, corruption can add as much as 15 percent to the price of goods, undermining the competitiveness of goods between countries (Hoekman and Shepherd 2013). In addition, the high cost of moving goods within African countries has been identified as a cause of decreasing total volumes and efficiency of trade on the continent despite massive trade liberalization in the last three decades. The transport of goods over long distances and inefficient goods clearing at harbors or border controls make up the bulk of the high cost of moving goods. One study found that although the limited availability and low quality of roads are well-recognized as hindrances to trade, inefficient logistics, low vehicle quality, and policies restricting competition also represent significant trade barriers (Donaldson et al. 2017).

In addition, studies across Africa have shown the benefits of standards and certifications in improving access to foreign markets and integration to regional and global value chains. Certified firms appeared to be more productive and supplied better-quality products than non-certified ones in Africa. Certification also facilitates access to new markets, attracts new investors, and leads to greater buyer satisfaction. It also improves competitiveness and signals higher quality as it is often linked to upgrading and modernizing production (International Trade Centre 2018).

Investment in Productive Infrastructure

Agricultural value chain competitiveness and regional trade participation require high-quality, productive infrastructure, including energy, water, telecommunications, and roads (Malabo Montpellier Panel 2020). Energy, for example, enables agriculture value chain actors to adopt productivity-enhancing technologies for food transformation, processing, transport, and distribution, thereby facilitating their integration into high-value and export-oriented food chains (Bekele 2014). Reliable water supply increases crop productivity, allowing the production of export-oriented crops such as fruits and vegetables and helping farmers extend growing seasons. Likewise, ICT infrastructure is crucial for the use of ICT tools and services that facilitate better control of production, inventory, and finances, as well as access to business opportunities and relevant information. Good roads reduce journey and delivery times, resulting in lower costs and less damage to transported goods. In addition, roads connect production regions to market hubs and allow

³ Trade logistics systems include transport system and storage facilities, while trade facilitations include the standardization, harmonization and simplification of trade procedures and documentation and a better management of customs and borders.

transport service providers to efficiently operate. In 2020, a study found that the improved quality of transit roads of the Northern Corridor and the Central Corridor linking the capital cities of Burundi, Kenya, Rwanda, Tanzania, and Uganda to the seaports of Mombasa in Kenya and Dar es Salaam in Tanzania lowered both domestic and cross-border trade costs and that the latter effect is larger than the former (Kaminchia 2020).

Facilitation of Access to Finance

Access to finance enhances competitiveness and exports by facilitating greater investment in productive capacities, distribution, and trade logistics, thereby reducing production and transaction costs. Access to finance also allows traders to start new or scale existing businesses. While most small businesses along the agriculture value chain secure financing from informal sources, switching to formal sources of finance such as banks is crucial for business development, as these sources offer more capital to businesses. Businesses can then invest this capital in scaling up production, creating new products, or expanding geographically. Businesses borrowing from the formal sector are also seen as more credible by potential buyers and suppliers.

Technical, Business Management, and Enterprise Skills Development

Competitiveness and regional trade participation are also determined by the technical, business management, and enterprise skills of agriculture value chains and trade actors. Professional, technical, and artisanal skills are increasingly important as production and trading become more knowledge and technology-intensive. To harness the potential of greater regional and international trade opportunities, business professionals need training in marketing strategies, including packaging, labeling, communications, logistics, and compliance (International Labor Organisation 2016). While tailor-made “up-skilling” programs, enterprise-based training, and apprenticeships can address short-term gaps, countries must also update and upgrade higher learning programs and institutions (International Labor Organisation 2016).

Studies also show that youth should be at the center of technical, business management, and enterprise skills development interventions. Such interventions can address high rates of unemployment among youth and harness Africa’s youth dividend. Interventions should include designing or revising policies related to youth and skills development and ensuring coherence in the various related ministries and departments dealing with these issues. For instance, setting up multisectoral national-level youth advisory councils consisting of all ministries or institutions involved with youth can help ensure cohesion and collaboration among actors. African governments will need to invest in education and skills development to build a workforce that can successfully enter the labor market, innovate, enhance productivity, and seize trade opportunities in more sophisticated products and markets (Davis and Babu 2020).

Elimination of Harassment at Borders

Eliminating harassment, including bribery, intimidation, and sexual favors, in cross-border trade is essential to increase competitiveness and regional trade. Harassment discourages regional trade and is also one of the main causes of informal cross-border trade, as it forces traders, particularly smallholders, to choose the informal path to avoid burdensome illegal administrative procedures and taxes, as well as abuses committed at the border. Increased transaction costs resulting from harassment render export products uncompetitive. In addition, smallholder traders are often subject to discrimination at border posts and are more intensely affected by expensive processing and clearance fees than larger traders. In Zambia, for instance, the World Bank estimated that small informal traders pay around 62 percent more per ton to transfer goods across

borders than large traders. However, if they switched to small formal trading, they would pay double the current informal rate (The Republic of Zambia 2014).

In response to these issues, several countries in Africa are working to eliminate discriminatory practices that affect informal cross-border traders. Ghana, Liberia, Rwanda, and Uganda are even more progressive: they provide small traders with market information, promote direct engagement with informal cross-border trader representatives, and link traders directly with international markets, as well as include their needs in policy and legislative design (FAO 2017).

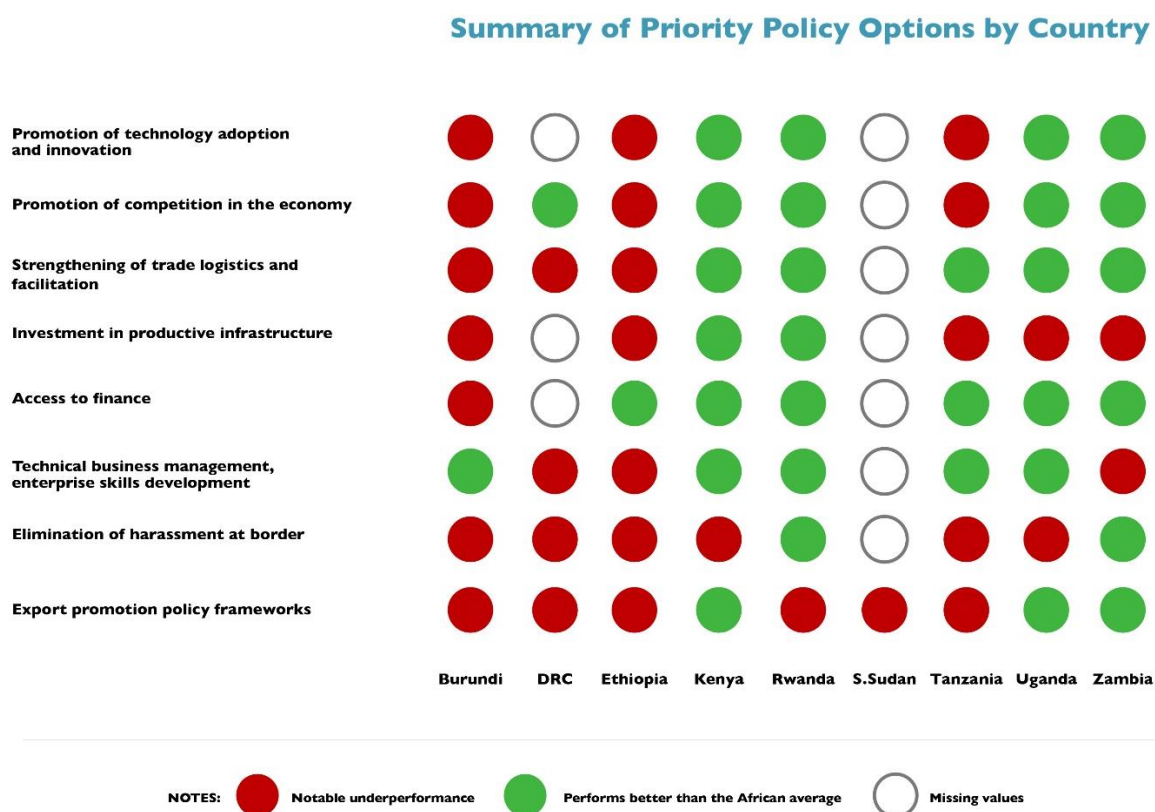
Export Promotion Policy Frameworks

A country seeking to increase exports requires a national export policy or strategy as well as an export promotion framework. Ideally, this framework is developed and overseen by a dedicated export promotion agency, whether standalone or embedded in a relevant ministry. The establishment of export promotion agencies is widely used around the world to support exporters in establishing initial contacts abroad or to expand from a narrow base. Studies found that these agencies have been fairly successful when the private sector was involved in their management structure (Brenton et al. 2012).

4.2 Priority Country Activities

To identify interventions that require urgent action in each country, the study undertook a benchmarking assessment, comparing country performance against the African average performance, as well as the average score of the best-performing countries discussed in Section 3 of “Final Report – Regional Agriculture Trade Competitiveness Analysis” and the maximum score of the best-performing countries. See Figure 6 for a summary of the study findings.

Figure 6: Summary of priority policy options by country



5. Conclusions

The objective of this study was to analyze the competitiveness of the agricultural sector in East Africa to identify opportunities to expand agricultural trade in the region. The study found two different major trends:

- The trade of most of the main food crops grown and exported to neighboring countries in the region has been decreasing and will continue to decrease into the future. Productivity has not been keeping pace with increasing national levels of consumption, reducing the surplus available for export from leading exporting countries; and
- The region's globally traded products, led by coffee and tea, are competitive globally, continue to expand, and offer good potential for future growth under current conditions.

The study's analysis of the factors affecting the competitiveness showed that if the region does not act now to increase its competitiveness, then the intra-regional trade of agricultural products will continue to decrease. The study also showed that if the region can reduce its costs of trading (including logistics and transportation, border and market-related expenses, and retail and distribution costs), remove barriers to trade (focusing on tariff and non-tariff barriers), and increase productivity at the national level, then agricultural products will become more competitive and regional trade will increase. If trade costs were reduced by 10 percent, critical barriers to trade removed, and productivity increased by 10 percent, then the total trade of agricultural goods in the region could expand by up to \$1.2 billion between 2020 and 2030.

To address these three major factors affecting overall competitiveness, governments and donors should focus on eight policy areas, and promote active participation from the private sector, to:

- Strengthen trade logistics and facilitation measures (private sector)
- Invest in productive infrastructure (government and donors)
- Improve export promotion policy framework (government and private sector)
- Stimulate technical, business management, and enterprise skills development (private sector)
- Eliminate harassment at borders (private sector and government)
- Promote competition in the economy (government with advocacy from the private sector)
- Promote technology adoption and innovation along agricultural value chains (private sector); and
- Facilitate access to finance (private sector, government, and donors).

As many of these issues need to be addressed at a national level, each country in the region should focus on those constraints where they can make the greatest gains to increase their competitiveness compared to their neighbors and other countries in Africa. This would then be complemented by bilateral, corridor, and regional approaches on the same.

Annex I. Trade Review Tables and Figures

Overall Trade Flows

Table AI-1: Agricultural exports in nine East African countries, 2015-2019

Countries	Agricultural Exports			
	Intra-Region		World	
	Values (Millions USD)	Shares (% of total COMESA exports)	Values (Millions USD)	Shares (% of total exports)
Burundi	29.4	29.9	92.5	41.8
Congo (D.R.)	7.8	30.0	77.8	1.0
Ethiopia	105.8	18.6	2110.3	64.8
Kenya	659.1	47.4	3633.5	57.4
Rwanda	137.9	26.7	270.3	30.8
South Sudan	0.1	53.6	22.9	1.8
Tanzania	340.7	24.4	2022.4	33.1
Uganda	638.8	24.7	1454.3	43.8
Zambia	422.7	2.6	765.7	6.9

Source: Authors' calculations using AATM2021 database

Table AI-2: Agricultural imports in nine East African countries, 2015-2019

Countries	Agricultural Imports			
	Intra-Region		World	
	Values (Millions USD)	Shares (% of total COMESA imports)	Values (Millions USD)	Shares (% of total imports)
Burundi	58.3	62.1	129.8	17.0
Congo (D.R.)	371.1	0.8	955.3	15.6
Ethiopia	62.8	75.2	1336.2	8.5
Kenya	719.7	36.0	2430.6	13.2
Rwanda	187.4	52.1	357.1	16.3
South Sudan	180.4	3.2	215.7	34.5
Tanzania	124.1	24.3	953.3	8.8
Uganda	208.2	53.9	723.2	12.7
Zambia	40.1	34.3	392.8	4.9

Source: Authors' calculations using AATM2021 database

Table AI-3: Top five agricultural exports to COMESA and overall, 2015-2019

Country	COMESA			WORLD		
	Top 5 exports	Value \$M	Share %	Top 5 exports	Value \$M	Share %
Burundi	Wheat	8.7	25.5	Coffee	46.8	47.4
	Tea	6.9	20.2	Tea	25.1	25.4
	Cigars, cheroots, cigarillos, cigarettes	4.5	13.1	Wheat	8.7	8.8

Country	COMESA			WORLD		
	Top 5 exports	Value \$M	Share %	Top 5 exports	Value \$M	Share %
	Beer	4.4	12.9	Cigars, cheroots, cigarillos, and cigarettes	4.5	4.6
	Coffee	4.2	12.2	Beer	4.4	4.5
Congo (D.R.)	Palm oil	3.7	35.4	Cocoa beans	25.1	29.7
	Vegetable products	1.2	11.8	Coffee	17.5	20.7
	Fruit, nuts	1.2	11.8	Bran, sharps, and other residues	8.9	10.5
	Plants and parts of plants	1.1	10.6	Plants and parts of plants	7.2	8.5
	Coconut	0.8	7.4	Fruit, nuts	4.5	5.3
Ethiopia	Vegetables	61.8	29.7	Coffee,	813.0	36.2
	live Animals	36.6	17.6	Oil seeds/ oleaginous fruits	418.7	18.7
	Vegetables, leguminous	24.2	11.7	Flowers; cut flowers, buds	227.6	10.1
	Bovine animals	22.9	11.0	Vegetables, leguminous	178.4	8.0
	Pepper of the genus piper	10.5	5.0	Vegetables, others	158.8	7.1
Kenya	Tea	287.7	43.5	Tea	1294.2	35.4
	Cigars, cheroots, cigarillos/ cigarettes	64.5	9.8	Flowers; cut flowers, buds	736.2	20.1
	Sugar confectionery	41.7	6.3	Coffee	250.5	6.8
	Palm oil	40.6	6.1	Leguminous vegetables	154.6	4.2
	Margarine	25.3	3.8	Dates, figs, pineapples, avocados, guavas, mangoes, and mangosteens	131.5	3.6
Rwanda	Tea	32.5	19.3	Tea	82.1	26.8
	Rice	24.5	14.5	Coffee	67.7	22.1
	Wheat	15.8	9.4	Rice	24.5	8.0
	Animal or vegetable fats and oils	11.3	6.7	Wheat	15.8	5.2
	Palm oil	8.7	5.2	Animal or vegetable fats and oils	11.4	3.7
South Sudan	Beer	0.1	22.4	Swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines,	20.3	48.9
	Lac; natural gums, resins, gum- resins, and oleoresins	0.1	20.5	Cotton; not carded or combed	7.1	17.1
	Vegetable products	0.1	18.2	Vegetables, leguminous	4.6	10.9
	Fruit, nuts	0.1	18.2	Flours and meals of oilseeds or oleaginous fruits	3.9	9.4
	Plants and parts of plants	0.0	9.8	Oilseeds and oleaginous fruits	1.6	3.7
Uganda	Maize (corn)	63.0	9.8	Coffee	462.2	31.4
	Vegetables, leguminous	55.2	8.6	Tobacco, unmanufactured	87.4	5.9
	Cane or beet sugar	54.8	8.5	Cocoa beans	73.9	5.0
	Tobacco, unmanufactured	53.5	8.3	Vegetables, leguminous	69.6	4.7
	Milk and cream	53.1	8.2	Maize (corn)	63.1	4.3
Tanzania	Oilcake and other solid residues	37.7	10.8	Tobacco, unmanufactured	378.6	18.4
	Wheat or meslin flour	33.2	9.5	Nuts, edible; coconuts, Brazil nuts, and cashew nuts	339.7	16.5
	Vegetables	30.5	8.7	Vegetables, leguminous	179.8	8.8

Country	COMESA			WORLD		
	Top 5 exports	Value \$M	Share %	Top 5 exports	Value \$M	Share %
	Maize (corn)	26.0	7.5	Coffee	163.8	8.0
	Bread, pastry, cakes, biscuits	19.0	5.5	Oilseeds and oleaginous fruits	144.2	7.0
Zambia	Maize (corn)	104.1	23.8	Tobacco, unmanufactured	205.4	25.4
	Cane or beet sugar	96.0	21.9	Cane or beet sugar	116.1	14.4
	Waters	42.9	9.8	Maize (corn)	111.6	13.8
	Tobacco, unmanufactured	38.8	8.9	Cotton; not carded or combed	50.8	6.3
	Oilcake and other solid residues	18.7	4.3	Waters,	43.1	5.3

Source: Authors' calculations using AATM2021 database

Table AI-4: Top five agricultural imports to COMESA and overall, 2015-2019

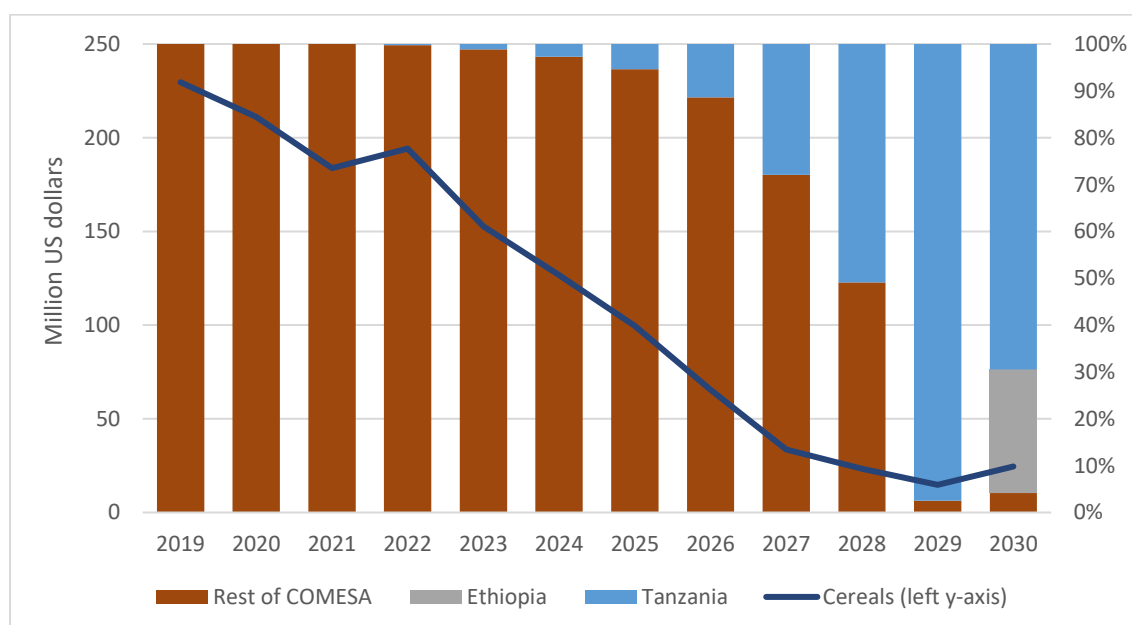
Country	COMESA			WORLD		
	Top 5 imports	Value \$M	Share %	Top 5 imports	Value \$M	Share %
Burundi	Cane or beet sugar	20.5	30.8	Cane or beet sugar	25.4	17.8
	Maize (corn)	7.1	10.7	Wheat and meslin	18.5	13.0
	Tobacco, unmanufactured	3.2	4.8	Rice	14.5	10.2
	Palm oil	2.9	4.4	Malt	9.4	6.6
	Food preparations	2.9	4.4	Maize (corn)	7.7	5.4
Congo (D.R.)	Cane or beet sugar	62.5	16.3	Meat and edible offal of poultry	108.2	11.2
	Wheat	53.8	14.1	Cane or beet sugar	81.2	8.4
	Palm oil	28.9	7.5	Wheat and meslin flour	60.4	6.2
	Waters	28.7	7.5	Rice	52.2	5.4
	Rice	28.5	7.4	Wheat and meslin	50.7	5.2
Ethiopia	Fruit juices	10.8	13.6	Palm oil	373.8	27.5
	Wheat or meslin flour	9.2	11.6	Wheat and meslin	226.7	16.7
	Grain sorghum	7.3	9.2	Rice	100.9	7.4
	Onions, shallots, garlic, leeks	6.8	8.5	Cane or beet sugar	83.0	6.1
	Food preparations	5.8	7.3	Malt extract	60.0	4.4
Kenya	Cane or beet sugar	114.2	15.7	Palm oil	387.8	15.9
	Tea	75.6	10.4	Wheat and meslin	382.2	15.7
	Maize (corn)	74.8	10.3	Rice	253.1	10.4
	Vegetables, leguminous	59.5	8.2	Cane or beet sugar	246.4	10.1
	Milk and cream	50.7	7.0	Maize (corn)	135.9	5.6
Rwanda	Cane or beet sugar	30.8	16.3	Cane or beet sugar	52.2	14.5
	Maize (corn)	19.9	10.5	Wheat and meslin	37.3	10.3
	Bread, pastry, cakes, biscuits	18.1	9.6	Palm oil	30.9	8.6
	Animal or vegetable fats and oils	16.4	8.7	Rice	22.3	6.2
	Palm oil and its fractions	9.9	5.2	Bread, pastry, cakes, biscuits	21.4	5.9
South Sudan	Cane or beet sugar	34.5	18.5	Cane or beet sugar	40.7	17.9
	Cereal flours	17.7	9.5	Cereal flours	17.7	7.8
	Palm oil and its fractions	14.5	7.8	Food preparations	14.8	6.5
	Beer	13.1	7.0	Palm oil	14.6	6.4
	Wheat	10.3	5.5	Beer	13.9	6.1
Uganda	Palm oil	28.9	13.7	Palm oil	206.5	28.4

Country	COMESA			WORLD		
	Top 5 imports	Value \$M	Share %	Top 5 imports	Value \$M	Share %
	Sugar confectionery	15.2	7.2	Wheat and meslin	129.1	17.8
	Cane or beet sugar	12.5	5.9	Cane or beet sugar	71.5	9.8
	Rice	12.2	5.8	Rice	55.7	7.7
	Ethyl alcohol, undenatured	11.5	5.5	Sugar confectionery	17.5	2.4
Tanzania	Maize (corn)	21.2	16.7	Palm oil	258.6	27.0
	Cane or beet sugar	20.5	16.1	Wheat and meslin	158.8	16.6
	Sugar confectionery	8.2	6.5	Cane or beet sugar	141.2	14.7
	Oilcake and other solid residues	7.7	6.0	Rice	52.6	5.5
	Groundnuts	6.7	5.3	Maize (corn)	30.0	3.1
Zambia	Margarine	3.9	8.3	Palm oil	40.5	10.1
	Cigars, cheroots, cigarillos & cigarettes	3.6	7.7	Beer made from malt	20.3	5.1
	Vegetables	3.1	6.8	Food preparations	19.1	4.8
	Fruit juices	2.2	4.8	Milk and cream	18.1	4.5
	Palm oil	2.2	4.6	Soya-bean oil	17.3	4.3

Long-term Regional Trade Outlook

Cereals

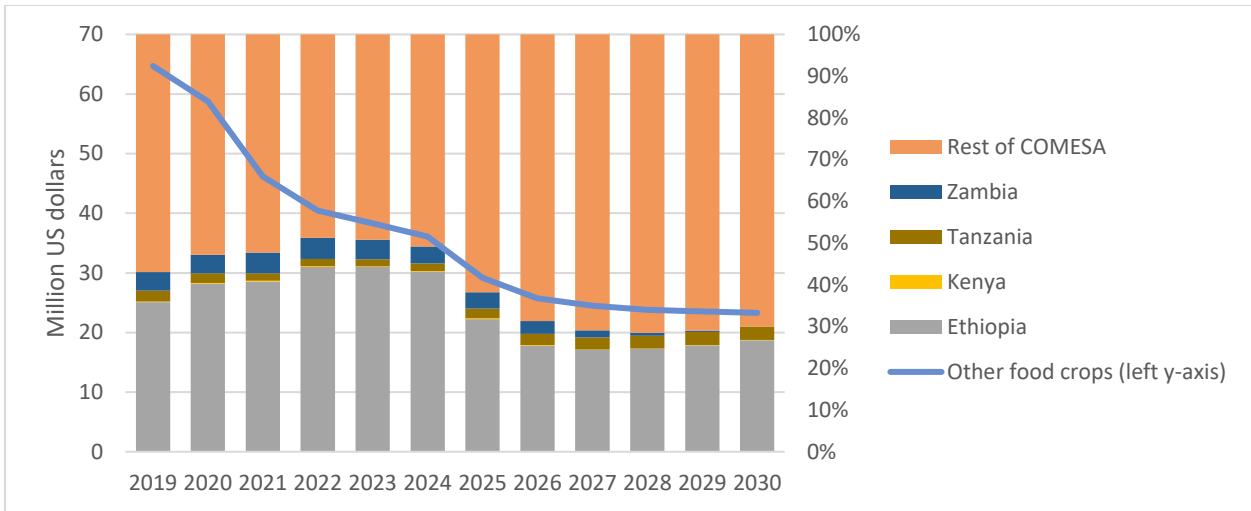
Figure AI-1: Baseline intra-regional exports value and composition, cereals, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases

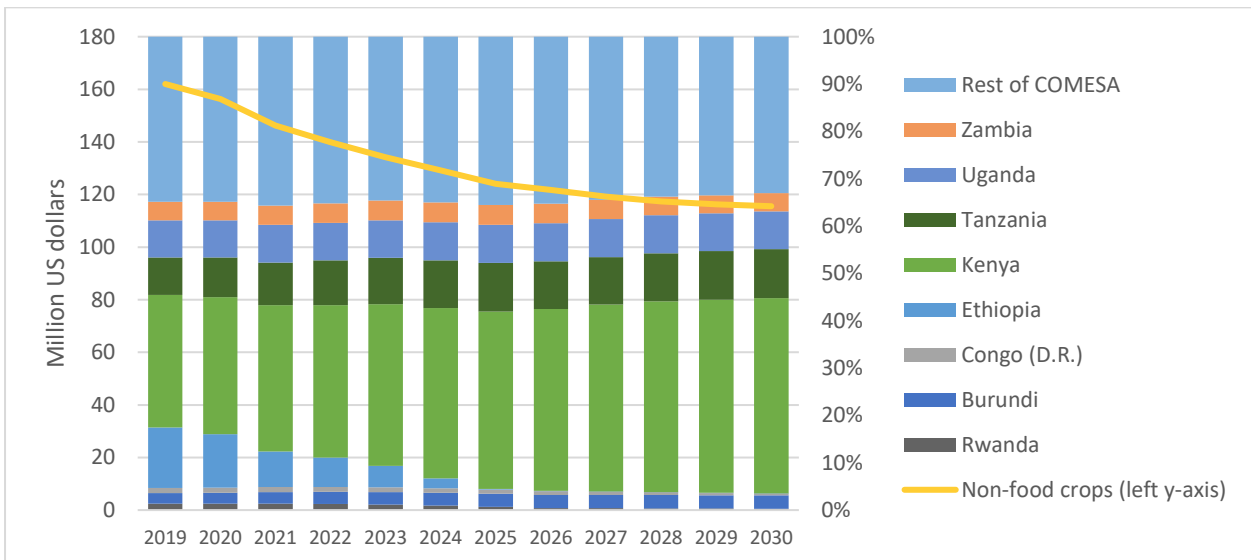
Other Food Crops

Figure AI-2: Baseline intra-regional exports value and composition, other food crops, 2019-2030, million US dollars



Non-Food Crops

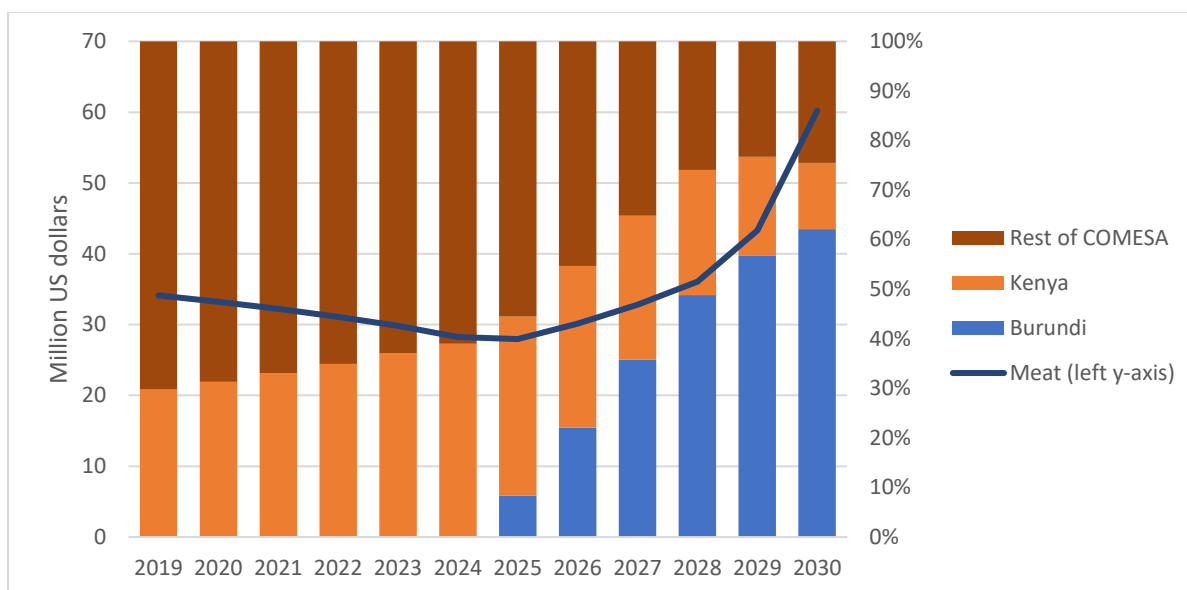
Figure AI-3: Baseline intra-regional exports value and composition, other non-food crops, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases

Meat

Figure AI-4: Baseline intra-regional exports value and composition, meats, 2019-2030, million US dollars

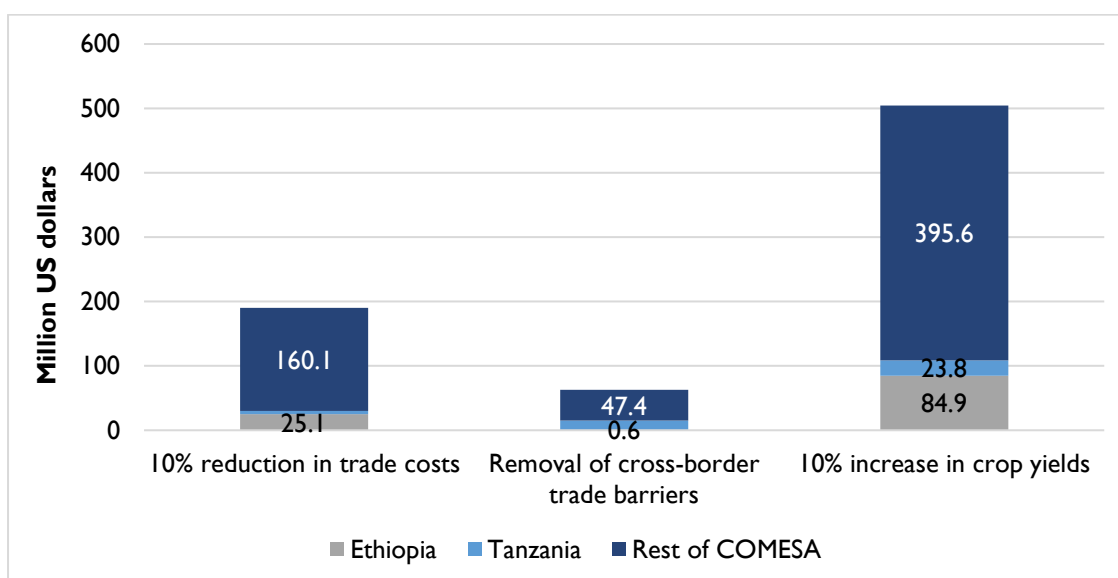


Source: EMM model simulation results based on FAOSTAT and WDI databases

Scenario Testing

Cereals

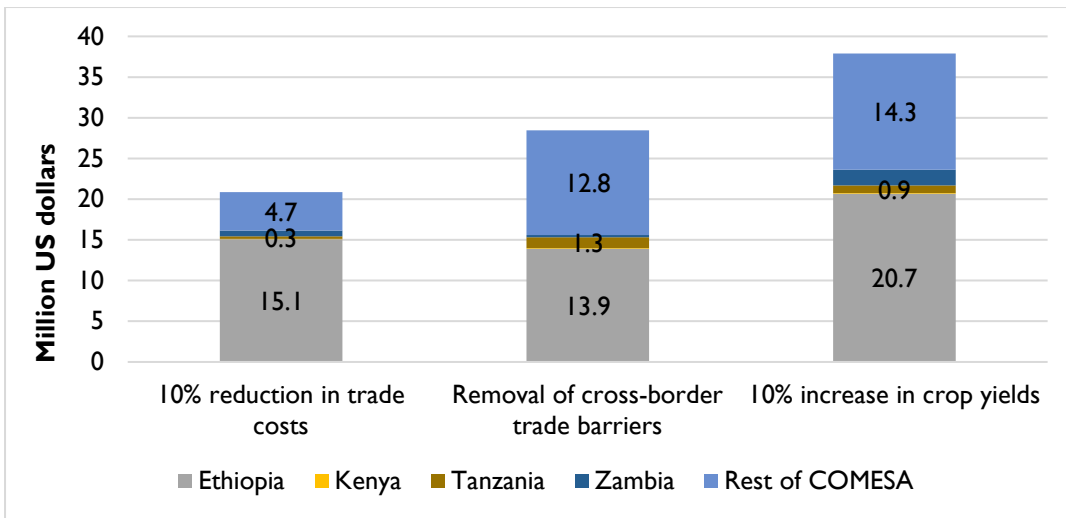
Figure AI-5: Cumulative change in baseline value of intra-regional exports, cereals, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases

Other Food Crops

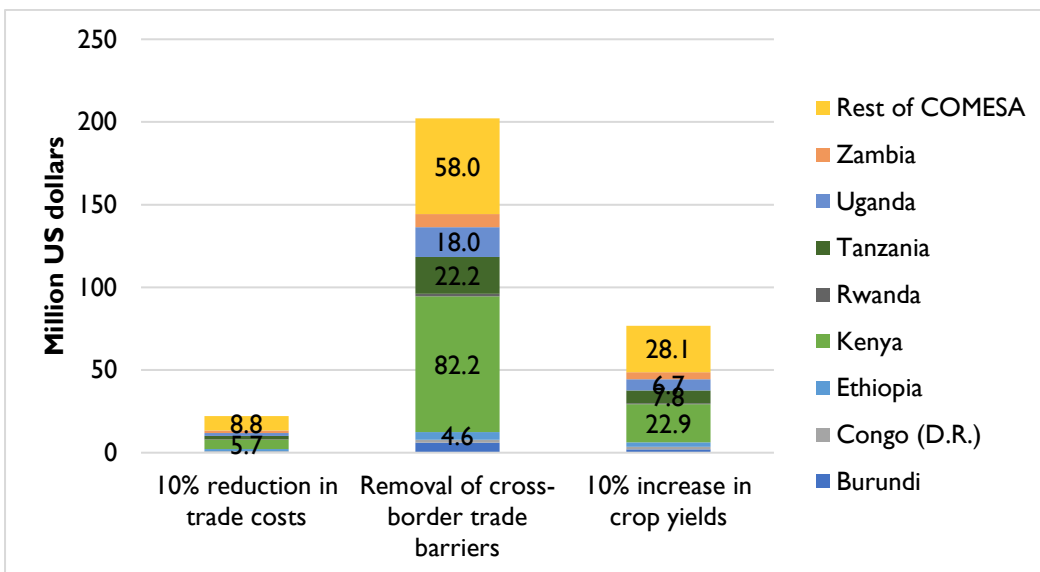
Figure AI-6: Cumulative change in baseline value of intra-regional exports, other food crops, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases

Non-Food Crops

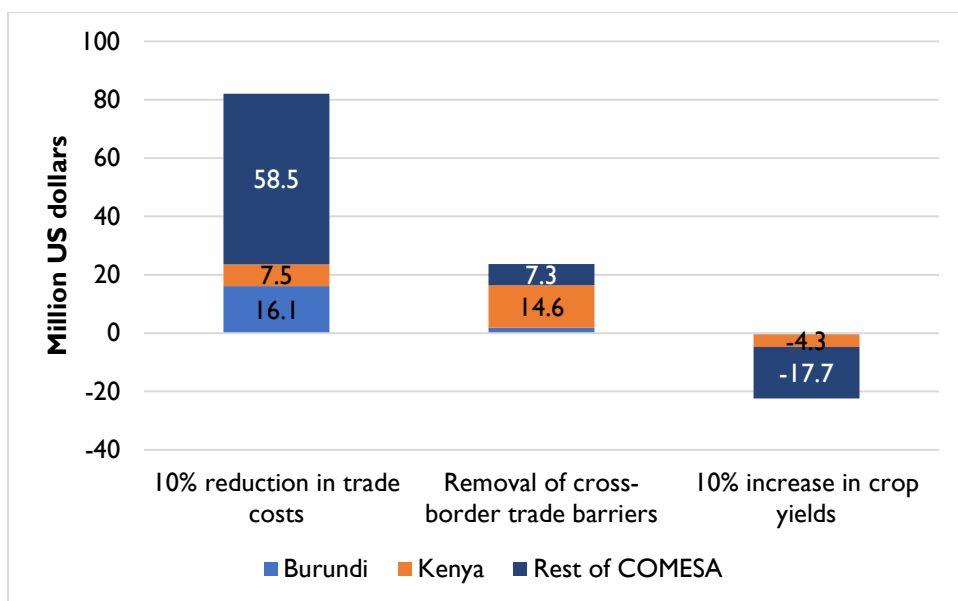
Figure AI-7: Cumulative change in baseline value of intra-regional exports, non-food crops, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases

Meat

Figure AI-8: Cumulative change in baseline value of intra-regional exports, meats, 2019-2030, million US dollars



Source: EMM model simulation results based on FAOSTAT and WDI databases