CHAPTER 1

Africa in Global Agricultural Trade and Food Security: Recent Trends

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1. Introduction

Africa's agricultural trade was largely shaped by the colonial division of the continent in the 19th century, when the agriculture of several African regions was transformed into monocrop, export-oriented sectors that catered to the growing European demand for food, luxury products such as chocolate, and manufacturing inputs such as rubber and cotton (Bjornlund et al. 2020; Akyeampong 2017). This shift occurred at the expense of the domestic agricultural diversity and intra-African trade complementarity that had long ensured food security, and continued even after African countries gained their independence. Several African governments pursued agricultural policies similar to those of colonial times and focused on the export of a few crops to generate sufficient revenue to fund their industrialization and development plans. Between 1966 and 1973, for instance, nearly one-half of sub-Saharan African governments depended on the export of a single commodity to secure 50 percent of their export revenues (Bjornlund et al. 2020). This concentration had two negative repercussions on food security: (1) increased vulnerability to fluctuations in global commodity prices; and (2) decreased local and traditional food production, which threatened the availability of food for the growing African population.

Today, several African countries rely heavily on the import of staple foods. Based on data from the AATM database, Africa's cereal imports, for example, represent nearly 30 percent of its total food imports. Nevertheless, cross-country differences should not be neglected. North African countries are among the top African importers of cereals, with Egypt the largest wheat importer in Africa and one of the largest worldwide. Animal and vegetable fats and oils, sugar, and confectionery are also among the top imported food items.

Africa's agricultural trade has long been characterized by a deficit, with agricultural export revenues growing more slowly than the food import bill. Africa hosts the world's fastest growing population, and imports of agricultural goods are increasing rapidly accordingly (Bouët et al. 2019). Furthermore, the occurrence of more severe and more frequent climatic events will require increased food imports (Santeramo and Kang 2022). While the picture varies substantially at the country level, the composition of African agricultural exports has changed only slightly over time. The share of exports of high-unit-value products (such as vegetables and tropical fruits) has increased, but cash crops continue to play a fundamental role in exports. As a result, many African countries risk being vulnerable to global food price shocks, which can have adverse effects on their export revenues and potentially compromise their food security.

Against this backdrop and given the importance of food security in Africa, this chapter explores recent trends in African agricultural trade from a food security perspective. We modify the Food Import Vulnerability Index (FIVI) to correct for the effects of the structure of agricultural imports on a country's food vulnerability following an increase in international food product prices. We do so by considering concentration in the import market—that is, the concentration of imports in a limited number of supplies—to correct for the underestimation of African countries' food vulnerability in the face of exogenous shocks. This is important because, as the host of some of the world's major food importers, Africa's capacity for resilience to international price shocks depends on countries' ability to shift from one importing partner to another.

The chapter is structured as follows: The next section reviews Africa's trade performance, focusing on export and import trends, trade composition, leading African exporters and importers, and top export destinations and import markets. The following section focuses on recent developments in trade policy, including tariffs, non-tariff measures (NTMs), regional trade agreements (RTAs), and initiatives that can impact agricultural trade and, consequently, food security. We then cover the nexus between trade policy and food security, and follow with an overview and discussion of the FIVI findings. The final section presents the main conclusions and policy recommendations.

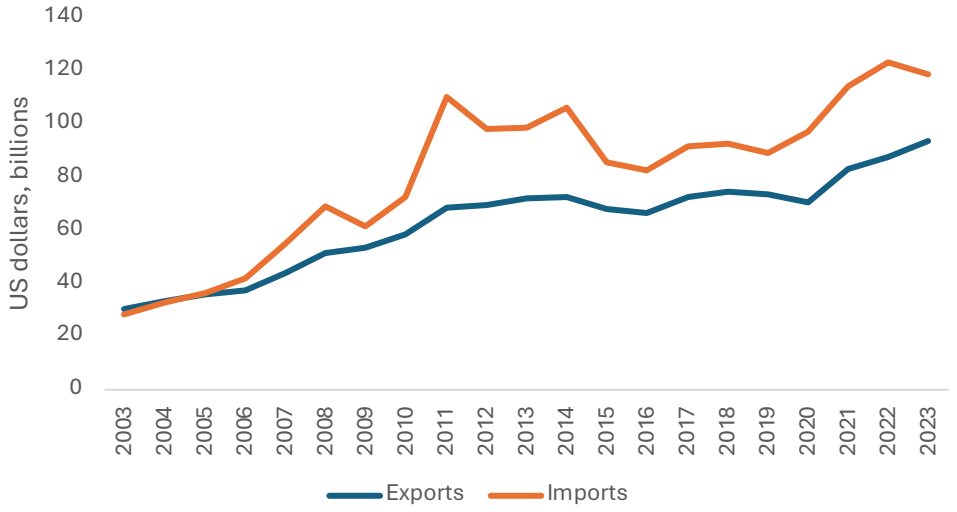
2. Overview of Africa's Agricultural Trade: Emerging Trends and Patterns

This section provides an overview of Africa's trade performance and composition over the 20-year period from 2003 to 2023. We begin with a broad overview of Africa's total exports and imports of agricultural products, before narrowing the scope of our analysis to regions, top exporting and importing countries, top exported and imported products, and main markets and trade partners. Finally, we shed light on possible shifts in specialization patterns by contrasting comparative advantages in two different subperiods.

Overall trade performance

The evolution of Africa's agricultural trade between 2003 and 2023 reveals a persistent agricultural trade deficit since 2006, with imports consistently exceeding exports (Figure 1.1). Over 20 years, African agricultural exports increased from approximately US$30 billion to $93.3 billion. A steady increase between 2006 and 2011 was followed by stagnation over the period 2011 to 2020, including a slight decrease in 2016. Since 2020, exports have increased from approximately $70 billion to $93.3 billion in 2023. Africa's agricultural import bill witnessed sharper fluctuations over the 20-year period, largely driven by Africa's largest food importers' dependence on global markets and reoccurring global food price shocks. For instance, the upward trend in import value between 2006 and 2008 can be attributed to the global rise in food prices (particularly cereals and oilseeds) that occurred after the depreciation of the US dollar, pushing up the cost of basic food imports for many developing countries whose currency was pegged to the dollar (FAO 2009). Furthermore, droughts in major cereal-exporting countries (for example, Australia, Ukraine, and India) and export restrictions imposed by many countries (including top cereal exporters such as Russia) caused global supply shocks (Ahmed et al. 2013; Headey 2011). Similar shocks occurred in 2010/11 and again in 2022, when Africa's agricultural import bill reached an unprecedented $122.9 billion due to wheat supply chain disruptions following Russia's invasion of Ukraine.

Figure 1.1 Total value of agricultural exports and imports in Africa (US$ billions), 2003–2023



Source: Data from the AATM 2025 database.
Note: See Appendix 1.1 for the definition of agricultural products.

Overall, Africa's exports grew at a lower rate compared to that of imports (Figure A1.1 in the appendix to this chapter). Although changes in exports and imports follow similar patterns, import growth rates reveal stronger fluctuations than export growth rates, which appear more stable. In other words, imports increase and decrease faster than exports in response to global shocks, reflecting Africa's dependence on global market conditions for food security. The relatively more stable demand for Africa's agricultural exports may be explained by the types of commodities exported and the stable incomes of importing countries. The sharpest fluctuations in export and import growth rates occurred during periods of food supply and demand shocks between 2007 and 2011, with smaller fluctuations in subsequent periods, such as the period of global trade slowdown that followed the 2015–2016 sanctions. In 2020, Africa's exports decreased by 0.04 percent due to the global economic slowdown caused by the pandemic, while its imports grew by 0.09 percent.

Trade by world region and within Africa

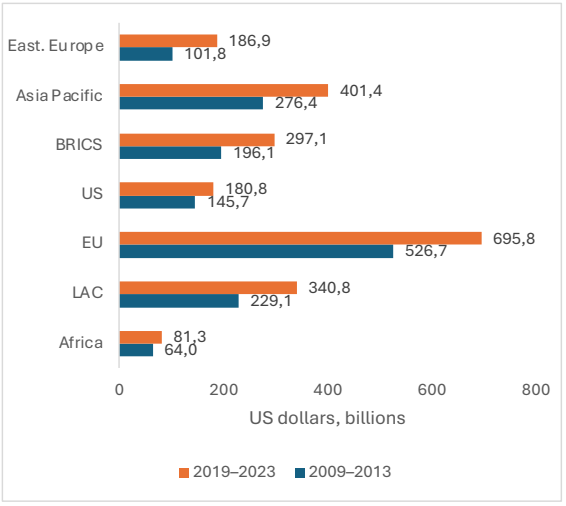
In this section, we compare Africa's agricultural trade with that of other regions of the world, before disaggregating these trade patterns by African region. The objective is to understand the differences in exports and imports and to determine which regions drive Africa's agricultural trade trends.

Africa's exports to other world regions over the periods 2009–2013 and 2019–2023 ranked lowest worldwide (Figure 1.2, panel a). Agricultural exports were consistently lower than those of other regions and did not increase considerably over the two periods. In the first period, agricultural exports averaged $64 billion, growing to only $81.3 billion in the second period—an increase of just 27 percent. The value and growth rate of the continent's exports were modest compared to other developing and emerging regions. For example, agricultural exports from Latin America and the Caribbean increased from $229.1 billion to $340.8 billion, a 48.8 percent increase. In the second period, agricultural exports from the Asia-Pacific region were five times higher than Africa's.

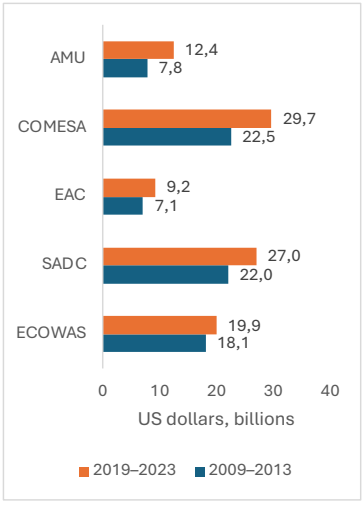
At the regional level (Figure 1.2, panel b), the Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC), and the Economic Community of West African States (ECOWAS) are the largest exporting regional economic communities (RECs). This can be explained by the presence of Africa's largest agricultural exporters in each of these RECs, including Egypt and Kenya in COMESA, South Africa in SADC, and Côte d'Ivoire, Ghana, and Nigeria in ECOWAS (see section on leading traders below for a detailed overview of Africa's top exporters).

Figure 1.2 Evolution of exports by world region and REC (US$ billions)

(a) **World regions**



(b) **African RECs**



Source: Authors' elaboration using the AATM 2025 database.

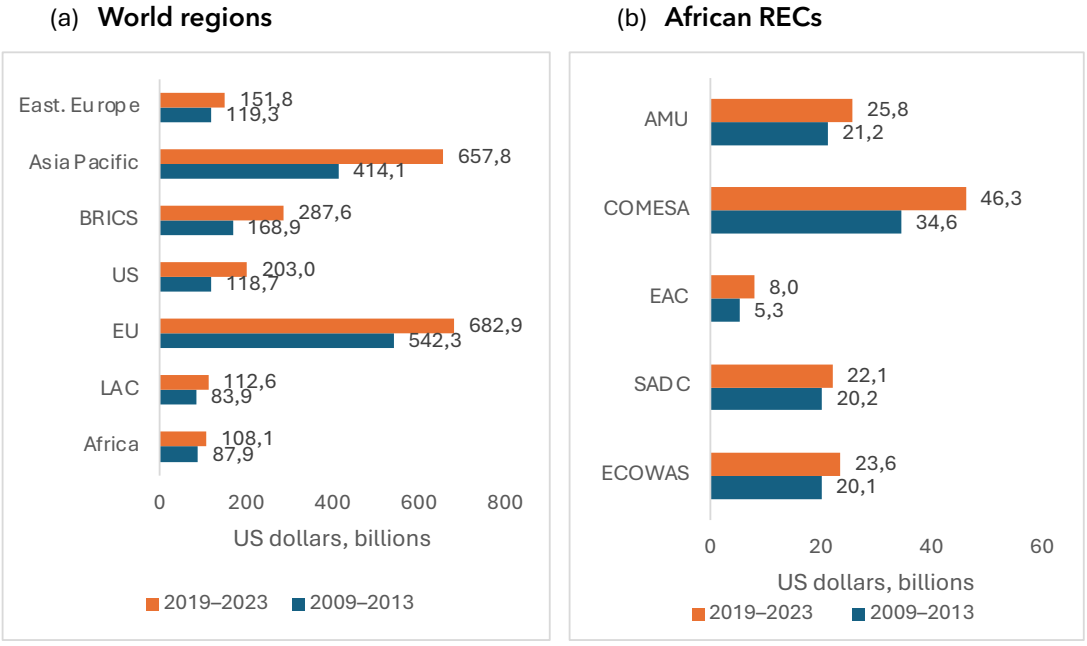
Note: Figures show each region's exports to the rest of the world, including Africa. US = United States. EU = European Union. BRICS = Brazil, India, China, and South Africa. LAC = Latin America and the Caribbean. AMU = Arab Maghreb Union. EAC = East African Community. COMESA = Common Market for Eastern and Southern Africa. SADC = Southern African Development Community. ECOWAS = Economic Community of West African States.

Likewise, Africa's agricultural imports are the lowest worldwide, at $108.1 billion over the 2019–2023 period (Figure 1.3, panel a), only 22.9 percent higher than in 2009–2013. These figures may be underestimated, however, due to substantial informal cross-border trade.[1] Bouët et al. (2020) argue that Africa's intraregional agricultural trade is much larger than official figures suggest. For instance, informal trade has been estimated at more than 50 percent of Rwanda's exports to four of its neighboring countries (Bouët et al. 2019) and more than 14 percent of Uganda's total exports (Bouët et al. 2020). Since Figure 1.3 includes Africa's agricultural trade with other countries, including African ones, the real volumes are likely significantly higher.

Among the RECs, COMESA is the top importer, accounting for $46.3 billion in imports (Figure 1.3b), largely driven by Egypt's wheat imports. The Arab Maghreb Union (AMU) ranks as the second largest importer and, like COMESA, has an agricultural trade deficit. AMU's substantial imports are also driven by the heavy dependence of its North African members on agricultural imports, especially cereals. As illustrated in the next section, Morocco, Algeria, and Libya are among the top agricultural importers in Africa.

1 Informal cross-border trade refers to trade flows between two neighboring countries in which either the trade flow is not registered at the border, or the trader(s) is(are) unregistered (Bouët et al. 2020).

Figure 1.3 Evolution of imports by world region and REC (US$ billions)



Source: Authors' elaboration using the AATM 2025 database.

Note: Figures show each region's imports to the rest of the world, including Africa. US = United States. EU = European Union. BRICS = Brazil, India, China, and South Africa. LAC = Latin America and the Caribbean. AMU = Arab Maghreb Union. EAC = East African Community. COMESA = Common Market for Eastern and Southern Africa. SADC = Southern African Development Community. ECOWAS = Economic Community of West African States.

Africa's relatively poor trade performance compared to other world regions may be explained by a combination of structural and policy factors, including elements from trade policy, infrastructure-related causes, and institutional factors, among others. Table A1.1 in the appendix describes selected structural determinants of trade by region. On average, African countries apply the second-highest tariff rates, after only South Asia. Previous editions of the AATM highlight that Africa applies the highest ad valorem equivalent of agricultural import duties worldwide and that its tariffs are generally higher than the world average (Bouët et al. 2019). High tariffs restrict access to agricultural commodities relevant for food security and reduce access to different food varieties.

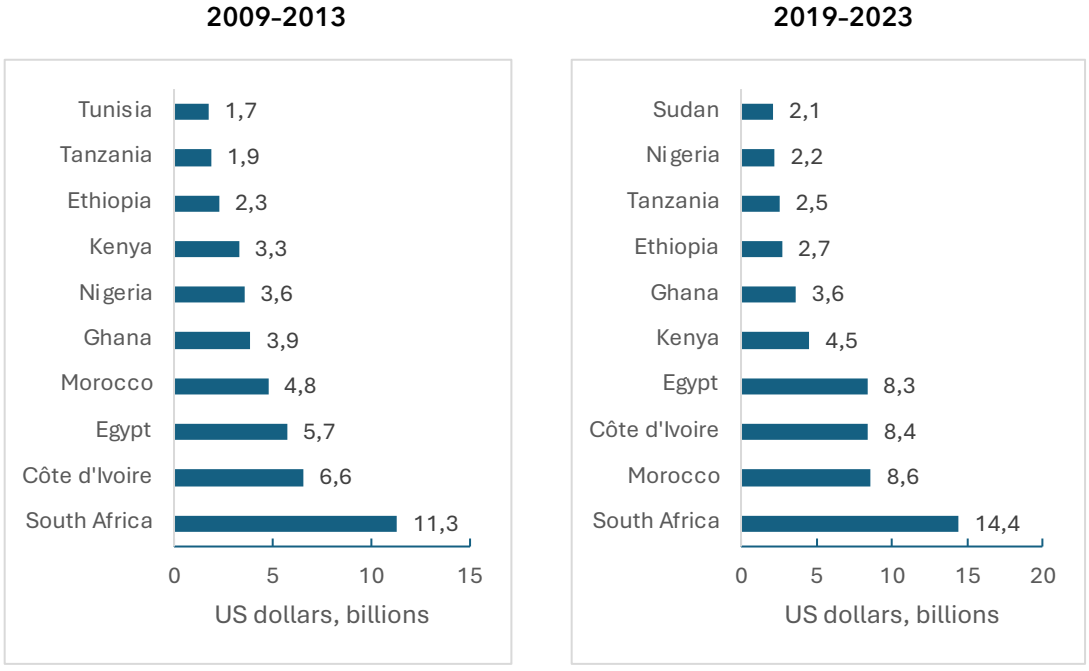
Restrictive trade policy is also associated with reduced agricultural trade performance, as it limits access to agricultural inputs such as seeds and equipment, with adverse effects on agricultural productivity and, consequently, on trade and participation in agricultural value chains. NTMs imposed by African countries present a major obstacle to improving Africa's participation in global trade, especially due to conformity assessment and sanitary and phytosanitary (SPS) standards. In addition, red tape barriers are high. For example, Table A1.1 shows that the time required to clear goods through customs in Africa is relatively high compared to Europe and Central Asia. While time to trade is high at the cross-regional level, agricultural goods require swift, timely processes given their perishability. The efficiency of infrastructure is also critical, yet African countries rank among the lowest regions in terms of infrastructure quality. Finally, institutional quality is an important determinant of trade and value chain engagement, as investments and products can be sensitive to contract enforcement and the rule of law. African countries (whether sub-Saharan or in North Africa) have relatively modest scores in this respect (Table A1.1).

Leading African traders in world markets

This section narrows the focus to the top exporting and importing countries. The composition of the top 10 African exporters changed only slightly between the periods 2000–2013 and 2019–2023 (Figure 1.4 and Figure 1.5), reflecting the relatively unchanged regional patterns in Africa's agricultural exports. South Africa and some North African countries are the continent's top exporters of fruits and vegetables, West Africa dominates cocoa exports, and East Africa dominates tea and coffee exports.

South Africa is Africa's top agricultural exporter for both periods, with exports estimated at US$14.4 billion in the second period, equivalent to over 25 percent of the total exports of the top 10 countries. The top 10 list also includes Côte d'Ivoire, Morocco, Egypt, Kenya, Ghana, and Ethiopia. Among these, South Africa, Egypt, and Morocco participate in fruit and vegetable value chains. South Africa's two leading agricultural exports are citrus and wine. Citrus fruits and grapes are also among Egypt's top agricultural exports, in addition to sugar, sugarcane, and potatoes. Morocco is among the top African exporters of tomatoes. Côte d'Ivoire and Ghana's agricultural exports are concentrated in cocoa beans, cocoa butter, and cocoa powder. Côte d'Ivoire was the top African exporter of cocoa over the past 20 years (Aboushady et al. 2022), while Ethiopia is among the top coffee exporters worldwide and has significant exports of oilseeds, legumes, and beans. Kenya is among the top exporters of tea, which accounts for more than 10 percent of the country's total exports (including nonagricultural exports).[2]

Figure 1.4 Top 10 African exporters of agricultural products (US$ billions)



Source: Authors' elaboration using the AATM 2025 database.

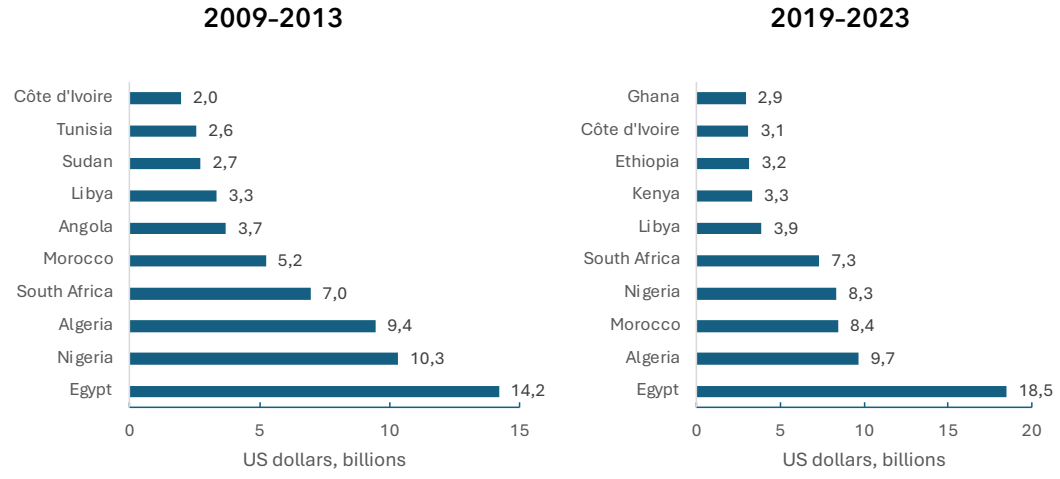
Note: Figures show each country's exports to the rest of the world, including Africa.

2 Data were obtained from Kenya's country profile of the Atlas of Economic Complexity (https://atlas.hks.harvard.edu/countries/404/export-basket).

As discussed in the next section, the continent's imports range from relatively low-value commodities such as cereals and oilseeds, the demand for which increases with population growth, to higher-value products such as dairy products, meat, and processed foods, for which demand increases with rising incomes, urbanization, and shifts in consumption patterns.

Similarly, Africa's top 10 importers have not changed much over time (Figure 1.5). These countries are among the largest African economies in terms of both gross domestic product (GDP) and population, which explains why they drive the continent's imports. Egypt remains Africa's top importer of agricultural goods for both periods, with imports totaling $18.5 billion during the second period. Egypt is the continent's largest wheat importer and among the largest wheat importers worldwide. Wheat is a strategic good for Egypt, given the importance of the wheat-based local bread in the daily diet. Cereals—including wheat, corn, barley, and rice—are among the top agricultural imports for all countries depicted. Additionally, oils and sugar are among the top imports, particularly for East African countries such as Ethiopia and Kenya.

Figure 1.5 Top 10 African importers of agricultural products (US$ billions)



Source: Authors' elaboration using the AATM 2025 database.

Note: Figures show each country's exports to the rest of the world, including Africa.

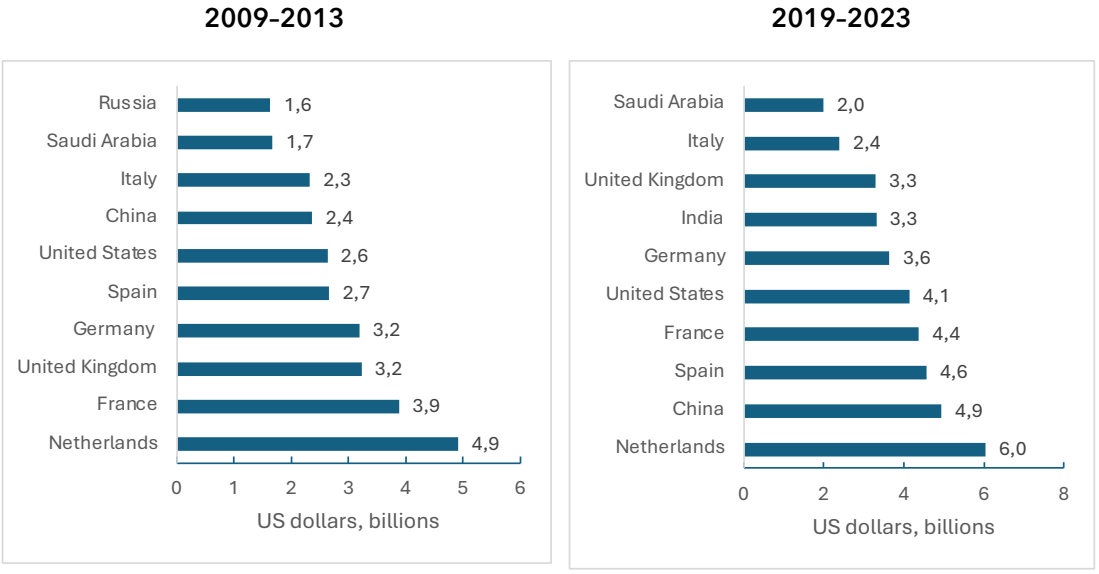
Leading markets and trade partners

Although Africa's main export destinations have not changed significantly over time, they still reflect the growing importance of developing countries, especially in Asia, as trade partners (Figure 1.6). The Netherlands was Africa's top export destination market during both periods and accounted for $6 billion of imports in the second period. The Netherlands is home to one of the world's largest cocoa-grinding industries (CBI 2021) and is the top export destination for African cocoa. Other major exports to the Netherlands include cut flowers, citrus fruits, and grapes. Africa's exports to other major European trade partners and to the United States include cocoa, coffee, vanilla, spices, and some tropical fruits.

The second period shows a slight increase in the role of Asian markets for African exports, which could signal growing demand for high-value goods. More importantly, this shift may reflect the growing influence of Asian countries as leading investors in Africa's agribusiness sector. During the second period, China moved up from the seventh to the second top export market for African agricultural goods, possibly reflecting the country's growing role as a top

agricultural investor in Africa, alongside other countries, including Saudi Arabia (which imports live animals) and India (which imports cashew nuts and coconuts). Other Gulf countries are playing an increasingly significant role in Africa's agribusiness sector, aiming to ensure long-term food security by acquiring land for grain production in Africa and elsewhere (Ahmed et al. 2013; Wright and Cafiero 2011).

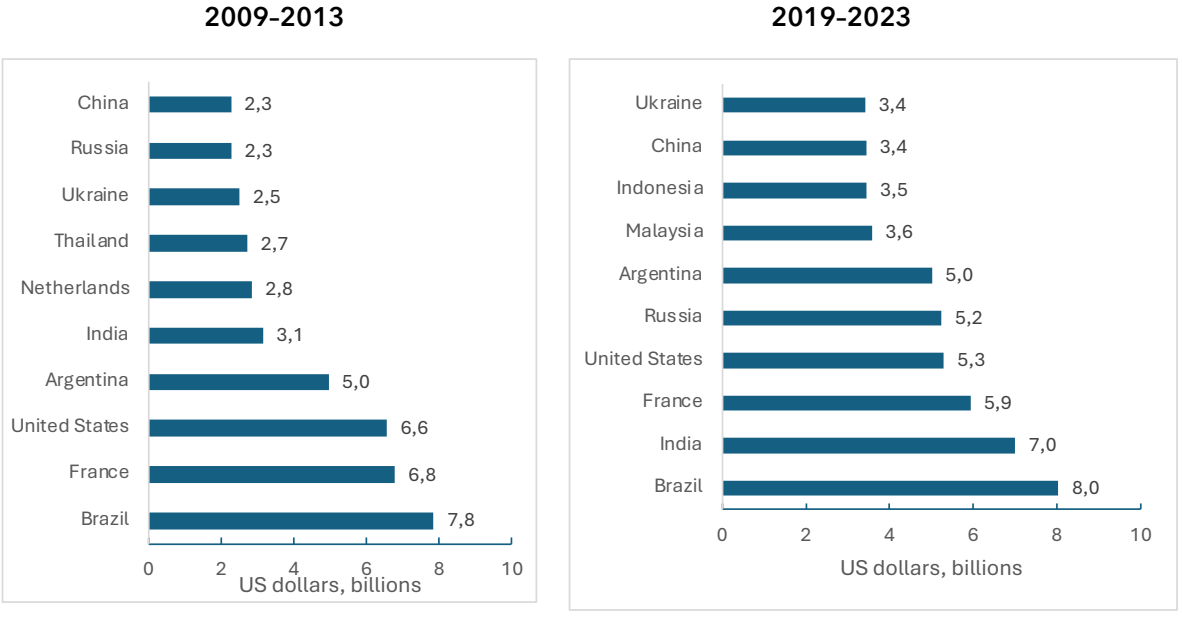
Figure 1.6 Top 10 destinations of agricultural products for African exporters (US$ billions)



Source: Authors' elaboration using the AATM 2025 database.
Note: Figures show each country's imports from Africa.

Africa's agricultural import markets reveal a strong presence of developing and emerging partner countries (Figure 1.7). Brazil was the top partner during both time periods, while India rose from fifth- to second-most important partner during the second period. Agricultural imports from both countries include sugarcane, corn, beef, poultry, and rice. The United States, Russia, Ukraine, and France are also among the continent's top trade partners. Imports from these countries primarily consist of wheat, and, to a lesser extent, corn and other cereals. Meanwhile, imports from Southeast Asian countries, such as Malaysia and Indonesia, are dominated by palm oil.

Figure 1.7 Top 10 origins of agricultural products for African importers (US$ billions)



Source: Authors' elaboration using the AATM 2025 database.
Note: Figures show each country's exports to Africa.

The composition of African trade

This section examines the composition of Africa's agricultural trade and compares it, where relevant, to that of other world regions. Additionally, we examine the trade structure by REC.

Table 1.1 shows the top three agricultural exports for each region and by REC. These include fruit and nuts, cocoa and cocoa preparations, and fish and crustaceans. Fruit and nuts are also among the top exports of the Asia-Pacific region and Latin America and the Caribbean. Africa is the only region where cocoa and cocoa preparations are among the top three exported agricultural products. As mentioned, Africa's agricultural trade is lower than that of other world regions. For instance, Africa's exports of fruit and nuts total $15.1 billion, well below that of Latin America and the Caribbean ($44.6 billion) and the Asia-Pacific region ($36 billion). Exports of fish and crustaceans, the third top export category in Africa, total $6.4 billion, substantially lower than exports of the same category from the Asia-Pacific region ($38.6 billion). Finally, it is worth noting that cereals, vegetable oils and fats, and oilseeds are among the top exports of the BRICS countries and Eastern Europe, due to Russia and Ukraine's significant roles as major exporters of cereals, oil, and oilseed.

The REC's top exports reflect specialization in specific product categories across Africa. Coffee, tea, mate, and spices top the exports of ECOWAS and EAC, denoting the importance of tea production and export in East African countries. Kenya, for instance, hosts the world's largest tea auction (the Mombasa Tea Auction), where a significant proportion of tea from other EAC member states such as Uganda, Rwanda, Tanzania, and Burundi is imported and blended for re-export. Among COMESA member states, Ethiopia is one of the world's top exporters of unprocessed (dried) coffee beans, and vegetables feature among the top exports of North and East African countries. Vegetable exports account for more than 32 percent of AMU's total agricultural exports. Indeed, Morocco is among the top African vegetable exporters, accounting for over 58 percent of Africa's total exports of unprocessed vegetables and nearly 21 percent of processed vegetables (Aboushady et al. 2024). Similarly, cocoa exports are the top export category for ECOWAS, reflecting West African countries' specialization in these crops. Côte

d'Ivoire and Ghana, both ECOWAS members, are among the world's leading exporters of unprocessed and semiprocessed cocoa. Fruit and nuts are the top export category of SADC, reflecting South Africa's status as a leading fruit exporter. Finally, fruit and nuts appear among the top three exported product categories across all RECs. At the country level, South Africa, Morocco, and Egypt are the continent's leading fruit exporters. Vegetables are also among the top exported products for COMESA and AMU, reflecting the important roles of Egypt, South Africa, Morocco, Ethiopia, Uganda, and Rwanda in vegetable production (Aboushady et al. 2024). Egypt, for instance, is the second-largest exporter of unprocessed vegetables in Africa, and the largest exporter of semiprocessed and processed vegetables.

Table 1.1 Top three exported products by world region and REC (US$ billions), 2019–2023

	Top 1	Top 2	Top 3
(a) **World Regions**			
Africa	Fruit and nuts, edible	Cocoa and cocoa preparations	Fish and crustaceans
	15.1	10.5	6.4
Asia-Pacific	Animal or vegetable fats and oils	Fish and crustaceans	Fruit and nuts, edible
	61.9	38.6	36.0
BRICS	Oil seeds and oleaginous fruits	Cereals	Meat and edible meat offal
	51.7	35.5	25.2
EU	Beverages, spirits, and vinegar	Dairy produce	Meat and edible meat offal
	85.0	65.6	60.0
Eastern Europe	Cereals	Animal or vegetable fats and oils	Tobacco and manuf.
	39.3	17.1	12.4
LAC	Oil seeds and oleaginous fruits	Fruit and nuts, edible	Meat and edible meat offal
	55.1	44.6	33.7
United States	Oil seeds and oleaginous fruits	Cereals	Meat and edible meat offal
	31.1	25.7	20.8
(b) **African RECs**			
COMESA	Coffee, tea, mate, and spices	Fruit and nuts, edible	Vegetables and certain roots and tubers; edible
	5.0	3.2	2.8
EAC	Coffee, tea, mate, and spices	Trees and other plants, live	Fruit and nuts, edible
	2.9	1.0	0.7
ECOWAS	Cocoa and cocoa preparations	Fruit and nuts, edible	Oil seeds and oleaginous fruits
	9.0	3.4	2.1
SADC	Fruit and nuts, edible	Tobacco and manuf.	Fish and crustaceans
	6.4	2.6	2.2
AMU	Fish and crustaceans	Fruit and nuts, edible	Vegetables and certain roots and tubers; edible
	3.0	2.6	2.1

Source: Authors' elaboration using the AATM 2025 database.

Note: Figures show each region's trade to the rest of the world, including Africa.

Table 1.2 depicts the top three imports by world region and REC. Cereals are Africa's top imported product category, accounting for $31.2 billion, followed by animal and vegetable fats and oils ($12.3 billion) and sugars and sugar confectionery ($8.2 billion). The predominance of cereal imports for Africa reflects its heavy dependence on the global market for cereals and, consequently, its exposure to global food market shocks. Cereals are also among the top imported product categories for Latin America and the Caribbean and the Asia-Pacific region.

Table 1.2 also shows the trade for a selected group of RECs. Our general findings on Africa's dependence on cereal imports apply to all selected RECs, for which cereals are the top imported product category. Animal and vegetable fats and oils also appear among the top imported product categories for all RECs. Other product categories are among the top imports for individual RECs, such as dairy produce for AMU and fish and crustaceans for ECOWAS.

Table 1.2 Top three imported products by world region and REC (US$ billions), 2019–2023

	Top 1	Top 2	Top 3
(a) **World Region**			
Africa	Cereals	Animal or vegetable fats and oils	Sugars and sugar confectionery
	31.2	12.3	8.2
Asia-Pacific	Oil seeds and oleaginous fruits	Cereals	Meat and edible meat offal
	82.8	70.0	61.1
BRICS	Oil seeds and oleaginous fruits	Animal or vegetable fats and oils	Meat and edible meat offal
	60.2	33.0	30.3
EU	Fruit and nuts, edible	Beverages, spirits, and vinegar	Fish and crustaceans
	55.8	52.1	49.4
Eastern Europe	Fruit and nuts, edible	Beverages, spirits, and vinegar	Meat and edible meat offal
	14.1	11.8	11.1
LAC	Cereals	Meat and edible meat offal	Food industries
	19.9	10.6	9.2
United States	Beverages, spirits, and vinegar	Fruit and nuts, edible	Fish and crustaceans
	29.5	22.1	21.4
(b) **African REC**			
COMESA	Cereals	Animal or vegetable fats and oils	Sugars and sugar confectionery
	13.8	6.2	3.6
EAC	Cereals	Animal or vegetable fats and oils	Sugars and sugar confectionery
	2.1	1.6	0.9
ECOWAS	Cereals	Fish and crustaceans	Animal or vegetable fats and oils
	7.6	2.3	1.8
SADC	Cereals	Animal or vegetable fats and oils	Beverages, spirits, and vinegar
	4.3	2.9	1.7
AMU	Cereals	Animal or vegetable fats and oils	Dairy produce
	7.6	2.4	2.4

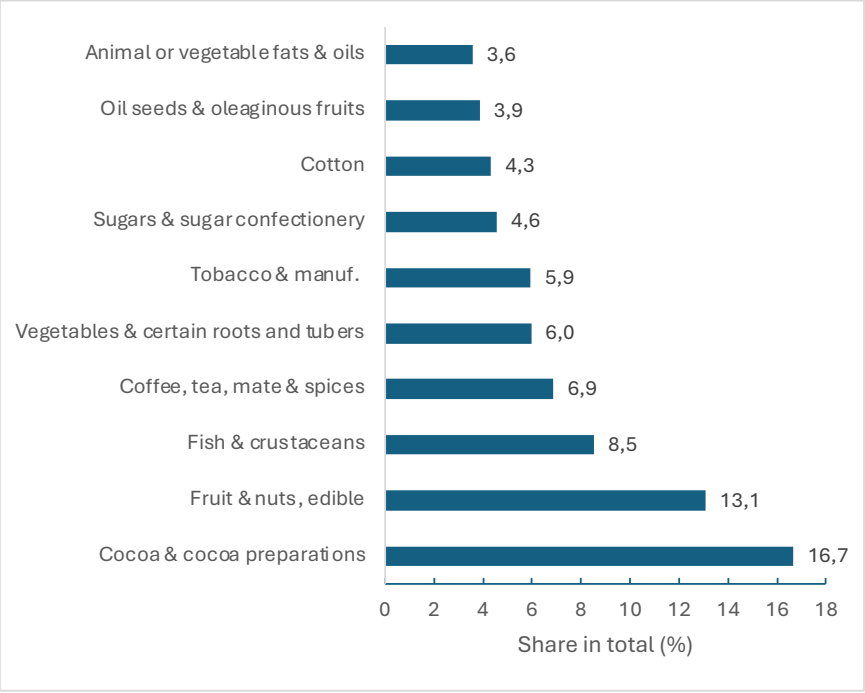
Source: Authors' elaboration using the AATM 2025 database.

Note: Figures show each region's trade to the rest of the world, including Africa.

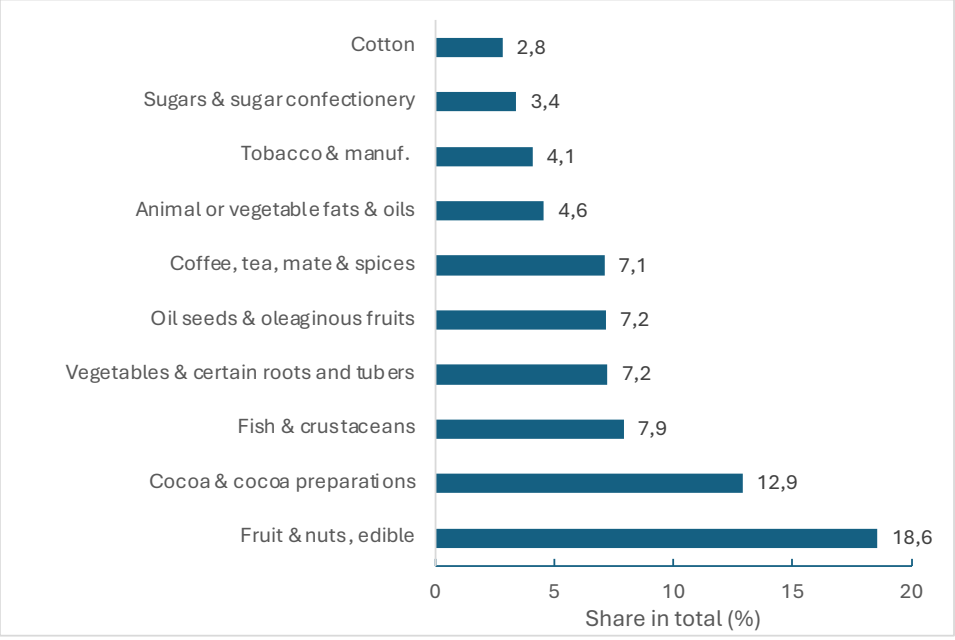
Figure 1.8 illustrates the composition of Africa's exports over the 2009–2013 and 2019–2023 periods. During the first period, the top 10 agricultural exports constituted 73.5 percent of Africa's total agricultural exports. In the second period, this share increased slightly to 75.8 percent, with cocoa and cocoa preparations and fruit and nuts constituting around 30 percent of total agricultural exports. Other major exports include fish and crustaceans, vegetables, oilseeds, coffee, tea, and spices. The share of cocoa and cocoa preparations decreased from 16.7 percent in the first period to 12.9 percent in the second, when exports of fruit and nuts took over as the major share of total agricultural exports (18.6 percent). Overall, the composition of Africa's major agricultural exports has not changed significantly over time. However, the growing share of fruit and nuts may indicate that Africa is responding to the mounting demand for high-value products. This demand has been increasing since the 1980s but accelerated over the past 15 years due to rising incomes in emerging economies.

Figure 1.8 Top 10 exports by African countries, share in total (%)

(a) **2009–2013**



(b) **2019–2023**



Source: AATM 2025 database.

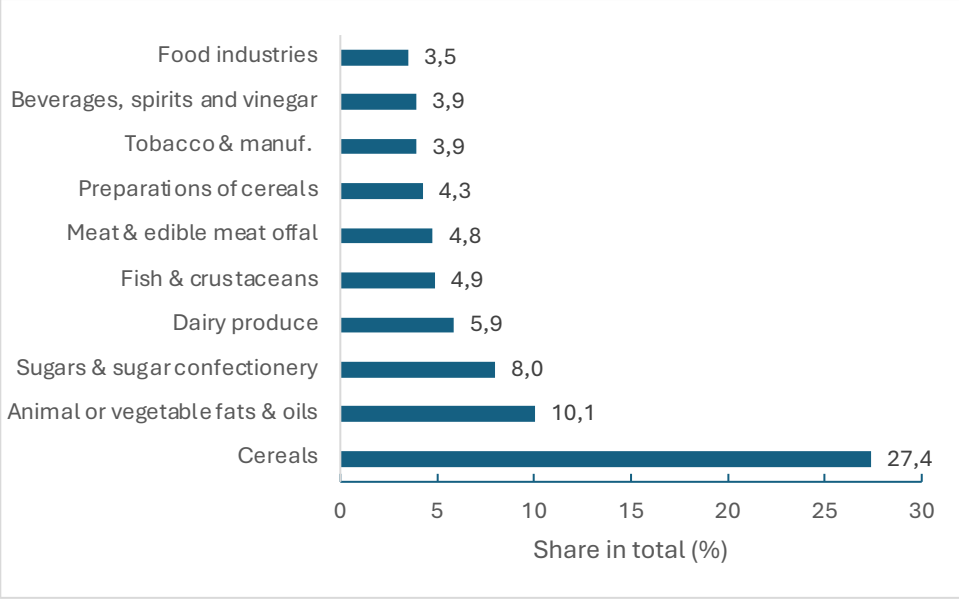
Note: These figures are calculated using a three-year moving average.

The composition of Africa's agricultural imports illustrates that they are more concentrated than exports (Figure 1.9). Cereals alone accounted for 27.4 percent of Africa's agricultural imports

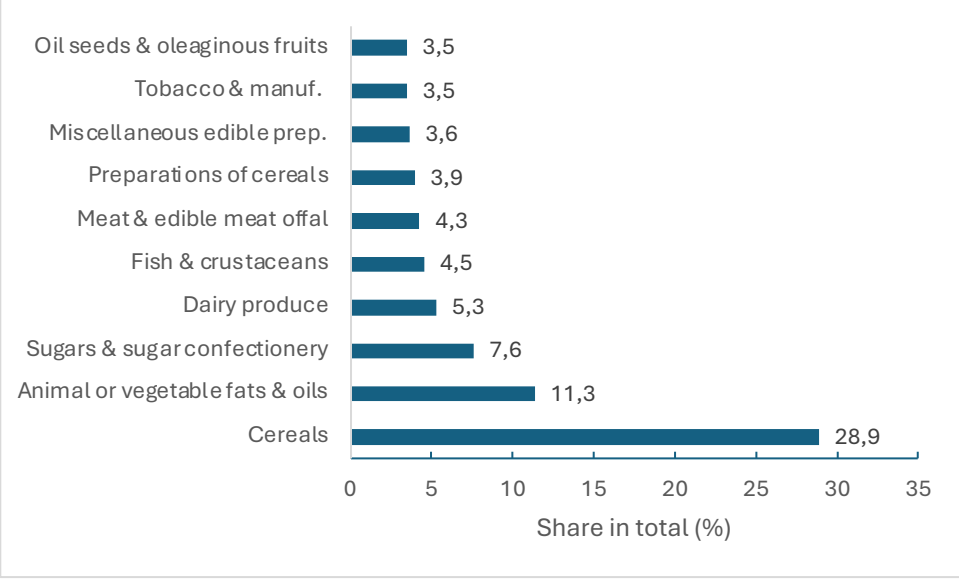
during the first period and 28.9 percent during the second. Animal or vegetable oils and fats accounted for 10.1 percent and 11.3 percent, respectively, in these two periods. Sugars, sugar confectionery, and dairy produce are also among Africa's top imports. The composition and concentration of Africa's agricultural imports have implications for food security: African countries heavily depend on the global market for food staples and are therefore vulnerable to global shocks affecting these commodities. Furthermore, the smaller shares of oils and sugar should not be neglected, given their importance for food security, as we discuss later.

Figure 1.9 Top 10 imports by African countries, share in total (%)

(a) **2009–2013**



(a) **2019–2023**



Source: AATM 2025 database.

Note: These figures are calculated using a three-year moving average.

Comparative advantages and specialization patterns

Table 1.3 depicts the top exporters of different product categories in terms of revealed comparative advantage (RCA) from 2019 to 2023. An RCA index[3] score greater than 1 typically indicates a revealed comparative advantage in the corresponding product. However, RCA index scores should be interpreted with caution because they compare the relative importance of a product in a country's exports to that in the exports of the rest of the world. Therefore, less diversified or small economies may have particularly high RCA scores compared to other exporters. This is evident in the case of Somalia's exports of live animals, Guinea-Bissau's exports of fruit and nuts (cashew nuts and coconuts), Chad's exports of lac, gums, and resins, Comoros's exports of spices (cloves and vanilla) and essential oils, and West African countries' exports of cocoa. Several other African countries have high RCA scores: Burundi, for example, exports coffee and tea; Eswatini exports sugarcane and sucrose.[4] African countries do not rank among those with the top RCA scores for cereals, dairy products, meat, or vegetables. Overall, African countries' comparative advantage seems to be concentrated in cash crops such as coffee, cocoa, and tea.

Table 1.3 Revealed comparative advantage: Top three countries globally, RCA index scores, 2019–2023

		Top 1	Top 2	Top 3
01	Animals; live	Somalia 49.4	Botswana 42.2	Qatar 26.3
02	Meat and edible meat offal	Uruguay 4.4	Australia 3.2	Nicaragua 2.9
03	Fish and crustaceans	Norway 12.9	Bahamas 12.3	Maldives 11.8
04	Dairy produce	Bahrain 8.7	Cyprus 7.5	New Zealand 7.4
05	Animal originated products	Qatar 6.1	Iran 4.6	China 4.5
06	Trees and other plants, live	Kenya 17.0	Colombia 14.1	Ethiopia 8.5
07	Vegetables and certain roots and tubers; edible	Turkmenistan 7.6	Kyrgyzstan 6.4	Myanmar 6.2
08	Fruit and nuts, edible	Guinea-Bissau 11.2	Iraq 8.3	Costa Rica 6.7
09	Coffee, tea, mate, and spices	Burundi 27.7	Comoros 27.6	Madagascar 21.1
10	Cereals	Guyana 6.3	Ukraine 5.2	Pakistan 4.9
11	Products of the milling industry	Uzbekistan 11.6	Lesotho 11.5	Kazakhstan 9.6

3 The RCA index is measured using the Balassa index. A country is said to have a revealed comparative advantage in a given product i when its ratio of exports of product i to its total exports of all goods (products) exceeds the same ratio for the world as a whole. Therefore, an RCA index greater than 1 indicates that the country has a comparative advantage in exporting the examined commodity, while an RCA less than 1 indicates a comparative disadvantage.
4 Information on the exports of specific products under the illustrated product categories is extracted from the Atlas of Economic Complexity (https://atlas.hks.harvard.edu/).

		Top 1	Top 2	Top 3
12	Oil seeds and oleaginous fruits	Niger 12.5	South Sudan 11.1	Chad 10.9
13	Lac; gums, resins	Chad 37.1	Turkmenistan 31.4	Afghanistan 24.1
14	Vegetable plaiting materials	Sri Lanka 33.3	Turkmenistan 28.2	Nepal 23.5
15	Animal or vegetable fats and oils	Gabon 12.5	Malaysia 9.1	Indonesia 8.4
16	Meat, fish, or crustaceans	Cabo Verde 23.6	Seychelles 16.1	Mauritius 11.9
17	Sugar and sugar confectionery	Eswatini 24.9	Algeria 14.6	Belize 11.1
18	Cocoa and cocoa preparations	Cameroon 26.1	Côte d'Ivoire 25.2	Ghana 23.0
19	Preparations of cereals	Trinidad and Tobago 4.8	Bahrain 4.5	Rep. of Korea 3.2
20	Preparations of vegetables, fruit, and nuts	Lebanon 4.4	Greece 4.0	Israel 3.9
21	Miscellaneous edible preparations	Singapore 9.7	Malta 3.8	Japan 3.8
22	Beverages, spirits, and vinegar	Barbados 9.2	Saint Lucia 7.8	Georgia 7.2
23	Food industries	Bolivia 6.4	Angola 4.8	Argentina 4.6
24	Tobacco and manuf.	Zimbabwe 29.3	Malawi 22.6	Cuba 18.2
29	Organic chemicals	France 8.6	China 5.1	Finland 3.9
33	Essential oils and resinoids	Haiti 122.2	New Caledonia 114.3	Comoros 61.9
35	Albuminoidal substances	New Zealand 4.8	Ireland 4.3	Denmark 3.6
38	Chemical products n.e.c.	France 6.7	Thailand 4.1	China 4.0
41	Raw hides and skins	Libya 31.5	Turkmenistan 28.6	Iraq 25.0
43	Furskins and artificial fur	Finland 195.6	Denmark 23.2	Lithuania 7.2
50	Silk	Rep. of Korea 1841.4	Uzbekistan 73.3	Turkmenistan 21.0

		Top 1	Top 2	Top 3
51	Wool, fine or coarse animal hair	Mongolia 310.3	Lesotho 223.8	Australia 20.9
52	Cotton	Tajikistan 72.5	Benin 54.1	Burkina Faso 48.9
53	Vegetable textile fibers	Eritrea 69.0	France 14.4	Belarus 10.7

Source: Authors' elaboration using the AATM 2025 database.

Note: African countries are highlighted in yellow. The RCA indicates whether a country has a comparative advantage in the production of a certain product. The RCA index of country i for product k is often measured by the product's share in the country's exports in relation to its share in world trade of the same product. An RCA greater than 1 indicates that the country has a comparative advantage in that product category, while an RCA less than 1 reveals that the country has a comparative disadvantage.

3. Recent Developments in Trade Policy

This section briefly reviews recent developments in African trade policy and sheds light on the nexus between trade policy and food security from a theoretical perspective. We also review the most recent empirical findings on the implications of trade policy for African agricultural trade and for food security. Trade policy measures covered in this section include tariffs, NTMs, and RTAs.

Tariffs

Previous editions of the AATM have highlighted the ways in which restrictive trade policies impede African agricultural trade. On one hand, African exporters face high and escalating tariffs on their exports (Goundan et al. 2022; Goundan and Tadesse 2021). On the other hand, tariffs imposed on the trade of key commodities between RECs are substantially higher than within-REC tariffs. The tariffs implemented and enforced by African countries in 2023 and 2024 include discriminatory (red) measures, which affect foreign trade, and liberalizing (green) measures, which are applied on a nondiscriminatory basis. As Table 1.4 shows, some African countries apply discriminatory measures to product categories that are important for food security, such as fats and oils and sugars. Two RECs, SACU and EAC, increased tariffs and duties on specific product categories, as did Uganda and Sudan. It is worth noting that Sudan increased import duties on a wide range of products. In contrast, some countries, for example, Zimbabwe and Liberia, took liberalizing measures on basic food products, while SACU countries implemented them on selected food products that are not significant for food security.

Table 1.4 Tariff measures implemented and enforced by African countries in 2023 and 2024

Implementing entity	Measure	Evaluation
Botswana, Eswatini, Lesotho, Namibia, South Africa	SACU: Reduced the import duty on canned minced anchovies	Green
Botswana, Eswatini, Lesotho, Namibia, South Africa	SACU: Increased the customs duty on sugar (March 2024)	Red
Botswana, Eswatini, Lesotho, Namibia, South Africa	SACU: Reduced the import duty on certain anchovies for AfCFTA countries	Green
Botswana, Eswatini, Lesotho, Namibia, South Africa	SACU: Gave an import tariff rebate for onion powder	Green
Burundi, Democratic Republic of the Congo (DRC), Kenya, Rwanda, Somalia, South Sudan, Tanzania, Uganda	EAC: Increased import duty on microbial fats and oils	Red
Liberia	Liberia: Suspended import duties on rice	Green
Liberia	Liberia: Government suspended import duties on agrifood products	Green
Republic of the Sudan	Sudan: Increased import duties on 130 products	Red
Uganda	Uganda: Government introduced a 25% import duty on refined sugar	Red
Zimbabwe	Zimbabwe: Exempted internal taxation and import duties on basic goods	Green
Zimbabwe	Zimbabwe: Exempted import tariffs for food products	Green

Source: Authors' elaboration using the Global Trade Alert database.

Note: Red refers to an intervention that almost certainly discriminates against foreign commercial interests. Green refers to an intervention that liberalizes on a nondiscriminatory (that is, most favored nation) basis or improves the transparency of a relevant policy. AfCFTA is the African Continental Free Trade Area.

Non-tariff measures

Over the past three decades, the global use of NTMs has risen significantly (Orefice 2017; WTO 2012). NTMs include all policy measures, excluding tariffs and tariff-rate quotas, that can affect international trade, such as SPS measures, technical barriers to trade (TBTs), quotas, and import licensing. NTMs, such as SPS measures, are designed to ensure food safety and protect consumer and plant health. Others, such as TBTs, ensure conformity with technical specifications. The implementation of NTMs can therefore increase trade flows. However, these measures are sometimes used to protect the domestic market. Their implementation often involves high compliance costs that smallholders cannot support. They can also increase trading costs and reduce export profits (Liu et al. 2019). Therefore, the impact of NTMs on trade may be unclear.

African agricultural exporters face substantial NTMs that impede their access to global markets. Some of Africa's most relevant trade partners, including certain European countries, impose the most burdensome NTMs. Bouët and Sall (2021) estimated ad valorem equivalents of 49 percent for SPS measures and 73 percent for TBTs. These measures are imposed on some of Africa's most competitive exports, including cocoa and cocoa preparations, fruits and nuts, vegetables, coffee, and tea. The shift from traditional African exports to higher-unit-value exports (such as fruits and vegetables, poultry, and fish) was accompanied by a rise in NTMs

that increase the cost of compliance and act as a trade barrier to African exports (Santeramo and Lamonaca 2019). African countries impose high NTMs on their agricultural imports as well. At the intra-African level, trade is also impeded by stringent and complex rules of origin.

African countries may be able to increase intra- and extra-African agricultural trade by harmonizing their NTMs with international standards and mutually recognizing NTMs imposed by their African trade partners. However, one of the main challenges to NTM harmonization is the lack of capacity in many African countries, where the SPS system and the general quality of infrastructure remain underdeveloped (Van der Ven 2025).

Table 1.5 illustrates the liberalizing and discriminatory NTM-specific interventions implemented or enforced by African countries in 2023 and 2024. NTMs are grouped under licenses and quotas, price controls, subsidies, and export-related measures. Of the 28 measures summarized in the table, only three are liberalizing. Most discriminatory interventions are import and export bans and discriminatory licensing requirements. Export bans mainly affect cereals and are justified by concerns about domestic food security. However, import bans on the same category of goods could be intended to protect domestic producers from foreign competition.

Table 1.5 Non-tariff measures implemented and enforced by African countries in 2023 and 2024

E: Nonautomatic licensing, quotas, etc.		
Botswana: Banned the export and import of corn and sorghum	Red	Import ban
Kenya: Government banned powdered milk imports	Red	Import ban
Kenya: Halted import permits for powdered milk from Brookside Uganda	Red	Import licensing requirement
Kenya: Government imposed import restrictions on wheat and maize and announced a new public purchase program	Red	Import licensing requirement
Mali: Suspended imports of wheat flour and pasta Togo: Government restricted imports of frozen poultry	Red Red	Import ban Import licensing requirement
F: Price-control measures, including additional taxes and charges		
Kenya: Imposed excise duties on several imports	Red	Internal taxation of imports
Zimbabwe: Exempted internal taxation and import duties on basic goods	Green	Internal taxation of imports
G: Finance measures		
Ethiopia: Central bank banned consignment payment for beef exports	Red	Trade payment measure
L: Subsidies (excl. export subsidies)		
Botswana: Botswana Agricultural Marketing Board announced the 2022/23 production contract prices	Red	Price stabilization
Egypt: The General Authority for Supply Commodities (GASC) offered corn for purchase to local poultry producers on the stock exchange	Red	Price stabilization
Ghana: Government increased cocoa producer prices for the 2024/25 crop season	Red	Price stabilization

Kenya: Government imposed import restrictions on wheat and maize and announced a new public purchase program	Red	Price stabilization
Nigeria: Afreximbank approved a US$200 million facility for BUA Industries Limited	Red	State aid, unspecified
South Africa: Setsong Tea Crafters (Pty) Ltd secured ZAR 3.75 billion in state aid from IDC	Red	State aid, unspecified
P: Export-related measures (incl. subsidies)		
Benin: Prohibited exports of soybeans from April 1, 2024	Red	Export ban
Botswana: Banned the export and import of corn and sorghum	Red	Export ban
Burkina Faso: Authorized the export of cereals to Niger	Green	Export licensing requirement
Cameroon: Banned cocoa exports to Nigeria	Red	Export ban
Egypt: Imposed a temporary export ban on sugar	Red	Export ban
Egypt: Government expanded the export ban on raw hides	Red	Export ban
Ghana: Banned the export of grains, including maize, rice, and soya beans	Red	Export ban
Kenya: Revenue Authority published guidelines to benefit from VAT tax exemption on exported coffee and tea	Red	Tax-based export incentive
Morocco: Introduced export licensing requirements for various goods	Red	Export licensing requirement
Tanzania (Zanzibar): Banned food exports to avoid food shortages	Red	Export ban
Tanzania: Government suspended permits for Uganda's rice and maize exporters	Red	Export ban
Zambia: Banned the export of maize	Red	Export ban

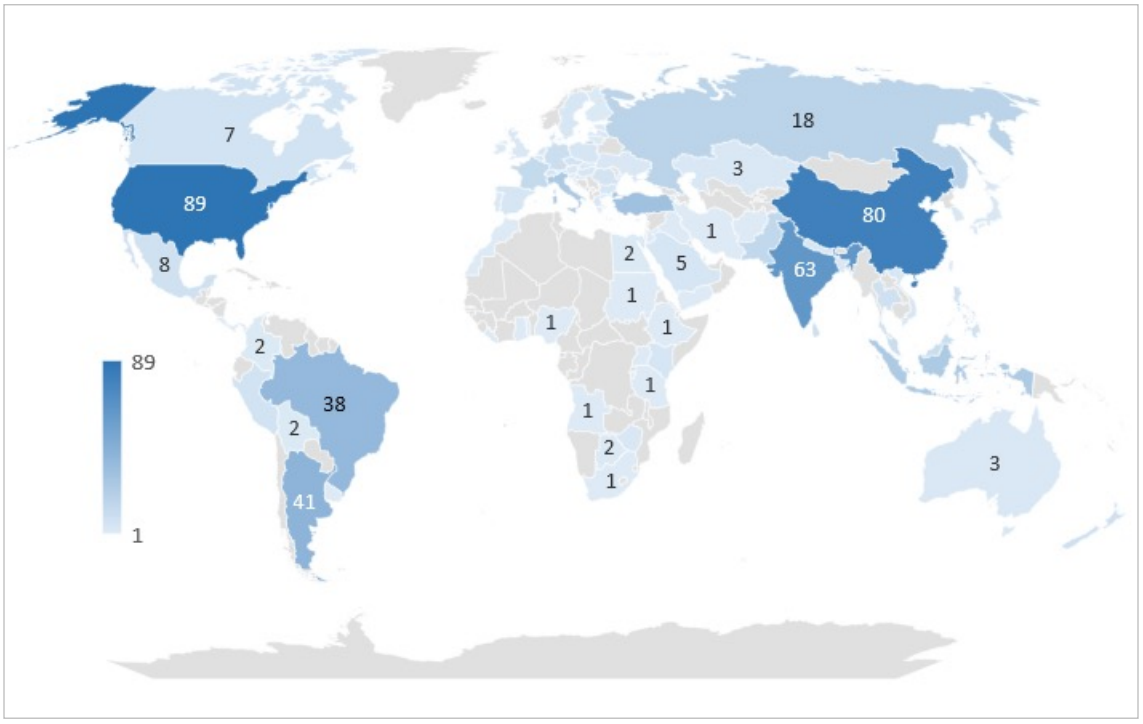
Source: Authors' elaboration using the Global Trade Alert database (https://globaltradealert.org/).

Note: Red refers to an intervention that almost certainly discriminates against foreign commercial interests. Green refers to an intervention that liberalizes on a nondiscriminatory (that is, most favored nation) basis or improves the transparency of a relevant policy.

Figure 1.10 illustrates the various measures faced by African exporters. Some trade measures are implemented by African countries themselves on the exports of other African countries. Of the measures faced by African countries, 74 percent are discriminatory (red), 25.5 percent are green (liberalizing on a most favored nation basis), and 0.5 percent are amber (an intervention that likely involves discrimination against foreign commercial interests).

The United States imposes the highest number of measures, followed by China, India, Brazil, and Argentina. Two of these countries, China and India, are among Africa's top 10 export destinations. Thus, implementation of restrictive or discriminatory measures is likely to undermine Africa's exports to these markets. Brazil and other South American countries also impose many measures. These countries are among the top agricultural exporters and may impose such measures to protect their domestic agriculture sectors.

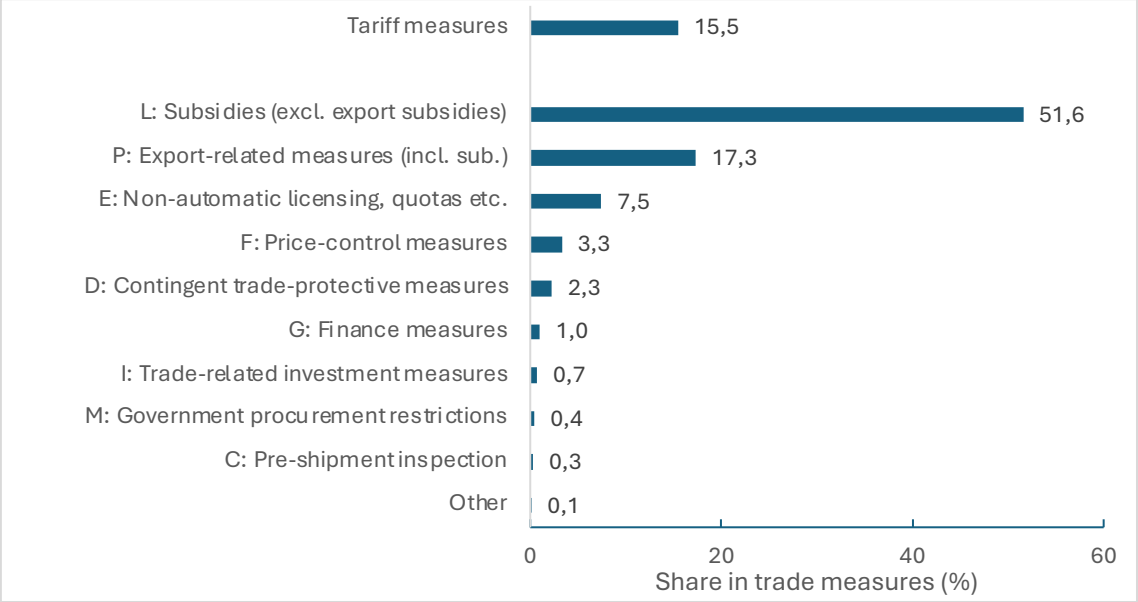
Figure 1.10 Trade measures faced by African countries in 2023 and 2024, by imposing country



Source: Authors' elaboration using the Global Trade Alert database (https://globaltradealert.org/).

Figure 1.11 summarizes the composition of measures faced by African countries. Over one-half (51.6 percent) are subsidies imposed by partner countries with strong agricultural lobbies (such as the United States) or emerging countries like China and India, and, possibly, Africa's competitors in agricultural exports. Indeed, the producer support estimate—which measures support for farmers as a percentage of their gross farm receipts—was as high as 16.5 percent in China and 10.5 percent in the United States. Consumer support estimates (CSEs)—measured by transfers to consumers as a proportion of agricultural consumption—suggest that India's CSE is as high as 33.4 percent, followed by the United States (21.1 percent) (Aboushady and Zaki 2023). Export-related measures, including export subsidies, constitute 17.3 percent of the measures faced by African countries. Despite the global reduction in tariffs on agricultural trade, tariff measures continue to weigh on Africa's exporters, constituting 15.5 percent of the total measures they must face.

Figure 1.11 Composition of trade measures faced by African countries in 2023 and 2024 (%)



Source: Authors' elaboration using the Global Trade Alert database (https://globaltradealert.org/).
Note: The categorization of NTMs follows an international classification, with a letter assigned to each NTM chapter to reflect its type. For more details, see UNCTAD (2019).

Regional trade agreements

African countries are party to 45 RTAs, including 7 RTAs that are operational under African RECs. Over time, the inclusion of agriculture in RTAs has increased, yet substantial heterogeneity arises in the scope of coverage of provisions and the degree of their enforcement. In this context, the depth of trade agreements is important for fostering agricultural trade. The inclusion and legal enforcement of trade-related provisions (that is, WTO+ provisions) matter for trade. However, provisions related to areas beyond trade (WTO-X provisions)—such as cooperation in agricultural innovation, environmental policies, and labor market regulations—also matter, even if they are not all directly trade-related.

In general, RTAs involving African countries offer a relatively broad coverage of policy areas, but only a few are fully legally enforced. Intra-African agreements, however, tend to be shallower. Trade agreements under African RECs vary substantially in terms of coverage (that is, *horizontal depth*) and legal enforcement (that is, *vertical depth*).[5] Only three intra-African agreements cover 20 or more provisions: COMESA, EAC, and ECOWAS. Intra-African agreements are also vertically shallower, with less than one-half of the included provisions actually legally enforced (Aboushady and Zaki 2023). The literature generally suggests that RTAs have a positive impact on intra-African agricultural trade within and between RECs (Chawarika et al. 2022; Aboushady and Zaki 2023; Fadeyi et al. 2014; Manu 2020; Olayiwola et al. 2015; Sunge and Ngepah 2020; Tegebu and Seid 2019).

Yet another strand of the literature suggests that Africa's largest RTA, the African Continental Free Trade Area (AfCFTA), is likely to have a limited impact on intra-African agricultural trade. This is primarily due to its shallow nature: trade liberalization under the AfCFTA is currently limited to tariff reduction, while provisions for deeper integration are not yet in place. Additionally, since

5 Horizontal depth is defined as the larger number of provisions that are included in trade agreements, while vertical depth refers to the legal enforceability of such provisions (Hofmann et al. 2017).

intra-RECs tariffs are already low, further liberalization is not expected to have a substantial effect. A recent study by Van der Ven (2025) suggests that the lack of implementation of NTM-related provisions under the AfCFTA will undermine intra-African trade in food. Similarly, MacLeod (2025) estimates that, according to the available tariff schedules, tariff elimination under the AfCFTA is likely to increase intra-African agricultural trade by just 5.4 percent. On the other hand, Beckman et al. (2024) estimate that a reduction in NTMs under the umbrella of the AfCFTA can lead to more intra-African agricultural trade, especially in higher-value agricultural products.

Another potential cause of these limited outcomes is the possibility for some items to be exempt from liberalization. Under the AfCFTA Guided Trade Initiative (GTI),[6] for example, 31 of the 54 AfCFTA member countries have to date submitted a list of products targeted for trade. These include a number of agricultural products: tea, coffee, processed meat products, corn starch, sugar, pasta, dried fruit, flour and cornmeal, and mushrooms (among other products). Although some initial assessments suggest that export volumes increased, it has also been reported that the outcome is quite limited due to the lack of accurate information on the schedule of tariff reduction (KAS, ATPC, and UNECA 2024). So far, seven countries (Cameroon, Egypt, Ghana, Kenya, Mauritius, Rwanda, and Tanzania) have commenced with preferential trade. Moreover, 46 AfCFTA member states (including those in EAC, CEMAC, SACU, and ECOWAS) have submitted initial tariff offers on 90 percent of the tariff lines. The remaining 10 percent comprises 3 percent of excluded lines and 7 percent of sensitive products.[7]

Having examined the different patterns of trade flows and trade policies related to agricultural products in Africa, the next section investigates how food security can be affected by trade flows. Specifically, we focus on food imports that are affected by tariff- and non-tariff measures.

4. Overview of Food Security in Africa

The predominance of agricultural products in African countries' international trade could be an asset in addressing food insecurity. Indeed, beyond any potential forced specialization aimed at capitalizing on the continent's revealed comparative advantages, this importance should increase food availability in deficit regions, stabilize consumer prices, and ensure decent incomes for agricultural households that depend on this activity, thereby promoting and/or preserving food security. However, the data analyzed on food security by region show that this is not the case.

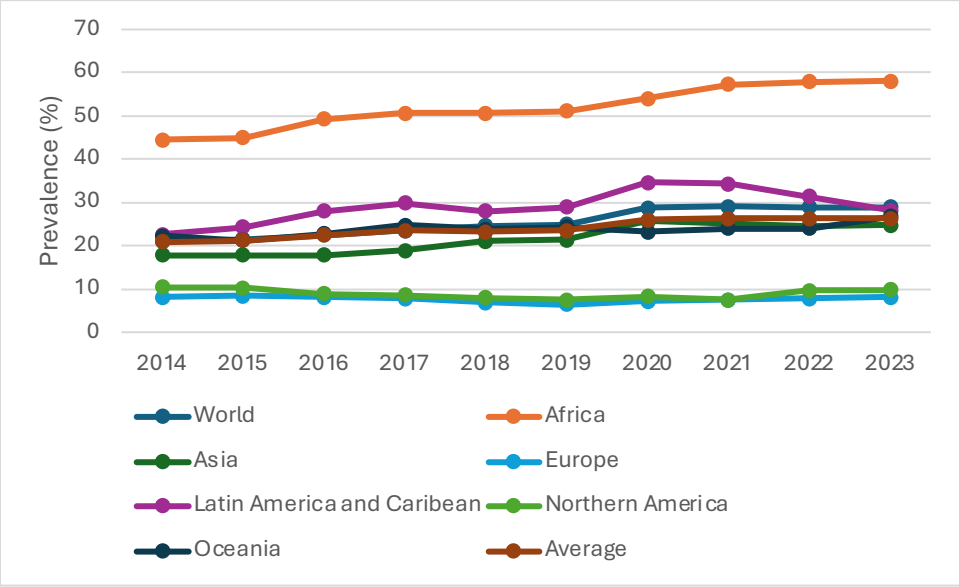
Food security in Africa

Despite the importance of agricultural products in Africa's commodity trade, this continent was the most affected by food insecurity over the past decade. Indeed, the prevalence of moderate and severe food insecurity among the total population is highest in Africa and increased by 30 percent and 32 percent, respectively, between 2014 and 2023.

6 The GTI was established in 2022 with the objective of kickstarting trade among interested State-Parties that have met minimum requirements for starting trade under the AfCFTA. The GTI includes tariff offers on a list of products to allow for preferential trade. For more details, see https://au-afcfta.org/guided-trade-initiative/

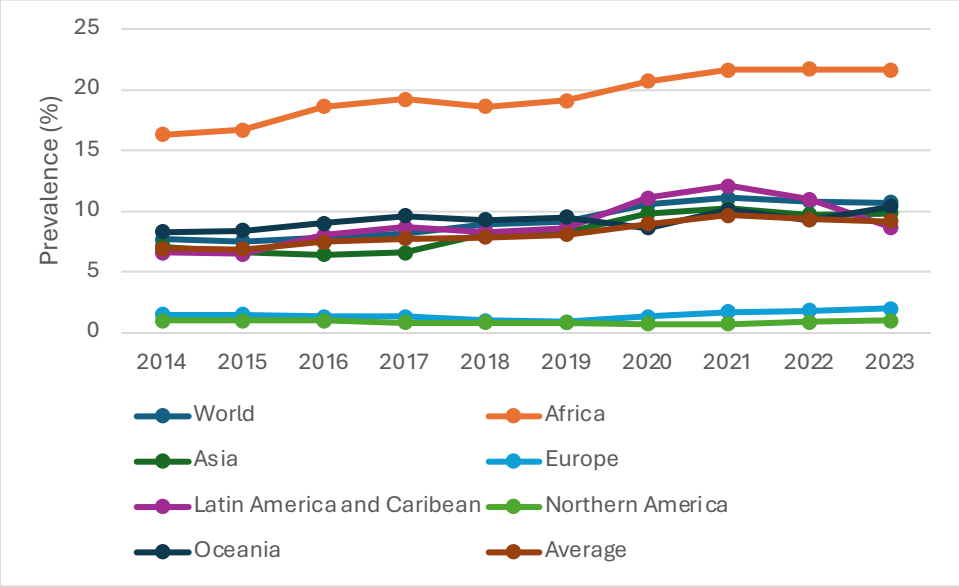
7 https://tradeunionsinafcfta.org/wp-content/uploads/2023/03/LRS-AfCFTA-Briefing-1st-Edition_English-1.pdf

Figure 1.12 Prevalence of moderate food insecurity in the total population by world region (%), 2014–2023



Source: Authors' calculation from FAOSTAT data (2025).

Figure 1.13 Prevalence of severe food insecurity in the total population by world region (%), 2014–2023

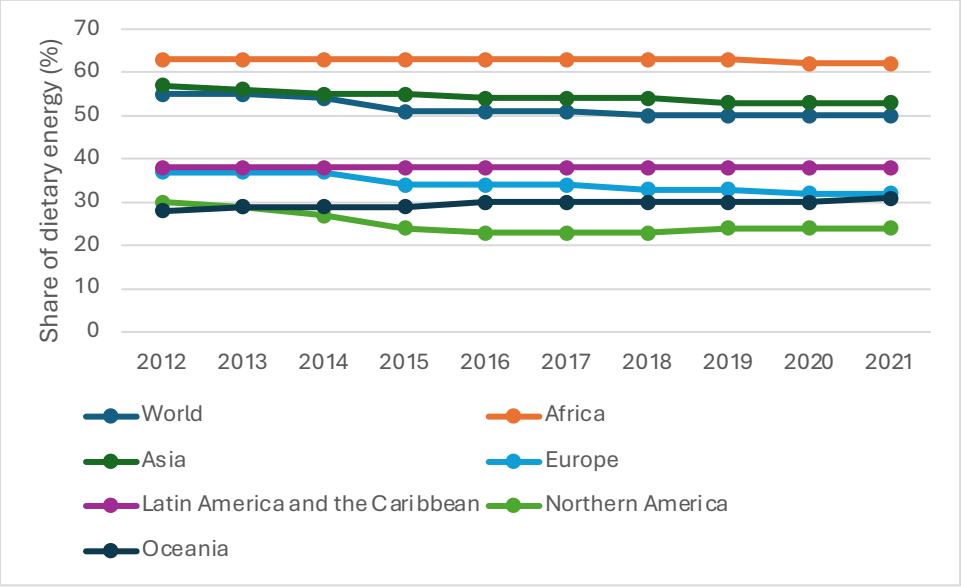


Source: Authors' calculation from FAOSTAT data (2025).

The prevalence of moderate food insecurity observed in Africa is 5.7 percentage points higher than the global average, and the prevalence of severe food insecurity is 2.3 percentage points higher. This persistently significant level of food insecurity seems closely linked to: the difficulties of producing enough agricultural products; the inability of intra-African trade to play a stabilizing role between surplus and deficit areas; or even strong demographic growth. Thus, in Africa—where agricultural products (cereals, roots, and tubers) represented on average

63 percent of dietary energy intake over the period 2012–2021 (Figure 1.14)—more than 30 percent of those needs were met by imports from the rest of the world (Figure 1.15).

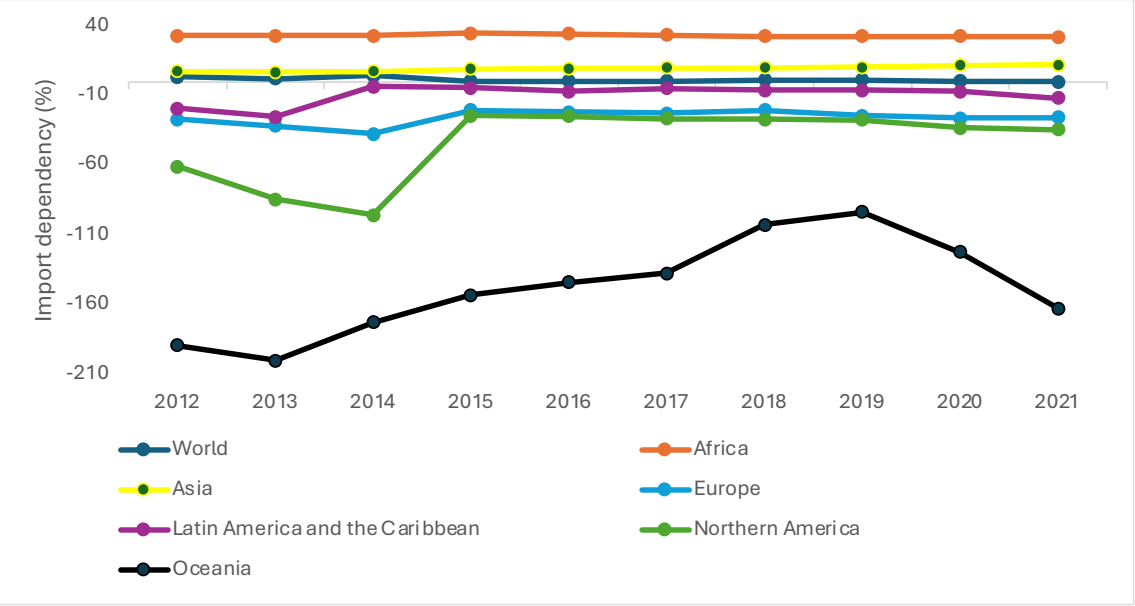
Figure 1.14 Share of dietary energy supply derived from cereals, roots, and tubers by world region (%), 2012–2021



Source: Authors' calculation from FAOSTAT data (2025).

Conversely, in regions such as Latin America and the Caribbean and Asia, these products represent between 38 percent and 54 percent, respectively, of the share of dietary energy, with self-sufficiency in the former and a dependency ratio of less than 10 percent in the latter.

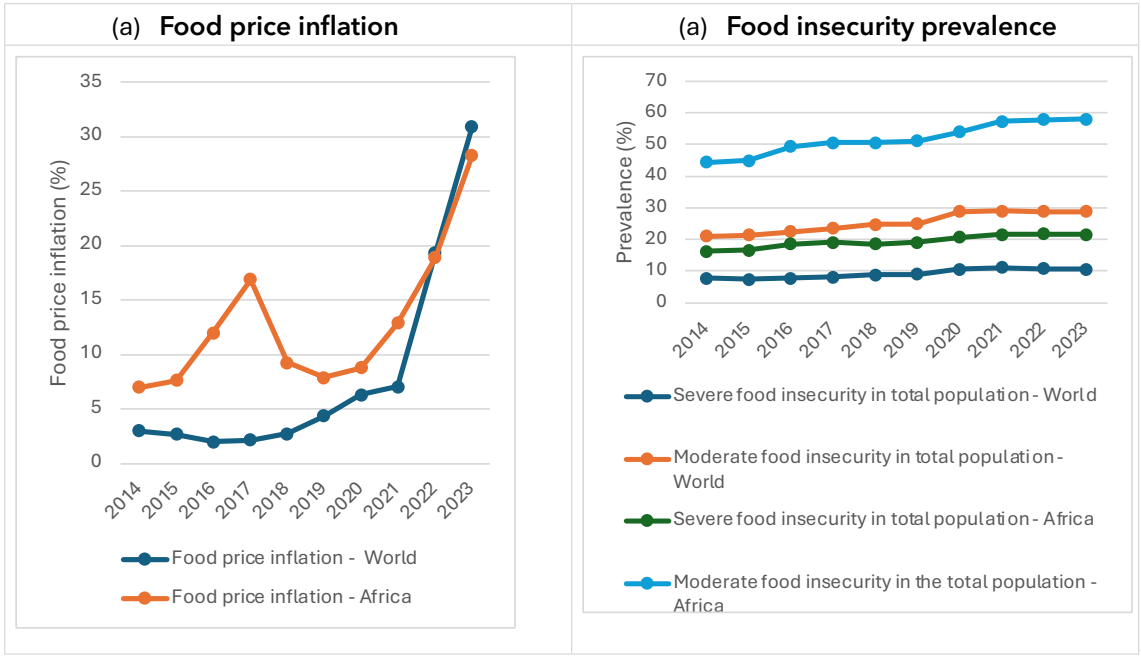
Figure 1.15 Cereal import dependency ratio by world region (%), 2012–2021



Source: Authors' calculation from FAOSTAT data (2025).

Dependence on imports makes Africa more vulnerable to external shocks. This trend has been reinforced by the succession of crises since 2019, with COVID-19 on one hand and the Russia-Ukraine crisis on the other (Becko 2024; van Bergeijk 2022; Nziengui Mamboundou et al. 2024).

Figure 1.16 Food price and food insecurity evolution (%), 2014–2023



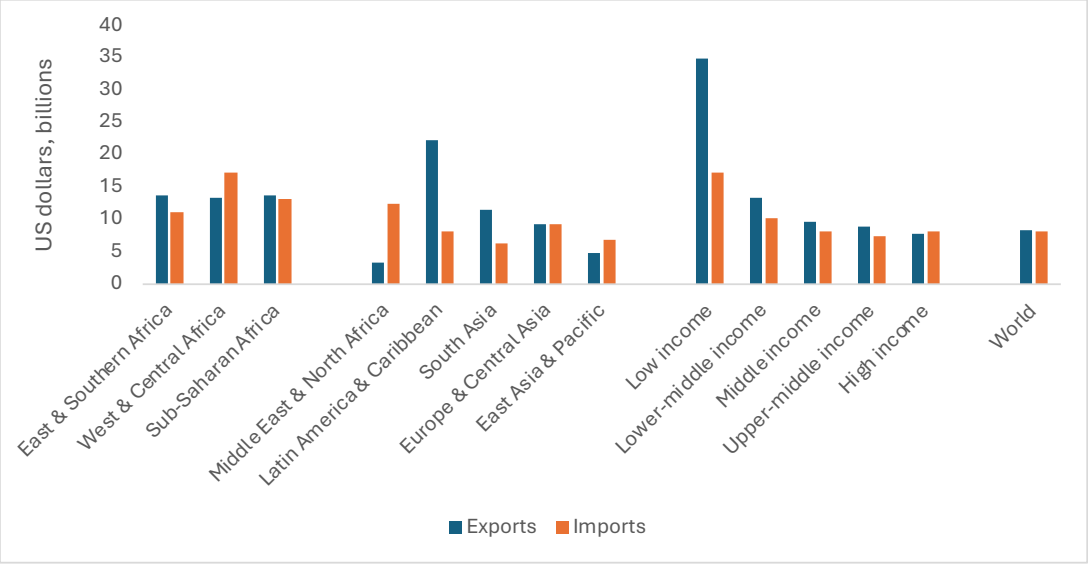
Source: Authors' calculation from FAOSTAT data (2025).

Indeed, price shocks observed on the international agricultural market have led to higher domestic prices, which have contributed to the continued high level of food insecurity on the continent (Figure 1.16). Given the crucial role of trade in the exposure of African countries to food insecurity, it is imperative to take this dimension into account in indices measuring food vulnerability.

Trade, trade policy, and food security

Figure 1.17 shows the share of food trade in total merchandise trade by region and income group. Overall, the share of Africa's trade in food is higher than (1) the global average, (2) that of most developing and emerging regions, and (3) that of most income groups (except low-income countries). It is worth noting that Africa's trade structure is unfavorable compared to other regions or income groups: its share of imports is similar to or higher than that of low- and lower-middle-income countries, while its share of exports is similar to or lower than that of these same income groups. In other words, compared to countries at similar income levels, African countries export less and import more food in relative terms (relative to their total merchandise trade). Food exports account for 13.4–13.9 percent of merchandise trade in the depicted African regions, compared to 35.0 percent in low-income countries and 22.4 percent in Latin America and the Caribbean. The share of imports is lowest in East and Southern Africa (11.2 percent of total merchandise trade), followed by sub-Saharan Africa (13.2 percent), and West and Central Africa (17.4 percent). Imports constitute a larger share of merchandise trade compared to Latin America and the Caribbean (8.2 percent), yet are relatively comparable to low- and lower-middle-income countries.

Figure 1.17 Food exports and imports as a share of merchandise trade (%), by world region and income group



Source: Authors' elaboration using the World Development Indicators online dataset.
Note: Figures are averaged over the period 2009–2023.

As elaborated previously, Africa's agricultural trade reflects a longstanding deficit. With regard to strategic commodities, Africa hosts some of the largest importers in the world, which exposes them to potential global shocks and threatens their food security.

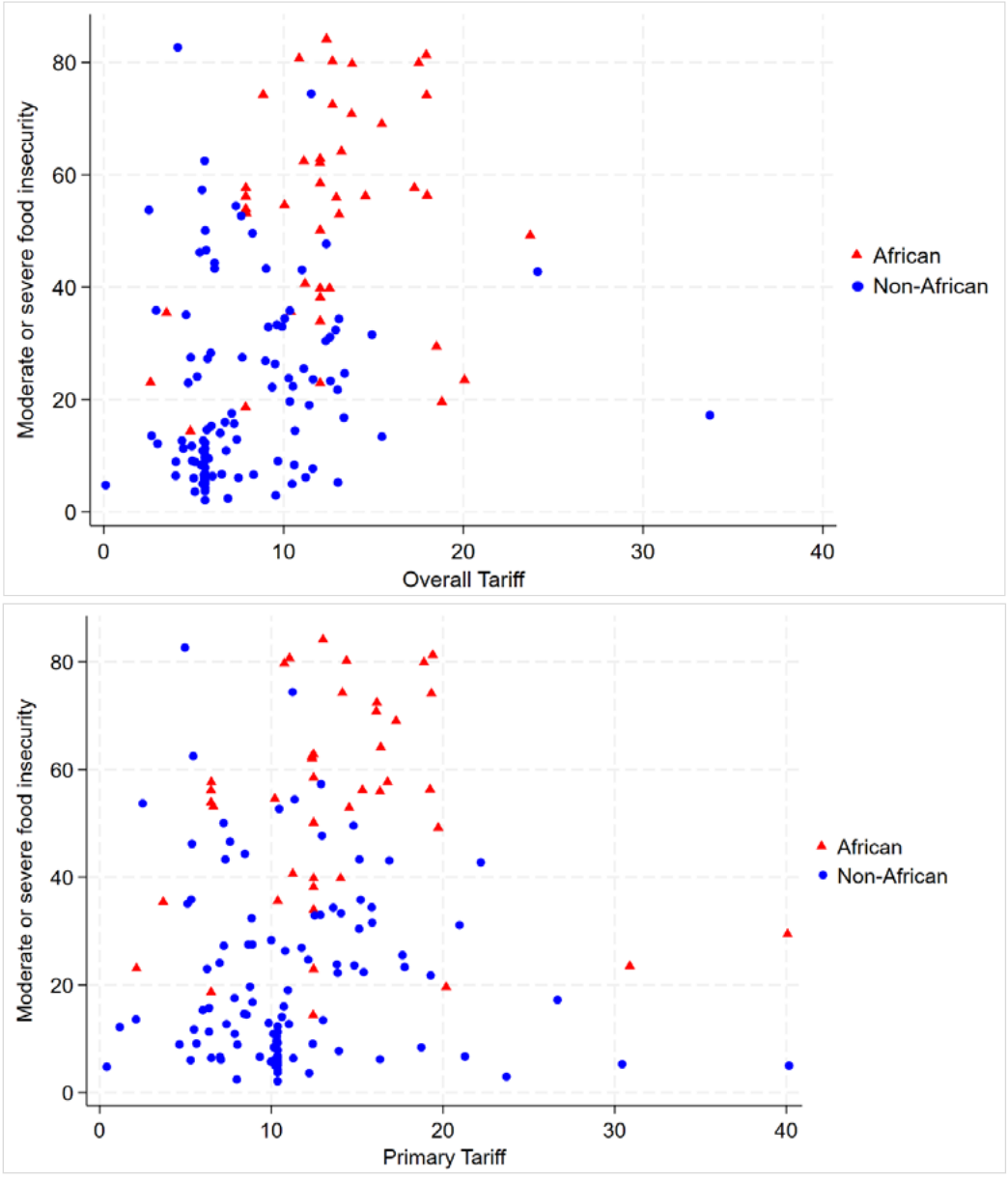
Against this backdrop, a growing body of research is focused on the trade policy–food security nexus in developing countries. On the one hand, restrictive trade policy and efforts to increase the self-sufficiency of staple foods can promote food security and shield developing countries from exposure to global market shocks. On the other hand, agricultural trade liberalization could improve food security by increasing the availability and affordability of food, and by giving consumers more stable access to food as well as increased variety and better food utilization (that is, improved nutrient intake) (Dithmer and Abdulai 2017). Trade liberalization can also increase access to agricultural inputs, such as seeds and equipment, and augment agricultural productivity and farmers' incomes, both of which translate into improved food security.

These shifts can threaten food security if domestic production shifts from staple crops to export crops, however. At the same time, increased dependence on imports means greater exposure to global crises, especially for products characterized by a high concentration of global producers/exporters, such as wheat and other cereals (Odjo et al. 2024). The outcome for utilization may also be limited. Recent research suggests that globalization of trade is associated with an unfavorable shift toward more processed, less nutritious, and more concentrated diets (Woertz and Keulertz 2015). Therefore, trade openness must be accompanied by other measures and policies to ensure food security, especially for low-income households.

Restrictive trade policies are thought to reduce the affordability of food. Tariffs on the imports of agricultural products, for example, increase domestic prices through the pass-through effect and reduce the affordability of food. Tariffs can also reduce the imports of inputs, such as seeds and equipment, lowering agricultural productivity and, consequently, food availability, food variety, and food security (Aboushady and Zaki 2023).

Figure 1.18 illustrates the correlation between tariffs (overall and primary) and moderate or severe food insecurity for African and non-African countries. In the case of overall tariffs, lower tariffs tend to be correlated with lower food insecurity in non-African countries. In general, tariffs lower than 10 percent are correlated with moderate or severe food insecurity rates of 20 percent or lower. Most of the African countries depicted in Figure 1.18 impose tariff rates of 10–20 percent, which are correlated with food insecurity rates of 50–80 percent. For primary tariffs, no correlation is observed between low tariffs and low food insecurity across African and non-African countries, suggesting that structural factors related to the domestic agriculture sector, agricultural productivity, climate change, and other factors may matter more.

Figure 1.18 Correlation between tariffs and food insecurity



Source: Authors' elaboration using the World Development Indicators online dataset.

Note: Figures are averaged over the period 2003–2023. Food insecurity is measured as the share in the population that suffers from moderate or severe food insecurity. Tariffs are measured by the most favored nation (simple mean) for all and primary products.

As mentioned, NTMs are more costly than tariffs and can therefore be highly distortive to agricultural trade and food security. While compliance with health or production standards can increase trade and, consequently, food availability and food security, excessive and burdensome use of NTMs to protect domestic production can adversely affect trade and food security outcomes. Different NTMs can, however, generate dissimilar costs for different products. For example, Bonuedi et al. (2020) find that delays from documentary and border compliance have the most adverse effect on food availability and access in Africa. Sanjuan López et al. (2021) estimate the trade costs from NTMs on intra-African agricultural trade to be highest in some rice and sugar products.

RTAs can play a key role in increasing food security, but the depth of trade agreements matters for fostering agricultural trade and food security. At the intra-African level, EAC and COMESA are horizontally and vertically deeper than other RECs. More importantly, both agreements include provisions related to regional cooperation in agriculture and food security (Van der Ven 2025). At the continental level, the AfCFTA contains neither a chapter on agriculture nor an annex explicitly dedicated to food security, but reference to food security is made directly or indirectly in many clauses. The AfCFTA's impact on food security can only be leveraged if the agreement goes beyond shallow liberalization. A deeper agreement, including NTMs and cooperation in the agriculture sector, is necessary to boost intra-African trade and food security. Deeper integration can also promote the development of regional agrifood value chains and reduce Africa's heavy dependence on food imports. Simola et al. (2021) estimate that a liberalization of intra-African trade under the AfCFTA, including NMTs, could generate a 22-percentage point increase in intra-African agricultural trade by 2035 and contribute to increased food security through increased food availability. MacLeod (2025) estimates that the impact of liberalization under the AfCFTA is highest for trade in high-unit-value items like seafood, vegetables, fruits, and dairy. These findings are important from the lens of food security, as greater trade in these food items can improve the utilization dimension.

Finally, regional initiatives such as the Comprehensive Africa Agriculture Development Program (CAADP)—launched by the African Union in 2003 and augmented by specific commitments under the Malabo Declaration in 2014—can play an active role in achieving food security. The CAADP's objectives were to boost agricultural production with the help of several national and regional arrangements by: enhancing farmers' access to domestic, regional, and international markets; promoting agro-industrialization by increasing food processing capacities; carrying out trade policy reforms necessary for better integration under the AfCFTA (including harmonizing standards); building trade-related capacities; and better positioning Africa in the global economy based on comparative advantages in the agriculture sector. In line with these objectives, African countries were charged with developing national agriculture and food security investment programs, while RECs were tasked with creating regional agriculture investment programs (Ancharaz 2025). The Malabo Declaration added more specific commitments, including improving agricultural finance and boosting intra-African agricultural trade, among others. Despite the ambitious initiative, the lack of financial resources has largely undermined the outcome of the Malabo Declaration. Recently, the African Union launched the Kampala CAADP Strategy and Action Plan 2026–2035, aimed at increasing African agrifood output by 45 percent and tripling intra-African trade by the end of this period.[8] This ambitious plan aims to catalyze the implementation of the comprehensive agricultural reform plan under CAADP by strengthening cooperation between African RECs and governments.

8 African Union press release, May 2025 (https://au.int/en/pressreleases/20250506/au-launches-caadp-strategy-action-plan-2026-2035-caadp-kampala-declaration).

To better understand how trade can affect food security, the next section develops an index to assess food vulnerability in African countries.

Methodology: The integrated Food Import Vulnerability Index

Vulnerability can be defined as the effects of an increase in the international price of a food commodity on a country's food security; that is, the number of households unable to meet a minimum calorie intake (Minot et al. 2024). The FIVI provides a framework for assessing this vulnerability, which it quantifies by assessing the risk of worsening food insecurity in countries following an increase in the international price of a food commodity.

The initial version of FIVI provides a framework for comparison between countries and comprises three elements:

- The share of calories that the food commodity represents in the national diet,
- The share of national consumption of the commodity that comes from imports, and
- The share of the population that is food insecure.

Mathematically, the index is obtained by a geometric mean of the three main elements:

$$FIVI_{i,c} = 100\left(\frac{C_{i,c}}{\sum_i C_{i,c}}\right)^{\left(\frac{1}{3}\right)}\left(\frac{M_{i,c}}{Q_{i,c}}\right)^{\left(\frac{1}{3}\right)}(MFI_c)^{\left(\frac{1}{3}\right)}$$

where:

$FIVI_{i,c}$ = food import vulnerability index for commodity i and country c

$C_{i,c}$ = average caloric intake from commodity i in country c

$M_{i,c}$ = quantity of net imports of commodity i in country c

Q_{ic} = quantity of domestic consumption of commodity i in country c

MFI_c = share of the population that is moderately or severely food insecure in country c

Commodity-level FIVI scores show a country's vulnerability to higher world prices. Although this indicator provides a coherent framework for measuring vulnerability, some important trade dimensions are not integrated. For example, the concentration of imports, depending on the level of concentration, can affect a country's capacity to substitute its suppliers. As a result, a country with several partners from which it sources a food commodity is less vulnerable to external shocks and vice versa.

Failure to take this dimension into account could lead the FIVI to under- or overestimate exposure to food insecurity. Therefore, we add this dimension to the index to refine the measurement of food vulnerability. We use the standardized Herfindahl-Hirschmann concentration index by applying it to imports of agricultural products, obtained using the formula:

$$HHI_i = \frac{\sqrt{\sum_{j=1}^{N}\left(\frac{X_{i,j}}{X_i}\right)^2} - \sqrt{\frac{1}{N}}}{1 - \sqrt{\frac{1}{N}}}$$

where:

HHI_i = Concentration index for product i

$X_{i,j}$ = Value of imports of product i from country j

X_i = Total value of imports of product i

N = Total number of import suppliers

The resulting index varies between 0 and 1. The closer it is to 1, the more concentrated the imports of the product in the country in question, implying that the country has less ease in substituting partners in the event of shocks. This, in turn, implies greater vulnerability.

By incorporating this dimension into the initial version of the FIVI, the new index becomes:

$$FIVI_{ic} = 100\left(\frac{C_{i,c}}{\sum_i C_{i,c}}\right)^{\left(\frac{1}{4}\right)}\left(\frac{M_{i,c}}{Q_{i,c}}\right)^{\left(\frac{1}{4}\right)}(MFI_c)^{\left(\frac{1}{4}\right)}(HHI_{i,c})^{\left(\frac{1}{4}\right)}$$

The revised FIVI does have some limitations. One of the most important is that it does not consider internal disruptions (such as a drought or a local agricultural crisis) that also affect import dependence. As such, vulnerability measurement may lack precision.

5. Results

Focusing on 11 agricultural products (wheat, corn, rice, beans, cassava, bananas, plantains, sweet potatoes, potatoes, yams, and sunflower oil), we compare the revised FIVI values to those of the initial version. Integrating the concentration of imports leads to changes in countries' vulnerability ranking (indicated in green in Table 1.6). For example, Mauritania is no longer the most vulnerable in terms of wheat imports, but rather the DRC; Eswatini becomes the most vulnerable in potato imports, replacing Dibouti; and Libya is overtaken by Botswana in vulnerability in banana imports.

Table 1.6 Change in FIVI ranking for selected countries

Commodity	Rank with initial FIVI	Country	Rank with revised FIVI	Country
Wheat	1	Mauritania	1	DRC
	2	Djibouti	2	Djibouti
	3	Somalia	3	Lesotho
Maize	1	Lesotho	1	Lesotho
	2	Botswana	2	Botswana
	3	Eswatini	3	Eswatini
Potatoes	1	Djibouti	1	Eswatini
	2	Eswatini	2	Djibouti
	3	Cabo Verde	3	Namibia
Cassava	1	Rwanda	1	Rwanda
	2	Burundi	2	Burundi
	3	Uganda	3	Uganda
Sweet potatoes	1	Mauritania	1	Mauritania
	2	Botswana	2	Botswana

Commodity	Rank with initial FIVI	Country	Rank with revised FIVI	Country
Yams	1	Mali	1	Mali
	2	Gabon	2	Gabon
	3	Niger	3	Niger
Beans	1	Cabo Verde	1	Cabo Verde
	2	São Tomé and Principe	2	São Tomé and Principe
	3	South Sudan	3	DRC
Sunflower oil	1	Botswana	1	Botswana
	2	Namibia	2	Namibia
	3	Lesotho	3	Lesotho
Bananas	1	Libya	1	Botswana
	2	Botswana	2	Libya
	3	Lesotho	3	Lesotho
Plantains	1	Mauritania	1	Mauritania
	2	Senegal	2	Senegal
	3	Mali	3	Mali
Rice	1	Liberia	1	Liberia
	2	Gambia	2	Somalia
	3	Comoros	3	Comoros

Source: Authors' elaboration.

Beyond these shifts, the changes observed in countries' vulnerability ranking are even more significant, as they clearly illustrate that for countries initially dependent on imports, the lack of diversified import partners increases their vulnerability to exogenous shocks (Table 1.7). Indeed, the global market for agricultural products is not by nature concentrated relative to other markets, such as for fertilizer. As a result, trading partners, although dependent on imports, have more choices in terms of supply. In this context, the increase in their vulnerability does not result from a concentration of the global market for agricultural products, but rather from their choice not to diversify their international sources of supply.

This trend holds broadly for the products and countries considered (except for Mauritania with wheat), confirming the importance of refining the analysis of vulnerability. Indeed, not explicitly considering a country's ability to change suppliers mainly underestimates its level of vulnerability to imports. Furthermore, this trend confirms an Africa-wide structural context in which strong dependence on imports and weak diversification of import partners coexist.

We next conduct a specific analysis of vulnerability by country, considering the level of caloric intake as a discriminating criterion and focusing only on products that contribute at least 5 percent of national caloric intake. The results show that four countries are highly vulnerable (that is, they have an FIVI of 0.40–0.49): Lesotho (0.44), Botswana (0.42), and Eswatini (0.41) with maize, and Liberia (0.49) with rice. In these countries, where 56–81 percent of the population experiences food insecurity, maize and/or rice represent 6–12 percent of caloric needs. Therefore, stabilizing the supply of these two products is essential to combat food insecurity.

Ten countries are in the medium vulnerability category, with FIVIs ranging from 0.30 to 0.39. Eight countries have rice-related vulnerability: Sierra Leone (0.39), Comoros (0.39), Djibouti (0.37), Sao Tome and Principe (0.35), Benin (0.35), Gambia (0.35), Madagascar (0.34), and Guinea-Bissau (0.33). The other's vulnerability stems from wheat: Djibouti (0.38), São Tomé and Príncipe (0.35), Morocco (0.32), and Mauritania (0.32). For Benin and Gambia, which are re-exporters, the results must be interpreted with caution, as a significant portion of their imports is not used to meet domestic needs. Given the relatively high importance of their caloric intake (between 5 percent and 15 percent), it is important that their supply be stabilized to reduce their populations' exposure to food insecurity.

For cereals such as wheat, maize, and rice, food vulnerability is clearly critical. For example, although wheat represents only 3 percent of caloric intake continentwide, 87 percent of its supply is imported. In addition, the wheat import market is highly concentrated (its concentration index is 0.61). Thus, to reduce the degree of food vulnerability for this cereal—used in the production of several everyday food products—it is essential to either find a substitute less subject to international fluctuations (such as cassava) or to diversify its sources of supply. The situation for maize is similar: it provides 3 percent of caloric intake across the continent, 41 percent of its supply is imported, and its import market has a high concentration index (0.58). In this case, reducing food vulnerability requires increased domestic supply and/or more diversified trading partners. These actions are necessary in the short to medium term, especially for countries for which maize is relatively important for caloric intake, such as Lesotho (10 percent) and Zimbabwe (8 percent), with 57 percent and 71 percent of their populations, respectively, in a situation of food insecurity. Finally, food vulnerability related to rice is similar to that observed for wheat and corn: an average dependence on imports of 68 percent continentwide and a highly concentrated import market (index of 0.56).

These results highlight the importance of different African countries diversifying their trading partners to mitigate the effects of exogenous shocks on the supply of and access to agricultural goods and food products. Without this diversification and/or an increase in domestic supply, dependence on imports, on the one hand, and their concentration, on the other, will continue to expose countries to greater food vulnerability and, consequently, higher food insecurity.

On a continent where barriers to the development of continental, regional, and subregional trade remain significant, thus reinforcing dependence on extracontinental imports, the FIVI results legitimize the need to accelerate Africa's trade integration agenda. Indeed, the continent's high vulnerability in cereals, which originate from world granaries such as Ukraine's, should encourage African countries to reduce barriers to trade in these products. Doing so would reduce food vulnerability linked to extracontinental exogenous shocks, while more fluid trade could stabilize the intracontinental supply of agricultural products.

In conclusion, in Africa, where import dependence for agricultural and food products can be significant, the concentration of those imports plays an important role in assessing food vulnerability. This dimension should be factored into food vulnerability analyses to ensure the most accurate measurements and to help formulate appropriate public policy reforms to address food insecurity.

Table 1.7 Initial and revised FIVI for selected countries

Commodity	Country	Initial FIVI (%)	Initial level of vulnerability	Revised FIVI (%)	Revised level of vulnerability	Observations
Wheat	DRC	0.31	Medium	0.41	High	Increase and change of category
	Djibouti	0.33	Medium	0.38	Medium	Increase
	Botswana	0.27	Low	0.38	Medium	Increase and change of category
Maize	Lesotho	0.34	Medium	0.44	High	
	Botswana	0.31	Medium	0.42	High	
	Eswatini	0.30	Medium	0.41	High	
Potatoes	Djibouti	0.11	Very low	0.18	Low	
	Eswatini	0.11	Very low	0.19	Low	
	Cabo Verde	0.10	Very low	0.15	Very low	Increase
Cassava	Rwanda	0.14	Very low	0.23	Low	Increase and change of category
	Burundi	0.13	Very low	0.21	Low	
	Uganda	0.11	Very low	0.19	Very low	Increase
Sweet potatoes	Mauritania	0.05	Negligible	0.08	Negligible	
	Botswana	0.04	Negligible	0.08	Negligible	Increase
Yams	Mali	0.04	Negligible	0.08	Negligible	
	Gabon	0.03	Negligible	0.07	Negligible	
	Niger	0.03	Negligible	0.06	Negligible	

Table 1.7 Initial and revised FIVI for selected countries (cont'd)

Commodity	Country	Initial FIVI (%)	Initial level of vulnerability	Revised FIVI (%)	Revised level of vulnerability	Observations
Beans	Cabo Verde	0.11	Very low	0.19	Low	Increase and change of category
	São Tomé and Principe	0.10	Very low	0.18	Low	
	South Sudan	0.10	Very low	0.13	Low	
Sunflower oil	Botswana	0.21	Low	0.31	Medium	Increase and change of category
	Namibia	0.21	Low	0.31	Medium	
	Lesotho	0.17	Low	0.27	Low	
Bananas	Libya	0.08	Negligible	0.14	Very low	
	Botswana	0.07	Negligible	0.14	Very low	
	Lesotho	0.06	Negligible	0.12	Very low	
Plantains	Mauritania	0.06	Negligible	0.11	Very low	
	Senegal	0.04	Negligible	0.09	Negligible	Increase
	Mali	0.04	Negligible	0.09	Negligible	
Rice	Liberia	0.40	High	0.49	High	
	Gambia	0.36	Medium	0.40	High	
	Comoros	0.35	Medium	0.39	Medium	

Source: Authors' elaboration.

6. Conclusions and Policy Implications

Analysis of the structure of agricultural trade in Africa reveals that it is the weakest in the world. Since 2006, its trade has been characterized by an ongoing structural deficit due to African countries' dependence on imports of products subject to high price volatility on international markets, such as cereals, oils, and sugar. The leading importing countries are the largest in Africa, including Egypt, Algeria, Nigeria, South Africa, and Morocco. They mainly import cereals such as wheat, corn, and rice, which are used in the preparation of food products consumed almost daily in households (such as bread and rice). The leading exporters are South Africa, Morocco, Côte d'Ivoire, and Egypt, with exports dominated by fruit and nuts, as well as a few traditional cash crops, whose market values fluctuate less rapidly. Over the last decade, emerging economies such as China, Saudi Arabia, Brazil, and India have become important trade partners.

The structure of Africa's international trade is also reflected at the regional level, where trade is dominated by COMESA, SADC, and ECOWAS. These RECs also mainly import cereals. Conversely, clear specializations suggest the existence of comparative advantages in exports. For example, ECOWAS countries specialize in cocoa exports, EAC and COMESA in coffee and tea, and AMU in fruits and vegetables.

The importance of developing agricultural trade at both the international and regional levels is imperative, given the scale of food insecurity on the continent. Over the last decade, the prevalence of moderate and severe food insecurity among Africa's total population increased by 30 percent and 32 percent, respectively. This situation is partially linked to trade policies implemented to date. While we established a correlation between the level of trade protection and the prevalence of food insecurity, Africa remains the continent with the highest tariffs, leading to an equally high level of food insecurity. Moreover, African countries' dependence on imports and their low diversification of suppliers of imported products increase their vulnerability. The results of the revised IFVI indicate that, in the event of an increase in international prices, African countries are vulnerable to both a scarcity of supply, given more expensive goods, and a lack of diversification in imported food suppliers. The revised IFVI reveals a situation common to most regions and countries on the continent: low diversification of suppliers of imported agricultural products. Furthermore, the continent is most vulnerable in cereals, for which we observe a concentration of partners in favor of extracontinental economies. In a context where the obstacles to intra-African trade are greater than those faced by non-African partners, the results suggest that it is necessary to accelerate Africa's trade liberalization agenda. Doing so will reduce the continent's vulnerability to extracontinental exogenous shocks and give more leeway to trade to play a stabilizing role in situations of food insecurity.

African countries must work toward reducing NTM measures and customs tariffs, which constitute the main barriers to intra-African trade. This would increase the food supply of African products, develop local agrifood value chains, and facilitate households' economic access to food. Diversification of preferential trade agreements can reduce the vulnerability linked to the concentration of imports, promoting more potential partners for each product, and increasing resilience to negative shocks affecting various partners. The concurrent increase in national production due to agricultural specialization based on established comparative advantages, on the one hand, and the increase in intra-African trade, on the other, will reduce African countries' exposure to exogenous shocks.

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Appendix 1.1

Figure A1.1 Annual growth in African exports and imports (%), 2004–2023

Source: AATM database 2025.

Table A1.1 Structural determinants of trade by region

	Tariff	Time to trade	Infrastructure	Institutions
East Asia & the Pacific	5.08	9.56	3.26	0.27
Europe & Central Asia	3.05	5.34	3.19	0.63
Latin America & the Caribbean	8.51	9.89	2.43	-0.14
Middle East & North Africa	4.64	7.79	2.68	-0.29
North America	9.11	-	3.80	1.25
South Asia	12.39	11.51	2.39	-0.44
Sub-Saharan Africa	11.16	8.31	2.19	-0.72

Source: Authors' elaboration using the World Development Indicators.

Note: (1) Figures indicate the average by region and over the period 2014–2023. (2) "Tariff" is measured by the applied simple mean rate on all products (%). (3) "Time to trade" is measured by the mean of the average time to clear exports and imports through customs (days). (4) "Infrastructure" is measured by the logistics performance index related to the quality of trade and transport-related infrastructure (1=low to 5=high). (5) "Institutions" is measured by the estimate of the rule of law from Worldwide Governance Indicators. The indicator ranges from approximately -2.5 to 2.5.

Table A1.2 List of agricultural products

HS2		Description
01		Animals; live
02		Meat and edible meat offal
03		Fish and crustaceans, mollusks, and other aquatic invertebrates
04		Dairy produce; birds' eggs; natural honey; edible products of animal origin, n.e.s.
05		Animal originated products; not elsewhere specified or included
06		Trees and other plants, live; bulbs, roots, and the like; cut flowers and ornamental foliage
07		Vegetables and certain roots and tubers; edible
08		Fruit and nuts, edible; peel of citrus fruit or melons
09		Coffee, tea, mate, and spices
10		Cereals
11		Products of the milling industry: malt, starch, inulin, wheat gluten
12		Oil seeds and oleaginous fruits; miscellaneous grains, seeds, and fruit, industrial or medicinal plants; straw and fodder
13		Lac; gums, resins, and other vegetable saps and extracts
14		Vegetable plaiting materials; vegetable products not elsewhere specified or included
15		Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes
16		Meat, fish, or crustaceans, mollusks, or other aquatic invertebrates; preparations thereof
17		Sugar and sugar confectionery
18		Cocoa and cocoa preparations
19		Preparations of cereals, flour, starch, or milk; pastrycooks' products
20		Preparations of vegetables, fruit, nuts, or other parts of plants
21		Miscellaneous edible preparations
22		Beverages, spirits, and vinegar
23		Food industries, residues and wastes thereof; prepared animal fodder
24		Tobacco and manufactured tobacco substitutes
29	290543	Alcohols; polyhydric, mannitol
29	290544	Alcohols; polyhydric, d-glucitol (sorbitol)
33	3301	Oils; essential (concretes, absolutes); concentrates thereof in fats, fixed oils, waxes or the like (obtained by enfleurage or maceration); aqueous distillates, solutions and terpenic by-products thereof; resinoids; extracted oleoresins
35	3501	Casein, caseinates, and other casein derivatives; casein glues
35	3502	Albumins (including concentrates of two or more whey proteins, containing by weight more than 80% whey proteins, calculated on the dry matter), albuminates, and other albumin derivatives
35	3503	Gelatin (including gelatin in rectangular sheets, whether or not surface-worked or colored) and gelatin derivatives; isinglass; other glues of animal origin, excluding casein glues of heading no. 3501
35	3504	Peptones and their derivatives; other protein substances and their derivatives n.e.c. or included; hide powder, whether or not chromed
35	3505	Dextrins and other modified starches (e.g., pregelatinised or esterified starches); glues based on starches or on dextrins or other modified starches

HS2		Description
38	380910	Finishing agents and dye carriers; to accelerate dyeing or fixing of dye-stuffs, other products and preparations, used in textile, paper, leather, etc. industries, with basis of amylaceous substances, n.e.c.
38	3824.60	Sorbitol, other than that of subheading 2905.44
41	4101	Raw hides and skins of bovine (including buffalo) or equine animals (fresh, salted, dried, limed, pickled, otherwise preserved but not tanned, parchment dressed or further prepared), whether or not dehaired or split
41	4102	Raw skins of sheep or lambs (fresh, salted, dried, limed, pickled or otherwise preserved, but not further prepared), whether or not with wool on or split
41	4103	Raw hides and skins n.e.c in headings no. 4101, 4102; fresh, salted, dried, pickled or otherwise preserved, not further prepared, whether or not dehaired or split
43	4301	Raw furskins (including heads, tails, paws, other pieces or cuttings, suitable for furriers' use), excluding raw hides and skins of heading no. 4101, 4102, or 4103
50	5001	Silk-worm cocoons suitable for reeling
50	5002	Raw silk (not thrown)
50	5003	Silk waste (including cocoons unsuitable for reeling, yarn waste, and garnetted stock)
51	5101	Wool, not carded or combed
51	5102	Fine or coarse animal hair, not carded or combed
51	5103	Waste of wool or of fine or coarse animal hair, including yarn waste but excluding garnetted stock
52	5201	Cotton; not carded or combed
52	5202	Cotton waste (including yarn waste and garnetted stock)
52	5203	Cotton, carded or combed
53	5301	Flax, raw or processed but not spun; flax tow and waste (including yarn waste and garnetted stock)
53	5302	True hemp (cannabis sativa L.), raw or processed but not spun; tow and waste of true hemp (including yarn waste and garnetted stock)

Source: Authors' elaboration using the AATM 2025 database.

Note: We adopt an extended definition of the World Trade Organization (WTO) as we add HS 03 fisheries to the WTO definition.