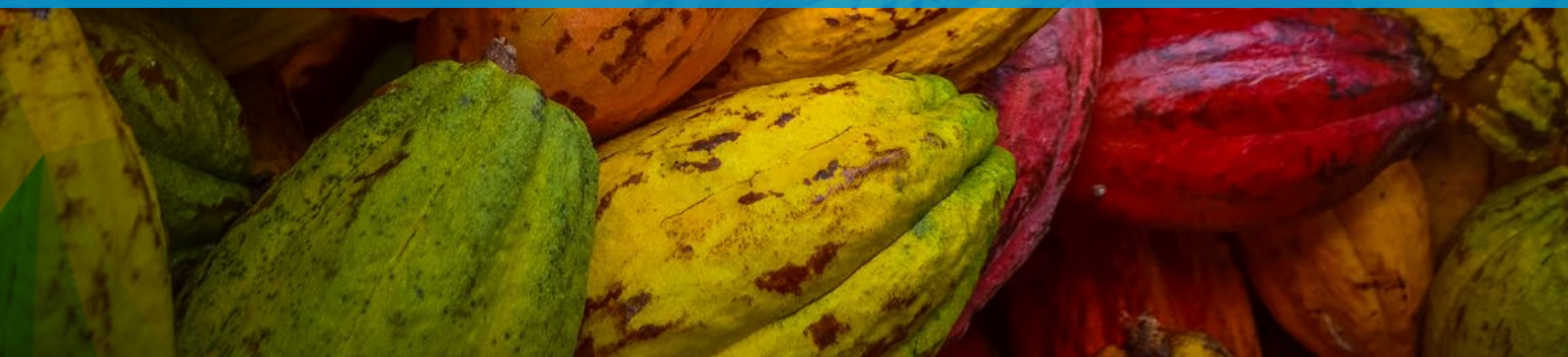
UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SUSTAINABLE DEVELOPMENT GOALS

# STANDARDS COMPLIANCE ANALYTICS

## BORDER REJECTIONS IN MAJOR GLOBAL MARKETS
## GHANA



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January 2024

# INTRODUCTION

Technical regulations and standards are increasingly prevalent and continuously evolving in the international trade of food and nonfood (industrial) products. Moreover, there is evidence that many developing countries face challenges in complying with the safety and quality requirements that these regulations and standards lay down. Since 2008, the United Nations Industrial Development Organization (UNIDO) has consistently gathered evidence on trade-related challenges and their evolution, particularly in the area of compliance with international market requirements, including quality, certification, and labeling.

In their efforts to improve compliance, the challenge for national governments and donors is to allocate scarce financial and technical resources amongst a plethora of capacity building needs. Therefore, there is a need to identify where the most acute compliance challenges are faced—in a trade context this means identifying the products and markets with the highest rates of non-compliance—thus, recording rejections. To address this need, the Standards Compliance Analytics (SCA) tool can be used to leverage rejection data and determine the key compliance challenges faced by exporting countries. Consequently, this tool enhances the targeting of investments in building relevant compliance capacities. More detailed information about the SCA tool can be found in the Annex.

Using the SCA tool, this report analyzes the trends and patterns of Ghanaian agri-food import rejections in five major international markets, namely Australia, China, the European Union (EU-28), Japan, and the United States (US). The objective of this report is to gain insights into the challenges faced by Ghana in complying with product quality and safety standards and regulations in agri-food trade, both within regional and global markets.

The present report was prepared by UNIDO and was validated during a roundtable workshop. During this workshop, valuable feedback was provided by attendees from the Ministry of Food and Agriculture (MoFA), the Food and Drugs Authority (FDA), the Ghana Standards Authority (GSA), the Ghana Export Promotion Authority (GEPA), the West Africa Competitiveness Programme (WACOMP), and the Global Quality and Standards Programme (GQSP) country teams in Ghana. Based on the analysis of the rejection data and consultation with various stakeholders, recommendations are provided and can be divided into three categories: National quality infrastructure system; Industry compliance, competitiveness, and sustainability; and Culture for quality.

The report was developed under the Global Quality and Standards Programme (GQSP), funded by Switzerland through its State Secretariat for Economic Affairs (SECO).

The UNIDO Knowledge Hub offers abundant information, online trainings, and digital tools about Quality Infrastructure, including the SCA tool. Any feedback and comments on this report are welcomed and can be addressed to knowledgehub@unido.org.

# CONTEXT

# A. COUNTRY PROFILE


| | |
|---|---|
| **Country** | **The Republic of Ghana** |
| **Continent** | **Western Africa** |
| **Population** | **32.8 million** (2021) |
| **GDP** | **USD 77.59 billion** (2021) |
| **GDP per capita** | **USD 2,363** (2021) |
| **Value added by Agriculture, Forestry and Fishing** | **19.7%** of GDP (2021) |
| **Food Safety Index** | **87** (2017) |
| **Logistics Performance Index (overall)** | **2.5** (2023) |
| **3 Year Average of Food Production** | **188** (2015–2017; unit: USD 1 per capita) |

Ghana, formerly known as the Gold Coast, is a Western African country situated on the coast of the Gulf of Guinea and bordered to the northwest and north by Burkina Faso, to the east by Togo, to the south by the Atlantic Ocean, and to the west by Côte d'Ivoire. Although it is a relatively small country in terms of surface area and population, Ghana stands as one of the leading economies in Africa thanks to its considerable and abundant natural wealth.[1] Ghana currently also ranks in the top three African countries for freedom of speech and press and has made major advances towards having a fully-fledged functional democracy operating under a multi-party system.[2]

As per the World Bank's assessment, Ghana is a **lower middle income**[3] country with a Human Development Index (HDI) value of **0.632,**[4] which puts it in the Medium human development category—positioning it at 133 out of 191 countries and territories in 2021. Between 1990 and 2021, Ghana's HDI value rose from 0.460 to 0.632, representing an impressive growth of 37%. Nonetheless, the uneven distribution of human development reveals a decline of 27.5% in its HDI compared to the preceding year, 2020. For instance, Ghana continues to grapple with elevated levels of gender inequality, ranking at 130th place out of 170 countries in 2021 relative to the disparities between female and male achievements. This is further reflected by its Gender Inequality Index value of 0.529 recorded in 2021, indicating a marginal reduction from the value of 0.63 observed in 2019. The pervasiveness of this heightened inequality further manifests in regional divergences, with the southern region having better access to education, enhanced infrastructure, and greater income in comparison to the northern region.[5]

The government, led by the New Patriotic Party (NPP), retained power in 2020 and is striving to deliver effective and efficient public services and work towards fiscal consolidation. Unfortunately, due to the drop in oil prices, the collapse in cocoa export revenues, and the COVID-19 pandemic, the country dove into an economic recession. In addition, Ghana's public accounts have deteriorated, with debt rising significantly from 63.9% of the GDP in 2019 to 78% of the GDP in 2021. It is therefore no wonder that Ghana continues to be classified as having a high risk of debt

[1] Britannica (2023). *Ghana*. https://www.britannica.com/place/Ghana#ref55169

[2] World Bank. The World Bank In Ghana. https://www.worldbank.org/en/country/ghana/overview

[3] World Bank. World Bank Country and Lending Groups. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

[4] United Nations Development Programme (2020). Human Development Report. The Next Frontier: Human Development and the Anthropocene. http://hdr.undp.org/sites/default/files/Country-Profiles/GHA.pdf

[5] Bertelsmann Stiftung's Transformation Index (2022.). *BTI 2022 Country Report - Ghana.* https://bti-project.org/fileadmin/api/content/en/downloads/reports/country_report_2022_GHA.pdf

**TABLE 1:** INTERNATIONAL LPI IN 2023 – GHANA

**DATA TABLE**

*(Toggle Rank and Score for Subindicators)*

| Country | Year | LPI Score | Customs | Infrastructure | International shipments | Logistics competence | Tracking & tracing | Timeliness |
|---|---|---|---|---|---|---|---|---|
| Ghana | 2023 | 2.5 | 2.7 | 2.4 | 2.4 | 2.5 | 2.2 | 2.7 |

distress by the International Monetary Fund (IMF).[6] In 2021, Ghana's economy managed to bounce back, achieving a growth rate of 5.4% growth, a significant improvement compared to the 0.5% rate recorded in 2020. However, in early 2022, despite Ghana's ranking as the second biggest cocoa producer in the world, its currency (cedi) slumped to a more than 45% loss and inflation stood at a staggering 34% according to the Bank of Ghana.[7] These figures have had an adverse effect, plunging millions of Ghanaians into extreme poverty. In this current economic context, enacting the "Coordinated Programme of Economic and Social Development Policies (2017–2024)" spearheaded by the Government of Ghana will be difficult. Due to these mounting pressures, Ghana reached an agreement with the IMF of about USD 3B, which will allow Ghana to fund a programme aimed at restoring macroeconomic stability and debt sustainability while laying the foundation needed for a resilient and inclusive recovery.

The Logistic Performance Index (LPI) measures the efficiency of trade-related logistics activities in a country, including international shipment, logistics quality, customs clearance, infrastructure, and tracking and tracing. Thus, a higher LPI score indicates better logistics performance and greater competitiveness in the global market. A key component of the country's exports business, Ghana's LPI is presented in **Table 1.**[8] The overall LPI score is **2.5** and Ghana is ranked **97th** out of 139 countries in the study. In a mere five years, Ghana climbed 9 places in the rankings, moving up from the 106th position it held in 2018.[9]

The Global Competitiveness Index (GCI) comprises up to 103 indicators derived from a combination of data sources from international organizations and the World Economic Forum's survey. It encompasses various factors, including institutions, infrastructure, Information and Communications Technology (ICT) adoption, macroeconomic stability, health, skills, product market, labor market, financial system, market size, business dynamism, and innovation capability, among others. The GCI provides a score ranging between 1 to 100. In 2019, Ghana obtained a score of 51.2, ranking 111th out of 141 countries,[10] and experienced a five-place decline compared to the previous year. Within the Economic Community of West African States (ECOWAS), Ghana had a higher ranking than Nigeria (116th), Cote d'Ivoire (118th), and Guinea (122nd) in 2019. Regarding the 12 pillars or economic drivers, Ghana ranks 91st in terms of Economic Openness. The "Market Access and Infrastructure" pillar has seen more improvement than any other, credited to enhanced communications, border administration, and access to global markets. However, it remains its lowest-ranking pillar, standing at 115th globally. The next weakest pillar is its Investment Environment, which has witnessed a decline in the last decade due to increased restrictions on international investment. Ghana's most promising pillar is Governance, securing the 55th rank. This favorable ranking can be attributed to the strength of Ghanaian formal institutions.[11]

The agriculture sector, which includes the forestry and fisheries sub-sectors, contributed to **19.7%**[12] of Ghana's gross domestic product (GDP) and employed **39%** of the workforce in 2021,[13] according to the World Bank. The industrial sector accounted for **28.3%**[14] of the country's GDP and employed **19%**[15] of the active population in 2021. This sector is focused on mining, lumbering, light manufacturing, aluminum smelting, food processing, small commercial ship building and petroleum. Mining of gold, bauxite, and manganese are important industrial activities. Despite Ghana's wide range of minerals, only the ones previously mentioned are currently being exploited.[16] Ghana exports cars to other countries in Africa and enjoys a well-developed automotive industry. Since 2006, the services sector

[6] BNP Paribas (2023, October 16). Ghana: Des progres mais beaucoup de fragilites. https://economic-research.bnpparibas.com/pdf/fr-FR/Ghana-progres-beaucoup-fragilites-16/10/2023,48980

[7] Hyde, P. (2022). *Ghana's Woeful Economic Crisis: The Challenges Ahead*. Forbes Africa Forbes. https://www.forbesafrica.com/economy/2022/11/02/ghanas-woeful-economic-crisis-the-challenges-ahead/

[8] World Bank. International LPI – Ghana. 2023. https://lpi.worldbank.org/international/global

[9] World Bank. International LPI – Global Ranking 2018. https://lpi.worldbank.org/2018

[10] Schwab, K. World Economic Forum. 2019. The Global Competitiveness Report 2019. https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

[11] Brien, S., & Herring, D. (2019). *Economic Openness - Ghana Case Study 2019*. https://docs.prosperity.com/5016/8027/7473/GIEO-Ghana-Case-Study-web.pdf

[12] World Bank (2021). Agriculture, forestry, and fishing, value added (% of GDP) - Ghana. https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=GH

[13] World Bank (2021). Employment in agriculture (% of total employment) (modeled ILO estimate). https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=GH

[14] World Bank (2021). Industry (including construction), value added (% of GDP) - Ghana. https://data.worldbank.org/indicator/NV.IND.TOTL.ZS?locations=GH

[15] World Bank (2021). Employment in industry (% of total employment) (modeled ILO estimate). https://data.worldbank.org/indicator/SL.IND.EMPL.ZS?locations=GH

[16] Lloyds Bank (2023). Ghana: Economic and Political Overview. https://www.lloydsbanktrade.com/en/market-potential/ghana/economical-context

has continued to rise in importance in its contribution to Ghana's economy. Indeed, it accounted for **45.9%**[17] of the GDP and employed 41% of the population in 2021.[18] The services sector has now surpassed both the agriculture and the industry sectors in terms of contribution to the GDP. However, the agricultural sector remains of key importance as it supplies nearly 70% of the national food demand and represents more than 10% of export revenues since 2015. It also provides livelihoods for nearly 75% of the rural population in Ghana.

# B. AGRICULTURE SECTOR

Ghana's agricultural sector has performed fairly well since the 1980s in terms of growth, labor, productivity, and incomes, and has had a positive impact on reducing rural poverty. However, it still has a lot more potential to become a more significant source of export earnings beyond cocoa and to reduce the country's dependence on imported food. Indeed, food and agricultural imports will continue to grow as Ghana's underdeveloped food processing sector is unable to meet increasing demand. Food imports mostly comprise bulk, intermediate, and consumer-oriented commodities such as rice, wheat, soybean meal, and poultry.[19] Other concerns that need to be addressed include the sustainability of the recent pattern of agricultural growth with its heavy reliance on expanding the cropped area rather than moving towards more intensive farming practices that can increase land productivity. Challenges facing the sector include poor financial support to farmers, inadequate transportation and storage facilities, and low rate of mechanization.

As part of Ghana's Strategy Support Programme Growth, the Poverty Reduction Strategy, Medium-Term Agriculture Sector Investment Plan (METASIP) and the Food and Agriculture Sector Development Policy (FASDEP), Ghana designed policies to develop the agricultural, fishing, and forestry sectors which will focus on the Northern region. Investing in the agricultural sector should have a positive trickle-down effect on food security, job creation, and the generation of foreign exchange earnings.[20] In addition, the Agenda for Transforming Ghana's Agricultural Sector (2022–25) prioritizes the development of policies for natural resource adaptation and protection, implementing improved risk management instruments and their coordination between local and national governments.

## Agricultural production:

Ghana spans 238,539 square kilometers of which 57%[21] is agricultural land. Its flagship commodity, cocoa, is cultivated on more than half of Ghana's arable land and contributes significantly to the country's total foreign exchange earnings, second only to mineral exports. While the cocoa sector's overall contribution to GDP is about **3.5%**, it makes up about a quarter of total export receipts, while also providing about two-thirds of cocoa farmers' incomes[22]. Therefore, Ghana's economy remains tightly linked to the world price of cocoa beans. In 2021, cocoa was forecast to contribute 2.25B Ghanaian Cedis—equivalent to around **USD 390M**—to the GDP. Ghana is the second-largest producer of cocoa in the world (after Côte d'Ivoire) with a market share of about 20%.

In the 1970s, cocoa bean production fell sharply due to aging trees, draughts, poor transportation facilities, lack of incentives to farmers, and smuggling across Ghana's borders. In 1979, the Cocoa Marketing Board was abolished as there were charges of corruption but it was later reinstated in 1985 as the Ghana Cocoa Board. In 1992, the government started to allow private traders to compete in the domestic market. By the late 1990s, the farmers' share of world market prices had increased from 25% to 60%, which provided farmers with a good incentive to increase production. In addition, **timber** has also been an important source of foreign exchange earnings. However, toward the end of the 20th century, the amount of timber exported dropped significantly due to restrictions on cutting and exporting round logs. The soil and climate favor a wide range of crops including **yams** and **cereals** such as rice and millet, which are produced primarily in the northern savanna zone; **cattle** are also raised there. In the forests, shea nuts and kola nuts are being produced. There is support for the diversification of food production to reduce the need to import food products. However, as there is also an emphasis on continuing to produce specific exports capable of earning foreign revenues, diversification has yielded a mixed response. In addition to cocoa beans and timber, other agricultural exports include **sugar**, **coffee**, **palm oil**, and various **fruits** and **vegetables**.

The African Cashew Alliance (ACA) estimates that over 800,000 people are directly and indirectly employed across the cashew supply chain, including farmers, factory workers, buyers, and exporters. With an estimated annual production of between **110,000** and **130,000 tons** of raw cashew nuts (RCNs), about **85%** of which are exported, cashew has for the past five years been one of the top non-traditional export commodities in Ghana. Indeed, the country has earned USD 128.7M from cashew nuts exports in the first quarter of 2021.[23] Similarly, palm oil is the most important edible oil in Ghana and in the West African region. As of 2021, the

[17] World Bank (2021). Service, value added (% of GDP). https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?locations=GH

[18] World Bank (2021). Employment in services (% of total employment) – Ghana. https://data.worldbank.org/indicator/SL.SRV.EMPL.ZS?locations=GH

[19] International Trade Administration. (2021, July 22). Ghana - Country Commercial Guide. https://www.trade.gov/country-commercial-guides/ghana-agricultural-sectors

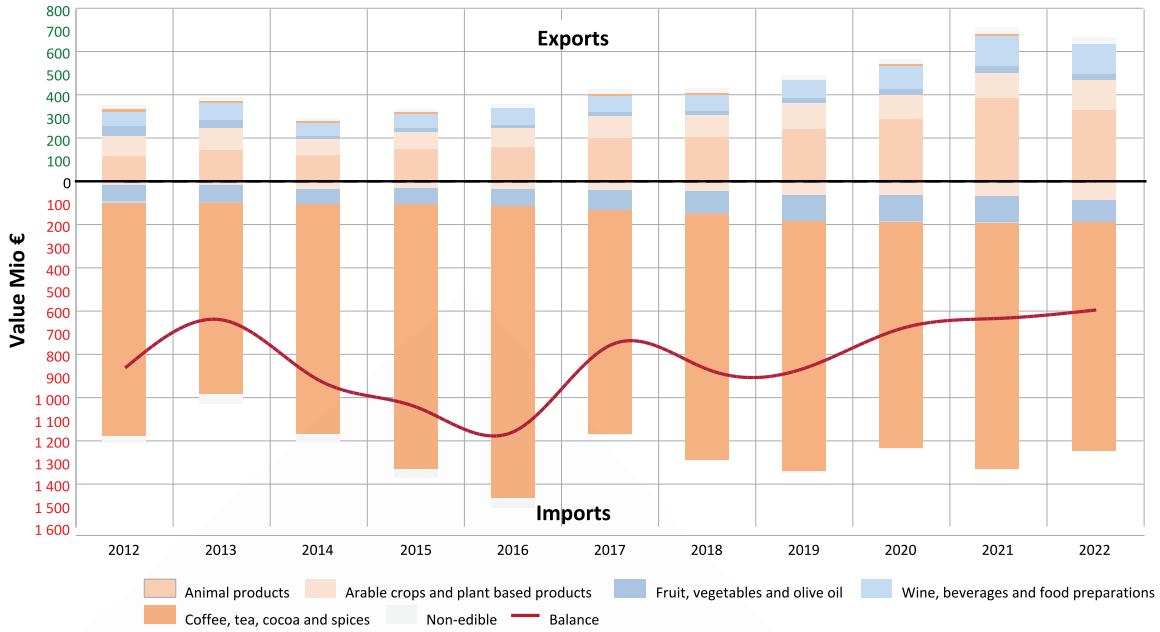
[20] Ferreira, V., Almazán-Gómez, M. Á., Nechifor, V., & Ferrari, E. (2022). The role of the agricultural sector in Ghanaian development: A multiregional SAM-based analysis. Journal of Economic Structures. https://doi.org/10.1186/s40008-022-00265-9

[21] Trading Economics. Ghana – Surface Area (Sq km). https://tradingeconomics.com/ghana/surface-area-sq-km-wb-data.html

[22] The OPEC Fund for International Development (2022, June 2). "Ghana is cocoa, cocoa is Ghana". OPEC FUND. https://opecfund.org/news/ghana-is-cocoa-cocoa-is-ghana#:~:text=Ghana%20is%20the%20second%2Dlargest,second%20only%20to%20mineral%20exports

[23] African Cashew Alliance (2021, December 14). Setting minimum cashew prices in Ghana: Getting it right. ACA. https://africancashewalliance.com/en/news-and-info/blog/setting-minimum-cashew-prices-ghana-getting-it-right#:~:text=Cashews%20are%20produced%20in%20Ghana,for%20local%20consumption%20and%20export

**FIGURE 1:** STRUCTURE OF EU AGRI-FOOD TRADE WITH GHANA, 2012–2022




country's crude palm oil production had increased to **375,000 tons**, doubling its production in a decade.[24] Finally, Ghana's offshore waters are rich in fish and the creation of Lake Volta has also added an important source of fish for the domestic market. Certain fish, especially tuna, are directed to the overseas markets, and exported.[25]

## Agriculture exports:

In 2021, Ghana exported a total of USD 14.1B in products, ranking it as the **84th exporter** country in the world.[26] However, Ghanaian exports unfortunately decreased from USD 16.2B in 2016 to USD 14.1B in 2021. The most recent exports comprised gold (USD 5.29B), crude petroleum (USD 3.57B), cocoa beans (USD 1.51B), cocoa paste (USD 477M), coconuts, Brazil nuts, and cashews (USD 477M). The most common destinations for Ghana's exports were Switzerland (USD 2.44B), the United Arab Emirates (USD 1.73B), the United States (USD 1.56B), India (USD 1.53B), and China (USD 1.27B).

As for the agricultural sector, Ghana exported **USD 2.71B** in foodstuffs in 2021. During the same year, foodstuffs were the 3rd most exported product in Ghana. The main destination were the Netherlands (USD 568M), the United States (USD 237M), Malaysia (USD 234M), France (USD 215M), and Germany (USD 167M).[27] As for vegetable products, exports were valued at **USD 710M** and the main destinations were Vietnam (USD 273M), India (USD 182M), the United Kingdom (USD 63M), France (USD 30.8M), and Germany (USD 25.2M).[28] As cocoa is the main source of income for more than 800,000 smallholder farmers in Ghana, it comes as no surprise that cocoa beans exports were valued at USD 1.5B in 2021, making Ghana is the **2nd largest exporter** of cocoa beans in the world. The main destinations were the Netherlands (USD 230M), Malaysia (USD 216M), the United States (USD 130M), Brazil (USD 115M), and France (USD 96.3M).[29] The export of agricultural food and feed products to the European Union (EU) as shown in **Figure 1**[30] has decreased very slightly (by 3%) from 2018 to 2022.

# C. INTERNATIONAL TRADE

Since January 1995, Ghana has been a member of the World Trade Organization (WTO). Ghana is a member of the Economic Community of West African States

[24] Awere, E., Bonoli, A., Appiah Obeng, P., Pennellini, S., Bottausci, S., Kwaasi Amanor, W., & Kekeli Akuaku, E. (2022). Small-Scale Palm Oil Production in Ghana: Practices, Environmental Problems and Potential Mitigating Measures. Climate Change Hub. https://doi.org/10.5772/intechopen.106174

[25] Britannica. Economy of Ghana. https://www.britannica.com/place/Ghana/Economy

[26] Observatory of Economic Complexity. Country Profile-Ghana. OEC. https://oec.world/en/profile/country/gha

[27] OEC. The Observatory of Economic Complexity. Foodstuffs in Ghana. https://oec.world/en/profile/bilateral-product/foodstuffs/reporter/gha

[28] Observatory of Economic Complexity. Vegetable products in Ghana. OEC.https://oec.world/en/profile/bilateral-product/vegetable-products/reporter/gha

[29] OEC. The Observatory of Economic Complexity. Cocoa Beans in Ghana. https://oec.world/en/profile/bilateral-product/cocoa-beans/reporter/gha

[30] EU Commission Directorate-General for Agriculture and Rural Development (2023, April 18). AGRI-FOOD TRADE STATISTICAL FACTSHEET European Union - Ghana. EU Commission. https://agriculture.ec.europa.eu/system/files/2023-05/agrifood-ghana_en.pdf

(ECOWAS), which translates into enjoying a duties and tariff-free trade relationship on imports and exports with the other member states through the ECOWAS Trade Liberalization Scheme (ETLS).[31] Other members of ECOWAS include Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, The Gambia, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, and Togo.

The EU and Ghana have concluded the Ghana-European Union interim Economic Partnership Agreement (iEPA), which came into effect on 1 July 2021. Under the iEPA terms, Ghana will proceed with cumulative tariff cuts for 22% of applicable tariff lines by the end of 2021, 50% by the end of 2024, and 100% by the end of 2029 on European exports.[32] As for Ghanaian exports to the EU, they have been enjoying duty-free quota-free access since December 2016.[33] Some products are excluded from the agreement, such as cotton, textiles, olive oil, meat, coffee, and cocoa. This Agreement will be replaced by the regional EU-West Africa EPA, once the latter enters into force.[34] Ghana has a similar interim trade agreement with the United Kingdom and Northern Ireland, which was also signed in 2021 and replicates the tariff treatment under the Ghana-EU EPA. Ghana has a Trade and Investment Framework Agreement (TIFA) with the US, which allows many Ghanaian exports to the US to benefit from duty-free tariff preferences under the African Growth and Opportunity Act (AGOA) and the Generalized System of Preferences (GSP) programme.

One of the flagship projects of the African Union's Agenda 2063, known as *The Africa We Want*, is the African Continental Free Trade Area (AfCFTA). This groundbreaking agreement aims to eliminate trade barriers within Africa, enabling the free flow of goods and services and ultimately creating a single market for the continent, thereby significantly boosting intra-Africa trade.[35] Currently, for all African regional communities, more than 60% of exports were intended for markets outside the continent and more than 80% of imports originated from outside Africa. Moreover, the majority of these exports were focused within a given regional economic community.[36] While the operational phase of the AfCFTA was officially launched in July 2019, trade activity has yet to start under the agreement. However, in October 2022, the AfCFTA Guided Trade Initiative was introduced to pilot the operational, institutional, legal, and trade policy framework among the eight participating countries, namely Cameroon, Egypt, Ghana, Kenya, Mauritius, Rwanda, Tanzania, and Tunisia.[37] As of August 2023, 47 of the 54 signatory countries, which include Ghana, have deposited their instruments of AfCFTA ratification.

[31] ECOWAS Trade Liberalisation Scheme. FAQs. https://etls.ecowas.int/faqs/

[32] International Trade Administration (2022, July 22). Ghana-Country Commercial Guide. Trade Agreement. https://www.trade.gov/country-commercial-guides/ghana-trade-agreements

[33] HKTDC Research (2021, August 11). Ghana: EU Economic Partnership Agreement Implemented. https://research.hktdc.com/en/article/ODIzNDgoNzU2#:~:text=Ghana%20has%20begun%20implementing%20the,export%20volume%20to%20the%20country

[34] The regional EU-West Africa Economic Partnership Agreement was signed in December 2014 by the European Union and 13 West African Countries. The agreement will enter into provisional application if the 16 West African Countries sign the agreement and two third of these countries ratify it. In 2018, both the Gambia and Mauritania signed the agreement, which means that only Nigeria's signature is still missing.

[35] East African Community. African Continental Free Trade Area (AfCFTA) Agreement. EAC. https://www.eac.int/trade/international-trade/trade-agreements/african-continental-free-trade-area-afcfta-agreement#:~:text=The%20AfCFTA%20entered%20into%20force,continental%20engagements%20spanning%20since%202012

[36] United Nations Economic Commission for Africa (2020). Identifying priority products and value chains for standards harmonization in Africa. Technical study. UNECA. https://www.paqi.org/wp-content/uploads/2020/10/ATPC_Identifying-priority-products-and-value-chains-for-standards-harmon....pdf

[37] African Growth and Opportunity Act (2023, September 06th). Status of AfCFTA Ratification. AGOA. https://www.tralac.org/resources/infographic/13795-status-of-afcfta-ratification.html

# STANDARDS COMPLIANCE ANALYSIS

# A. COMPLIANCE WITH REGULATIONS IN AGRI-FOOD TRADE

Established in August 1967 as the National Standards Board, Ghana's National Standards Body underwent a subsequent name change to the Ghana Standards Board through the Standards Decree 1973 (NRCD 173). In 2011, it was further renamed the **Ghana Standards Authority** (GSA). The GSA serves as the national government agency responsible for metrology, standardization, testing, inspection, and certification. While standards are applied on a voluntary basis, technical regulations retain their mandatory status. Additionally, the GSA offers vital trade-related information to assist stakeholders in Ghana in accessing their target markets. It also promptly addresses technical inquiries from other WTO members concerning Ghana's domestic regulations. Notably, the Ghana Standards Authority National Enquiry Point has received designation as one of two WTO Reference Centers (RC) in Ghana. The WTO RC serves as a dedicated physical location for government officials, professionals from the private sector and academia, and the general public to access pertinent trade-related information, trade and tariff databases, as well as other relevant WTO documents.[38]

The GSA develops and publishes standards and ensures that products entering Ghana meet acceptable standards. It also provides certification services as a third-party certification body for several ISO standards. Ghana has 3,356 national standards on food and indigenous agricultural products, such as cassava chips and shea butter, among other commodities. The Ghanaian Food and Drug Authority is responsible for enforcing standards for food, drugs, cosmetic, and health products.

In June 2022, a new Standard Authority Bill was passed by the Ghanaian Parliament and has subsequentially received presidential approval. It gives the GSA more power to prosecute companies for non-compliance with standards. The law also aims to consolidate three laws related to standards, conformity assessment, and metrology, namely the Standards Authority Act of 1973 (NRCD 173), the Weights and Measures Act of 1975 (NRCD 326), and the Laws of Ghana Act of 1998 (Act 567), into one law.[39]

Ghana is a participating member (P member) in 16 ISO committees, encompassing a diverse range of fields, such as food products (Cocoa-Secretariat), Environmental Management, cosmetics, timber, cross-border trade of second-hand goods, Occupational Health and Safety Management systems, clean cook stoves and clean cooking solutions, and Bamboo and Rattan Management Systems for Food Safety. Furthermore, Ghana also enjoys Observer member (O member) status in ISO committees including Information Technology, Human Resource Management, and domestic gas cooking appliances. Additionally, Ghana actively engages in ISO's Policy Development Committees, namely the Committee on Conformity Assessment (CASCO), the Committee on Consumer Policy (COPOLCO), and the Committee on Developing Country Matters (DEVCO).

[38] Ghana Standards Authority. Standards. GSA. https://www.gsa.gov.gh/standards/

[39] Ghana News Agency (June 2022). Parliament passes standards authority bill. https://gna.org.gh/2022/06/parliament-passes-standards-authority-bill/

# Quality Infrastructure for Sustainable Development Index:

The Quality Infrastructure for Sustainable Development (QI4SD) Index, developed by UNIDO, provides a framework of indicators that summarizes the overall state of development of a country's and/or region's Quality Infrastructure (QI) readiness to support the Sustainable Development Goals (SDGs). Countries are organized into GDP groups and within these groups, countries are ranked based on their QI readiness to implement the SDGs. It is important to note that the majority of the ranking information relates to ranks within these groups and that even within the same GDP groups, countries vary considerably in size and other growth indicators. The data from the INetQI (International Network on Quality Infrastructure) organizations was collected from February to June 2021. However, the data year might differ from the year of collection as these organizations have different timeframes for updating their own information.

QI4SD is a multidimensional concept and is decomposed into the following five dimensions that are captured with 36 indicators from combined data sources: Metrology, Standardization, Conformity Assessment, Accreditation, and Policy.

Ghana has a QI4SD Index score of **30.0**, ranking it **76th** out of the 137 countries assessed. With regard to the five dimensions, Ghana has a value of 15.4 for Metrology, 43.9 for Standardization, 2.3 for Conformity Assessment, 1.0 for Accreditation, and 87.6 for Policy.

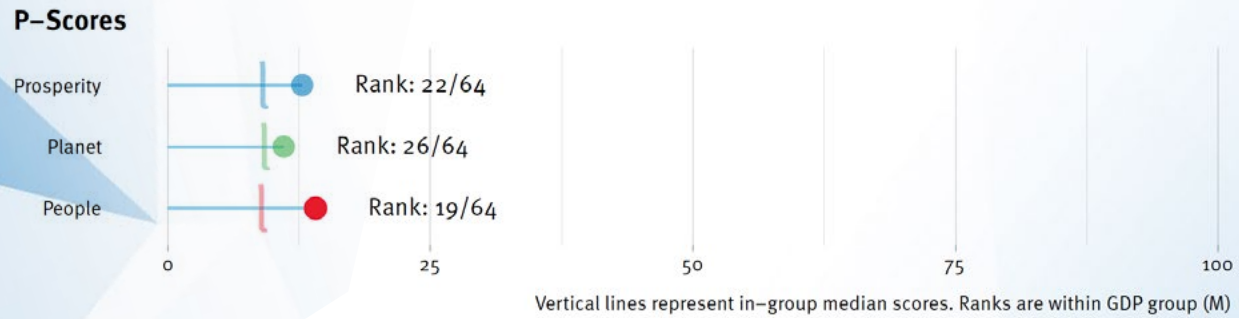
Ghana has done well in the following areas:

| Strengths | Dimension | Rank | Value | Unit |
|---|---|---|---|---|
| Adopted IEC standards | Standards | 2 | 470 | Number |
| Membership of ITU | Standards | 36 | 5 | Composite score |
| Adopted ISO standards | Standards | 55 | 9 | Number |

The report identified the following weaknesses which Ghana should focus on improving:

| Weaknesses | Dimension | Rank | Value | Unit |
|---|---|---|---|---|
| Participation in key and supplementary comparisons | Metrology | 80 | 9 | Number |
| Participation in ISO technical committees | Standards | 87 | 72 | Number |
| Number of recognised certificates (IQNet) | Conformity | 101 | 16 | Number |

Within its GDP group, Ghana ranked on the three pillars of sustainable development (people, prosperity, and planet) as follows:




More details about the QI4SD Index can be found at https://hub.unido.org/qi4sd/

# B. REJECTION ANALYSIS

Sanitary and phytosanitary (SPS) measures are aimed at protecting the safety and health of consumers and complying with them applies to both domestic products as well as exports. When food and feed products get rejected at the borders, the consequences can be extremely dire and costly. The total cost of these rejections includes the loss of the export products (as they are usually destroyed by the importing country), transportation costs, freight and insurance, and related expenses. In addition to the loss of earnings, rejections damage the exporting country's reputation and the importing country may lose trust in the quality and safety of products coming from the exporting nation, thereby reducing the country's export competitiveness in the long term. Exporters may need to sell rejected products at a discount to account for the risk and risk joining the list of producers facing reinforced checks (as in the case of exports to the EU).[40] As the data set of border rejections currently spans the period of 2010 to 2020, the effects of the COVID-19 pandemic which started in early 2020 will not be seen yet and therefore are not discussed in this report.

## Aggregate rejection rate:

The Aggregate Rejection Rate (ARR) is the simple sum of the annual number of rejections over the study period. Increases in the number of rejections can reflect both increases in the volume of exports and in the rate of non-compliance to product quality and safety standards and regulations. While the ARR is used to compare how well Ghanaian food exports are performing in the various markets, it is important to note that each country can apply different approaches to inspection. For instance, the US rejection data excludes meat, poultry, and their products. Additionally, not all importing countries included in the data set track the volume, size, and value of the consignments in their rejection data. Consequently, a more in-depth sub-analysis is necessary to facilitate the comparison of the number of rejections of a specific country's food and feed exports with the volume of food and feed products exported by that country to a particular market.

[40] Kareem, F. O., Brümmer, T. L., & Martinez-Zarzoso, I. (2015). Food safety standards, compliance and European Union's rejection of African exports: The role of domestic factors. *GlobalFood Discussion Papers, 74*. https://www.econstor.eu/bitstream/10419/121845/1/837623928.pdf

Although analyzing border rejection data proves quite useful in determining some of the causes of non-compliance to food safety standards, it is important to use caution and keep in mind that it is not the only indicator of non-compliance. For instance, if a certain food and feed product cannot get exported due to an inability to access a certain market for non-compliance reasons, it will not be included in the border rejections data set that is being analyzed (as no exports mean no rejections). Accordingly, this analysis should be used hand-in-hand with other sets of data and indicators to get a broader picture of the short-term and long-term issues plaguing the quality infrastructure landscape of a specific country.

**Table 2** and **Figures 2** and **3** depict the fluctuating trend in the aggregate number of rejections for Ghanaian food and feed exports across the five markets from 2010 to 2020. The figures show a notable variance, starting at 123 rejections in 2010, peaking at 154 in 2015, and subsequently decreasing to 16 by the end of 2020. Moreover, analysis reveals that more than half of the total rejections (53%) originated from the US market, while the combined contribution of the EU-28 and Japanese markets accounted for nearly the other half (41%). Comparatively, the Australian market represented a marginal share of rejections (5%), with the Chinese market being the least significant at 1%. Overall, the aggregate number of rejections for Ghanaian food and feed exports across these markets witnessed a substantial 87% decline from 123 to 16 over the studied period.

**FIGURE 2:** EVOLUTION OF THE GLOBAL NUMBER OF REJECTIONS FOR GHANA FOR THE 5 MARKETS, 2010–2020

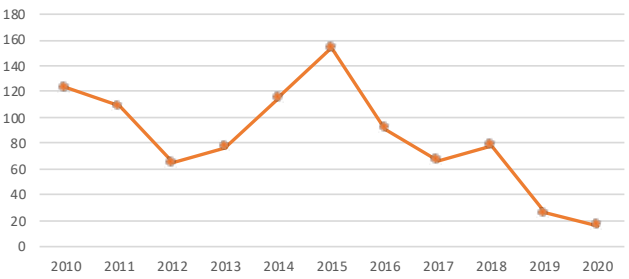



**TABLE 2:** AGGREGATE NUMBER OF REJECTIONS OF GHANAIAN FOOD AND FEED (HS 1-23) EXPORTS DURING 2010–2020

| Markets | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 3 | 11 | 5 | 3 | 6 | 0 | 3 | 5 | 2 | 0 | 5 | **43** | **5%** |
| China | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | **8** | **1%** |
| EU-28 | 18 | 22 | 14 | 17 | 12 | 19 | 23 | 13 | 11 | 9 | 1 | **159** | **17%** |
| Japan | 75 | 34 | 14 | 16 | 43 | 4 | 7 | 1 | 18 | 4 | 5 | **221** | **24%** |
| United States | 26 | 41 | 32 | 41 | 54 | 130 | 58 | 45 | 45 | 13 | 5 | **490** | **53%** |
| **Total** | 123 | 109 | 65 | 77 | 115 | 154 | 91 | 67 | 78 | 26 | 16 | **921** | **100%** |

**Table 2** and **Figures 4** and **5** highlight a notable trend: the reduction in rejections over the past decade does not correspond to a decline in exports. On the contrary, Ghanaian food and feed exports have either remained stable or shown an upward trajectory during this period. For instance, while rejections of exports to the American market steadily decreased from 2015 to 2020, the volume of food and feed exports to this market remained relatively consistent. Similar observations are evident in the Japanese market, exhibiting a remarkable 93% decrease in rejections over the past decade (**Figure 4**). This underscores Ghana's commendable effort, especially considering the significant surge in food and feed product exports to Japan from 2015 to 2019.[41]

**Figures 4**, **5**, and **6** show the fluctuating trend in rejections specifically within the US market, representing the highest rate of rejection. Initially, these rejections followed an upward trajectory, steadily increasing to a peak in 2015, accounting for 130 cases or 84% of total rejections, a notable rise from the 26 rejections or 21% in 2010. Subsequently, there was a significant decline to 5 rejections, constituting 31% of total rejections by 2020. Conversely, rejections in the European market remained consistently low, ranging from a minimum of 1 rejection in 2020 to a maximum of 23 in 2016.

Given the absence of virtually any recorded rejections for Ghanaian food exports to the Australian or Chinese markets from 2010 to 2020, coupled with the limited scale of trade in food exports between Ghana and these markets, we shall refrain from delving deeper into their discussion. Our subsequent analysis will focus on the European, American, and Japanese markets. In the following sections, other indicators will be examined to better our understanding of these fluctuations.

[41] World Integrated Trade Solution. Ghana Food Products Exports by country in US$ Thousand 2019. WITS. https://wits.worldbank.org/CountryProfile/en/Country/GHA/Year/2019/TradeFlow/Export/Partner/by-country/Product/16-24_FoodProd

**FIGURE 3:** SHARE OF REJECTIONS BY MARKET, 2010–2020

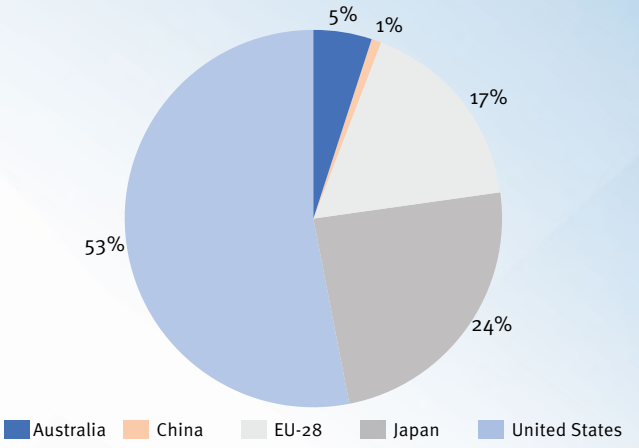



**FIGURE 4:** EVOLUTION OF ARR BY MARKET, 2010–2020

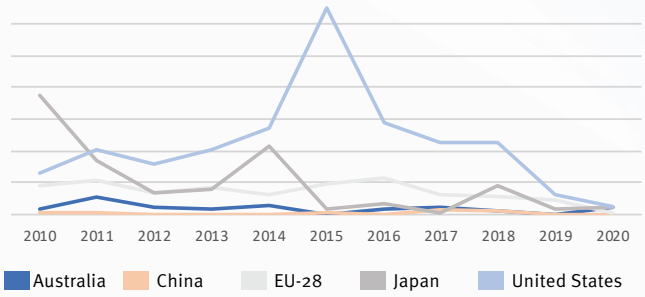



**FIGURE 5:** GLOBAL NUMBER OF REJECTIONS FOR ALL MARKETS PER YEAR

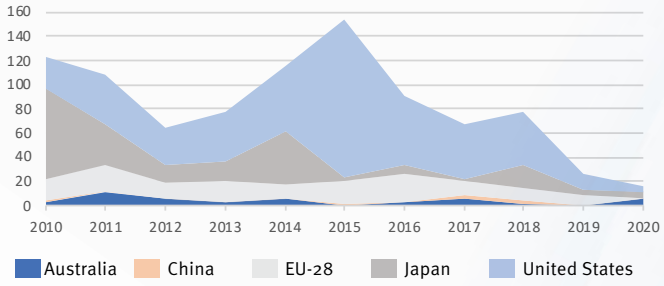
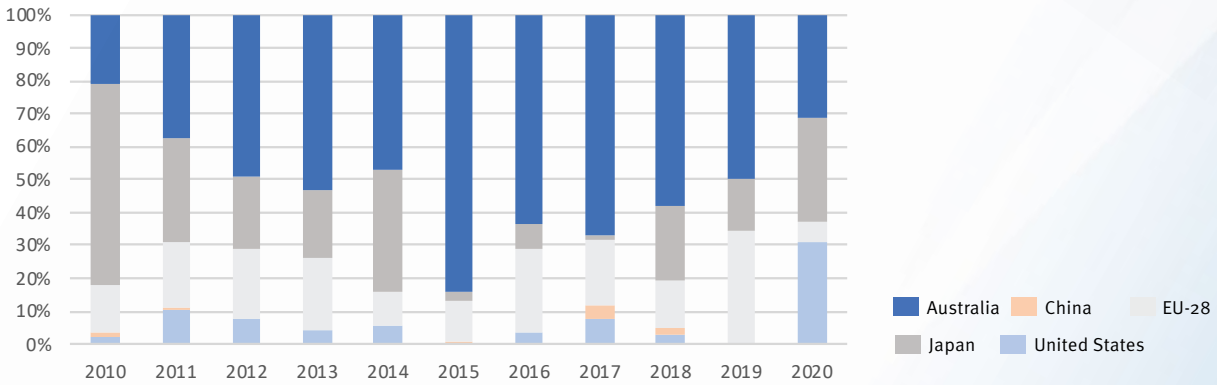


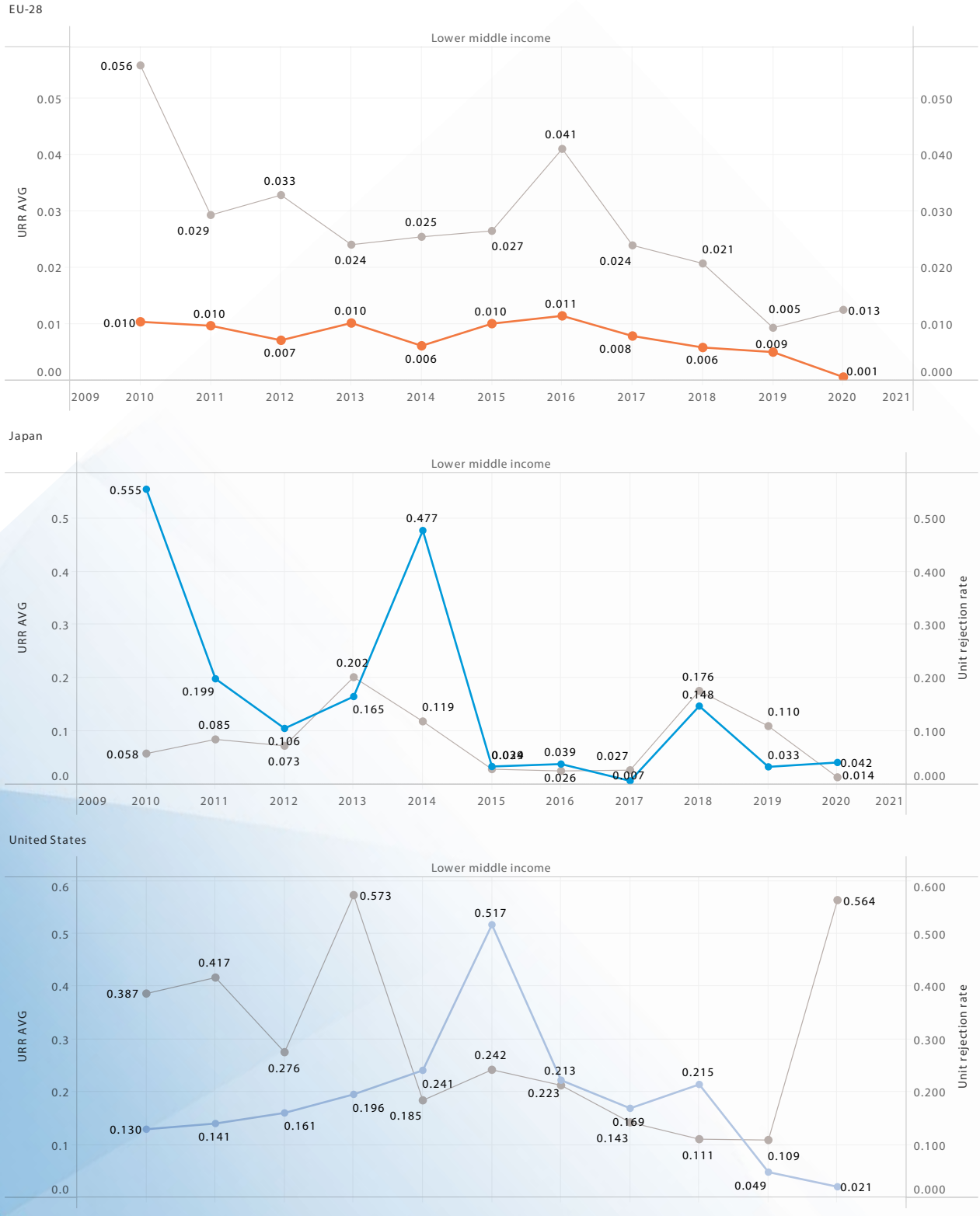

**FIGURE 6:** SHARE OF REJECTIONS FOR GHANAIAN FOOD AND FEED EXPORTS BY MARKET, 2010–2020



# Unit rejection rate:

The Unit Rejection Rate (URR) is defined as the number of rejections per USD 1 million of imports. The colored charts represent the URR for Ghanaian food and feed (HS 1-23) products for a specific market during the period of 2010 to 2020. Ghana's URR (the colored line) is being compared with the average URR for the World Bank income bracket to which Ghana belongs, which is the lower middle income level in 2020 (the grey line). The URR indicator accounts for changes in the volume of exports such that it provides a direct measure of the rate of non-compliance. A higher URR shows a higher rate of non-compliance with regard to food safety and quality regulations.

**FIGURE 7:** URR FOR GHANAIAN FOOD AND FEED (HS 1-23) EXPORTS TO THE 3 MARKETS, 2010–2020



According to **Figure 7**, Ghana's URR in the European market for food and feed products has been about 0.007 during the period of 2010–2020, which means that for every USD 1 billion of imports from Ghana to EU, there are about 7 rejections. This rate is very low compared to the average URR of all lower middle income countries as classified by the World Bank. For the US market, Ghana's URR has fluctuated from 0.241 to 0.021 with the exception of a peak at 0.517 in 2015. Nonetheless, the overall trend shows a decline, which is indicative of Ghana's enhanced compliance with food safety regulations within the American market. Despite this progress, there remains an opportunity for further improvement and continued efforts aimed at reducing the URR. Within the Japanese market, Ghana's performance aligns closely with the average of all lower middle income countries. However, it is worth noting that Ghana's URR surpassed the average in 2010 and 2014. Given that Japan ranks among the primary destinations for Ghanaian food and feed exports, it is imperative for Ghana to continue to improve its compliance with food safety regulations within the Japanese market.

## Relative rejection rate indicator:

The bar charts in **Figure 8** display the distribution of the Relative Rejection Rate (log ratio) across markets for Ghanaian food and feed (HS 1-23) exports in 2020. The Relative Rejection Rate (RRR) shown (log ratio) is the natural logarithm of the ratio of Ghana's share of total rejections to share of total imports. The indicator provides a convenient measure of the performance of countries relative to one another in a year or over a period of time. A higher RRR (log ratio) for Ghana implies poorer performance with regard to compliance with food safety and quality regulations in that market relative to the other markets.

**FIGURE 8:** RRR FOR GHANAIAN FOOD AND FEED (HS 1-23) EXPORTS IN 2020

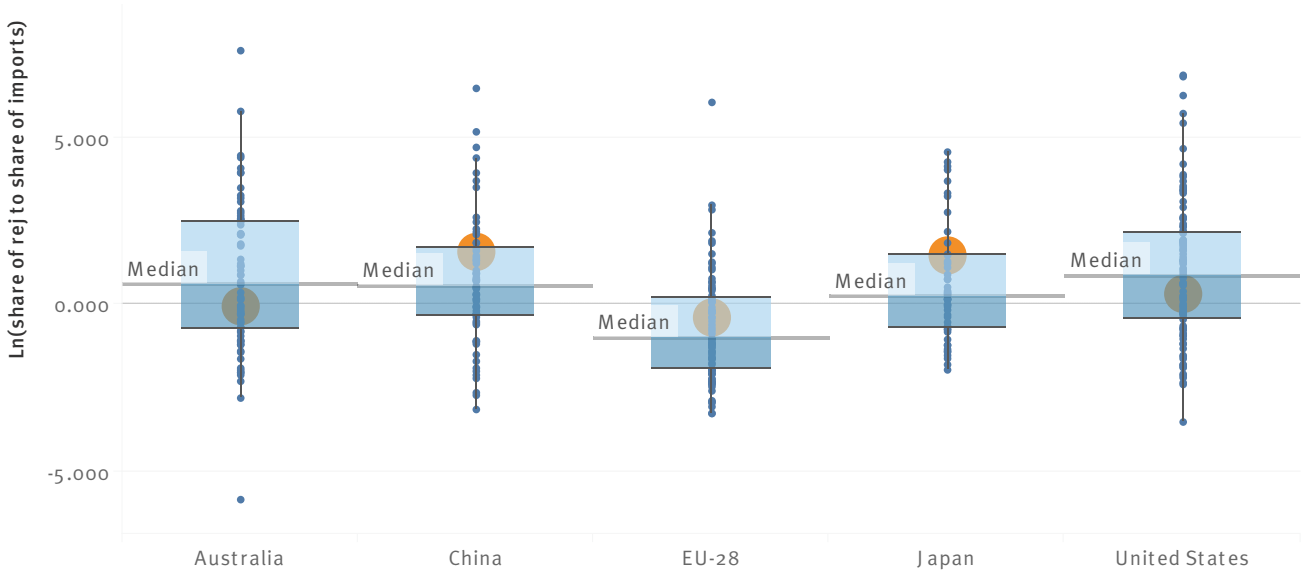


**TABLE 3:** RRR FOR GHANAIAN FOOD AND FEED (HS 1-23) EXPORTS IN 2020

| EU-28 | | Japan | | United States | |
|---|---|---|---|---|---|
| Median | Ghana | Median | Ghana | Median | Ghana |
| - 1.031 | **-3.257** | 0.223 | **1.520** | 0.858 | **-0.177** |

The RRR as shown in **Figure 8** and **Table 3** is higher for Ghana in the Japanese market compared to the other two markets which implies a poorer performance with respect to food safety and quality regulations in that market (Median = 0.223 and Ghana's RRR = 1.520) compared to other markets. Hence, concerted efforts should be directed toward strict adherence to the Japanese food safety regulations. Ghanaian exports have exhibited superior performance within the European market compared to the other two markets and they have outperformed on average other exporting countries to the same market (with a median of -1.031 and Ghana's RRR at -3.257). Additionally, Ghana has demonstrated commendable performance within the American market (Median = 0.858 and Ghana's RRR = -0.177) and should continue to strive to improve this value.

# B. REASONS FOR REJECTION

## Frequency of reasons for rejection:

The frequency of reasons for rejections is the total counts of consignments rejected at the border of entry for a particular reason. Examples of possible reasons for rejection include labeling, hygienic condition, adulteration, missing document, additive, bacterial contamination, pesticide residues, veterinary drugs residues, mycotoxins, heavy metal, and packaging. The "aggregate frequency of reasons for rejection" can be different from the "aggregate number of rejections" as a single consignment can be rejected on multiple grounds. To analyze the reasons for border rejections, we need to select a specific year. The "aggregate frequency of reasons for rejection" will simply be referred to as the "frequency of reasons for rejection" for simplicity.

# General reasons for rejection:

**TABLE 4:** FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF GHANAIAN FOOD & FEED (HS 1-23) EXPORTS TO THE 3 MARKETS IN 2020

| Ghana | EU-28 | | Japan | | US | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Numbers | % | Numbers | % | Numbers | % | Numbers | % |
| **Additive** | 35 | 22% | 2 | 1% | 36 | 3% | 73 | **5%** |
| **Adulteration / missing document** | 19 | 12% | 8 | 4% | 89 | 8% | 116 | 8% |
| **Bacterial contamination** | 4 | 3% | 0 | 0% | 167 | 15% | 171 | **12%** |
| **Heavy metal** | 4 | 2% | 0 | 0% | 0 | 0% | 4 | **0%** |
| **Hygienic condition / controls** | 13 | 8% | 54 | 24% | 104 | 10% | 171 | **12%** |
| **Labeling** | 1 | 1% | 0 | 0% | 680 | 62% | 681 | **46%** |
| **Mycotoxins** | 37 | 23% | 0 | 0% | 3 | 0% | 40 | **3%** |
| **Other contaminants** | 6 | 4% | 0 | 0% | 1 | 1% | 7 | **0%** |
| **Other microbiological contaminants** | 2 | 1% | 0 | 0% | 0 | 0% | 2 | **0%** |
| **Others** | 23 | 14% | 1 | 0% | 7 | 1% | 31 | **2%** |
| **Packaging** | 1 | 1% | 0 | 0% | 0 | 0% | 1 | **0%** |
| **Pesticide residues** | 15 | 9% | 156 | 71% | 2 | 0% | 173 | **12%** |
| **Total** | **160** | 100% | **221** | 100% | **1,089** | 100% | **1,470** | **100%** |

**FIGURE 9:** FREQUENCY OF REASONS FOR REJECTION (%) OF GHANAIAN FOOD & FEED (HS 1-23) EXPORTS TO THE 3 MARKETS IN 2020

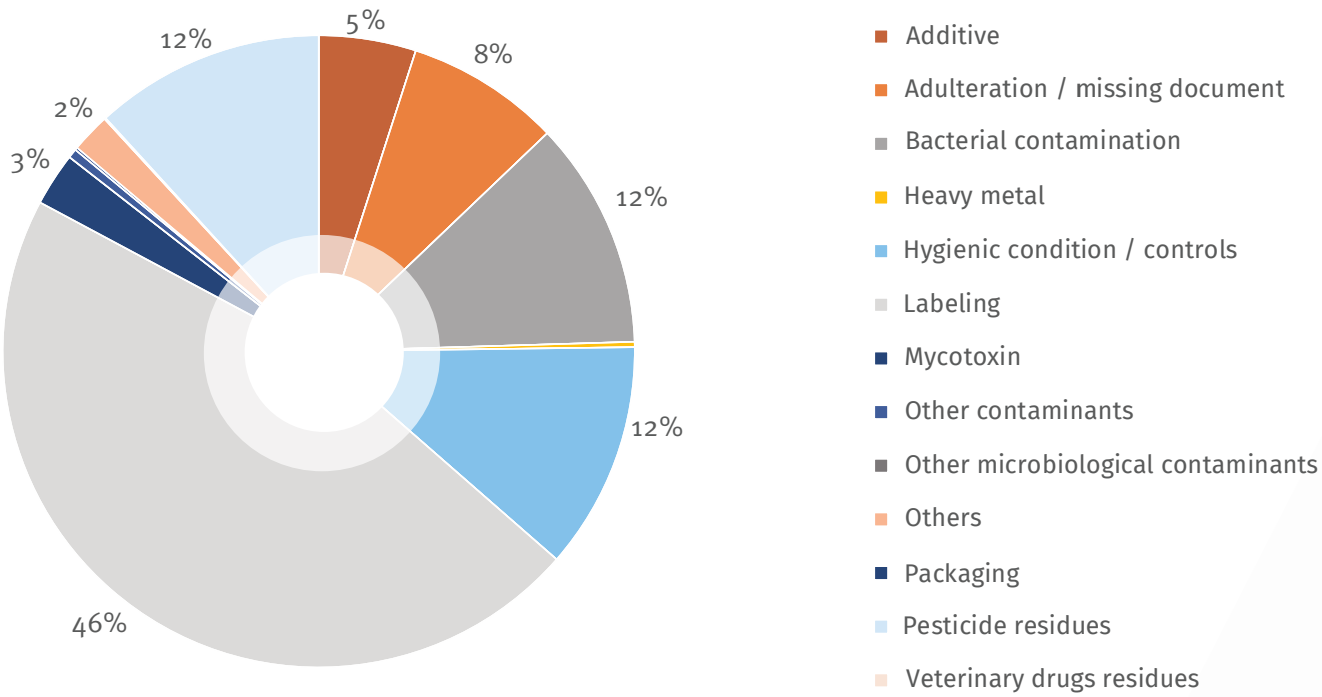


**Table 4** and **Figure 9** present the aggregate frequency of reasons for rejection of food and feed products exported from Ghana into the three markets in 2020. The choice of the year 2020 is based on it being the most recent dataset available for analysis. The frequency of reasons for rejection indicates the total count of consignments rejected at the border of entry due to specific reasons. This indicator plays an integral role in assisting exporting countries in identifying areas for capacity building, particularly in addressing key reasons for rejection in order to achieve or enhance compliance with international trade standards. The primary cause of rejections for Ghana, accounting for nearly half of all rejections, was attributed to labeling (represented by the green color in Figure 9). Additional reasons included pesticide residues (12%), bacterial contamination (12%), hygienic condition/controls (12%), and adulteration/missing document (8%).

## Reasons for rejection by market:

**Figure 10** illustrates the frequency of reasons for rejection of Ghanaian food and feed products in each of the three main markets.

**FIGURE 10:** FREQUENCY OF REASONS FOR REJECTION OF GHANAIAN FOOD & FEED (HS 1-23) EXPORTS BY MARKET IN 2020

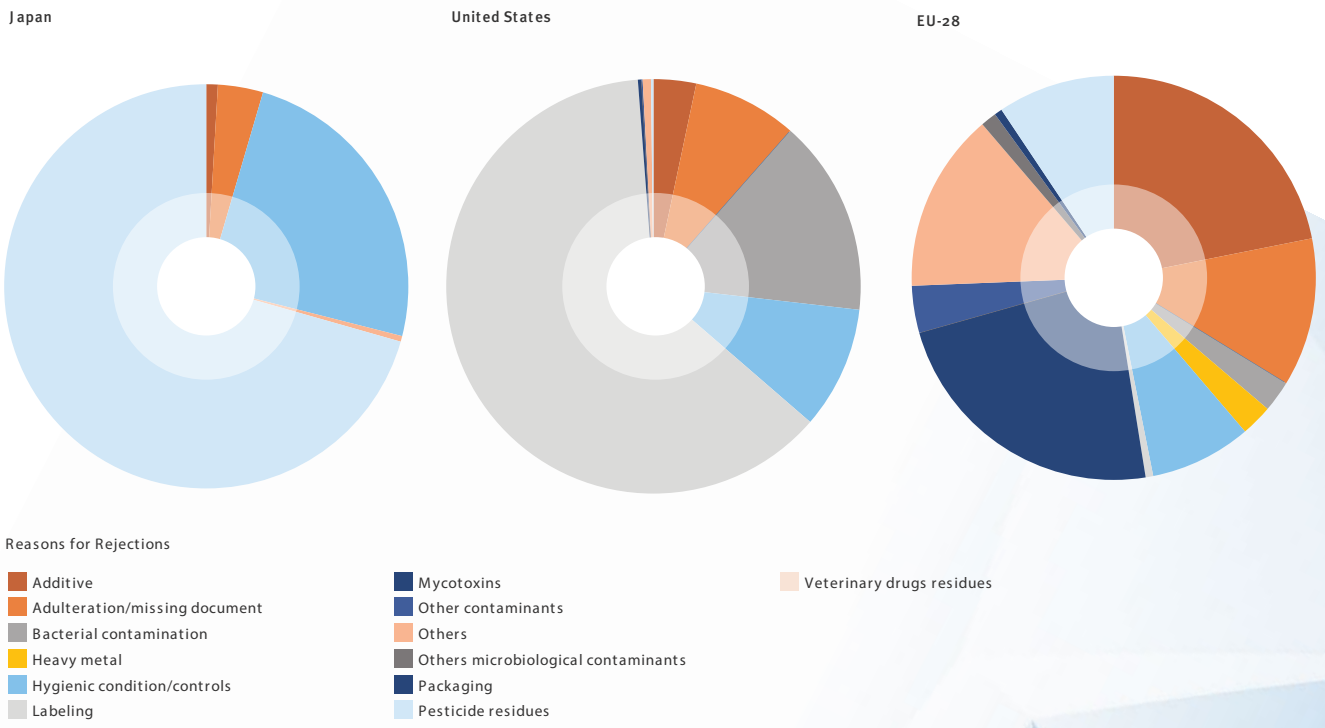



**Table 4** and **Figure 10** demonstrate that in the American market (53% of all rejections) labeling was the most common reason for rejections (62%) followed by bacterial contamination (15%) and adulteration/missing document (8%). As these two reasons represented more than two thirds of the total rejections in this market, efforts must be made to attempt to reduce these issues. In the Japanese market (24% of all rejections), the most common reasons for rejections were pesticide residues (71%) and hygienic condition/controls (24%). Finally, in the EU-28 market, the most common reason for rejection of food and feed Ghanaian exports in 2020 were mycotoxins (23%), additive (22%), others (14%), adulteration/missing document (12%), and pesticide residues (9%). The rest of the reasons were less frequent with small shares of the pie chart.

# C. COMPARATIVE ANALYSIS

## Country comparison:

**TABLE 5:** MAIN INDICATORS OF THE 3 COUNTRIES – GHANA, CÔTE D'IVOIRE AND CAMEROON

| | Ghana | Côte d'Ivoire | Cameroon |
|---|---|---|---|
| GDP in billion USD - 2021 | 77.59 | 70.04 | 45.34 |
| Total population in million - 2021 | 32.8 | 27.4 | 27.2 |
| GDP per capita in USD - 2021 | 2,363 | 2,549 | 1,666 |
| Percentage of GDP added by Agriculture, Forestry and Fishery - 2019 | 19.7% | 19.9% | 16.9% |
| Human Development Index - 2021 | 0.63 | 0.55 | 0.57 |
| 3 Year Average value added in Food Production (2015–2017; unit: USD 1 per capita) | 188 | 172 | 163 |
| Logistics Performance Index (Overall) - 2023 | 2.5 | - | 2.1 |
| Food Safety Index - 2017 | 87 | 87 | 47 |
| Percentage of population employed in agriculture - 2021 | 39% | 45% | 43% |
| Main exported agricultural products - 2020 | Cocoa beans, cocoa paste, cashews, coconut, Brazil nuts, seafood | Cocoa beans, cocoa paste, coffee, palm oil, raw cashew nuts, bananas, cotton, rubber | Cocoa beans, coffee, cotton |
| Main trading partners - 2021 | China, Switzerland, India, South Africa | Netherlands, Switzerland, USA, France | China, USA, France, Spain, Belgium |

As indicated in **Table 5**, all three countries share several common economic indicators: population size, HDI and LPI scores, the importance of the agricultural sector and its contribution to the GDP, the percentage of the population employed in that sector as well as their main agricultural exports (cocoa beans and paste, cashews, coffee, cotton, etc.). Due to historical, cultural and geopolitical reasons, while Ghana and Côte d'Ivoire are part of the Economic Community of West African States (ECOWAS), Cameroon is a member of the Central African Economic and Monetary Community (CEMAC). However, the three countries are geographically close and similar enough especially in terms of agricultural exports as to warrant being selected for a comparative analysis.

## Aggregate Rejection Rate:

The Aggregate Rejection Rate is shown for Ghana, Côte d'Ivoire and Cameroon in **Table 6**.

**TABLE 6:** AGGREGATE NUMBER OF REJECTIONS OF FOOD AND FEED (HS 1-23) EXPORTS DURING 2010–2020

**Ghana**

| Markets | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 3 | 11 | 5 | 3 | 6 | 0 | 3 | 5 | 2 | 0 | 5 | **43** | **5%** |
| China | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | **8** | **1%** |
| EU-28 | 18 | 22 | 14 | 17 | 12 | 19 | 23 | 13 | 11 | 9 | 1 | **159** | **17%** |
| Japan | 75 | 34 | 14 | 16 | 43 | 4 | 7 | 1 | 18 | 4 | 5 | **221** | **24%** |
| United States | 26 | 41 | 32 | 41 | 54 | 130 | 58 | 45 | 45 | 13 | 5 | **490** | **53%** |
| Total | 123 | 109 | 65 | 77 | 115 | 154 | 91 | 67 | 78 | 26 | 16 | **921** | **100%** |

**Côte d'Ivoire**

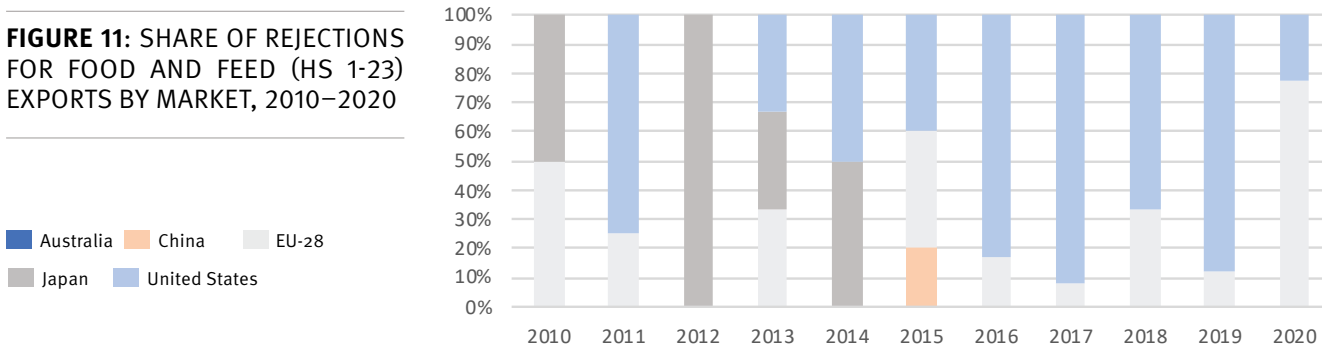
| Markets | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **0%** |
| China | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 11 | 4 | 0 | 0 | **17** | **12%** |
| EU-28 | 4 | 3 | 4 | 3 | 7 | 1 | 1 | 3 | 0 | 1 | 0 | **27** | **19%** |
| Japan | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 1 | 1 | 0 | 0 | **10** | **7%** |
| United States | 2 | 4 | 12 | 7 | 2 | 21 | 4 | 6 | 11 | 19 | 0 | **88** | **62%** |
| Total | 6 | 7 | 16 | 11 | 10 | 28 | 7 | 21 | 16 | 20 | 0 | **142** | **100%** |

**Cameroon**

| Markets | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | N/A | 0 | 0 | 0 | 0 | 0 | N/A | N/A | 0 | N/A | 0 | **0** | **0%** |
| China | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | **1** | **2%** |
| EU-28 | 2 | 1 | 0 | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 7 | **18** | **27%** |
| Japan | 2 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **7** | **11%** |
| United States | 0 | 3 | 0 | 1 | 1 | 2 | 10 | 12 | 2 | 7 | 2 | **40** | **61%** |
| Total | 4 | 4 | 3 | 3 | 2 | 5 | 12 | 13 | 3 | 8 | 9 | **66** | **100%** |

**Table 6** and **Figure 11** illustrate that the US border rejections accounted for the highest share of all rejections in the five markets during the 2010–2020 period for Ghanaian (53%), Ivorian (62%), and Cameroonian (61%) exports. Given that the US market remains one of the main trading partners for agricultural products for the three countries, it is crucial that they maintain their concerted focus on improving their compliance with American food safety and quality regulations. Similarly, the European market registers a high share of total rejections in the five markets for Cameroon (27%), Côte d'Ivoire (19%), and Ghana (17%) during the studied period. Therefore, all three countries should have a vested interest in enhancing their compliance with European food safety and quality regulations. Finally, unlike Ghana and Cameroon who have a relatively high share of border rejections in the Japanese market (24% for Ghana and 11% for Cameroon), Côte d'Ivoire has a notable share of border rejections in the Chinese market (12%). However, this percentage is due to a peak in rejections in 2017 rather than an overall high number of rejections over the 2010–2020 period.

**FIGURE 11**: SHARE OF REJECTIONS FOR FOOD AND FEED (HS 1-23) EXPORTS BY MARKET, 2010–2020



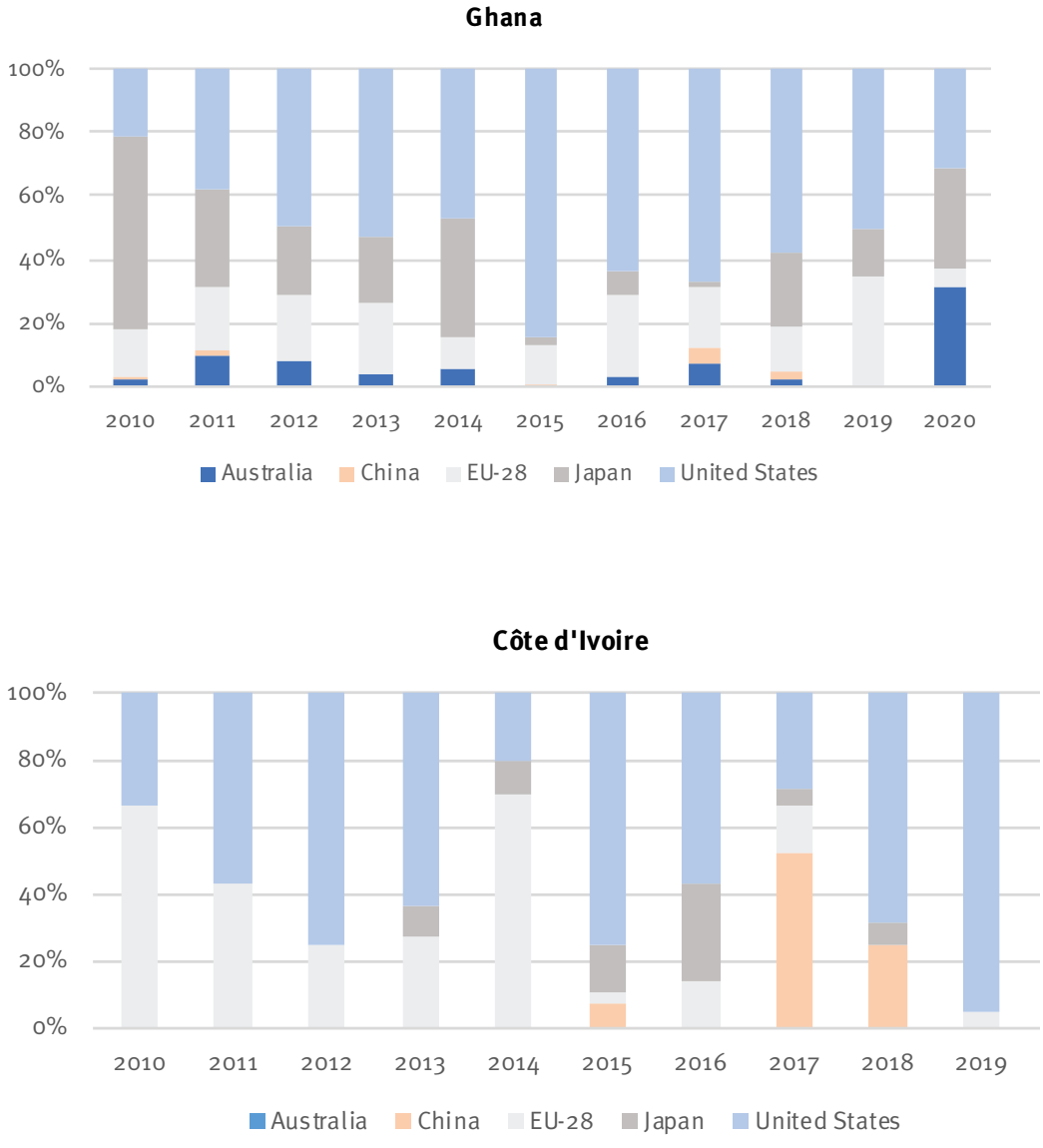
According **Figure 11**, unlike Ghana, Côte d'Ivoire and Cameroon have experienced a similar pattern in the evolution of the total number of rejections across the five markets from 2010 to 2020. This pattern entails a relatively low number of rejections with occasional peaks (2016 and 2017 for Cameroon and 2015, 2017 and 2019 for Côte d'Ivoire). In contrast, Ghana has effectively managed to steadily reduce its number of rejections, in particular during the last two years of the studied period (2019 and 2020). Moreover, Ghana has also succeeded in significantly reducing rejections in the Japanese market, which stands as a top export destination for food and feed products, with numbers declining from 75 in 2010 to just 5 in 2020. Regarding the European market, Côte d'Ivoire has made significant strides in reducing the number of rejections from accounting for 80% of rejections in 2010 to 20% in 2020. Conversely, Cameroon has seen its ARR increase in 2020 in the same market. Finally, both Cameroon and Côte d'Ivoire have virtually no agricultural exports to Australia, which explains the absence of any rejections in the Australian market.

## Unit Rejection Rate:

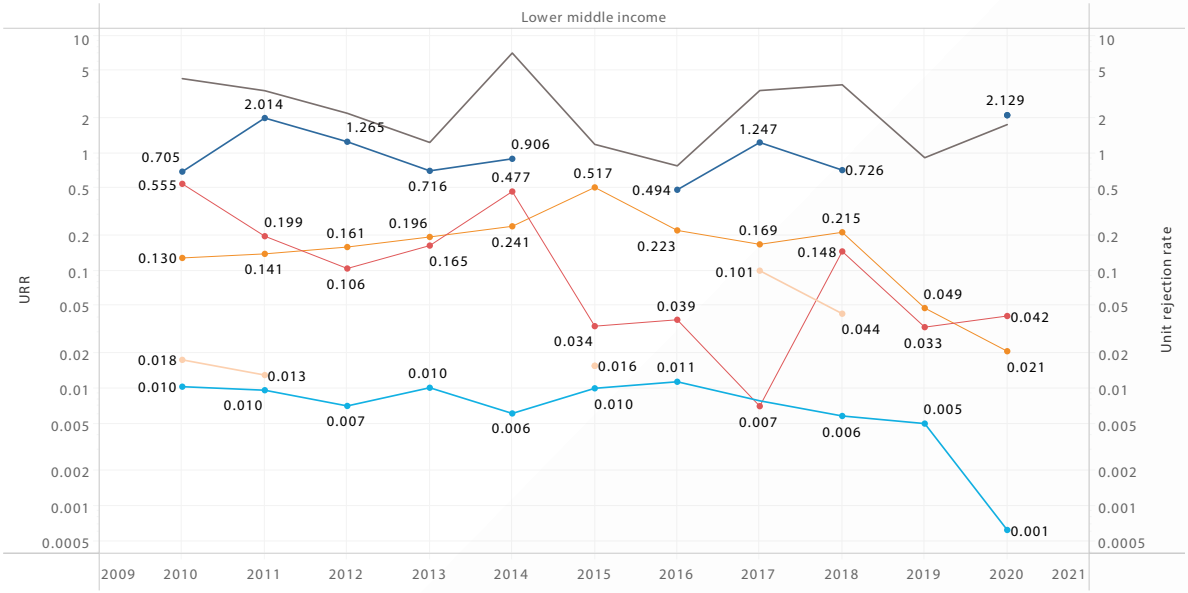
The Unit Rejection Rate (URR) is defined as the number of rejections per USD 1 million of imports. The URR indicator accounts for changes in the volume of exports such that it provides a direct measure of the rate of non-compliance.

The URR is shown for Ghana, Côte d'Ivoire, and Cameroon in **Figure 12**.

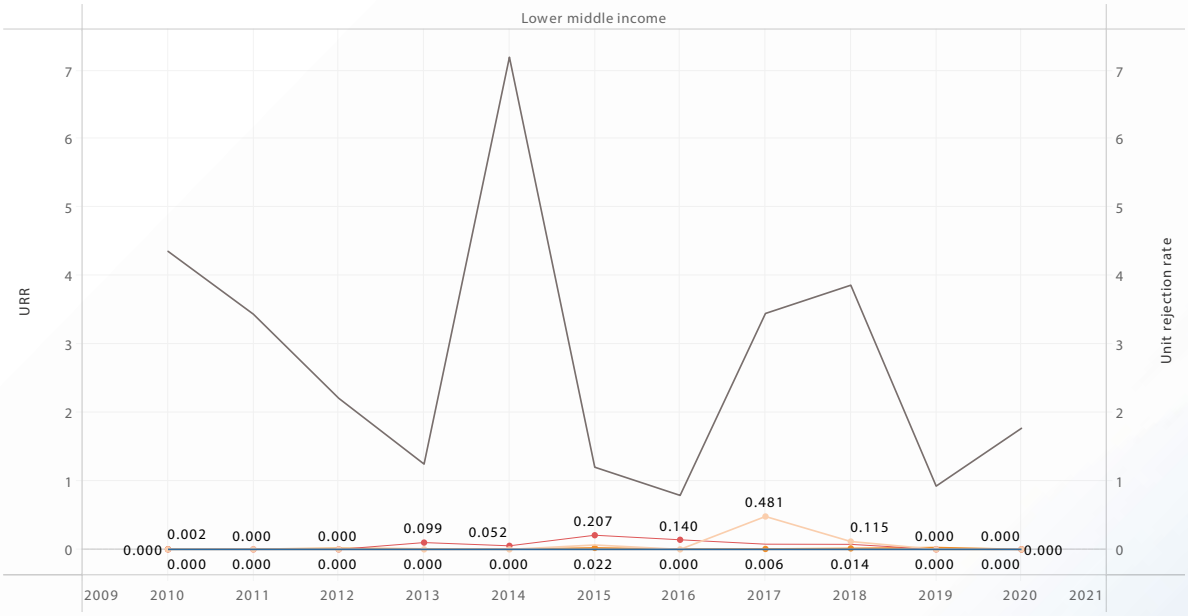
**FIGURE 12:** URR FOR FOOD AND FEED (HS 1-23) EXPORTS TO THE 5 MARKETS, 2010–2020



Ghana




Côte d'Ivoire




Cameroon


Markets

Australia China EU-28 Japan United States

According to **Figure 12**, all three countries have URRs that are lower than the average URR observed for lower middle income countries (as indicated by the brown curve) across all five markets. The URR has fluctuated in the US market for all three countries. Ghana, in particular, has experienced an overall decline, demonstrating an improved rate of compliance to food safety and regulations in the American market. However, this trend does not hold true for Côte d'Ivoire and Cameroon. Therefore, both countries should attempt to further improve their compliance rates in this market. Similarly, there is a call for increased efforts in the Japanese market for both Ghana and Côte d'Ivoire. While their URRs are below the average URR for lower middle income countries, there is still room for further improvement. In contrast, within the EU-28 market, all three countries demonstrate commendable performance, boasting exceptionally low URR values that fall significantly below the average URR for lower middle income countries.

## Relative rejection rate indicator:

The bar charts in **Figure 13** display the distribution of the Relative Rejection Rate (log ratio) across markets for the exporting countries (Ghana, Côte d'Ivoire, and Cameroon) for food and feed (HS 1-23) exports in 2020. The Relative Rejection Rate (RRR) shown (log ratio) is the natural logarithm of the ratio of a country's share of total rejections to share of total imports. The indicator provides a convenient measure of the performance of countries relative to one another in a year or over a period. A higher RRR (log ratio) for a country implies poorer performance with regard to food safety and quality standards in that market relative to the other markets.

**FIGURE 13**: RRR FOR FOOD AND FEED (HS 1-23) EXPORTS FOR GHANA AND CAMEROON IN 2020

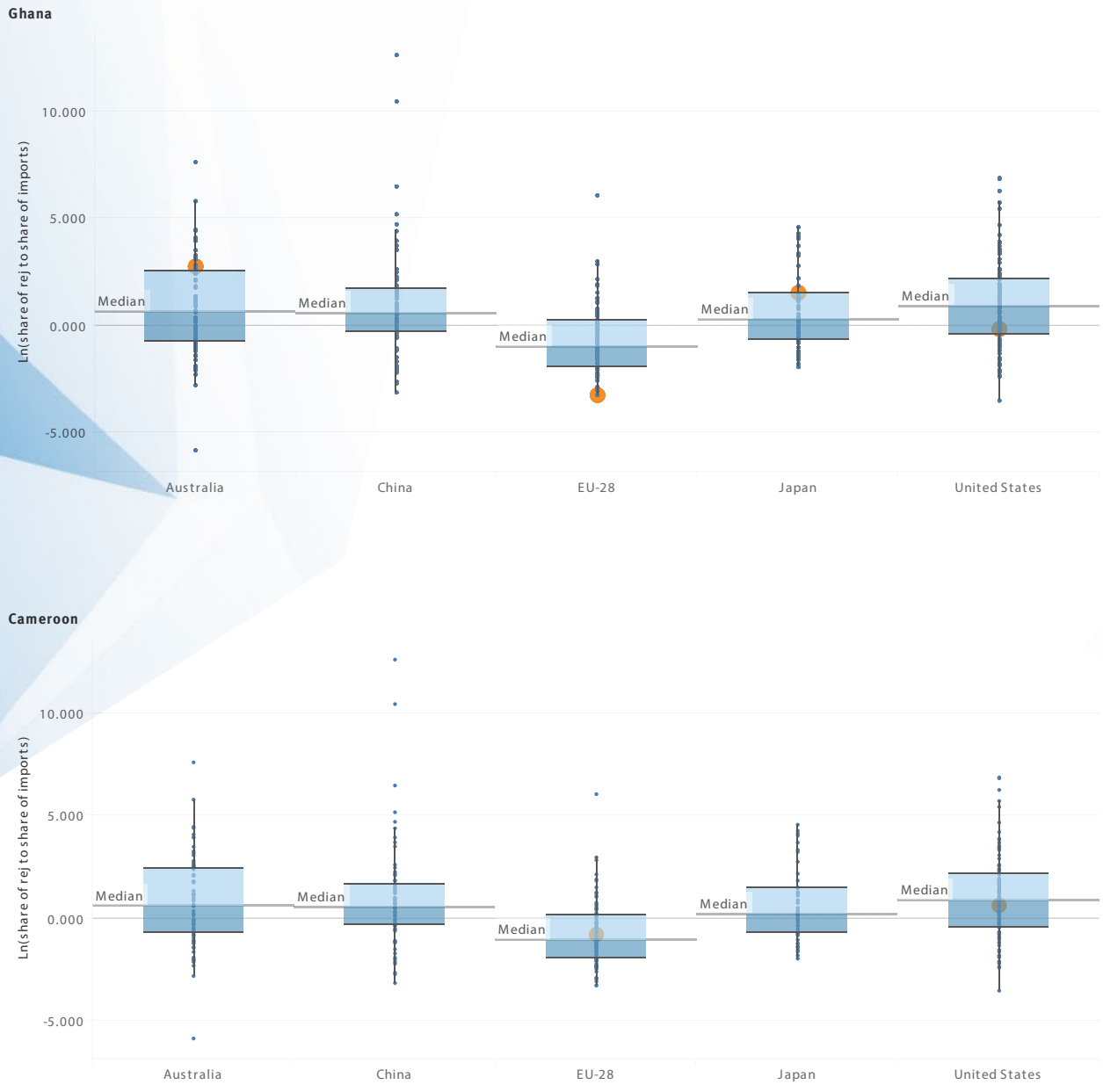


**TABLE 7:** RRR FOR FOOD AND FEED (HS 1-23) EXPORTS IN 2020

**Ghana**

| **EU-28** | | **Japan** | | **United States** | |
|---|---|---|---|---|---|
| Median | **Ghana** | Median | **Ghana** | Median | **Ghana** |
| - 1.031 | **-3.257** | 0.223 | **1.520** | 0.858 | **-0.177** |

**Cameroon**

| **EU-28** | | **Japan** | | **United States** | |
|---|---|---|---|---|---|
| Median | **Cameroon** | Median | **Cameroon** | Median | **Cameroon** |
| - 1.031 | **-0.768** | 0.223 | **N/A** | 0.858 | **0.649** |

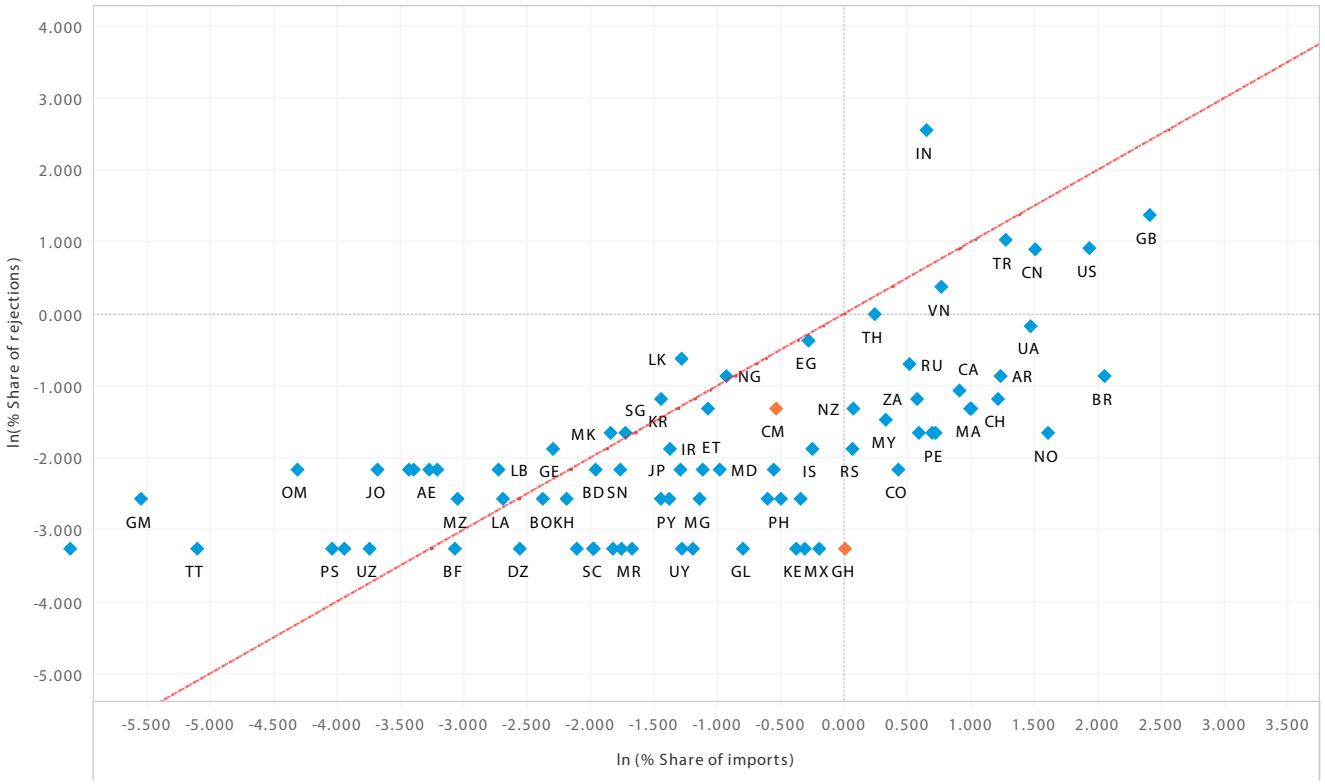
**Table 7** provides the median of all RRR values for HS 1-23 food and feed exports across different countries in specific markets in 2020, offering a comparative perspective on exporting countries' adherence to food safety and quality standards. **Figure 13** illustrates Ghana's performance in various markets. In the Japanese market, Ghana's performance was notably subpar (RRR = 1.520) compared to the market's median RRR of 0.223 for other countries, indicating an urgent need for Ghana to prioritize reducing its RRR in that specific market. Conversely, Ghana demonstrated commendable performance in the EU market with an RRR of -3.257, significantly below the median RRR of -1.031 and even lower than Cameroon's RRR of -0.768. Notably, in the US market, Ghana's performance surpassed that of Cameroon.

# Relationship between the natural logarithm of share of rejections to the natural logarithm of share of imports:

The scatterplot in **Figure 14** presents the relationship between the natural logarithm of share of rejections to the natural logarithm of share of imports for food and feed (HS 1-23) products for 2020 for a given market. In the scatterplot, exporting countries are identified using ISO two-letter abbreviation codes. In addition, the countries above the 45-degree line are considered worse performers {i.e. ln(share of rejections) is greater than ln(share of imports)} than those below the line, as their ln(share of rejections) is less than ln(share of imports).

**FIGURE 14:** RELATIONSHIP BETWEEN THE NATURAL LOGARITHM OF SHARE OF REJECTIONS TO THE NATURAL LOGARITHM OF SHARE OF IMPORTS OF FOOD AND FEED (HS 1-23) IN 2020

EU-28 MARKET




https://hub.unido.org/data-sources

**Figure 14** illustrates Ghana's notable performance, surpassing Cameroon in the European market, aligning with our previous observations from various indicators. Ghana's performance in the US market appears slightly below the 45-degree line, indicating a comparatively moderate performance. Conversely, Cameroon's performance in the US market appears worse, positioned above the 45-degree line, suggesting a higher ln(share of rejections) compared to its ln(share of imports). Lastly, in the Japanese market, Ghana exhibits a higher log of share of rejections than the log of share of imports, signaling a poor performance in that specific market.

## Reasons for rejection – comparative analysis:

**TABLE 8:** FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF GHANAIAN FOOD & FEED (HS 1-23) EXPORTS TO THE 3 MARKETS IN 2020

| **GHANA** | EU-28 | | Japan | | US | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Numbers | % | Numbers | % | Numbers | % | Numbers | % |
| Additive | 35 | 22% | 2 | 1% | 36 | 3% | 73 | **5%** |
| Adulteration / missing document | 19 | 12% | 8 | 4% | 89 | 8% | 116 | **8%** |
| Bacterial contamination | 4 | 3% | 0 | 0% | 167 | 15% | 171 | **12%** |
| Heavy metal | 4 | 2% | 0 | 0% | 0 | 0% | 4 | **1%** |
| Hygienic condition / controls | 13 | 8% | 54 | 24% | 104 | 10% | 171 | **12%** |
| Labeling | 1 | 1% | 0 | 0% | 680 | 62% | 681 | **46%** |
| Mycotoxins | 37 | 23% | 0 | 0% | 3 | 0% | 40 | **3%** |
| Other contaminants | 6 | 4% | 0 | 0% | 1 | 1% | 7 | **0%** |
| Other microbiological contaminants | 2 | 1% | 0 | 0% | 0 | 0% | 2 | **0%** |
| Others | 23 | 14% | 1 | 0% | 7 | 1% | 31 | **2%** |
| Packaging | 1 | 1% | 0 | 0% | 0 | 0% | 1 | **0%** |
| Pesticide residues | 15 | 9% | 156 | 71% | 2 | 0% | 173 | **12%** |
| Total | 160 | 100% | **221** | 100% | **1089** | 100% | **1,470** | **100%** |

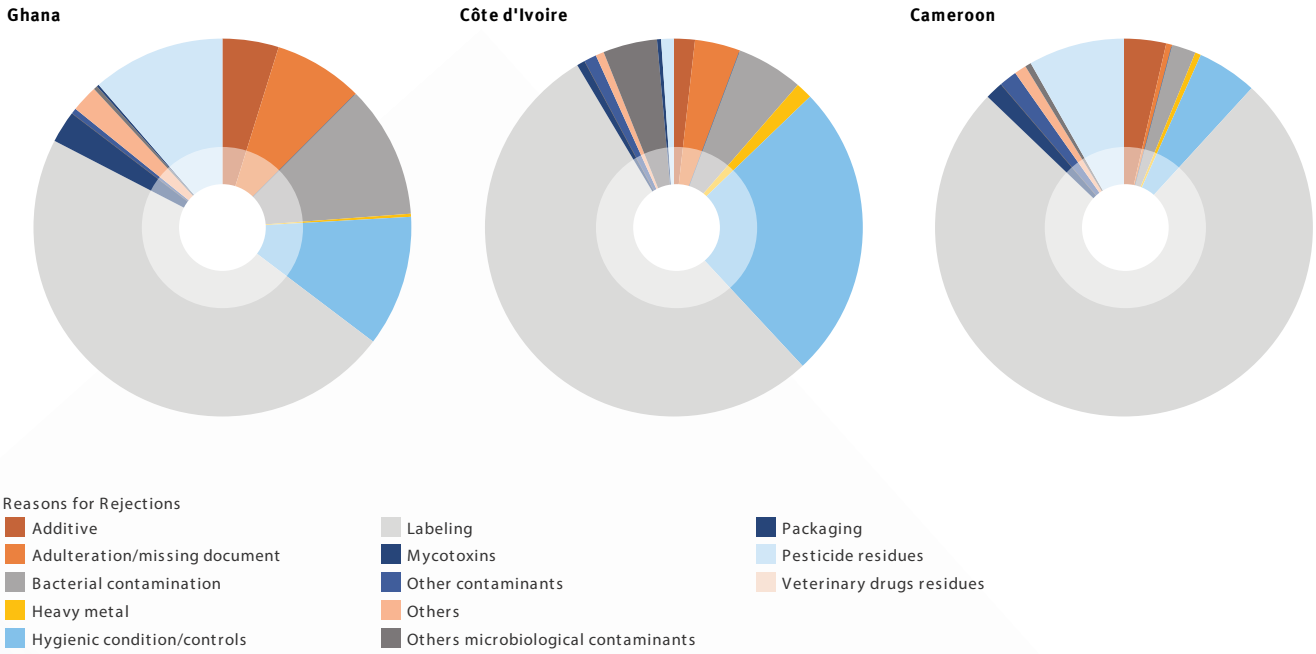
**TABLE 9:** FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF IVORIAN FOOD & FEED (HS 1-23) EXPORTS TO THE 3 MARKETS IN 2020

| **CÔTE D'IVOIRE** | EU-28 | | Japan | | US | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Numbers | % | Numbers | % | Numbers | % | Numbers | % |
| Additive | 2 | 0% | 0 | 0% | 3 | 7% | 5 | **2%** |
| Adulteration / missing document | 6 | 0% | 0 | 50% | 5 | 1% | 11 | **4%** |
| Bacterial contamination | 6 | 8% | 0 | 0% | 10 | 5% | 16 | **6%** |
| Heavy metal | 3 | 1% | 0 | 0% | 0 | 0% | 3 | **1%** |
| Hygienic condition / controls | 2 | 5% | 7 | 25% | 58 | 12% | 67 | **25%** |
| Labeling | 0 | 0% | 0 | 0% | 150 | 72% | 150 | **57%** |
| Mycotoxins | 2 | 1% | 0 | 0% | 0 | 1% | 2 | **1%** |
| Other contaminants | 2 | 0% | 0 | 0% | 0 | 0% | 2 | **1%** |
| Other microbiological contaminants | 2 | 1% | 0 | 0% | 0 | 0% | 2 | **1%** |
| Others | 2 | 2% | 0 | 0% | 0 | 0% | 2 | **1%** |
| Pesticide residues | 0 | 0% | 3 | 25% | 0 | 2% | 3 | **1%** |
| Total | **27** | 100% | **10** | 100% | **226** | 100% | **263** | **100%** |

**TABLE 10:** FREQUENCY OF REASONS FOR REJECTION (NUMBER & %) OF CAMEROONIAN FOOD & FEED (HS 1-23) EXPORTS TO THE 3 MARKETS IN 2020

| CAMEROON | EU-28 | | Japan | | US | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Numbers | % | Numbers | % | Numbers | % | Numbers | % |
| Additive | 2 | 11% | 0 | 0% | 5 | 3% | 7 | **4%** |
| Adulteration / missing document | 1 | 6% | 0 | 0% | 0 | % | 1 | **1%** |
| Bacterial contamination | 0 | 0% | 0 | 0% | 4 | 2% | 4 | **2%** |
| Heavy metal | 0 | % | 0 | 0% | 1 | 1% | 1 | **1%** |
| Hygienic condition / controls | 0 | % | 2 | 29% | 8 | 5% | 10 | **5%** |
| Labeling | 0 | 0% | 0 | 0% | 146 | 86% | 146 | **75%** |
| Mycotoxins | 3 | 17% | 0 | 0% | 0 | 0% | 3 | **2%** |
| Other contaminants | 3 | 17% | 0 | 0% | 0 | 0% | 3 | 1% |
| Other microbiological contaminants | 1 | 5% | 0 | 0% | 0 | 0% | 1 | **0%** |
| Others | 2 | 11% | 0 | 0% | 0 | 0% | 2 | **1%** |
| Packaging | 0 | 0% | 0 | 0% | 0 | 0% | 0 | **0%** |
| Pesticide residues | 6 | 33% | 5 | 71% | 5 | 3% | 16 | **8%** |
| Total | **18** | 100% | **7** | 100% | **169** | 100% | **194** | **100%** |

**FIGURE 15:** FREQUENCY OF REASONS FOR REJECTION OF FOOD AND FEED (HS 1-23) EXPORTS FOR GHANA, CÔTE D'IVOIRE AND CAMEROON IN 2020




Sources: https://hub.unido.org/data-sources

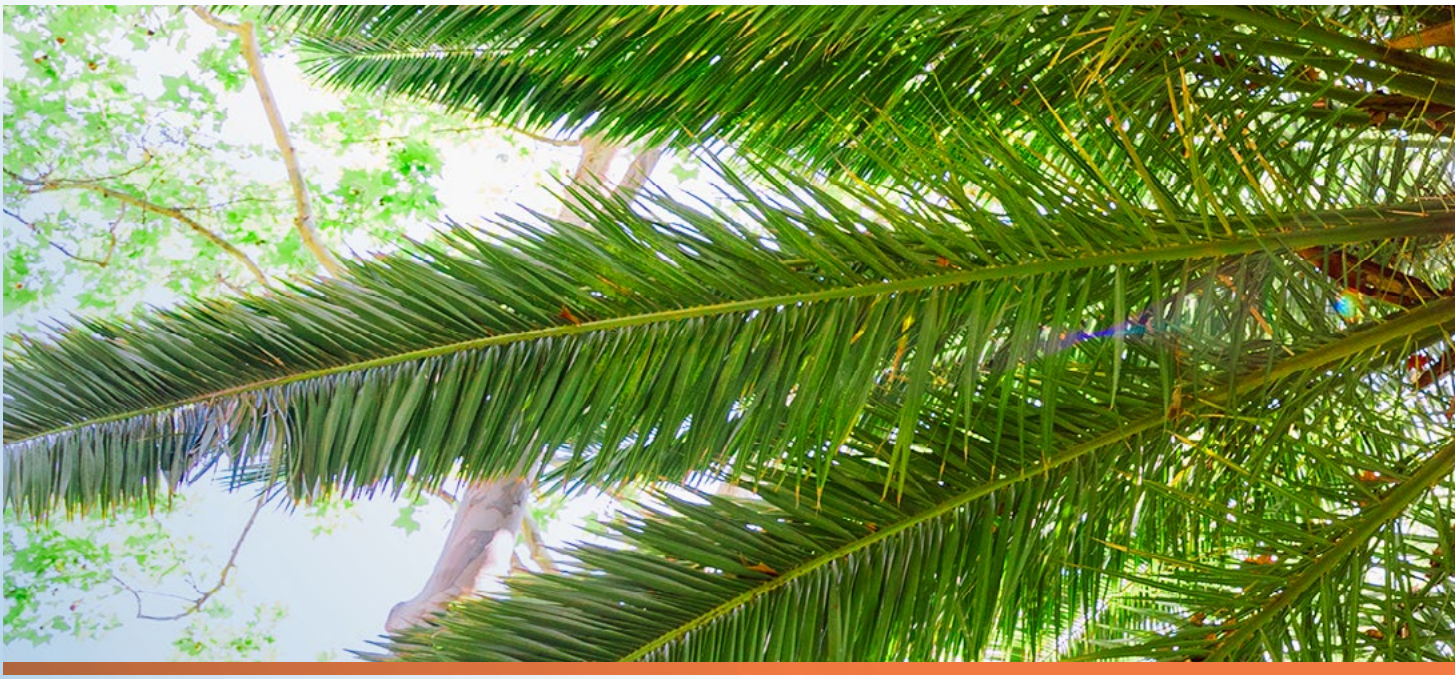
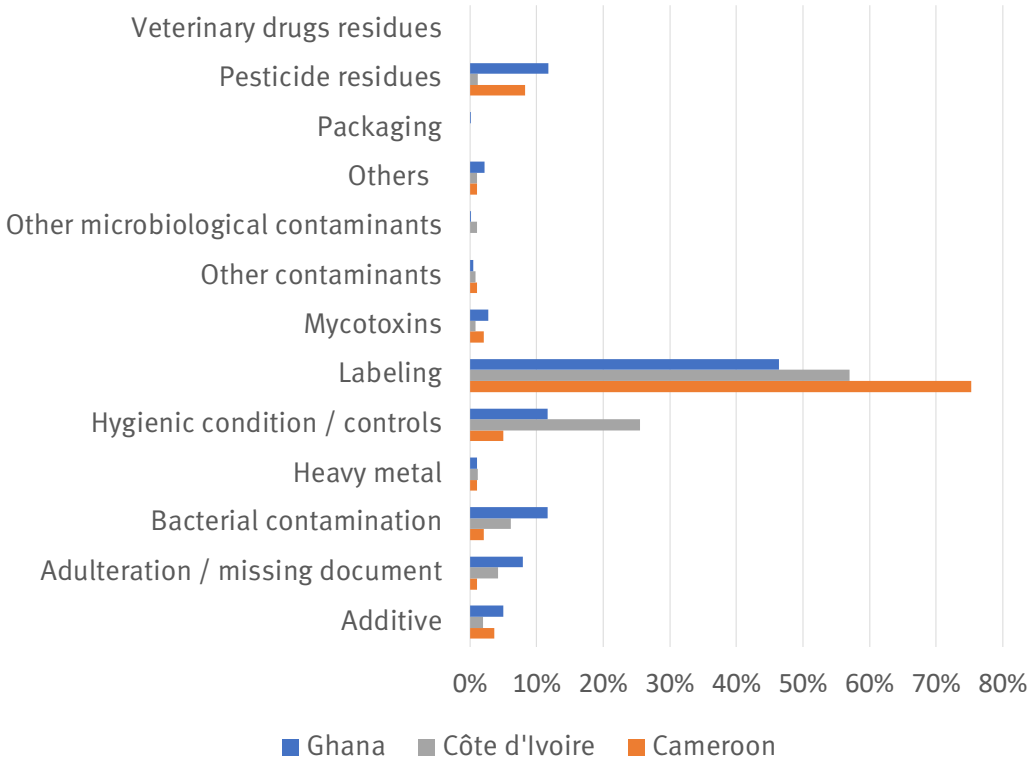
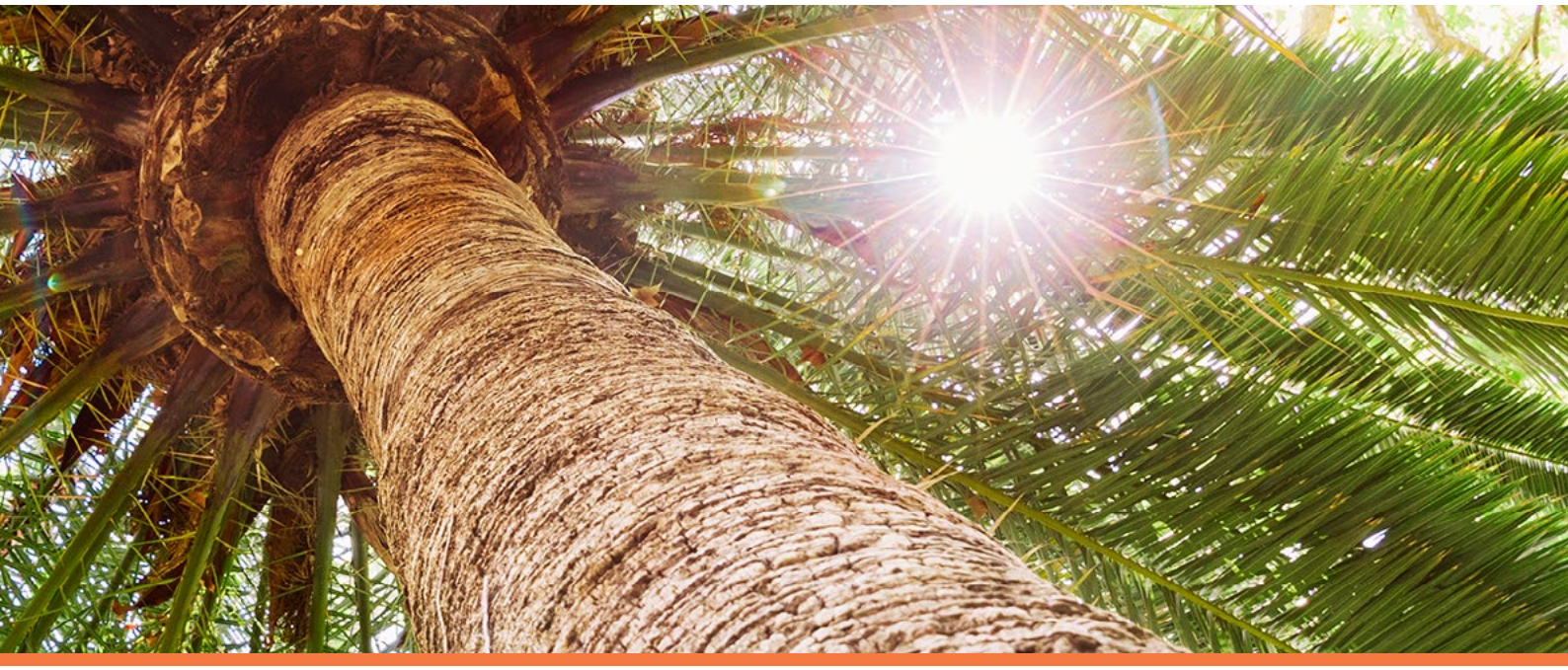


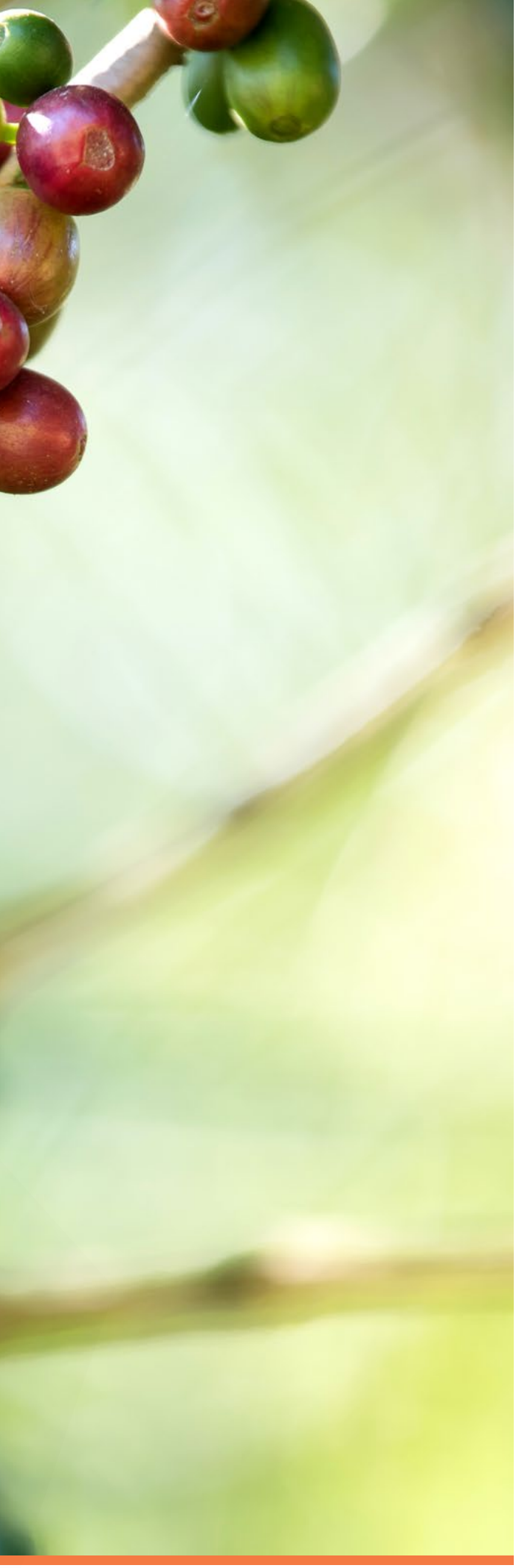
**FIGURE 16:** FREQUENCY OF REASONS FOR REJECTION OF FOOD AND FEED (HS 1-23) EXPORTS FOR GHANA, CÔTE D'IVOIRE AND CAMEROON IN 2020




According to **Tables 8–10** and **Figures 15** and **16**, the percentage of rejections due to labeling is remarkably high for all three countries, ranging from 47% to 75% of the total rejections. Cameroon has the highest rate at 75%, while Ghana and Côte d'Ivoire have similar rates, representing approximately half of their reasons for rejections. This labeling concern is particularly pronounced when analyzing the American market. It is therefore crucial for these three countries to make explicit and concerted efforts aimed at reducing border rejections due to labeling and improving their labeling processes to align with American food safety regulations. A fair number of rejections were also attributed to hygienic conditions/controls, accounting for 25% and 12% of Côte d'Ivoire and Ghana's rejections respectively, while Cameroon appears to have effectively addressed this issue, as it accounted for only 5% of its total reasons for rejections.



# RECOMMENDATIONS



In the light of the global pandemic and the severe effects of climate change on agricultural value chains that have been observed in the last few years, the relevance of quality and safety standards has become increasingly evident, highlighting the need for adequate infrastructure and internationally recognized conformity assessment services.

Ghana is facing its worst economic crisis in a generation due to high commodity and energy prices along with a weak currency and the after-effects of the COVID-19 pandemic. This had a negative impact on its economy creating increased hunger, malnutrition and lower food production. As some neighboring countries, such as Togo, Burkina Faso, and Cote d'Ivoire, rely on Ghana for essential food imports, Ghana's troubles could undermine food security in the region.[42]

The Ghanaian Government is attempting to address these issues and to improve the economic competitiveness of the country in general and the agricultural sector in particular. Specifically, an Agricultural Investment Plan (GhAIP) was developed in 2018 (to 2021) to deal with the lack of compliance with modernized agriculture, improve food security, increase employment opportunities, and reduce poverty. The plan focuses on promoting sustainable agriculture and prosperous agribusiness through research and technology development.[43] Based on the analysis of the border rejection data for Ghanaian food and feed exports as well as consultation with national stakeholders, public and private institutions, and development agencies, several recommendations can be made:

## Strengthen the Quality Infrastructure System:

» **Standards Authority Act implementation**: In terms of voluntary versus mandatory standards, although companies should adhere to standards, currently there is no legal basis to make standards mandatory. Failure to comply with standards does however give the GSA, which is overseen by the Ministry of Trade and Industry, the authority to confiscate goods. A new Standards Authority Bill (Act 1078) was passed by the Ghanaian Parliament on 30 June 2022 and was later granted presidential approval. It has given the GSA more power to prosecute companies for non-adherence to standards. Support could be provided to the GSA in implementing this bill.[44]

» **Addressing cocoa rejections due to pesticides:** One of the primary causes of rejection of Ghanaian agricultural products when exporting to Japan is

[42] The New Humanitaian (May 2023). Soaring prices and dwindling farm yields drive growing hunger in Ghana. https://www.thenewhumanitarian.org/analysis/2023/05/02/hunger-ghana-economic-crisis-hunger

[43] Food and Agricultural Organization. *Ghana Agricultural Investment Plan (GhAIP) 2018-2021.* https://www.fao.org/faolex/results/details/en/c/LEX-FAOC208721

[44] International Trade Administration. (2022). Ghana – Country Commercial Guide. Standards for Trade. https://www.trade.gov/country-commercial-guides/ghana-standards-trade Accessed 16 December 2022.

pesticide residues (71%). Reducing rejections in the Japanese market due to pesticide residues is critical, as they represented a staggering 99% of the total reasons for rejection in 2020 for cocoa and cocoa preparation products (HS 18). Ghana's capacity to meet sanitary and phytosanitary (SPS) measures when exporting cocoa could be improved by quantifying the levels of risk from contaminants affecting the cocoa supply chain, providing specific information on pesticide science, and developing infrastructure to monitor and enforce SPS standards. The focus should be on areas where cocoa institutional capacity building can impact known risky procedures along the cocoa supply chain and the supply of inputs such as pesticides. Additionally, support could be provided to improve laboratory services by funding equipment, providing specialized training, and supporting the testing laboratories to get accredited.[45]

- **Standards promotion and development:** In order to reduce the number of export rejections, it is imperative to increase the compliance of farmers with international environmental and food safety standards by:
  - Launching training, workshops, and coaching programmes on standards, on the role of accredited conformity assessment activities, and practical methodologies on how to implement standards. A large proportion of farmers in Ghana lack knowledge about standards and the role of accreditation.
  - Introducing success stories to farmers and farmers' associations in order to stimulate their interest in taking an active part in the national work on drafting/adopting standards. Active participation in Technical Committees keeps them up to date with what happens to standards in their field and may encourage them to provide proposals for standards of domestic products.
- **Assessing standards harmonization:** Using the SCA tool to ascertain the main export product groups in Ghana that have encountered a high rate of rejection can prove beneficial. This analysis aims to evaluate the degree of harmonization between the current national standards with the corresponding international standards for those product groups.
- **Addressing regulatory changes and future standards:** Apart from hygiene factors, a significant number of rejections came from regulatory changes. This does not indicate a lack of compliance as an issue but rather serves as evidence of the ever-evolving nature of trade relations. To better equip exporting countries in complying with potential new standards and regulations, UNIDO could incorporate a projection of forthcoming standard changes by harnessing the power and knowledge found using innovative digital solutions and gathering insights stemming from mining large trade data sets. For Ghana, UNIDO could facilitate the implementation of GRP to support government institutions often overwhelmed by ongoing changes to food safety regulations. Consequently, as these institutions are responsible for issuing the regulations that agri-SMEs must comply with, this would result in better coordination between the central government and local authorities regarding food and safety regulations. It is important to note that the current analysis of the SCA tool does not encompass voluntary standards, such as sustainability and traceability standards. However, it is essential to recognize that these standards, particularly in terms of traceability and sustainability, have the potential to evolve into future regulations. For instance, lawmakers in the European Parliament and the European Council recently reached an agreement on regulations supporting deforestation-free supply chains. The objective is to ensure that products imported to or exported from EU markets no longer contribute to global deforestation and forest degradation. The European Union Deforestation-Free Regulation (EUDR) took effect on 29 June 2023, after formal adoption by the EU Council, granting operators and traders an 18-month period to implement the new rules, with smaller enterprises receiving a longer implementation period.[46] The regulation sets mandatory due diligence rules for all traders exporting commodities, such as palm oil, cattle, wood, coffee, cocoa, rubber, soy and certain derived products like chocolate and specific palm oil based derivatives, from the EU market.[47] Additionally, on 31 July 2023, the European Commission adopted the European Sustainability Reporting Standards (ESRS) for use by all companies subject to the Corporate Sustainability Reporting Directive (CSRD). As the ESRS consist of mandatory requirements and principles for companies to comply with and report on sustainability matters, covering a wide range of environmental, social, and governance (ESG) issues, it is vital for countries to start aligning their processes with these sustainability regulations. Even though the ESRS currently primarily apply to large EU-based companies, this may change in the future and directly impact agri-SMEs in Ghana seeking to export their products to the EU market.

## Enhance industry compliance, competitiveness and sustainability:

- **Compliance with labeling requirements:** Labeling plays a pivotal role in conveying product information to consumers. Government-mandated labels include basic information about a product,

[45] Bateman, R. (2010.). *Capacity Building Programme on Pesticide Residues and Other Harmful Substances in Cocoa in Africa - Project Preparation Grant Report*. https://standardsfacility.org/sites/default/files/STDF_PPG_298_FinalReport_Mar-10.pdf

[46] European Parliament. (2022). *Deal on new law to ensure products causing deforestation are not sold in the EU*. https://www.europarl.europa.eu/news/en/press-room/20221205IPR60607/deal-on-new-law-to-ensure-products-causing-deforestation-are-not-sold-in-the-eu

[47] European Council. (2023). Council adopts new rules to cut deforestation worldwide. https://www.consilium.europa.eu/en/press/press-releases/2023/05/16/council-adopts-new-rules-to-cut-deforestation-worldwide/

such as the list of ingredients, net quantity, country of origin, name of manufacturer/importer, expiry date, and more. In addition, labels may also incorporate health and safety information, such as instructions for safe handling, storage conditions, and nutritional value.[48] To facilitate easy comprehension of nutritional information, it is recommended to adopt a colored logo-based nutritional labeling system which allows consumers to swiftly assess the nutritional value of food items. Notably, the European Action Plan for Food and Nutrition Policy encourages the development and implementation of clear front-of-package labelling systems. Labeling directly impacts food safety, as products with incomplete or incorrect labels risk rejection at border controls. Furthermore, challenges arise when importing countries lack clearly defined labeling requirements in their legislation, potentially allowing products without specified expiry dates/best before dates to enter their markets. Meeting diverse labeling regulations across national markets poses an additional hurdle for exporters, as it necessitates the production of varied labels incurring additional costs. Such increased costs can prevent foreign producers from competing in certain markets.

» A particular emphasis must be placed on the US market as it accounts for 53% of the rejections. Additionally, the American market is one of Ghana's largest export markets for food and feed products, particularly for cocoa and its derivatives. Labeling accounted for an overwhelming 90% of the reasons for rejection in the US market for cocoa products in 2020. This alarmingly high percentage requires attention and reduction, especially considering that cocoa remains one of Ghana's key exported commodities.

» **Addressing bacterial contamination challenges:** Listeria monocytogenes is a foodborne pathogen that can cause listeriosis, a prevalent foodborne disease in humans and animals. In children, elderly, immunocompromised and pregnant people, it can lead to septicemia, meningitis and even be fatal. Between 2017 and 2018, one of the largest listeriosis outbreaks, infecting 1,060 people, was reported in South Africa. It was due to a Ready-to-Eat (RTE) processed meat product. In fact, RTE foodstuffs are a prime source of Listeria monocytogenes contamination.[49] As 12% of the causes of rejection for Ghanaian food and feed exports were due to bacterial contaminations, efforts should be concentrated on the management and control of this safety hazard by implementing an effective food safety management system (FSMS), which would include environmental monitoring of processing facilities. In addition, regulatory agencies need to use finished product testing as well as environmental monitoring to verify that Listeria monocytogenes control strategies are implemented properly by Food Business Operators (FBOs).[50]

» **Digital tool on NTMs:** Besides the support offered to the Ghana Business Regulatory Reforms Consultation Portal, an interactive tool designed to function as a comprehensive registry of all regulations impacting businesses,[51] it would be highly beneficial to establish a clearinghouse of information. This hub would detail Non-Tariff Measures-related procedures and food safety regulations. Additionally, providing help desk services to assist SMEs trying to export specific products to global markets would be valuable. This would support SMEs in complying with the perpetually evolving regulations.

» **Development of agro-based clusters:** In order to increase the competitiveness of the agricultural sector in general and the fruit and vegetable sector in particular, it is necessary to strengthen the links and cooperation operations between all the actors involved in the production, packaging and distribution of agricultural products. For example, in order to strengthen the cooperation links between producers, it is necessary to identify clusters, develop related tools to strengthen commercial operations, organize joint verification and transport operations, launch joint national and international marketing campaigns, and work on the branding of Ghanaian products.

» **Public sector guidance on pesticide management:** In order to improve pesticide management, agri-trade exporters could collaborate with plant protection specialists at universities, government institutions, etc. to sponsor research projects to create and disseminate effective plant protection technology that results in pesticide residues complying with the targeted market requirements (preferably the strictest one), establish direct contact with the growers and set in contractual agreements the conditions in which they would purchase their products including adherence to the recommended plant protection technology. They can also employ well trained experienced agronomists to advise the farmers on the proper and safe use of pesticides, how to implement risk-based pre-harvest pesticide residue control and evaluate the residue levels taking into account the combined uncertainty of sampling and analysis.

» **SOPs development:** Supporting the development of a system of Standard Operating Procedures (SOPs) with specific SOPs for each product. For instance, SOPs can be developed for some key value chains,

[48] United Nations Economic and Social Commission for Asia and the Pacific. (2014). Facilitating Compliance to Food Safety and Quality for Cross-Border Trade. ESCAP. https://www.unescap.org/sites/default/files/Facilitating%20Compliance%20to%20Food%20safety%20and%20quality%20for%20cross-border%20trade%20guide.pdf

[49] Centorotola G, Ziba MW, Cornacchia A, Chiaverini A, Torresi M, Guidi F, Cammà C, Bowa B, Mtonga S, Magambwa P, D'Alterio N, Scacchia M, Pomilio F and Muuka G (2023, August 30th). Listeria monocytogenes in ready to eat meat products from Zambia: phenotypical and genomic characterization of isolates. Frontiers. Volume 14. https://doi.org/10.3389/fmicb.2023.1228726

[50] Food and Agriculture Organization of the United Nations (2022). Listeria monocytogenes in ready-to-eat (RTE) foods: attribution, characterization and monitoring. Meeting Report. ISSN 1726-5274. FAO. https://www.fao.org/3/cc2400en/cc2400en.pdf

[51] Ghana Business Regulatory Platform Portal. (2022). https://www.bcp.gov.gh/new/index.php Accessed 16 December 2022.

such as for pineapples, tomatoes, and shea. They can include providing guidance on regulation, MRLs, quality, residue, food safety and hygiene, etc.

» **Agritourism marketing:** To improve the ability of the agricultural sector to enter the international market, it is advisable to strengthen the links between the various actors involved in the production, processing and distribution of agricultural products with the actors of other sectors, mainly the food industry and tourism sectors. For instance, the usual manner of marketing of agricultural products and partnerships of the farms was through roadside sales, selling to wholesalers, processors, retailers, or in some cases direct sale at the markets. However, by transforming farms into agritourism facilities, it allows agritourism farms to sell their products at the farms, through serving at the restaurants, meals at the accommodation units, and direct sale of fresh products to the visitors, etc.

» **Funding for global market expansion:** Providing financial and logistical support to farmers to participate in global agricultural fairs, which will allow them to access new global markets and increase the value/image of the Ghanaian brand. For instance, the Ministry of Food and Agriculture (MOFA) or another public ministry/institution could provide financial and logistical support to farmers to enter new markets. The Ministry of Finance could also introduce fiscal and budgetary reforms to provide tax benefits to farmers, producers and traders who wish to promote Ghanaian agricultural products on the international market. Public and/or private promotion agencies could initiate advertising campaigns to publicize Ghanaian agro-food products, targeting old and new markets. The budgetary cost of these incentives is largely compensated by the increase in economic growth, job creation and foreign currency inflows. For agri-SMEs, support could be provided to offset the costs of testing needed when attempting to comply with food safety regulations of a new market. This financial support could be provided for a limited duration of two to three years and used to pay for new testing methods or to buy new lab equipment and would encourage agri-SMEs to penetrate new markets.

» **Blended financing to support agri-SMEs:** As the majority of enterprises in the agri-food sector in Eastern African countries comprise small family farms and SMEs, blended finance can enable agri-SMEs to access more capital and targeted financial products allowing them to make essential investments in order to comply with international standards.[52] For instance, Aceli Africa is a market catalyst mobilizing private capital for agri-SMEs offering financial incentives to commercial banks, non-bank financial institutions, and international social lenders as a means for to overcome the high risks and transaction costs of lending to agricultural SMEs in Eastern Africa. To date, it has facilitated over 700 loans totaling over USD 85 million to agri-SMEs across Kenya, Rwanda, Tanzania, and Uganda.[53] This increased access to finance is vital for agri-SMEs to create economic opportunities for farmers and workers, boost food security and nutrition and foster greater compliance with food safety regulations, promote sustainable agricultural practices, and encourage gender and youth inclusion. A similar financial model could be used for Ghana to increase agri-SMEs' access to financing.

» **Traceability:** Focusing on implementing the concept of traceability, by improving transparency along the food chain in order to enhance the detection of the presence of unsafe food. In 2015, the EU imposed an import ban on five Ghanaian vegetable products due to increased rejections of fresh fruit and vegetables exported to the EU market. In the context of the "Improving Food Safety Systems Project" (IFSSP), a traceability solution was developed to track produce from seed all the way to the point of export, including Kotoka International Airport in Accra where most shipments to the EU depart. The system was shown to EU auditors in September 2017 and contributed to the EU's decision to lift the export ban in January 2018. Within the context of the IFSSP, officers of Ghana's Plant Protection and Regulatory Services Directorate of the MoA, exporters and farmers were trained to use the new traceability technology. Since launching this pilot traceability system, two exporters were able to use it to trace their product shipments farm to port by creating compliant and unique product identifications and producing tracking reports, enabling them to export their first tracked products to the EU. Support could be provided to expand on the results of this project by training all major food processing Ghanaian companies exporting fruits and vegetables on how to use the traceability system; thereby allowing them to quickly track any contaminated produce directly and investigate and contain the source of the issue quickly.[54]

» **Global programmatic approach:** In our comparative country analysis, we concluded that the three countries Ghana, Côte d'Ivoire and Cameroon have one thing in common: their highest rate of rejections comes from the US market. Hence, these three neighboring countries can initiate a common programme with a significant investment in partnership with the US and an NGO or UN agency to comply with American standards. The results would be more efficient and would have a lower cost (return to scale). This cooperation could subsequently extend to other markets of interest that have other specific regulations such as the European market and the Japanese

[52] Organisation for Economic Co-operation and Development (2021, May 20). *Making Blended Finance Work for Agri-SMEs: Lessons learned from selected case studies*. OECD. https://one.oecd.org/document/DCD(2021)7/en/pdf

[53] ACELI Africa. Unlocking Private Capital for African Agriculture. https://aceliafrica.ams3.digitaloceanspaces.com/wp-content/uploads/2023/03/30161122/AceliAfrica_Year2_LearningReport.pdf

[54] IESC. Building Confidence for Export through Traceability in Ghana. https://iesc.org/building-confidence-for-export-through-traceability-in-ghana/

market. In addition, the percentage of rejections due to labeling is very high for the three countries (between 47% and 75% of the total rejections). This constitutes another argument for the cooperation between the three countries. For instance, they could jointly tackle the issue of labeling by supporting agricultural producers with the various compliance requirements.

## Promote a conducive policy environment and culture for quality:

- **Quality awareness campaigns:** In order to address the prevailing lack of awareness regarding the importance of quality and food safety among most fruit and vegetable producers, it would be useful to conduct informative campaigns focused on standards, regulations, and national quality infrastructure (NQI). These awareness campaigns should target both the general public and government institutions. Indeed, government institutions also need to fully comprehend the benefits associated with fostering a culture for quality and improving NQI, as this will contribute to the increased competitiveness of Ghanaian food and feed products. Furthermore, inspectors play a vital role in disseminating regulatory requirements to farmers and food businesses during their inspection visits, as they serve as the primary source of knowledge for ensuring compliance.
- **Informational sessions for consumers and food service institutions:** In response to the growing demand for high quality food products among local consumers, one effective approach for farmers to comply with global standards is to demand that the agricultural products sold on the local markets meet the same standards as those intended for exports. Additionally, it is beneficial to organize informational sessions and promotional activities targeting consumers, as well as institutions involved in food provision across various settings, such as catering companies, kindergartens, schools, and nursing homes.
- **Consumer awareness of food safety and brand protection:** Consumers' awareness of food safety is a strong driving force that pushes the advancement of safety standards. Consumers rightfully expect that every food item they purchase will adhere to stringent safety and quality measures. Their continued satisfaction and loyalty to a product is evident through repeat purchases. Thus, food manufacturers and producers hold a vested interest in safeguarding their brand reputation by consistently delivering products that meet consumers' expectations of safety and quality. This necessitates the meticulous implementation of appropriate controls that oversee the entire spectrum of food manufacturing and processing, encompassing raw ingredient utilization through to the production of finished goods.[55]

[55] The Food and Agriculture Organization (2020). *Consumers and food safety: A food industry perspective*. FAO. https://www.fao.org/3/v2890t/v2890t05.htm

# ANNEX:
## Contextualizing trade-related standards

Technical regulations and standards are increasingly prevalent and continuously evolving in the international trade of food and nonfood (industrial) products. Moreover, there is evidence that many developing countries face challenges in complying with the safety and quality requirements that these regulations and standards lay down. Since 2008, UNIDO has regularly collected evidence about trade-related challenges and their evolution over time, particularly in the area of compliance with requirements, such as quality, certification, and labeling, set by international markets.

In their efforts to improve compliance, the challenge for national governments and donors is to allocate scarce financial and technical resources amongst a plethora of capacity building needs. There is, therefore, a need to identify where the most acute compliance challenges are faced—in a trade context this means identifying the products and markets with the highest rates of non-compliance—thus recording rejections. In this context, the Standards Compliance Analytics (SCA) tool can be used to facilitate the use of rejection data to identify the key compliance challenges faced by exporting countries and thereby enhance targeting of investments in building relevant compliance capacities. The SCA tool supports the assessment of the overall impact of rejection on export performance of countries of origin and estimates their compliance capacity by interpreting rejection trends together with additional key development, production and trade-related indicators. Lastly, the SCA tool allows for the comparison of countries' trade compliance performances in different markets and related to specific product groups.

Finally, information on rejection can inform policy and technical assistance to navigate and focus efforts in addressing compliance issues in a more effective and targeted manner. Deeper understanding of trade compliance challenges contributes to better preparedness of exporting countries to comply with export market requirements and eventually less rejection in the long term. As a result, the economic losses due to rejection would be avoided while reputational risks due to large scale rejections can be averted.

The SCA tool compiles data from several data sources to cover five major markets including:

» **China**: The Chinese rejection data records for agri-food products are published by the General Administration of Customs (GAC). The data includes records of rejected consignments under HS codes 1 to 24 that do not meet Chinese regulatory requirements.

» **United States:** The US food and feed border rejection data is obtained from the US Food and Drug Administration's (USFDA) Operational and Administrative System for Import Support (OASIS), an automated system for processing and making admissibility determinations for shipments of imported products that come under the jurisdiction of the USFDA. The USFDA's website also contains a description of the variables in the rejection data (Import Refusal Report). The data initially contains both food, feed, and non-food rejections. However, the non-food rejections are excluded as the current focus is the analysis of food and feed rejections.

» **Australia:** The Australian food and feed border rejection data is obtained from the Australian Department of Agriculture, Water and the Environment. The data includes label and visual rejections, among other rejections. Imported food is inspected through a programme known as the Imported Food Inspection Scheme (IFIS). The scheme inspects imported food to check if it meets Australian requirements for public health and safety and if it is compliant with Australia's food standards. A risk-based approach is taken when regulating imported food. Specifically, when a consignment of imported food has been referred for inspection, the inspection will involve a visual and label assessment and may also include sampling the food for the application of analytical tests. Under the IFIS, the Minister classifies food as either risk food or surveillance food. Risk food is food that has been assessed by the Food Standards Australia New Zealand (FSANZ) as posing a medium to high risk to public health, thereby requiring stricter border controls. Surveillance food is considered to pose a low risk to human health and safety.

» **Japan:** The Japanese food and feed border rejection data is obtained from Japan's Ministry of Health, Labor and Welfare (MHLW). The MHLW tracks and controls import consignments that violate the Food Sanitation Law to secure the "safety of diet" of Japanese people.

» **European Union:** The food and feed border rejection data is obtained directly from the officials responsible for the EU's Rapid Alert System for Food and Feed (RASFF). RASFF provides a platform for the exchange of information between EU Member States on measures taken in response to food and feed products that pose an immediate risk to human health, both in the EU internal market and with respect to imports from Third Countries. The data initially contains both food, feed, and non-food (food contact material) rejections. However, the non-food rejections are excluded as the current focus is the analysis of food and feed rejections.

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This work was supported by Switzerland through the State Secretariat for Economic Affairs (SECO) under the Global Quality and Standards Programme (GQSP).