Food Safety in Africa: Insights from the CAADP Biennial Review Data

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AKADEMIYA2063 Policy Paper — July 2024

Introduction

Africa is saddled with foodborne diseases and food hazards, a situation that has emerged from various challenges, notably its weak Sanitary and Phytosanitary (SPS) systems and inability to comply with SPS measures. These weaknesses have impeded the abilities of African countries to ensure safe food systems that is characterized by effective governance and implementation processes. The weak food safety systems have led to significant public health issues among many African countries with the continent having the highest per capita burden of foodborne illnesses and diseases in the world. The World Health Organization (WHO) reports that food safety hazards have led to an estimated 91 million illnesses and 137,000 deaths annually in the continent, largely affecting children below the age of five (WHO 2015). These hazards disrupt the growth and modernization of the domestic market economy, while also undermining the country's capacity to generate income and employment, resulting in productivity losses (Jaffee et al. 2019).

The prevailing poor state of food safety in Africa has also resulted in significant market access problems due to the inability of African countries to comply with the food safety requirements of importing countries. For instance, between 2008 and 2020, there were an estimated 3,248 incidences of agri-food exports from Africa rejected at the European Union (EU) borders due to their non-conformity with European food safety measures. During this same period, an estimated 3,870 incidences of agri-food exports from Africa were refused entry into the United States of America (USA) due to violation of its food safety regulations. Such rejections translate into significant loss for African exporters. These include freight and other logistical costs that are forfeited if these products are destroyed by the importing country. If the product is released to the exporters, then they incur other costs such as freight and reshipment costs. In addition, exporters may incur social costs from export rejections which include damage to exporters' and their countries' reputations (Kareem et al. 2023).

The high incidence of agri-food export rejections points to significant problems in terms of non-compliance, market access and a poorly managed food system, which may limit the ability of exporting African countries to use trade to generate income and reduce poverty. A poorly managed food system can lead to market access problems, loss of agricultural productivity and incomes, and higher incidence of foodborne illnesses, all of which can have negative impacts on food security, public health and economic growth.

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What are SPS measures?

SPS measures include all relevant regulations, requirements, and procedures used to ensure the safety of agricultural products for people, plants, and animals as well as the environment, which are to be used without creating unnecessary obstacles to trade (WTO 2010).

Shortcomings in the continent's food safety systems might also dampen the potential gains from trade liberalization impacts of the recently ratified African Continental Free Trade Area[1] (AfCFTA) agreement. Strengthening Africa's food safety systems and governance are therefore critical for the realization of AfCFTA's trade liberalization benefits.

In the light of these issues, this policy brief assesses the current state and progress made toward strengthening food safety systems in Africa. The main objective is to shed light on the performance of food safety systems in Africa and highlight how these systems can be strengthened to improve food safety, public health, food and nutrition security as well as trade in safe food within the continent and beyond.

Food Safety in the Comprehensive Africa Agriculture Development Programme (CAADP)

The African Union Commission–Department of Agriculture, Rural Development, Blue Economy and Sustainable Environment (AUC–DARBE) has developed a number of important initiatives and flagship strategies to improve the state of Africa's agri-food systems. Policies and strategies that are especially relevant include the AU SPS Policy Framework which provides

the roadmap for a modernized and harmonized SPS system in Africa; the Food Safety Strategy for Africa (FSSA)[2]; Animal Health Strategy for Africa (AHSA) and the Plant Health Strategy for Africa (PHSA) – which are the implementation strategies of the SPS Policy Framework; and Annex 7 of the AfCFTA which lays out the provisions on SPS measures in AfCFTA for enhanced intra-African trade. These policy initiatives recognize the importance of safe food systems in driving the transformation of Africa's agricultural sector and its potential to accelerate progress towards the continent's 2014 Malabo Declaration commitments.

Ensuring food safety is crucial for the achieving many of the Malabo Declaration commitments which tie AU Member States to the values and principles of the CAADP to achieve accelerated agricultural growth and transformation across Member States by 2025 (AU 2014). A functional food safety system is key if Member States are to fulfil the CAADP's commitments, especially those on halving poverty, ending hunger and tripling intra-African trade. Food safety is also relevant to the attainment of the UN Sustainable Development Goals (SDGs).

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1 AfCFTA is a home-grown comprehensive trade agreement in Africa which was ratified in 2019.

2 Its strategic areas span strengthening of food policy, strengthening of institutional and legal frameworks, promoting a food safety culture, trade facilitation, research and innovation, and bolstering of investment and coordination mechanisms (AU 2022).

Measuring the Performance of Africa's Food Safety Systems

As part of the Malabo Declaration, AU Member States committed to ensuring accountability through a biennial review process which encompasses tracking, monitoring and reporting of progress made in their respective agricultural sectors. Evidence from the continent's CAADP biennial review process tracking the implementation of the Malabo Declaration's commitments, provides insights into the progress made in terms of food safety among individual Member States, regions and RECs, and the continent as a whole. Monitoring and reporting on food safety performance and progress for the biennial review process is done using the African Food Safety Index (AFSI). This index is obtained as an average of three indicators: Food Safety System Index (FSSI), Food Safety Health Index (FSHI) and the Food Safety Trade Index (FSTI) as shown in Table 1. The FSSI tracks progress toward establishing an operational and functional food safety system among AU Member States, while the FSHI measures performance in terms of reducing foodborne illnesses and deaths, as well as aflatoxin-induced liver cancer. The FSTI measures reductions in violations of regional and international food safety standards.

Table 1: The Composition of FSSI, FSHI, and FSTI

	Index	Sub-parameter	Weight (%)
1.	FSSI	Existence of a food safety legal or policy framework	20
		Quality of national surveillance and monitoring programs	30
		Performance of laboratories, laboratory infrastructure and analytical capacity	30
		Presence of robust national control and monitoring programs to ensure compliance with food safety measures	20
2.	FSHI	Reduction rates of foodborne diarrheal diseases	40
		Reduction rates of deaths from diarrheal diseases in under-five children	40
		Reduction rates in the incidence of aflatoxin-induced liver cancer	20
3.	FSTI	Unit rate of exports rejected due to non-compliance with food safety measures.	
			100

Source: AU (n.d.) https://www.aflatoxinpartnership.org/wp-content/uploads/2021/08/AFSI-Flyer.pdf

This is the first time such data is being collected on the continent representing a big step toward tracking food safety in Africa. Progress on food safety in Africa is trough Member States' self-assessment of their food safety systems. A major limitation of the data is the issue of non-reporting Member States which makes the assessment and comparison across all Member States difficult. Non-reporting bias is a general problem that applies to many of the CAADP biennial review indicators, including the food safety indicators. In addition, there is the likelihood of respondent bias as the data is self-reported. Training of data collection experts can help address the limitations related to non-reporting and respondent biases.

The Status of Food Safety Performance in Africa

Data on food safety mechanisms in Africa were first collected in 2019 and later in 2021 as part of the CAADP biennial review process. Member States were given a uniform, well-defined score card to guide their score allocation for each indicator. Scores were allocated based on self-assessments. The uniform score card helped to ensure consistency in the assignment of scores by different Member States. In 2019, Member States that attained a score of at least 30 percent were categorized as being on track. In 2021, Member States had to have attained a score of at least 50 percent to qualify for classification as being on track. These 2019 and 2021 benchmarks were also the targeted scores for the FSSI, FSHI, FSTI and AFSI.

Progress in FSSI, FSHI, and FSTI for AU Member States
Starting with the FSSI, the biennial review data show that in 2019, 46 of the 49 AU Member States for which data were available had a score of at least 30 percent, meaning they were on track toward establishment of national operational and functional food safety systems. Top performing countries were Burundi, Ethiopia, Ghana, Mauritania, Morocco, Mozambique, Namibia, Rwanda, and Sierra Leone which had a score of 100 percent. The strong performance in terms of this index was maintained in 2021, as 45 of the 51 Member States for which data were available scored at least 50 percent.

The top four performing countries in 2021 were Kenya, Morocco, Niger and Tunisia, which each had a score of 97 percent. Conversely, Comoros, Libya and Guinea-Bissau had the worst outcomes among the countries that were not on track. Majority of the AU Member States performed well on this indicator, demonstrating their commitment to ensuring a functional food safety system which is key to the realization of some of the Malabo Declaration commitments, which should be achieved by 2025.

These strong FSSI scores come with a caveat. Many Member States performed well because two of the five dimensions defining the FSSI asked about the presence of a mechanism for consumer and private sector engagement and also whether countries had a functioning food safety law in place. These questions do not speak to how well these laws function, their contemporary relevance and whether or not engagement with the private sector and consumers is actually effective. Notably, country performance in terms of the FSSI score does not match the high incidence of food safety rejections in importing markets, or the burden of domestic foodborne diseases in Africa which is the highest worldwide (WHO 2015).

Many AU Member States performed poorly in terms of the FSHI in both 2019 and 2021. In 2019, only seven Member States attained a score of at least 30 percent, meaning they were on track to attaining their commitment of reaching at least 30% progress in food safety by 2019. Those Member States that were on track included Eritrea, Eswatini, Mozambique, Sierra Leone, Burundi, Gambia, and Seychelles. In 2021, the number that were on track increased marginally to 10 Member States. The majority of AU Member States were still off-track with only Eswatini, Gambia, Democratic Republic of Congo, Zimbabwe, Angola, Togo, Zambia, Burundi, Sierra Leone, and Mauritania recorded as being on track.

Member State performance in terms of the FSTI was also extremely poor in both 2019 and 2021. Majority were not on track to reducing export rejection rates by importing countries due to non-compliance with food safety measures. In 2019, only Cabo Verde and Mali attained a score of at least 30 percent, while in 2021 only Mali was on track. Table 2 presents the top performing Member States in terms of the three indices.

Table 2: Selected Top Performing Member States by Index, 2019 and 2021

Index	Year	Target	Member States on Track	Top Performing Member States on Track
FSSI	2019	30%	46	Burundi, Ethiopia, Ghana, Mauritania, Morocco, Mozambique, Namibia, Rwanda, Sierra Leone
	2021	50%	46	Kenya, Morocco, Niger, Tunisia, Egypt, Mali, Rwanda, Namibia, Seychelles, Tanzania, Eswatini
FSHI	2019	30%	7	Eritrea, Eswatini, Mozambique, Sierra Leone, Burundi, Gambia, Seychelles
	2021	50%	10	Eswatini, Gambia, Democratic Republic of Congo, Zimbabwe, Angola, Togo, Zambia, Burundi, Sierra Leone, Mauritania
FSTI	2019	30%	7	Cabo Verde, Mali
	2021	50%	10	Mali

Source: Computed from the AU CAADP Toolkit.

AFSI Progress among AU Member States

These three indices – FSSI, FSHI and FSTI – are averaged at the national level to obtain the AFSI. The AFSI reflects overall progress on food safety in Africa at the national level. Figure 1 shows the countries that were on track in 2019 and 2021 and those that were not, based on their AFSI scores. In terms of overall food safety performance, the AFSI data show that in 2019, 26 countries attained a score of at least 30 percent meaning they were at least 30% on track to realizing their food safety commitments by 2025. The top five countries on track were Mali,

Cape Verde, Mozambique, Sierra Leone and Burundi. However, in 2021, only six countries – Togo, Eswatini, Mali, Gambia, Angola and the Democratic Republic of the Congo – attained a score of at least 50 percent meaning they were on at least 50 percent on track to realizing their food safety commitments by 2025. The higher number of countries recorded as being on track in 2019 could be due to the lower target (at least 30 percent), while the target in 2021 was 50 percent.

Figure 1: Progress on Food Safety in Africa in 2019 and 2021- AFSI

Figure 2 shows that the situation in terms of progress of overall food safety systems is not so different at the REC and continental levels. The RECs in Africa are: Arab Maghreb Union (UMA); Common Market for Eastern and Southern Africa (COMESA); Community of Sahel-Saharan States (CEN-SAD); East African Community (EAC); Economic Community of Central African States (ECCAS); Economic Community of West African States (ECOWAS); Intergovernmental Authority on Development (IGAD); and the Southern African Development Community (SADC).

As shown in Figure 2, none of the RECs was on track to meet the 30 percent and 50 percent targets set for 2019 and 2021, respectively, except for ECOWAS in 2019. Nonetheless, in comparison to 2019, many of the RECs did witness a slight rise in their AFSI in 2021. Despite this, the overall AFSI for the continent as whole was 2.63 in 2019 and 2.87 in 2021, indicating that the continent is not on track to ensuring strong food safety systems. These results show that the continent was still far from attaining the 30 percent and 50 percent targets in 2019 and 2021, respectively, in terms of overall food safety systems.

Figure 2: Progress in Food Safety Compliance by RECs and Africa as a whole, 2019 and 2021

2019

REC	AFSI
CEN-SAD	2.46
COMESA	2.31
EAC	2.89
ECCAS	2.65
ECOWAS	3.31
IGAD	2.04
SADC	2.69
UMA	1.70
Africa	2.63

2021

REC	AFSI
CEN-SAD	2.93
COMESA	3.05
EAC	3.15
ECCAS	3.14
ECOWAS	3.29
IGAD	2.46
SADC	3.31
UMA	2.96
Africa	2.87

AFSI by Regional Economic Groupings
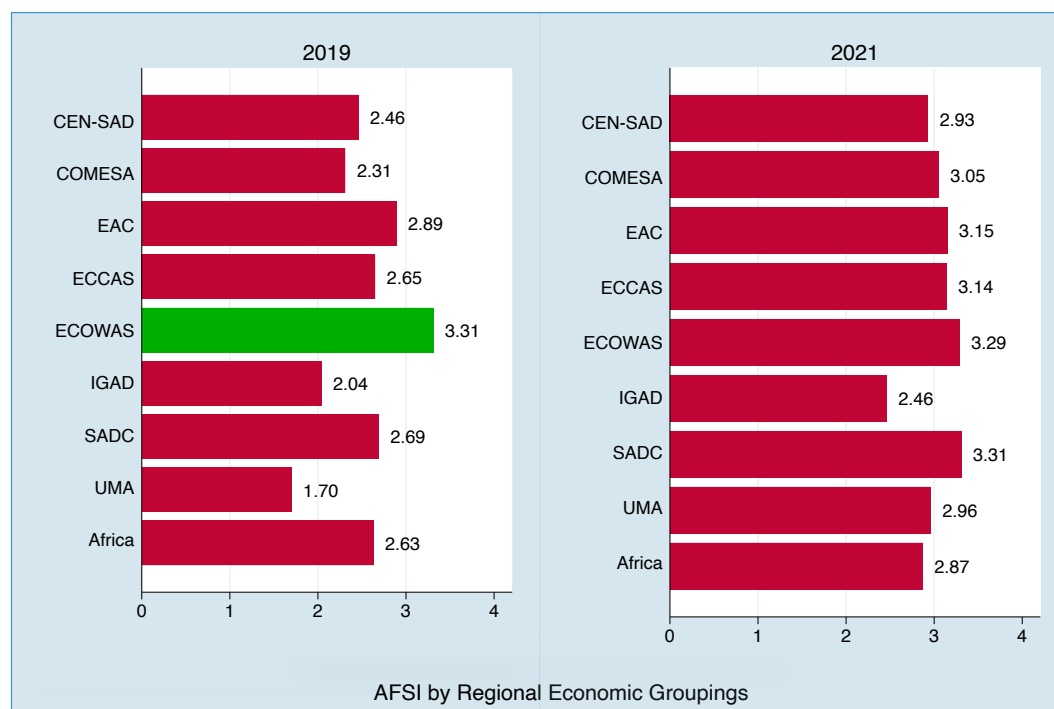
The preceding discussion indicates weak Africa's food safety systems. This has several implications for food security, especially in terms of access to safe, nutritious and healthy food. This weakness could further undermine the continent's regional and global agri-food trade and its ability to use food trade for poverty alleviation. While efforts are being made to align Member States' food safety systems to international best practices in line with the AU SPS Policy Framework and the AfCFTA agreement, challenges abound. These challenges include among others: insufficient resources to invest in state-of-the-art food safety systems; the large gaps between national and international standards; low or inadequate harmonized SPS measures across the various RECs in the continent; the low stock of domestic SPS measures relative to those needed to address SPS risks; poor enforcement and compliance with food safety measures; low levels of awareness of national standards and their weak implementation in domestic markets in comparison to export markets; and significant informal market where food safety issues are largely unregulated (Amare et al. 2023; Kareem et al. 2023; Kang'ethe et al. 2021).

Policy Options for Improved Food Safety Systems in Africa

To maximize the gains from various SPS initiatives, the following recommendations are proposed.

Increased Involvement in Standardization and Harmonization Efforts

Annex 7 of AfCFTA has two key provisions: strengthening the harmonization of SPS measures among Member States; and, facilitating the mutual recognition of equivalent SPS measures. Both provisions will reduce the costs of complying with SPS measures. However, the current level of standardization efforts in Africa is low, with a huge gap between the continent and its trading partners. Thus, the need to urgently accelerate the development and harmonization of standards among AU Member States to eliminate unnecessary trade barriers while also facilitating safe trade. In this regard, the ARSO and CCAFRICA efforts are commendable, particularly the development of food standards to facilitate for intra-regional trade. CCAFRICA recommendations on the development of global standards that are of regional interest, or potential global markets, is also commendable and should be emulated at the continental level.

In addition, continuous efforts to harmonize standards to international ones such as those of the International Plant Protection Convention (IPPC), Codex Alimentarius Commission (Codex), and the World Organisation for Animal Health (WOAH) should be intensified. It is also important to strengthen and/or re-activate national Codex Committees or other similar committees in Member States, as well as ensure collaboration among governments, the private sector and consumer associations. The current management of food systems must therefore ensure strong and effective representation of all stakeholders to enable strong adherence to food safety regulations.

Accelerate the Usage of Harmonized and Equivalent Standards

The usage of harmonized and equivalent standards must be enabled and accelerated through the creation of open platforms for publicizing standards. At the global level, the WTO already offers this service at no cost to users via its ePing platform. However, as the continent has the lowest levels of SPS notifications relative to other regions, greater usage by African countries would help them publicize their SPS measures and accelerate their usage. At a continental level, the creation of a common online platform to publish the harmonized and equivalent SPS measures for various RECs should also be prioritized and made available to the public at no cost to the user. Such a platform would

ensure transparency, raise awareness about standards and increase the likelihood of their adoption and usage by farmers, food handlers and processors, as well as other stakeholders.

Facilitate increased Investment in Relevant Quality Infrastructure and Institutions

The poor performance of Africa's food safety, trade and health systems, as seen in the biennial review data, could be reversed with policy measures that strengthen the continent's infrastructure. SPS or quality infrastructure is vital for effective food safety controls, standardization and scientific risk assessments, and conformity assessment. However, development of quality infrastructure is capital-intensive, and is one of the most expensive parts of an efficient SPS system. This makes them inaccessible to the farmers, producers and handlers who dominate Africa's agricultural sector. Thus, at the national level, domestic resource mobilization is needed to trigger investments in SPS infrastructure. Infrastructural investments can also be scaled up by exploring options to attract private sector finances, donors and other development financing in order to facilitate the financing of these capital investments.

Ensure strong Commitment to the Implementation of the Continent's SPS Agendas

As the AFSI results show, progress towards achieving the targeted SPS performance in Africa has been slow and uneven across countries. Hence, to achieve modern food safety mechanisms, Member States should ensure that there is strong commitment to implementation of the provisions on SPS measures as provided in the continent's guiding documents such as the FSSA, AU SPS Policy Framework, and Annex 7 of the AfCFTA agreement.

Extend Food Safety Policy Implementation to include Domestic Markets

Food safety in domestic markets in African countries are usually weakly regulated and implemented relative to the export markets. In addition, consumers and informal sector actors play a limited role in ensuring food safety. This is despite that the informal sector makes up 70-80 percent of the economy in many African countries. A focus on domestic markets and consumers is needed to increase food safety awareness and the demand for safe food. In addition, African governments need to commit themselves to the implementation of their oversight duties for their own domestic markets and not just export markets.

Improve Data Quality to inform SPS Policy Decisions

The AUC's efforts to track progress in development of SPS systems among AU member states by using the data generated from the CAADP biennial review process is commendable. However, the quality and scope of the data from the process needs to improve in line with current and emerging realities on SPS issues. The non-reporting of some of the biennial review indicators by several countries, means that the data cannot be used in decision making and policy interventions. As data is critical in SPS governance, investments in high-end quality data are key for the post-Malabo era. Investments could include tailored capacity building on SPS data reporting based on pre-identified country needs to facilitate data-driven SPS governance.

Align Policy Actions and Interventions with Good Regulatory Practices

The use of good regulatory practices (GRPs) is crucial to enhance the efficiency of SPS systems and the effectiveness of these policy recommendations. In line with the Standards and Trade Development Facility

(STDF), GRPs are processes and tools to improve the effectiveness of SPS regulations. Practices such as stakeholder engagement, consultation and coordination are to be encouraged at every stage of SPS regulatory management, to obtain multisectoral buy-in, enable strong institutional and capacity building outcomes, as well as the effective design and implementation of SPS regulations and reforms in general. In addition, it is also important to monitor and evaluate implementation practices, before and after interventions. These GRPs would enable the identification of gaps and provide relevant solutions to SPS problems in the continent.

Conclusion

A well-functioning food system involves ensuring the safety and protection of human, animal and plant health. Strengthening the continent's food safety mechanisms will accelerate the achievement of many of the commitments in the Malabo Declaration, especially those related to halving poverty, ending hunger and tripling intra-African trade. The policy options set out above would bolster Africa's food and health systems and strengthen the ability of African countries to utilize trade to achieve food security, increase economic growth and alleviate poverty. These policy recommendations are key focal points that should be considered in the post-Malabo era.

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