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# Overcoming Sanitary and Phytosanitary barriers to Agro-food trade under African Continental Free Trade Area

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## ABSTRACT

Sanitary and phytosanitary (SPS) barriers for agro-food trade under the African Continental Free Trade Area (AfCFTA) fall in three categories: weaknesses in policy and legal frameworks; weaknesses in institutional systems; and barriers in infrastructure system. The weaknesses in SPS policy and legal frameworks are mainly; lack of harmonized policy strategies and legislation, making them burdensome to comply with. The weaknesses in institutional system include: lack of technical expertise to implement appropriate SPS policy strategies and regulations, weak implementation of risk analysis principle, weak inspection capacities, exclusion of informal sector in food controls, low awareness on SPS, limited use of international standards and requirements; and poor coordination, collaboration and information exchange. The barriers in infrastructure system include: use of inappropriate technologies and facilities in value chains; low investments in testing and diagnostic facilities; and un-upgraded infrastructure and facilities at the borders. To address the SPS policy and legal barriers, Member States should ensure that SPS policy strategies and legislation are harmonized to enable application of similar standards and regulations or negotiate mutual recognition and equivalency agreements. To address institutional systems barriers requires educating and skilling the personnel; strengthening inspection services; adopting risk-based approach in SPS controls; targeting the informal sector in SPS control plans; increasing SPS awareness across board; adopting use of international standards and requirements; and fostering coordination, collaboration and information exchange. To address infrastructure system barriers requires investing in technologies and facilities required in production, handling, processing and transportation of agri-food products; modernizing laboratories including investing in research and innovation to develop affordable testing and diagnostic techniques suitable for the informal sector; and upgrading of border infrastructure and facilities including implementation of one-stop border points. To achieve these, there is need for collective efforts at Member States, Regional Economic Communities (RECs) and African Union (AU) levels to address the SPS challenges undermining integration and agro-food trade flow under AfCFTA.

**Keywords:** Agri-food trade flow, African Continental Free Trade Area, Sanitary and phytosanitary, trade barriers

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**RÉSUMÉ**
Les barrières sanitaires et phytosanitaires (SPS) dans le commerce agroalimentaire dans le cadre de la Zone de libre-échange continentale africaine (ZLECAf) se répartissent en trois catégories : faiblesses dans les cadres politiques et juridiques ; faiblesses dans les systèmes institutionnels ; et obstacles dans le système d'infrastructures. Les faiblesses dans les politiques et cadres juridiques SPS concernent principalement l'absence de stratégies politiques et de législations harmonisées, ce qui les rend difficiles à appliquer. Les faiblesses dans le système institutionnel incluent : manque d'expertise technique pour mettre en œuvre les politiques et réglementations SPS appropriées, application faible du principe d'analyse des risques, capacités d'inspection limitées, exclusion du secteur informel des contrôles alimentaires, faible sensibilisation aux SPS, utilisation limitée des normes et exigences internationales ; et mauvaise coordination, collaboration et échange d'informations. Les obstacles liés aux infrastructures comprennent : l'utilisation de technologies et d'équipements inappropriés dans les chaînes de valeur ; de faibles investissements dans les installations de test et de diagnostic ; et des infrastructures aux frontières non modernisées. Pour résoudre les barrières politiques et juridiques, les États membres doivent veiller à harmoniser les stratégies et les législations SPS afin de permettre l'application de normes et de règlements similaires, ou négocier des accords de reconnaissance mutuelle et d'équivalence. Pour surmonter les obstacles institutionnels, il convient de former et renforcer les compétences du personnel ; de renforcer les services d'inspection ; d'adopter une approche fondée sur le risque pour les contrôles SPS ; d'inclure le secteur informel dans les plans de contrôle SPS ; d'augmenter la sensibilisation ; d'adopter les normes internationales ; et de renforcer la coordination, la collaboration et les échanges d'information. Pour remédier aux obstacles d'infrastructure, il est nécessaire d'investir dans les technologies et les équipements liés à la production, la manipulation, la transformation et le transport des produits agroalimentaires ; de moderniser les laboratoires, notamment en investissant dans la recherche et l'innovation pour développer des techniques de diagnostic abordables adaptées au secteur informel ; et de moderniser les infrastructures frontalières, y compris la mise en œuvre de postes frontières à guichet unique. Pour atteindre ces objectifs, des efforts collectifs aux niveaux des États membres, des communautés économiques régionales (CER) et de l'Union africaine (UA) sont indispensables pour relever les défis SPS qui entravent l'intégration et les flux commerciaux agroalimentaires dans le cadre de la ZLECAf.

**Mots clés** : Flux du commerce agroalimentaire, Zone de libre-échange continentale africaine, Mesures sanitaires et phytosanitaires, Obstacles au commerce

## INTRODUCTION

African agricultural and food market is expanding quickly and is expected to more than triple, reaching USD 1 trillion by 2030, compared to USD 313 billion in 2010 (World Bank, 2013). More so, African agricultural products are supplied across the world. African countries primarily export fruits and nuts which constitute the largest export share at 20%; cocoa and cocoa preparations (15%); coffee, tea, mate, and spices (8%); and other major exports such as vegetables, roots, and tubers, oilseeds and oleaginous fruits, sugars and sugar confectionery, animal or vegetable fats and oils, and tobacco and manufactured tobacco substitutes. A large portion of fruits, vegetables, coffee, cocoa, and spices are exported to markets outside the African continent, while cereals and some other agricultural products are traded within the continent (Chisom, 2024; Odjo *et al*., 2024). The African Continental Free Trade Area (AfCFTA), established on 30$^{th}$ May 2019, aims at creating a continental market for goods and services for approximately 1.3 billion African consumers (Ndobya, 2022). However, the opportunities for expanding intra- and extra Africa agri-food trade are challenged by several factors. On top of non-tariff barriers such as price controls, multiple exchange rates, anti-dumping measures, quantity restrictions, use of roadblocks, corruption and long customs procedures, there are food safety, animal health and plant health measures imposed to protect

public health, prevent the spread of diseases and pests, and ensure the quality of traded goods that heavily impede agricultural trade (Keane *et al,* 2010; González-Mellado *et al*, 2011). These measures do not only cause market access restrictions and product rejections, they also increase the cost of the African agro-products hence rendering them uncompetitive in the markets (FAO/AUC 2020). Because of increased regional integration in Africa and the consequent harmonisation of trade tariffs, the cost of sanitary and phytosanitary (SPS) compliance is currently more burdensome than the tariffs.

Sanitary and phytosanitary (SPS) measures are a package of laws, rules and regulations, and other regulatory requirements applied to traded agri-food commodities and products to protect human, animal, and plant health and life from risks arising from foodborne hazards like pathogens and contaminants; animal diseases such as foot-and-mouth disease, avian influenza and new castle diseases and others; and plant pests and disease-causing organisms likes invasive insects and fungi. The SPS measures are governed by the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement**)**, which sets rules for their implementation to avoid unnecessary trade restrictions (WTO, 2010). The SPS measures can either facilitate or restrict trade depending on their implementation. On positive side, the SPS measures ensure market access where compliance with SPS standards allows exporters to enter foreign markets. They reduce trade disputes where harmonized standards minimize arbitrary trade bans. They also enhance consumer confidence by increasing importers' trust in products meeting international safety standards. However on the flip side, the SPS measures can increase cost of trade expenses through testing, certifications, and inspections; lead to delays in clearance of imports and rejections and detentions due noncompliance; and some countries can misuse them to protect locally produced products by imposing overly strict rules to block imports.

The SPS compliance is estimated to account for 13% of the price of exported products in Africa (AUC/FAO, 2021). The compliance costs are heightened by incompatible SPS environments and quality infrastructures; inconsistent and conflicting regulations and standards; infrastructure and connectivity problems at border entry points; and systems, processes and procedures for certification of the products in the value chain and transportation before reaching the border (González-Mellado *et al*, 2011; FAO/AUC, 2020). Farmers, processors and exporters incur expenses on testing and certification fees; laboratory testing for pathogens, pesticide residues and contaminants; implementing food safety, plant health and animal health measures and fees for veterinary/plant health certificates (Ndemera *et al*., 2023). For instance, the markets for horticulture like many other agri-food commodities traded internationally, demand stringent regulatory requirements that result in restrictions due to maximum residue limits (MRLs) for pesticides and quarantined pests. Horticulture exporters for example in Kenya, incur high expenses on testing and implementation of mandatory pre-export inspections by national authorities and third-party audits for Global Good Agricultural Practices (Global GAP), Hazard Analysis Critical Control Point (HACCP) system, or organic certification (Nzomoi *et al,* 2019; World Bank, 2019; Heher and Steen bergen, 2020). Other expenses are incurred on cold chain and infrastructure including investment in refrigeration, pest control, and sanitary processing facilities. In addition, there are indirect costs incurred through delays and border rejections, storage fees, demurrage charges, and spoilage due to slow clearance (Ndemera *et al*., 2023). Nigerian sesame exports to the EU face 30% rejection rates due to aflatoxin levels, among several other food safety requirements (Anyogu *et al.,* 2024; Olawode, 2025). Other necessary indirect costs are incurred on technical assistance and training such as training of farmers on good agricultural practices, implementation of hygiene and good handling practices and HACCP and other standards. Ghana cocoa and

horticulture farmers incur high expenses to comply with the maximum residue limits for pesticides and achievement of Global GAP compliance, respectively (KPMG, 2011; Annor *et al*., 2024).

All the expenses collectively increase the cost on the producers and traders hence forming a major barrier to trade, especially for the small holder farmers and SMEs that cannot afford implementation of the measures. Because of the costs involved, the smallholder farmers are often priced out of exports due to high compliance costs (Humphrey, 2017; Babatunde, 2018).

The specific SPS barriers for agro-food trade under the AfCFTA have been analysed (Bagumire, 2025a). They include weaknesses in policy and legal framework and institutional and infrastructural system. The weaknesses in policy and legal frameworks emanate from SPS policy, legislative and regulatory challenges; lack of expertise to guide policy and legal frameworks; and fragmented regulatory landscape at national level. The weakness in institutional system is caused by: limited institutional investments in infrastructure necessary to support implementation of SPS standards among small scale farmers and agro-processors; effect of divergent national priorities, limited institutional capacity, inadequate infrastructure for testing and certification, and a lack of political will on SPS harmonization; weak institutional infrastructure arising from capacity limitations in SPS system; lack of institutional prioritization of SPS; and disjointed and ad hoc implementation of SPS measures by mandated institutions. The other weaknesses in the institutional system are: the lack of proper institutional coordination mechanism for implementing SPS measures; difference in pace of integration at continental and RECs levels; lack of reliable data from responsible institutions to inform formulation of effective SPS policy, legal and regulatory, and operational strategies; political interference and lack of political will to implement adequate and effective SPS measures; and presence of multiple (eight) RECs in Africa. The barriers within the infrastructure system emanate from weak infrastructure for production, handling, storage, processing, transportation, and marketing of agricultural products; weak infrastructure for product testing and diseases and pests' diagnosis; inefficiencies resulting from the lack of or non-functional one-stop border posts (OSBPs), critical personnel, infrastructure and resources for undertaking credible food controls; inappropriate or lack of technologies and techniques applied to manage, detect and control food safety hazards; and lack of digital facilities to streamline SPS management and facilitate SPS border controls (González-Mellado *et al.*, 2011).

The SPS barriers have potential impact on the ability of the continent to implement the AfCFTA, and if not well addressed could undermine full realization of the potential benefits of greater intra-regional trade. Stronger SPS capacities and increased investments in SPS systems are essential for protection of human health, increased Africa's ability to export its products to regional and global markets, and achieve the goals and commitments under the Comprehensive Africa Agriculture Development Program (CAADP), the Malabo and Kampala Declarations, the African Union Agenda 2063 and the Sustainable Development Goals (SDGs), specifically, SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), and SDG 15 (Life on Land) that are directly impacted by SPS systems; as well as SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth), and SDG 12 (Responsible Consumption and Production) whose achievement is indirectly affected by SPS systems supporting trade. Thus, solutions required to overcome the SPS barriers need to be identified, analysed and well understood in order to minimise the negative consequences of noncompliance on agri-food trade.

To address some of the health and trade challenges faced by African countries, the AU Commission (AUC) developed a continental SPS policy framework to facilitate

harmonization of AU Member States' SPS policy in general and to inform the establishment of the Pan African SPS diagnostic mechanism and a harmonized SPS management and control system (AU, 2019). The AUC has developed a Food Safety Strategy for Africa (FSSA) 2020-2036. The strategy aims to harmonize food safety practices, mitigate foodborne diseases, and facilitate trade within Africa and globally (AU, 2021). It focuses on establishing robust food safety systems, reducing foodborne illnesses, and promoting safe food production practices. The FSSA is a tool for implementing the AU's Continental SPS Policy Framework in the aspects relevant to food safety. It addresses non-tariff barriers related to SPS measures that hinder the achievement of goals like the Malabo Declaration and Agenda 2063. An Animal Health Strategy for Africa (2019-2035) that provides a framework for a sustainable animal health system in Africa, aligning with international standards like those of the World Organisation for Animal Health (WOAH), was developed (AU-IBAR, 2019). It addresses the impact of animal diseases on agricultural value chains, the risk of zoonotic diseases, and the effects of climate change and conflict. The strategy aims to improve animal health service delivery and enhance market access for livestock products. A Plant Health Strategy for Africa 2022-2036 that focuses on establishing a robust system for managing plant pests and diseases was also developed (AU-IAPSC, 2022). Its goals include implementation of harmonized standards, capacity building, and effective control of pest introductions and spread. This strategy is crucial for ensuring safe trade, food security, economic growth, and environmental protection. The strategy addresses the impact of climate change on plant health and the need to protect Africa's plant species and biodiversity.

To enable harmonized approaches in implementation of the SPS strategies, the AUC working with continental stakeholders, RECs and the Member States has further articulated implementation plans for all the three respective strategies for Africa by outlining the actions and activities to be undertaken by stakeholders at continental level, REC and Member States level as part of the collective interventions to address the SPS issues that impact on safety and health of animals, plants and humans arising from potential plant and animal pests and diseases and food contaminants. However, these strategies remain on paper, unless the different Member States take initiatives to align their policies, legislations, and institutional and operational frameworks to operationalize the strategies by taking actions outlined in the AUC implementation plans for food safety, plant health and animal health strategies for Africa. This paper therefore proposes solutions and actions to be taken by AU member countries to address the SPS barriers to align with the SPS strategies and participate effectively in Agri-food trade under the AfCFTA.

## METHODOLOGY

The study involved desk review of available literature on SPS environments in African countries, RECs and Member States; implementation barriers; and available strategies for addressing the barriers to enhance trade in agri-food commodities and products. Sources of reviewed literature comprised information obtained from web searches such as reports, policy and strategy documents developed by African Union and published articles. The relevant reports, documents and published articles that were obtained and reviewed are included in Table 1.

## FINDINGS AND DISCUSSION

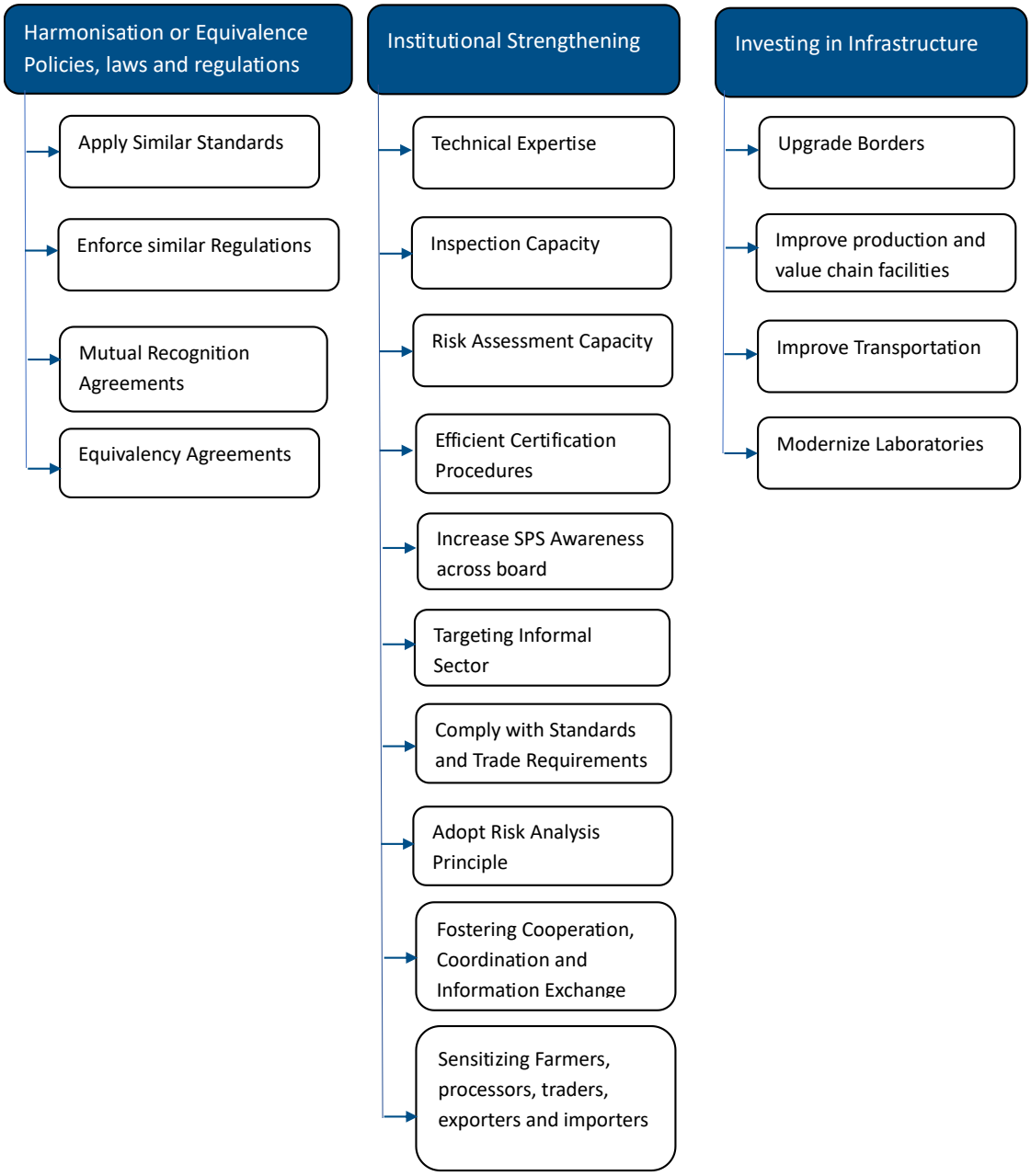
**Solutions to overcome the SPS Barriers to Agro-food Trade under AfCFTA**. Addressing the SPS barriers related to the policy, legal framework, institutional capacity, and infrastructure in Africa demands a multifaceted approach. First and foremost, harmonizing SPS implementation policies, laws and regulations across African countries is essential to ensure consistency and coherence in standards in order to reduce trade barriers and promote cross-border trade within

the AfCFTA. Additionally, strengthening institutional capacities should be prioritized.

Table 1. Sources of data and information

| S. N | Source | Title of the Publication | Information obtained |
|---|---|---|---|
| *A.* | *Published Reports, documents, articles accessed through Google Web searches* | | |
| 1. | AKADEMIYA63, 2023 | Report on Africa Agricultural Trade Monitor of 2023 | Trends in Agricultural Trade in Africa |
| 2. | AU, 2022 | Food Safety Strategy for Africa (FSSA) 2020-2036 | Strategies for harmonizing food safety practices, mitigate foodborne diseases, and facilitate trade within Africa |
| 3. | AU-IAPSC, 2022 | Plant Health Strategy for Africa 2022-2036 | Strategies for establishing a robust system for managing plant pests and diseases |
| 4. | Ndobya, 2022 | The Africa Continental Free Trade Area and the SPS Agreement: Insights for Africa. | The effects of WTO SPS Agreement on African Countries in Trading agri-food products under the AfCFTA; and recommendations on actions to be taken by RECs and Member States to Facilitate trade under AfCFTA |
| 5. | FAO/AUC, 2021 | Framework for Boosting Intra-African Trade in Agricultural Commodities and services | Challenges (including SPS) and constraints to Intra-African agricultural trade and strategies to address the challenges |
| 6. | OECD, 2021 | Digital Opportunities for Sanitary and Phytosanitary (SPS) Systems and the Trade Facilitation Effects of SPS Electronic Certification. | The positive effects of use of digital technologies such as SPS electronic certification on trade volumes, especially for plant-based products, vegetables and processed foods; the challenges for expanding digital technologies in agro-food trade; capacities needed; and what actions countries that lack the technologies, should take |
| 7. | Molnar *et al.*, 2020 | Review of mechanisms for food safety related SPS measures within African Regional Economic Communities (RECs): Paving way for a continent-wide food safety coordination effort | Differences in SPS requirements for trading in different RECs in Africa and effect of these differences on trading under AfCFTA |
| 8. | Orden *at al*., 2020 | Trading Up: How International Trade and Efficient Domestic Markets Can Contribute to African Development. | Importance of SPS and related barriers to trade among African countries, best policies needed and suggestions for addressing the barriers |
| 9. | AU, 2019 | Sanitary and Phytosanitary (SPS) Policy Framework for Africa | Policy provisions for addressing the health and trade challenges faced by African countries |
| 10. | AU-IBAR, 2019 | Animal Health Strategy for Africa (2019-2035) | Strategies for achieving sustainable animal health system in Africa |
| 11. | Babatunde, 2018 | Conforming to SPS Measures by African Small Holder Farmers: Challenges and constraints | SPS related challenges and constraints faced by African small holder farmers to access better markets |
| 12. | Humphrey, 2017 | Report on Food Safety, Trade, Standards and Integration of Small Holders into Value Chains | Food safety standards affecting small holders' access to better markets |
| 13. | Mbori, 2017 | Combating unjustified Sanitary and Phytosanitary measures in African Tripartite Free Trade Area (SADC-EAC-COMESA): SPS Plus or Minus? | General SPS related barriers that could affect agri-food businesses to participate in regional and Africa continental trade |
| 14. | González-Mellado et al., 2011 | The importance of non-tariff measures for African agricultural and food trade to the EU Evidence from selected countries. | Non Tarif Measures, including SPS measures applied to key agricultural products exported to the EU and other Markets by selected African countries and strategies and action necessary to overcome trade barriers staged by the measures |
| 15. | Keane at al., 2010 | Impediments to Intra-Regional Trade in Sub-Saharan Africa. | Effects of the SPS barriers on intra-regional trade in Sub-Saharan Africa, strategies and actions needed to address the barriers |
| 16. | Magalhães, 2010 | Report on Regional Sanitary and Phytosanitary Frameworks and Strategies in Africa of 2010 | State of SPS environments, challenges and strategies for improving SPS compliance in Africa |

Figure 1: Solutions for Addressing SPS-Related Bariers for Agro-food trade under the AFCFTA




Source: Information generated and figure designed by the author

This would involve building the technical expertise and regulatory frameworks necessary to effectively implement and enforce SPS measures, including enhancing inspection capabilities, risk assessment methodologies, and certification procedures. Furthermore, investing in infrastructure development, such as upgrading facilities for production, handling and processing agri-food produce and products; improving transportation networks; modernizing laboratory facilities, and upgrading border facilities, is critical for supporting efficient production, testing and movement of goods across borders. By combining these efforts, African countries can create an enabling environment that fosters seamless trade, enhances market access, and unlocks the full potential of the AfCFTA to drive economic integration and development across the continent.

The solutions required to address all the SPS barriers for trading under the AfCFTA are summarised in Figure 1.

**Solutions to address the SPS Barriers relating to SPS Policy and Legal Framework in Africa.**

**Solutions to SPS policy challenges.** The deficiencies in the SPS policy and regulatory environment in Africa can be addressed through a holistic approach centred on comprehensive reforms (Magalhães, 2010; AUC, 2019). This includes the establishment of clear policy to implement a robust regulatory framework that aligns with international standards and prioritize public health and safety. Concurrently, the policy should focus to strengthen institutional capacities that are essential for ensuring effective implementation and enforcement of SPS measures, necessitating investments in training, infrastructure, and technical expertise within regulatory bodies. Harmonizing and/or mutual recognition of standards across African countries is crucial for streamlining trade processes, minimizing compliance burdens, and fostering regional integration. Furthermore, implementing effective enforcement mechanisms is paramount to ensure compliance with SPS regulations, deter non-compliance, and protect consumers (González-Mellado *at al.*, 2011; AU-IBAR, 2019; Orden *at al.*, 2020; AUC, 2022; AU-IAPSC, 2022). By undertaking these policy reforms, Africa can promote adherence to recommended practices, safeguard public health, and facilitate trade and economic development across the continent, ultimately contributing to sustainable growth and prosperity.

**Solution to SPS legal and regulatory challenges.** To address the challenge posed by incompatible implementation of SPS policy strategies and legislation in Africa necessitates a coordinated and collaborative approach focused on harmonizing regulatory priorities and frameworks, bolstering institutional capacities, and fostering greater coordination and cooperation among countries. Harmonizing SPS regulations, ensuring equivalence of standards and related trade requirements to international requirements and recognising each other's SPS measures and standards across African nations is essential to streamline trade processes; ensuring uniformity in standards and promoting mutual acceptance of each other's measures and standards; which are critical to reducing complexity and trade barriers (Babatunde, 2018). Legal and regulatory reforms should cover obligations for strengthening institutional capacities which involves building the technical expertise and regulatory infrastructure necessary for effective implementation and enforcement of harmonized SPS measures, including enhancing inspection capabilities, laboratory facilities, and risk assessment methodologies. The legal reforms should also foster coordination and cooperation among countries which is crucial to facilitate information exchange, promote mutual recognition of standards, and enhance cross-border cooperation in SPS-related matters. By aligning policy strategies, legal reforms and efforts in these areas, African countries can overcome the challenges posed by incompatible SPS legislations, promote intra-regional trade, and advance economic integration across the continent, which if achieved will ultimately foster sustainable growth and development.

**Developing expertise to support development and implementation of effective SPS policies and legislations.**The shortage of SPS experts within the AU Member States requires strategic investments in education, training, and professional development programs to cultivate a robust workforce capable of guiding the formulation and implementation of effective SPS policies and laws. This entails developing specialized education and training curricula, vocational training initiatives, and professional certification programs tailored to SPS-related disciplines to equip individuals with the necessary knowledge and skills. Furthermore, fostering partnerships with academic institutions, research organizations, and international agencies can facilitate

knowledge transfer, promote collaboration, and enhance access to technical expertise and resources (FAO/AUC, 2021). By investing in the professional development of SPS experts – including supporting the emergency of successful local food certification businesses, Africa can build a skilled workforce and home-grown technical capacity for addressing complex SPS challenges, safeguarding public health, and promoting trade facilitation, thereby contributing to the advancement of food security, economic growth, and regional integration across the continent (Babatunde, 2018).

**Addressing the SPS Barriers relating to the SPS Institutional Systems in Africa.**

**SPS Awareness among the policy makers and food business operators.** Attempts to regulatory enforcement are likely to fail if the SPS awareness of the general populace remains low. Awareness is needed among government officials so that food safety considerations are reflected in national policies and strategies, and resources are allocated based on priorities. Producers need to be aware of SPS issues so that they too can allocate resources and implement food safety, plant and animal health measures according to international best practices (Humphrey, 2017; Babatunde, 2018).

**Targeted interventions to increase compliance in informal sectors**. Targeted interventions focusing on the unique conditions of the informal business actors and markets are needed to improve the safety of food sold by this category of food business operators. Most interventions directed to enhance food safety of products in Africa have always targeted the formal business that aim to trade in prime domestic, regional and international markets. This leaves out the largest portion of agro-food production and value chain actors that place on market 85% of the food commodities sold in African countries. The small holder farmers (SHFs) and micro, small and medium enterprises (MSMEs) must implement standards if they are to access the markets provided by the RECs and under AfCFTA (Keane *et al.*, 2010). There is a growing drive by governments and development partners to integrate SHFs and MSMEs into national and regional markets to address poverty challenges which have led to efforts geared to support this category to implement food safety measures (FAO/AUC, 2021).

Supporting MSMEs through export promotion agencies in Africa is crucial for fostering economic growth, job creation, and sustainable development. The MSMEs play a vital role in the continent's economy, contributing significantly to employment, innovation, food security and income generation. Export promotion agencies can provide valuable assistance to MSMEs by offering capacity-building programs, market intelligence, export readiness assessments, and access to financing and trade facilitation services. By equipping MSMEs with the necessary skills, resources, and information to enter international markets, export promotion agencies can help them capitalize on trade opportunities, expand their customer base, and diversify their revenue streams. Moreover, by promoting the export of locally produced agro-food products, these agencies contribute to improving the competitiveness of African economies, enhancing foreign exchange earnings, and reducing dependency on commodity exports. Overall, supporting MSMEs through export promotion agencies is essential for unlocking the potential of these enterprises, fostering inclusive growth, and advancing economic transformation in Africa (FAO/AUC, 2021; AKADEMIYA63, 2023).

**Developing and implementing SPS control plans guided by the risk analysis principle**. There is a need for development and implementation of SPS control plans that should be guided by a risk analysis principle. This is essential for ensuring effective management of food safety, plant health, and animal health risks while facilitating trade and economic development. By adopting a risk-based approach, SPS control plans can prioritize resources and interventions based on the assessment of potential hazards and their associated risks, thereby optimizing the

allocation of limited resources and enhancing the efficiency of regulatory measures. Such plans involve systematic risk assessment, management, and communication processes, which enable regulatory authorities to identify, evaluate, and mitigate SPS risks throughout the agricultural value chain (Molnar *et al*., 2020). By integrating risk analysis principles into SPS control plans, African countries can enhance their capacity to respond proactively to emerging threats, improve regulatory decision-making, and strengthen compliance with international standards, thereby promoting food safety, safeguarding plant and animal health, and facilitating trade while fostering sustainable agricultural development across the continent.

**Harmonization of SPS standards and requirements.** Regional harmonization of SPS standards and procedures can help reduce duplication of efforts and facilitate smoother border crossings by ensuring consistent regulatory requirements across member states (Keane *et al*., 2010; Mbori, 2017; Molnar *et al*., 2020). Exporters from same region do not need to incur costs complying with SPS requirements for the different countries when harmonised regional standards exist. Instead, they work to achieve the common regional standards. More so, the importing countries may not require retesting of the products as long as they are subjected to harmonised inspection and testing procedures in the country of origin. Therefore, harmonisation efforts should focus on standards and inspection and certification procedures used in evaluating compliance for regionally traded agro-food commodities and products (Ndobya, 2022).

**Cooperation and information exchange among border agencies.** Improved cooperation and information sharing among border agencies, including customs, agriculture and health authorities; on both sides of border points, can facilitate the exchange of data and intelligence to expedite SPS inspections while maintaining compliance with regulatory requirements. Cooperation of border agencies both within and across the border reduces the time taken and increases efficiency to conduct SPS inspection and certification, reduces delays in border clearances, increases efficiency in clearing of perishable products and reduces the costs of exportation and importation of agro-food products. This is particularly crucial in removing impediments to cross-border trade for informal small-scale traders who dominate regional trading in produce of small holder farmers (Keane *et al.,* 2010; Humphrey, 2017; Babatunde, 2018)

**Sensitizing producers, traders, importers and exporters about new SPS measures.** Raising awareness among farmers, processors and traders in Africa about new SPS measures and explaining their role in enhancing the efficiency of their implementation is crucial for fostering compliance, improving trade facilitation and maximizing the benefits of regulatory reforms. Traders play a pivotal role in ensuring the smooth flow of agro-food products across borders, and their understanding and cooperation are essential for the successful implementation of new measures aimed at enhancing efficiency and reducing trade barriers. By providing clear and accessible information about regulatory changes, their rationale, and the benefits they offer, traders can better navigate compliance requirements, anticipate procedural changes, and adapt their business practices accordingly (Babatunde, 2018). Moreover, engaging traders in dialogue, consultations, and capacity-building initiatives can help build trust, foster cooperation, and empower them to contribute actively to the implementation process, thereby promoting a more collaborative and responsive regulatory environment that supports sustainable trade growth and economic development in Africa.

## Solutions to Barriers Relating to SPS Infrastructure System in Africa

**Investing in physical infrastructure.** Applying safe farming techniques, technologies; use of appropriate facilities; and adoption of best agricultural practices is the

first step in assuring the healthfulness of the agri-food products. Extending the shelf life of commodities through preservation and agro processing in Africa is critical for enhancing food security, reducing post-harvest losses, complying to markets' requirements and unlocking economic opportunities. The continent experiences significant challenges related to post-harvest losses due to inadequate storage facilities, poor transportation infrastructure, and limited processing capacity. By investing in preservation techniques such as cold storage, drying, canning, and packaging; African countries can prolong the shelf life of perishable goods, thereby reducing spoilage and waste (Babatunde, 2018). Agro processing, which involves adding value to agricultural products through processing and packaging, offers an avenue for increasing the shelf life of commodities while creating employment opportunities and generating income for rural communities. Moreover, extending the shelf life of commodities enhances market access, allowing producers to reach distant markets and command higher prices for their products. Ultimately, by promoting preservation and agro processing initiatives, Africa can harness its agricultural potential more effectively, improve food availability and accessibility, and foster economic growth and development across the continent. Also related to this is the need to invest in laboratory testing and diagnostic capacities for food hazards, plant and animal pests and diseases of economic importance to the African countries (Magalhães, 2010). Attention should be drawn on analytical and diagnostic capacities needed to detect chemical and biological hazards in food; and vector and pest infestation of animals and plant materials that are of great significance to food security and trade in the African countries. Comprehensive laboratory strengthening should focus on ensuring appropriate accreditation, use of internationally recommended testing and diagnostic protocols; and monitoring and ensuring the accuracy and precision of the methods through inter-laboratory comparison (González-Mellado *et al*., 2011). Risk assessment of the agri-food value chain is critical in identifying the economically significant food hazards, animal and plant pests and diseases for which testing and diagnostic capacities must be strengthened. Sustainable agri-food trade in Africa requires that countries invest in research and innovations aimed at developing affordable testing and diagnostic methods, techniques and hazard-detection kits that are suitable for the informal sector which dominate agriculture value chains and trade in Africa.

**Enhancing implementation of cross-border trade procedures through operation of One-Stop Border Posts (OSBPs).** There is also the need for smart trade facilitation strategies that address non-tariff barriers (NTBs) in support of regional agricultural value chains and economic integration. For example, use of electronic single window systems, one-stop border posts, pre-arrival clearance, customs risk management, cargo tracking systems and recognition of licensing and insurance systems are strategies that can smoothen cross-trade and reduce delays in clearance of cross-border traded agro-food products. In the case of informal trade, there is a need to further simplify procedures and improve security conditions in the border areas for small and informal cross-border traders. These measures include simplified certificates of compliance and origin and customs documents, lists of qualified goods, exemption of small goods consignments to reduce unnecessary congestion, and motivation of small-scale cross-border trade to participate in simplified cross-border trade regime. Additionally, trade helpdesks can provide assistance to traders and at the same time capture data on informal trade activities to support the design of appropriate policies that minimize the incentives for informality.

Enabling OSBPs in Africa to operate effectively is crucial for streamlining trade facilitation, enhancing regional integration, and promoting economic growth. The OSBPs serve as key border management mechanisms

that consolidate customs, immigration, and other regulatory procedures into a single coordinated facility, thereby reducing transit times, minimizing bureaucratic delays, and lowering transaction costs for traders. To ensure the effectiveness of OSBPs, African countries need to invest in infrastructure development, including modern facilities and information and communication technology (digital) systems, to enhance operational efficiency and facilitate seamless cross-border movement of goods and people (OECD, 2021). Moreover, institutional reforms and capacity-building initiatives are essential to strengthen inter-agency coordination, enhance border management practices, and promote cooperation between neighbouring countries. Additionally, fostering public-private partnerships and engaging with stakeholders can help address operational challenges, improve service delivery, and enhance the sustainability of OSBPs, ultimately promoting regional trade integration and fostering economic development in Africa. Governments should prioritize investments in border infrastructure, including facilities and equipment for SPS inspections, as well as training and capacity building for border officials to enhance efficiency and effectiveness (Magalhães, 2010).

Re-orientating border operations in Africa to be based on risk-based considerations is imperative for enhancing trade facilitation, boosting efficiency, and improving security while minimizing resource wastage. By adopting a risk-based approach, border authorities can prioritize their efforts and resources towards addressing high-risk targets, such as products and traders with grave history of noncompliance, while streamlining procedures for low-risk goods and travellers. This approach allows for more targeted inspections, focusing resources where they are most needed and reducing unnecessary delays and disruptions to legitimate trade and travel. Additionally, leveraging technology, data analytics and Artificial Intelligence (AI) can enhance risk assessment capabilities, enabling authorities to identify potential threats more effectively and take proactive measures to mitigate them (OECD, 2021). By re-orientating border operations around risk-based considerations, African countries can promote trade facilitation, improve border management efficiency, and enhance security, contributing to economic growth and regional integration across the continent. Implementing risk-based inspection strategies allows border control agencies to focus resources on agri-food products with a higher likelihood of posing health or safety risks. This approach can expedite the clearance process for low-risk products while ensuring that higher-risk agriculture and food items receive appropriate scrutiny. Providing training to border officials on risk assessment methodologies and the importance of prioritizing inspections based on risk can enhance their ability to conduct efficient and effective inspections. Investing in the development of personnel skills and expertise can improve overall border management practices.

Harmonizing measures undertaken at the borders in Africa is essential for promoting trade facilitation, enhancing regional integration, and fostering economic growth. Currently, the lack of coordination and consistency among border management practices across African countries results in inefficiencies, delays, and unnecessary costs for traders and travellers. By harmonizing measures such as customs procedures, immigration controls, and sanitary and phytosanitary inspections, African nations can streamline border operations, reduce bureaucratic hurdles, and create a more conducive environment for cross-border trade and movement (Keane *et al.*, 2010; Humphrey, 2017; Babatunde, 2018)). This harmonization effort requires cooperation and collaboration between neighbouring countries, as well as alignment with regional and continental frameworks such as the AfCFTA. Moreover, investing in infrastructure, technology, and capacity-building initiatives can further support the implementation of harmonized measures, ensuring that borders serve as facilitators

rather than barriers to trade and mobility in Africa.

## CONCLUSION AND RECOMMENDATIONS

Establishment of the AfCFTA offers new opportunities to AU Member States to trade in agro-food products across the borders to reduce Africa's food import bill while creating job opportunities and incomes, especially for small holder farmers and agri-food business operators in the continent. African agro-food business operators, including small holder farmers and micro, small and medium enterprises and governments need to address the specific food safety, animal and plant health issues to comply with the recommended standards and good practices. The AU Member States need to overcome several of the SPS barriers to be able to trade among themselves as well as with trade partners outside the content.

Addressing SPS barriers among Member States in Africa necessitates a multifaceted approach that involves collaboration and coordination at multiple levels, including individual AU Member States, RECs, and the entire continent. Each stakeholder has a crucial role to play in enhancing regulatory coherence, building institutional capacity, and improving infrastructure to facilitate effective trade within the AfCFTA.

Member States must prioritize harmonizing SPS regulations, strengthening inspection and certification systems, and investing in infrastructure upgrades to enhance trade facilitation and ensure compliance with international standards. Additionally, RECs can provide platforms for harmonization efforts, facilitate information exchange, and promote regional cooperation; and the AU can provide strategic guidance, mobilize resources, and facilitate coordination among member states and RECs to create an enabling environment for seamless trade and economic integration across Africa.

By adopting a collaborative and coordinated approach, African countries can overcome SPS barriers, unlock the full potential of the AfCFTA, and promote sustainable development and prosperity continent-wide. The individual Member States, therefore, have a task to work with RECs and AUC to ensure that an effective SPS regulatory framework that does not disadvantage their products in the wide market established under AfCFTA is operationalized.

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## DECLARATION OF NO CONFLICT OF INTEREST

The Authors declare No Conflict of Interest in this paper.

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