



(REVIEW ARTICLE)



## Trade facilitation within ECOWAS countries and Benin's agricultural exports: A systematic review

Modeste Tchabi \*

*Department of Economics and Trade, Harbin Institute of Technology (HIT), Heilongjiang, China.*

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### Abstract

This systematic review examines how trade facilitation reforms within the Economic Community of West African States (ECOWAS) influence the performance of Benin's agricultural exports between 2015 and 2025. It aims to assess the extent to which customs reforms, infrastructure development, and regional integration enhance Benin's transition from a re-export-dependent economy to a competitive agricultural exporter. The review follows the PRISMA 2020 framework and draws evidence from eight peer-reviewed and institutional studies identified through Google Scholar, AJOL, SpringerLink, and Wiley Online Library. These studies address trade liberalization within ECOWAS, customs reforms, and Benin's dual role as an agricultural producer and regional trade hub. The analysis shows that while ECOWAS protocols and the WTO Trade Facilitation Agreement have improved policy coordination, implementation remains inconsistent. High transaction costs, poor logistics, and weak enforcement of sanitary and phytosanitary (SPS) standards continue to limit export performance. However, initiatives such as port modernization, joint border posts, and digital customs systems have begun to yield measurable efficiency gains. The findings of this study imply that in order to strengthen competitiveness, Benin must harmonize regional standards, invest in infrastructure and data systems, and ensure consistent enforcement of ECOWAS trade protocols. Future research should consider employing longitudinal analyses and trade cost models to evaluate the long-term impact of facilitation reforms on agricultural value chains.

**Keywords:** ECOWAS; Benin; Trade Facilitation; Agricultural Exports; Regional Integration; Trade Liberalisation

### 1. Introduction

One of the economic cooperation drivers in Economic Community of West African States (ECOWAS) is agricultural trade. Since its inception in 1975, ECOWAS has been striving to achieve market integration, food security by eliminating trade barriers, implementing a common external tariff and liberalization of cross-border movement of goods and services. There are 15 member states that make up the ECOWAS as depicted in Figure 1[1]. Most of the member states have an agricultural contribution of 25-40 % of the GDP and most of the rural population is employed in the agricultural sector[2]. Intra-regional trade is mainly dominated by major commodities like cotton, maize, cassava, palm oil, and livestock but the level of integration is low when compared to other regional blocs [1,3,4].

This overdependence on regional markets and agriculture is reflected in the economy of Benin. The industry adds approximately 30% of the GDP and provides over 60% of the workforce[5]. Its principal exports such as cotton, cashew nuts, pineapples, and livestock are also traded in and out of the ECOWAS with the port of Cotonou acting as a regional trade center of re-exports especially to Nigeria[4,6]. This producer-transit country position places Benin in a strategic position and at the same time opens up the country to trade shocks. Although it has this advantage, high transaction

\* Corresponding author: Modeste Tchabi

costs, sluggish customs practices, and irregular enforcement of ECOWAS trade regulations undermine its performance in exports[7,8].



**Figure 1** African Map showing ECOWAS countries and Benin (Property of the Author)

The link between regional trade facilitation and national export performance in ECOWAS region is addressed by a growing but fragmented body of literature. Some studies may be macro-level econometric analyses of ECOWAS trade flows[7,9], country-specific case studies focusing on policy implementation in individual nations like Ghana or Nigeria, bilateral trade analyses like Nigeria-Benin corridor[8,10], and institutional policy reports reforms[11,12]. However, a literature review study focusing on this relationship remains siloed, while rich in insights of these analytical studies. There is a critical absence of a coherent synthesis that systematically maps this evidence, points out consistent themes and incompatibilities, and builds an integrated theoretical explanation of why a member state like Benin, with its structural and institutional context, experiences an important gap between regional trade policy and agricultural export outcomes. A systematic review is therefore the principal methodological tool to uncover this evidence base, have access to its collective weight, and propose the foundation for theory-building.

Trade facilitation programs are designed to deal with such inefficiencies by ensuring that the trade processes are simplified, modernized and harmonized. Among them are the use of electronic single-window system, risk-based inspections, simplified documentation, and standardized sanitary and phytosanitary (SPS) standards [11]. Efficient execution lowers the transaction cost as well as the clearance delays and enhances predictability to the exporters[9]. Minor increases in costs related to the trade can considerably reduce the volume of exports, in particular, for perishable products[1].

With the ratification of the Trade Facilitation Agreement of the World Trade Organization (WTO) in 2017, ECOWAS reinforced border management reforms on the Common External Tariff and on the ECOWAS Customs Code[13]. The connectivity has been improved by regional projects like Abidjan-Lagos Corridor and Joint Border Post Program[12]. Nevertheless, the situation is not even with developing countries: Ghana and Côte d'Ivoire are already partially digitalized in customs, whereas Benin and other states of the Sahelian region still use manual systems, which is associated with delays and inconsistency [14].

The location of Benin between Nigeria and the francophone West African passage has its own advantages and threats. The border closure of 2019 in Nigeria revealed its reliance on re-exports and low ability to trade in agricultural value-added products [10]. Trade facilitation would enable Benin to move away with its re-export economy towards a more competitive agricultural exporter in the ECOWAS markets[5]. However, the mechanisms through which this transformation is either enabled or hindered are still not modeled. This systematic review directly addresses this gap.

### 1.1. Aim and Objectives

The aim of this study is to synthesize existing evidence on ECOWAS trade facilitation reforms to develop a conceptual framework that explains the mechanisms and causal pathways through which trade facilitation influences Benin's agricultural export performance. This framework will clarify how Benin's specific structural and institutional context mediates the relationship between regional reforms and agricultural exports. Specifically, the review seeks to systematically identify and synthesize major factors such as institutional policies, customs modernization, logistics infrastructure, and economic structure that influence agricultural export outcomes in Benin; analyze the interrelationships between these factors to understand how they interact; propose and delineate a conceptual framework that models these interactions, which highlights the critical mediating role of re-export dependence and domestic institutional capacity; and apply the proposed framework to recommend practical policy directions and identify critical avenues for future empirical research aimed at breaking the cycles that constrain Benin's agricultural trade competitiveness and deepen regional integration.

## 2. Search Strategy and Methodology

The present study employs a systematic review design, which is based on the Preferred Reporting Items of Systematic Reviews and Meta-Analyses [15] in order to provide transparency, replicability, and to achieve methodological rigor. PRISMA presents a formal procedure of defining, screening, and identifying studies based on preset inclusion and exclusion criteria. The method used was suitable since the literature on the effectiveness of trade facilitation in ECOWAS, and especially regarding agricultural export in Benin are scattered over peer-reviewed journals, institutional databases, and policy reports. An efficient and clear system was thus needed in order to summarize the pertinent findings on the performance of customs, logistics, as well as agricultural trade. Despite this study adheres to the update systematic review methodology for data collection and synthesis, its analytical objective expands beyond thematic summary to theoretical building. Therefore, the thematic analysis findings are used to develop a new conceptual framework that explains the causal mechanisms and systemic interactions impacting Benin's agricultural export performance.

The review covers the period between 2015 and 2025, which is the period following the ratification of the Trade Facilitation Agreement of the World Trade Organization (TFA) in 2017 [16]. It is during this period that major ECOWAS reforms and infrastructural changes affecting regional agricultural trade took place. The inclusion of documents until the year 2025 also implied that the current institutional evaluations and reviews of the policies were also captured.

Electronic databases and institutional repositories were searched together to identify qualified studies. The credible policy and technical reports were found in academic sources such as Google Scholar, African Journals Online (AJOL), SpringerLink and Wiley Online Library (Journals). Search queries were constructed using Boolean operators and grouped around three main concepts, "trade facilitation", "ECOWAS", and "agricultural exports". Keywords were refined iteratively to improve precision and coverage. The two main queries applied are shown in Table 1.

**Table 1** Primary Search Query

Search String	Description
("trade facilitation" OR "customs efficiency" OR "regional trade policy") AND ("ECOWAS" OR "West Africa") AND ("Benin" OR "Benin Republic") AND ("agricultural exports" OR "agricultural trade performance")	Main query used to identify peer-reviewed and institutional publications focusing on trade facilitation and agricultural exports within ECOWAS, with emphasis on Benin.
("trade facilitation" OR "customs efficiency" OR "border management") AND ("ECOWAS" OR "West Africa") AND ("Benin" OR "Benin Republic") AND ("agriculture" OR "agricultural trade" OR "export competitiveness")	This secondary query was designed to capture a broader range of studies addressing trade facilitation, border efficiency, and agricultural export performance within the ECOWAS region, with particular reference to Benin.

The search results from the databases have been presented numerically in Table 2. All the retrieved records were imported into EndNote to be de-duplicated to remove the identical records. The filtered dataset was uploaded to Rayyan, an online tool that facilitates screening of systematic review. Two screening tiers were done, firstly, titles and abstracts were checked to eliminate irrelevant materials, secondly, the inclusion criterion was assessed using full-text by determining focus, quality of the methodology, and relevance of the data.

**Table 2** Databases Searched and Identified Studies

Database / Source	1st Query	2nd Query
Google Scholar	463	2410
AJOL	55	51
SpringerLink	963	286
Wiley Online Library (Journals)	21	111
Total	1,502	2,858
Grand Total	4,360	

### 2.1. Inclusion and Exclusion Criteria

To have a reliable and focused systematic review, it is important to ensure that there is proper inclusion and exclusion criteria [17]. Dickson argues that explicit selection criteria will increase the effectiveness of the study, minimize bias, and improve the validity of the results [18]. Therefore, a set of inclusion and exclusion criteria were prepared for this review and have been clearly presented in Table 3. This review used the Population–Exposure–Outcome (PEO) framework to pick out those studies that focus on trade facilitation and agricultural export performance in the ECOWAS region. This strategy allowed them to include studies that directly relate trade-facilitation reforms to export results in Benin and other similar West African economies. Through this systematic approach, the review was able to identify studies that are in tandem with the objectives of the study, sound in their methodology and coherent in their themes.

**Table 3** Inclusion and Exclusion Criteria Based on PEO Framework

Characteristics	Inclusion Criteria	Exclusion Criteria	Rationale
Population	Studies on ECOWAS member states with emphasis on Benin and their agricultural trade or export performance.	Studies focused on regions outside ECOWAS or on non-member states.	Keep the focus on countries sharing the ECOWAS policy and institutional context.
Exposure	Studies examining trade facilitation measures such as customs modernization, single window systems, risk-based inspection, joint border posts, corridor logistics, SPS harmonization, and documentation simplification.	Studies discussing trade in general or macroeconomic issues without analyzing facilitation mechanisms or border processes.	Ensure the exposure variable is explicitly trade facilitation.
Outcome	Studies reporting agricultural export outcomes such as export value or volume, trade costs, clearance time, logistics performance, market access, or competitiveness.	Studies without measurable export outcomes or focused only on non-agricultural sectors.	Include evidence that can be linked to export performance.
Study Design	Primary empirical research and policy analytic studies with verifiable data, including econometric analyses, comparative case studies, and institutional evaluations with methods stated.	Pure opinion pieces, editorials, narrative reviews without data, and studies with insufficient methodological clarity.	Prioritize methodological rigor and transparency.

Language	English language publications.	Non-English publications.	Ensure consistent appraisal and extraction without translation error.
Publication Type	Peer reviewed journal articles and validated institutional reports from bodies such as World Bank, AfDB, FAO, IFPRI, and ECOWAS.	Unverified grey literature, blogs, newspaper articles, and non-institutional web sources.	Maintain credibility and data reliability.
Text Availability	Full text available for appraisal and extraction.	Abstract only records or items not accessible in full.	Full text is required for quality assessment and data extraction.
Publication Date	2015 to 2025.	Before 2015.	Capture the post WTO Trade Facilitation Agreement period and recent ECOWAS reforms.

## 2.2. Selection of Included Studies

The selection of studies was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 to guarantee the transparency and reproducibility of the selection, screening, and inclusion of the literature [15]. The two pre-developed structured queries were used to find articles in four databases: Google Scholar, AJOL, SpringerLink, and Wiley Online Library, which included peer-reviewed and institutional literature on trade facilitation, ECOWAS, and the agricultural export of Benin. Four thousand three hundred and sixty records were retrieved (1,502 in the first query and 2,858 in the second query). The number of unique records was 3,947 after de-duplication, which was automatic in EndNote. The examination of review titles and abstracts resulted in the exclusion of 3,710 articles that failed to satisfy the inclusion criteria, including the relevance to the topic ECOWAS, the scope of the agricultural research, or methodological soundness. The remaining 237 full-text articles were evaluated in terms of their eligibility where 229 articles were discarded due to various reasons such as, the lack of material methodology, prior to 2015 date, or there was no focus on agricultural trade. Lastly, eight (8) studies met all the inclusion criteria and were included in qualitative synthesis as shown in Figure 2.

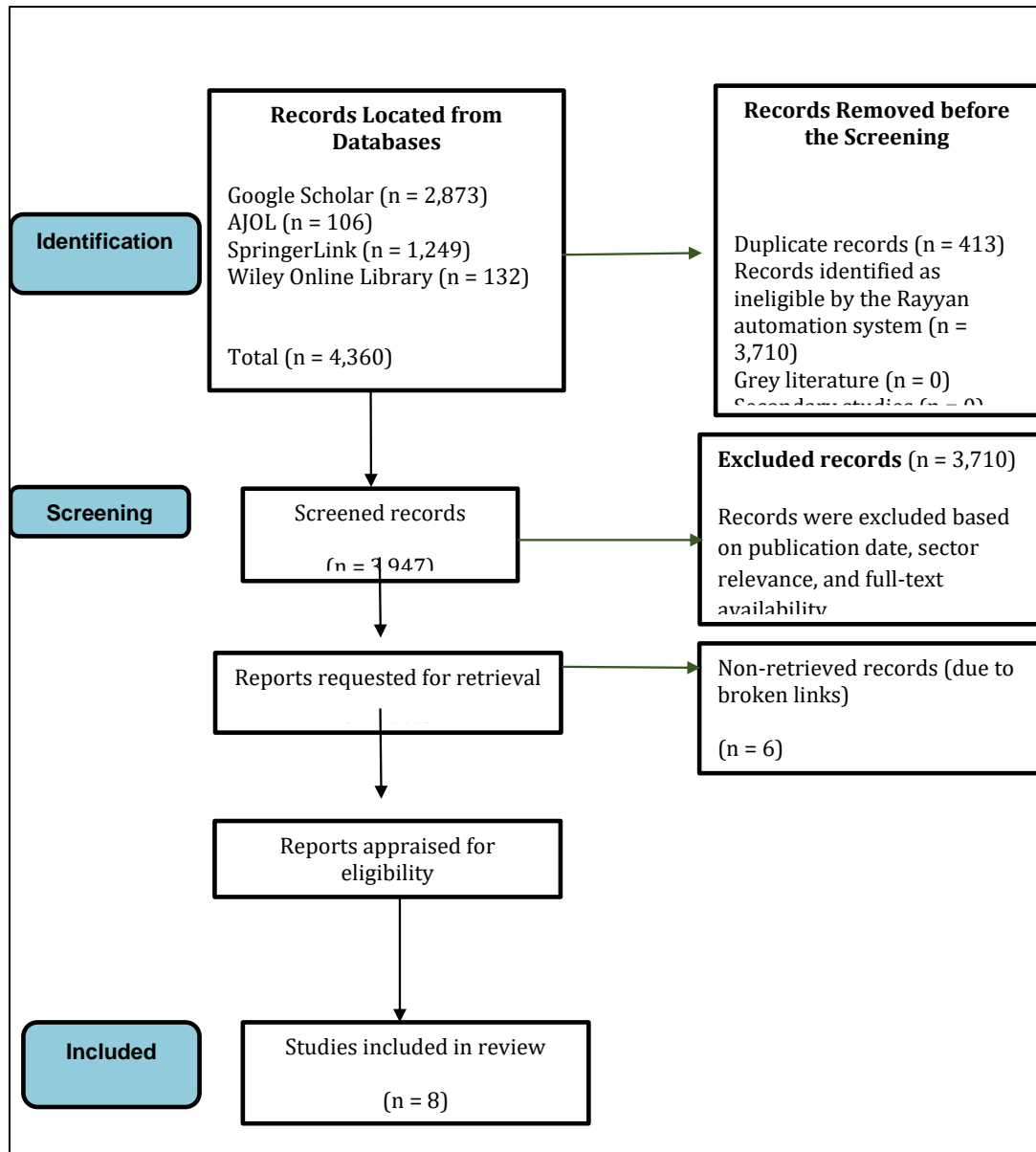


Figure 2 PRISMA Diagram for this Systematic Review (Property of the Author)

### 3. Findings

This chapter reflects the findings of eight chosen articles discussing trade facilitation and export performance of agricultural products in ECOWAS, and Benin in particular. A summary of the scope, origin and the major objectives of the selected studies is presented in Table 4 and this is the basis on which the analysis will be made. The research has covered a variety of settings involving bilateral trade between Benin and Nigeria, mapping regional agricultural trade, and policy evaluation at ECOWAS level. They can be used jointly to supply evidence on the effect to agricultural exports of customs reforms, border efficiency, and policy harmonization. The key findings of the study, as presented in Table 5, are the basis of the thematic analysis that will follow, emphasizing the prevalent themes and the competitiveness in exports as a part of the regional trade platform.

**Table 4** Overview of the Selected Studies

S/N	Author (Year)	Origin of Study	Study Scope / Data Origin	Focus Area	Aim of Study
1	Alabi, A. (2020)	Nigeria / Benin Republic	Cross-border trade within ECOWAS	Free movement of persons and goods; ECOWAS protocol implementation	To examine how ECOWAS trade and movement protocols influence Nigeria-Benin trade relations and policy enforcement.
2	Oshomah, A.P. (2019)	Nigeria / Benin Republic	Case study of Nigeria-Benin (2014-2018)	Implementation of ECOWAS trade policy	To assess challenges in implementing ECOWAS free trade and border policies affecting bilateral agricultural exchange.
3	Medenou, A. and Lekoyo, A.O. (2024)	Benin Republic	Benin economy and re-export markets	Re-export trade dynamics and agricultural competitiveness	To analyze how re-export dependence affects Benin's economic structure and limits direct agricultural export growth.
4	Moussa, A. (2018)	Benin Republic	National agricultural sector	Agricultural output and trade performance	To determine the contribution of agriculture to Benin's economic growth and identify trade policy implications.
5	Kareem, O.I. and Wieck, C. (2022)	ECOWAS Region	Multi-country data across West Africa	Agricultural trade flows and policy barriers	To map agricultural trade patterns within ECOWAS and evaluate trade-facilitation barriers.
6	Bouët, A., Diallo, S.S., and Traoré, F. (2024)	ECOWAS Region	ECOWAS member states (institutional data)	Regional agricultural trade integration	To assess progress and constraints in agricultural trade integration among ECOWAS countries.
7	Olayiwola, W., Osabuohien, E., Okodua, H., and Ola-David, O. (2015)	ECOWAS Sub-region	Regional analysis (West Africa)	Economic integration and agricultural exports	To explore how trade facilitation influences agricultural export performance across ECOWAS economies.
8	Safaeimanesh, S. and Jenkins, G.P. (2020)	ECOWAS / International	ECOWAS-level macroeconomic data	Trade facilitation, welfare, and sustainability	To estimate the welfare and sustainable development impacts of trade-facilitation policies in the ECOWAS region.

**Table 5** Presentation of the Key Findings

S/N	Study	Trade Facilitation Factors / Policy Dimensions	Key Findings on Agricultural Export Performance
1	Olayiwola <i>et al.</i> (2015)	<ul style="list-style-type: none"> <li>- Economic integration</li> <li>- Customs modernization</li> <li>- Trade liberalization</li> </ul>	Found that trade facilitation strongly supports agricultural export growth in ECOWAS. Identified logistics and customs delays as major trade cost drivers. Demonstrated that investment in port infrastructure and harmonized tariffs significantly improves agricultural trade efficiency.
2	Kareem and Wieck (2022)	<ul style="list-style-type: none"> <li>- Intra-regional trade mapping</li> <li>- Non-tariff barriers</li> <li>- Financing gaps</li> </ul>	Reported that high transport costs and border inefficiencies limit agricultural exports. Highlighted that informal payments and poor rural connectivity restrict smallholder participation. Recommended coordinated regional financing and streamlined border processes to enhance market access.
3	Bouët <i>et al.</i> (2024)	<ul style="list-style-type: none"> <li>- Customs harmonization</li> <li>- Regional logistics corridors</li> <li>- Trade policy coherence</li> </ul>	Showed uneven digitalization of customs systems within ECOWAS, with Benin lagging behind regional leaders. Demonstrated that improved corridor management increases export predictability. Noted that harmonized SPS and documentation systems are essential for agricultural competitiveness.
4	Safaeimanesh and Jenkins (2020)	<ul style="list-style-type: none"> <li>- Trade facilitation indicators</li> <li>- Documentation efficiency</li> <li>- Transparency</li> </ul>	Found that time delays and administrative complexity reduce trade welfare and agricultural competitiveness. Simulations showed that improving customs efficiency yields measurable increases in agricultural export value. Recommended full adoption of the WTO Trade Facilitation Agreement measures across ECOWAS.
5	Alabi (2020)	<ul style="list-style-type: none"> <li>- ECOWAS protocol implementation</li> <li>- Movement of goods</li> <li>- Compliance challenges</li> </ul>	Observed weak enforcement of ECOWAS trade provisions between Nigeria and Benin. Identified multiple border charges, corruption, and infrastructural bottlenecks as persistent trade barriers. Emphasized the need for consistent institutional coordination between customs and agricultural ministries.
6	Oshomah (2019)	<ul style="list-style-type: none"> <li>- Border management</li> <li>- Protocol implementation</li> <li>- Security dynamics</li> </ul>	Found that poor implementation of the ECOWAS Free Movement Protocol undermined trade flows and security. Revealed that criminal groups exploit porous borders, leading to informal trade and smuggling. Recommended reviewing the protocol to align with economic priorities and border stability.
7	Medenou and Lekoyo (2024)	<ul style="list-style-type: none"> <li>- Re-export dependence</li> <li>- Diversification</li> <li>- Competitiveness</li> </ul>	Using a CGE model, found that shocks in re-export demand significantly reduce Benin's GDP and agricultural output. Demonstrated that excessive reliance on re-exports creates economic vulnerability. Recommended diversification of exports and improved competitiveness at the Port of Cotonou.
8	Moussa (2018)	<ul style="list-style-type: none"> <li>- Agricultural production structure</li> <li>- Export contribution</li> <li>- Growth linkage</li> </ul>	Showed that agriculture contributes substantially to Benin's GDP but has low export productivity. Found weak integration between agricultural output and export markets. Suggested policy support for mechanization and trade-oriented agriculture to boost export performance.

#### 4. Thematic Analysis

The thematic analysis incorporates the results of eight major studies to understand the impact of trade facilitation on the performance of Benin in its agricultural exports in the ECOWAS context. This resulted in four key themes, including

inefficiencies in institutional and policy implementation, inefficiencies in infrastructure and logistics, reliance on re-exports and structural vulnerability, and competitiveness of the region and market integration.

#### **4.1. Theme 1: Institutional and Policy Implementation Gaps**

A number of studies define weak institutional coordination and inability to implement the ECOWAS trade protocols in a consistent manner as the deep-rooted problems in Benin to weaken its agricultural export performance. Alabi and Oshomah show that ineffective implementation of the ECOWAS Protocol on Free Movement and Trade between Nigeria and Benin is one of the reasons behind the policy fragmentation, delays in the bureaucracy, and increasing informal trade [8,10]. Their results indicate that overlapping regulatory responsibilities amid the customs, border security and agricultural agencies are sources of difficulty when it comes to following the protocol and they discourage formal exportation. On the same note, Bouët et al. note that although ECOWAS has achieved progress in harmonizing customs systems, their practical implementation has been inconsistent among countries of the region, with Benin being the least advanced in terms of partial digitalization and low institutional capacity [1].

Kareem and Wieck also confirm that lack of integrated financial systems and laxity in implementation of regional trade regulations curtail the engagement of small-scale agricultural producers [2]. Such implementation gaps can be defined as the inertia of the ECOWAS institutions as explained by Safaeimanesh and Jenkins as the inability of most trade facilitation agreements to be translated into operational reforms despite being ratified. Taken together these studies highlight the view that in the absence of greater institutional enforcement, policy coherence, and open coordination, trade facilitation initiatives will remain incapable of providing Benin with its agricultural sector only with low returns [9].

#### **4.2. Theme 2: Infrastructure and Logistics Inefficiencies**

The second theme that occurs regularly is the infrastructural and logistical bottlenecks that hinder the efficiency and competitiveness of the trade. Kareem and Wieck (2022) consider the lack of proper road connectivity in rural areas, a low level of storage, and overcrowding at transport corridors as the major obstacles to agricultural export flows. These results are similar to those of Bouët et al. who mention that although Ghana and Cote d'Ivoire have modernized their customs processes and enhanced logistics infrastructure, the partial implementation of electronic systems in Benin increases the time of clearance and the uncertainty of delivery schedules [1].

Olayiwola et al. present some early signs of the fact that transport and customs delays drastically raise the cost of exports, thereby deterring the involvement of smallholders in cross-border trade [7]. The latter is complemented by Safaeimanesh and Jenkin, who demonstrate, using empirical simulations, that a significant increase in the efficiency of the borders and the rate of documentation might result in an impressive increase in the export volumes [9]. According to Alabi, various roadblocks, unofficial duties at trade routes rise the expenses of logistics and diminish the profitability of exporters [8]. These studies provide an apparent connection between trade performance, infrastructure shortages, and logistics inefficiencies. These structural barriers can be resolved through specific investment in transport corridors, digital customization systems, and cold-chain logistics as the means to enhance competitiveness of agricultural exports of Benin.

#### **4.3. Theme 3: Re-export Dependence and Structural Vulnerability**

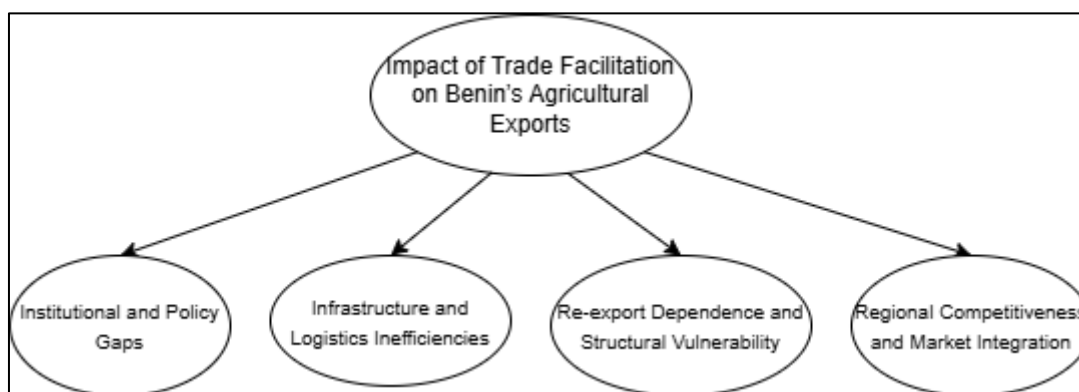
The reliance of Benin on the re-exporting business comes out as a major weakness to its trade model. Madenou and Lekoyo show based on a dynamic computable general equilibrium model that a fall in the re-export demand is accompanied by huge decreases in GDP, domestic demand, and agricultural output [5]. In their analysis, they indicate that dependence on re-exports exposes the Benin economy to external shocks, which weakens the prospects of sustainable growth in direct agricultural exports. This finding is in line with Alabi, who observes that the informal and transit trade activities, especially that involving Nigeria, highlight the need to develop competitive agricultural value chains [8].

On the same note, Oshomah also points out that vulnerable borders and weak trade regulations have enabled the flourishing of illegal flows through the pretext of ECOWAS free trade, which strengthens the reliance on informal re-export trade [10]. Moussa also introduces an economics angle, discovering that agriculture is relevant to the GDP of Benin, but the potential of the country to export is small because of insufficient investment and inappropriate penetration of the formal markets [19]. Olayiwola et al. and Bouët et al. also warn that unless Benin exports other items other than re-exports and improves value addition, agricultural sector in the country will be very vulnerable to market shocks [1,7]. In this manner, the re-export dependence is generally presented in the studies as a structural hindrance that interferes with the resilience of the country and frustrates the aims of ECOWAS integration.

#### 4.4. Theme 4: Regional Competitiveness and Market Integration

The final theme is the skewed advancement of trade facilitation reforms and its impacts on the regional competitiveness. As disclosed by Bouët et al., even though there are policy promises that go across the ECOWAS, there are high disparities in terms of member states in executing customs harmonization and corridors management, with Benin lagging behind regional leaders such as Ghana and Côte d'Ivoire [1]. This outcome is supported by Safaeimanesh and Jenkins, who demonstrate that the partial implementation of trade facilitation policies decreases the potential gains in the welfare and exports across the region [9]. Olayiwola et al. also include that trade integration leads to higher productivity in agriculture and market opportunities, which is only maintained with harmonized documentation and uniformity in the enforcement of tariffs [7].

According to Kareem and Wieck and Alabi, lack of competitiveness is not only because there is an infrastructure imbalance but also due to the inability to enforce policies and the lack of cooperation among regions [2,8]. Simultaneously, Moussa is able to show that the agricultural productivity of Benin is not leveraged enough because of insufficient connection with the regional value chains, whereas Medenou and Lekoyo emphasize that the domain needs to be diversified and the existing export capacity should be strengthened to improve its competitiveness [5,19]. All these studies point to the fact that further trade facilitation by harmonized standards, cross-border digital operations, and institutional cooperation is essential to the continued integration of Benin into ECOWAS markets.

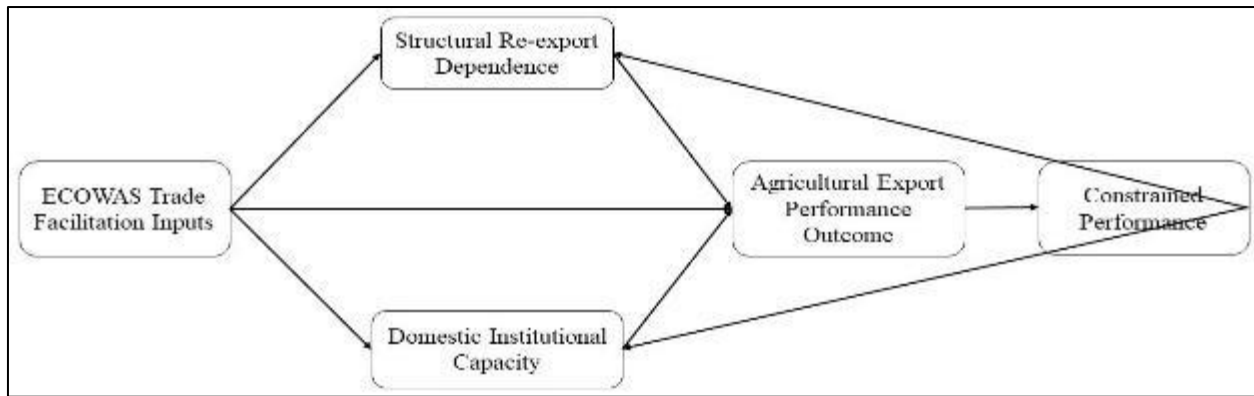


**Figure 3** Pictorial Description of the Impact of Trade Facilitation on Benin's Agricultural Export (Property of the Author)

In all four themes, depicted as a diagram in Figure 3, the studies reviewed lead to the conclusion that the performance of agricultural exports in Benin is still hampered by institutional inefficiencies, infrastructural shortages, structural reliance on re-exports, and uneven competitiveness. The enhancement of coordination, investment in trade-related infrastructure, and export diversification are thus the key points of ensuring that the objectives of regional integration could translate into the real benefits to the agricultural economy of Benin.

#### 4.5. Conceptual Framework

The thematic analysis shows that the relationship between ECOWAS trade facilitation and Benin's agricultural exports is not linear but is part of a complex system. By synthesizing these findings and providing a new analytical tool, we propose the trade facilitation and Benin's agricultural export performance nexus, depicted in Figure 4, that illustrates how external regional reforms are implemented and executed by Benin's domestic context to produce observed outcomes, featuring three critical and interconnected components such as ECOWAS trade facilitation inputs, Benin-specific mediating role, and agricultural export performance outcome in the country and their reinforcing feedback loops.



**Figure 4** Trade Facilitation and Benin's Agricultural Export Performance Nexus (Property of the Author)

The ECOWAS Trade Facilitation Inputs represent the suite of regional policy reforms identified in the reviewed studies including policy harmonization (ETLS, WTO TFA), physical infrastructure (corridor projects, joint border posts), digital and customs modernization (single window, risk-based inspection), and standards harmonization (sanitary and phytosanitary measures)[1,7,9]. The Benin-Specific Mediation explains why uniform regional inputs reach disparate results in Benin. There are two filters that interact to examine the effectiveness of the inputs such as structural re-export dependence and domestic institutional capacity. The structural re-export dependence covers Benin's economy, heavily reliant on informal and formal re-exports to Nigeria, create a powerful diversion [5,10]. It absorbs political and administrative attention, skews infrastructure priorities towards transit instead of production, and establishes a rent-seeking equilibrium that resists formalization [8], which weakens the transmission of trade facilitation benefits into the domestic agricultural sector performance. Furthermore, domestic institutional capacity refers to Benin's internal ability to strongly implement policy reforms. It composes the institutional coherence related to the coordination between customs, agricultural sector, and security agencies [2,8]; physical and digital infrastructure for the state of ports, rural roads, and digital systems highlighted by Olayiwola et al. and Bouët et al.; and the ability to uniformly apply regulations and combat corruption [1,7]. The Agricultural Export Performance Outcome combines the effect of trade facilitation reforms passing through the two mediating filters and the direct effect of trade facilitation reforms to determine the final outcome of Benin's agricultural exports, which can be positive or constrained. For the purpose of this framework, Constrained Performance is the dominant and persistent outcome of ECOWAS trade facilitation reforms for Benin, characterized by high export costs, low profitability, and vulnerability of external shocks, which build the critical feedback loops.

#### 4.6. The Critical Feedback Loops

The dynamism and explanatory power of the framework come from two reinforcing feedback loops that establish a trapped equilibrium, which explains the persistence of the situation despite reform efforts. The constrained performance of agricultural exports (high costs, low profitability) reinforces the vulnerabilities and advantages of re-export dependency for quick revenue, making it harder for subsequent policies to penetrate and transform the domestic agricultural sector. Moreover, the weak institutional capacity leads to poor implementation and constrained outcomes that reduce the political will and economic rationale for capacity, which in turn degrades the performance of domestic institutions. This framework provides a new and systemic explanation for Benin's persistent challenges. It demonstrates that without targeted interventions to weaken structural re-export dependence and strengthen institutional capacity, these negative feedback loops will continue to hinder the potential of ECOWAS trade facilitation.

### 5. Discussion of Findings

Agricultural sector in Benin is a very important sector of the economy as it contributes about 30% of the GDP and employs more than 60% of the labor force [20]. Nonetheless, trade liberalization under the ECOWAS initiative has not proved as profitable as it is supposed to be. However, when interpreted through the proposed trade facilitation and Benin's agricultural export performance nexus, these factors transform from a list of challenges into a coherent system with clear causal mechanisms. The findings of Olayiwola et al. indicated that despite the tariff reductions that have promoted regional trade, non-tariff barriers like inefficient border processes and uneven application of the policy have continued to add-up to the costs of trade [7]. This is in line with the World Bank ECOWAS Agriculture Trade and Market Scorecard, which also notes that the member countries, such as Benin, record an average of 72 hours to clear agricultural goods against 24 hours in areas with harmonized digital systems. Although the WTO Trade Facilitation Agreement was

ratified in 2017, Benin continued to have a weak coordination and low automation, which constrained the effects of the agreement [1,9].

Institutional fragmentation has become one of the key constraints. According to studies conducted by Alabi and Oshomah, the overlapping of policies of border security, customs as well as agricultural authorities has led to low implementation of ECOWAS protocols [8,10]. The same observation is reflected in an analysis conducted by Kareem and Wieck, who define the lack of coordination between trade and agricultural agencies as a bottleneck to exporters [2]. A similar assessment of the African Development Bank [12] of the Strategy to Regional integration of West Africa also notes that Benin is lower than the ECOWAS average in border efficiency and monitoring of compliance. The persistent institutional and policy implementation gaps detailed by Alabi and Oshomah are not principally autonomous issues; they constitute the core of a weak domestic institutional capacity in our framework [8,10]. All these result in agreement reform should be accompanied with institutional accountability procedures and unending inter-agency communication in case the gains of trade facilitation are to be achieved.

Another prevailing obstacle is infrastructure and logistical shortages. The coastal location of Benin provides a strategic advantage but the Port of Cotonou cannot operate at its full capacity, due to congestion, outdated handling gadgets, and ineffective hinterland connectivity[1,5]. Kareem and Wieck also highlight that poor transport infrastructure is a problem faced by agricultural producers in rural areas, and this increases post-harvest losses and transport costs[2]. The empirical studies indicate that inefficiencies in logistics may add up to 20% to the cost of the exports, which is counterproductive to agricultural exports in ECOWAS [7]. The same obstacles are detected in other studies of the region: Safaeimanesh and Jenkins have discovered that optimizing border automation and the number of documentation requirements would increase the values of the ECOWAS exports by 4-6% per year [9]. Therefore, concerns over the infrastructural and logistical deficits of Benin are critical towards converting policy reforms into quantifiable trade deliverables.

One of the most notable problems that have been found in this review is the reliance on re-exports by Benin. According to the results of Medenou and Lekoyo, re-exports, most of which are to Nigeria, have a large share in the external trade and customs revenue of Benin [5]. Nevertheless, this model opens the economy to the external shocks and undermines the domestic incentives of production. The work of Medenou and Lekoyo shows that this is not a passive condition but an active structural filter that distorts the entire system [5]. In Benin, because of the abrupt decrease in export revenues in 2019 when the borders of Nigeria were closed, it is clear that the country is structurally vulnerable [14]. Alabi and Moussa note that overreliance on re-exports in Benin causes the country to shift its resources away from the development of value chains, mechanization, and quality certification of agriculture [8,19]. Conversely, other regions like Côte d'Ivoire and Ghana have made their agricultural exports diversified like cocoa, cashew and processed horticultural goods, which are more stable and earn them foreign exchange incomes [1]. In the case of Benin, increase in agricultural productivity and agro-industrial processing are thus pre-requisites of decreasing reliance on re-export activities.

Competitiveness and market integration can also be viewed in the comparative perspective of the ECOWAS countries. Although Benin has already applied certain elements of the ECOWAS Trade Liberalization Scheme (ETLS), there are still constraints in access to regional and global markets due to sluggishness in harmonizing sanitary and phytosanitary (SPS) standards [2]. According to Bouët et al., the regional differences in digital customs support have resulted in unequal benefits, with Ghana and Senegal being more efficient in exporting [1]. According to FAO, aligning standards and investing in quality assurance would not only increase the number of destinations where they can export their products but also increase consumer confidence in the subregion [20]. Furthermore, according to AfDB, the agricultural logistics and cold-chain infrastructure are among the top enablers of value addition and regional competitiveness especially when it comes to the perishable goods like pineapples and vegetables where Benin has comparative advantage[12].

Notably, the analyzed literature is unanimous in its opinion that trade facilitation should not just focus on customs simplification processes but should also include more economic and governance-related changes. The research conducted by Olayiwola et al. and Safaeimanesh and Jenkins demonstrates that even minor decreases in transaction time and cost may increase the export performance considerably, but it is only sustainable in case of policy consistency and institutional transparency [7,9]. Similar sentiments are expressed by Bouët et al. and Kareem and Wieck, who emphasize that it is necessary to have a concerted effort by the government in investing in transport infrastructure and digitalization to provide the environment in which the private sector can participate [1,2]. Failure to diversify and invest in competitiveness keeps them vulnerable to exogenous shocks as shown by Medenou and Lekoyo whereas Moussa points out that agricultural potential is not exploited through poor connectivity to regional value chains [5,19].

To conclude, the systematic review indicates that ECOWAS trade facilitation reforms have led to disproportionate results. Although there are regulatory frameworks and that regional trade has been slightly growing, agricultural exportation in Benin has not been enjoying the full fruits because of the traditional institutional and infrastructural flaws. On the same note, the World Bank recommends that all 1 percent decrease in trade time may result in approximately a 2 percent rise in export value, which Benin has not achieved so far [11]. In the process of attaining this, the government needs to strengthen institutional responsibility, increase the efficiency of logistics, invest in value addition, as well as strengthening cooperation with regional entities. It is only through a combination of these interrelated challenges that Benin can transform itself from a re-export-based economy into a productive agricultural exporter to the realization of the larger ECOWAS vision of inclusive, sustainable, and integrated regional trade.

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## 6. Conclusion

This review discussed the impacts of ECOWAS trade facilitation on agricultural exports in Benin. As it has been evidenced, even though regional policy frameworks are being advanced including the ECOWAS Trade Liberalization Scheme and the WTO Trade Facilitation Agreement, Benin has not done well in its implementation of the regional frameworks. The lack of institutional efficiency, ineffective infrastructure, overdependence on re-exports and unequal competitiveness still limits the growth of exports. The results highlight the importance of the efficient coordination, automation, and overall enforcement as the main drivers of the trade facilitation success instead of the policies adoption. The trade facilitation and Benin's agricultural export performance nexus is mediated by structural re-export dependence and weak institutional capacity, which explain the persistent implementation gaps and the failure to translate regional policy into a progressive agricultural export growth. Whereas economic growth has been experienced in countries like Ghana and Cote d'Ivoire due to the digital custom reforms and management of the corridors, Benin is hindered by bureaucratic overlapping, manual operations, and informal trade operations.

### *Recommendation*

As a recommendation, the policy priorities in Benin should focus on the facilitation of customs processes with digital systems, modernization of transport and storage facilities, and the alignment of the sanitary and phytosanitary standards with the regional and international standards. Enhancement of trade data system would lead to better monitoring and transparency. Collective efficiency can be reinforced at the ECOWAS level through increased technical aid, review of the reforms by peers, and harmonization of standards. Therefore, this review suggests to weaken the structural re-export dependence by implementing an agricultural export diversification fund and launching a brand Benin quality certification scheme and strengthen the domestic institutional capacity by prioritizing connected digitalization and directing investment to agricultural logistics. Longitudinal studies, trade cost modelling, and cross-country benchmarking are the areas that should be considered in future research in order to operationalize this framework, assess the relative outcomes of better reforms, and determine the best practices. Comprehensively, the transfer of ECOWAS promises into effective border control and value-based exports is at the core of improving the competitiveness of Benin and attaining sustainable regionalization.

### *Compliance with ethical standards*

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The author declares no conflict of interest.

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