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Strategies for Enhancing International Market Access for Soybean: Comparative Approaches in Global Soybean Trade

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Abstract

This literature review analyses strategies to improve international market access for soybeans, emphasizing that export success is not determined by productivity alone but by a blend of logistics, policy, market systems, and compliance with evolving sustainability standards. The review synthesizes findings from 14 recent sources to identify key barriers and pathways. It highlights that farm-level constraints, inadequate infrastructure, and weak institutions often keep developing country producers from export markets, while logistics investments have been crucial for the rise of leading exporters like Brazil. Trade policy and geopolitical dynamics, particularly the roles of major buyers and trade agreements, are shown to reshape global market opportunities and vulnerabilities. The study underscores a shift towards compliance and traceability-driven market eligibility, where environmental regulation acts both as an access gateway and a new source of inequality. The literature also demonstrates how financial risk management, corporate strategies, and non-tariff barriers are reshaping market access. For emerging exporters, the review recommends integrated strategies, strengthening cooperatives, upgrading supply chains, aligning with importers' needs, and investing in compliance systems. The review identifies research gaps around sustainability governance, risk management for new exporters, and empirical analysis of combined strategies, suggesting that future work should address these to support inclusive and resilient trade participation.

Keywords: Soybean market, Trade competitiveness, non-tariff barriers, Sustainability governance, Supply chain infrastructure

INTRODUCTION

Soybean has emerged as one of the most strategically important agricultural commodities in the global food system, driven by its central role in human nutrition, animal feed, industrial processed foods, and biofuel production. Over the last two decades, international soybean trade has expanded rapidly, shaped by rising demand from emerging economies, particularly China, and the dominance of a small group of exporting countries led by Brazil, the United States, and Argentina (Peng *et al*., 2026; Wang *et al*., 2023). Yet, this expansion has been uneven, benefiting a few highly industrialized producers while many emerging economies remain marginalized in international markets due to infrastructural, institutional, and policy constraints (Molla *et al*., 2024; Achamyelh & Hailemariam, 2020).

International market access is no longer determined solely by export volume or farm productivity. Instead, it is influenced by a complex interaction among logistics capability, trade policy architecture, geopolitical alignment, sustainability compliance frameworks, corporate market control, and systemic risk exposure (Deep *et al*., 2025; Barboza Martignone *et al*., 2024; Peng *et al*., 2026). Consequently, understanding soybean competitiveness requires a multi-dimensional perspective that integrates production economics with trade governance, supply chain systems, and institutional capacity.

Despite the expanding literature on global soybean trade, major gaps remain. First, existing research is often compartmentalized between exporter-centric and importer-centric perspectives, with limited integration between production systems and trade networks (Yevchenko *et al*., 2021; Wang *et al*., 2023). Second, many studies emphasize productivity and volume expansion while under examining trade policy structures and non-tariff barriers as strategic constraints to market access (Patias *et al*., 2021; Padilla *et al*., 2023). Third, sustainability governance has received limited integration into mainstream trade competitiveness models, despite its rising importance in shaping export eligibility (Peng *et al*., 2026). Lastly, corporate power and state-led trade control have not been sufficiently analyzed as mechanisms of market access restructuring (Wesz Jr. *et al*., 2023).

This literature review adopts a thematic and comparative approach to synthesize findings from 14 peer-reviewed and institutional studies, with the aim of identifying dominant strategies for enhancing international soybean market access. It systematically examines how market access is shaped at various interrelated levels which include farm-level capacity, supply chain architecture, national policy design, corporate globalization strategies, and international system dynamics. The review contributes to the literature by integrating exporter and importer perspectives, linking micro-level production constraints with macro-level geopolitical forces, and reframing market access as a governance challenge rather than merely a commercial outcome.

METHODOLOGY

A systematic literature review was done concerning Evolving Trends and Challenges in Agricultural Export Markets. A systematic literature review was adopted in this study because the subject matter was narrower and more specific to warrant a scoping literature review method. A review protocol was outlined prior to conducting the systematic review which is in accordance with the review guidelines proposed by Kitchenham *et al*. (2010). The research questions were first defined after which the key words identified in this research were input into databases to select the relevant literature materials. The databases that were used to source for literature materials in this study included; Science Direct, Google scholar, Web of Science, and Research gate. Search Keywords or Statement used in this study are as follow:

1. ***Strategies*** OR Enhancing International Market AND Soybean AND Approaches
2. ***Strategies*** OR Enhancing International Market AND Soybean AND Global Soybean Trade

A selection criterion consisting of “documents within agricultural export, export market, international market and published between 2020 - 2025” was used to filter the documents and select relevant literature. A total of 53 literature materials were obtained using the above keywords and criteria for searching literature in the various search engines. Out of this number only 14 were selected based on the information they provided. All other pertinent information was gathered from the selected literature materials and subsequently synthesised in accordance with the main theme of the research, emerging trends in agricultural export. A thematic analysis was used to discuss the relevant information captured in the literature section.

FINDINGS

Farm-Level Constraints and Initial Market Entry Barriers

The foundation of international market access lies in farm-level production systems. However, numerous studies demonstrate that productivity alone does not guarantee trade inclusion, particularly in developing economies. Production structures, market institutions, information systems, and financing mechanisms critically determine whether smallholders can transition from domestic marketing into export networks. Adam *et al*. (2023) analyzed Indonesia's soybean sector and revealed that farmers remain trapped in the exploitative "*ijon*" system, which involves pre-harvest sales to informal lenders at significantly discounted prices. Using SWOT analysis, the study found that despite favorable ecological conditions and technical capacity, farmers struggle with capital inadequacy, poor seed quality, and lack of collective organization. The reliance on "*ijon*" reinforces price suppression and erodes farmers' bargaining power. The authors argued that strengthening cooperatives and improving post-harvest handling infrastructure are necessary preconditions for enhancing producer participation in higher-value markets.

Similarly, Achamyelh and Hailemariam (2020) documented how Ethiopian soybean farmers face structural market exclusion due to weak transportation infrastructure, inadequate storage facilities, limited market information, and low negotiation power. The econometric evidence showed that transaction costs and information asymmetry significantly reduced farm-gate prices, leaving farmers disconnected from profitable export channels. Although government policy promoted oilseed production, the absence of coordinated marketing institutions undermined market integration. The poor alignment between production growth and market competitiveness is further demonstrated by Shende and Dhoke (2025) in India's Akola district, where favorable agro-ecological conditions did not translate into price efficiency due to post-harvest inefficiencies, fragmented marketing channels, and inadequate supply chain integration. The authors emphasized that loss related to competitiveness occurs primarily after harvest, rather than during production, highlighting the centrality of logistics, storage, and market connectivity.

Taken together, these studies indicate that early market access barriers are induced not by production failure, but by institutional weakness. The findings suggest that without fundamental reform in farmer organization, financing access, and infrastructure provision, participation in international markets remains structurally inhibited. The similarity of constraints across Indonesia, Ethiopia, and India indicates that globalization amplifies pre-existing domestic inequalities rather than correcting them.

Supply Chain Infrastructure and Export Competitiveness

International trade is governed as much by logistics as by production. Among dominant exporters, infrastructure investment has proven more decisive than productivity gains in shaping export market share. Filassi and Oliveira (2022) demonstrated that Brazil's export dominance relies overwhelmingly on logistics infrastructure. Their econometric results showed that the logistics dimension, particularly port capacity and inland connectivity, was the only factor with a positive and statistically significant impact on export competitiveness. In contrast, institutional indicators such as bureaucratic efficiency and regulatory quality exerted negative effects, implying that infrastructure development has compensated for governance inefficiencies.

Valdes *et al*. (2023) provided direct comparative evidence between Brazil and the United States, showing that Brazilian land costs are lower and infrastructure improvements, especially the Northern Arc port system and BR-163 highway, have significantly reduced transport costs. The reduction of inland freight from $98 per ton to $77 per ton reshaped competitiveness in Brazil's favor. The analysis revealed that infrastructure superseded yield advantage as the primary determinant of trade performance. The U.S.

remains operationally superior in productivity but increasingly disadvantaged in logistics and policy outreach. As Padilla *et al*. (2023) noted, U.S. exporters suffer not from production inefficiency but from limited market diversification and slower trade agreement engagement. While competitors secure preferential access to emerging markets, the U.S. export system channels extreme volume toward China, heightening systemic vulnerability.

The implication across studies is unambiguous: market access is a function of physical connection to global networks. Where transport corridors exist, markets emerge; where they do not, productivity stagnates. Infrastructure is therefore not a development outcome but a trade strategy instrument.

Trade Policy, Market Concentration, and Geopolitics

Trade policy and macro-level market positioning form a third critical dimension of international soybean market access. Padilla *et al*. (2023) analyze U.S. export competitiveness across crop markets and argue that while U.S. soybean exports remain high in absolute value, market share has eroded due to rising South American competition and a prolonged gap in new U.S. free trade agreements between 2012 and 2020. The report links competitors' more active pursuit of preferential trade agreements to enhanced penetration into emerging markets, suggesting that trade policy inertia can constrain market access even where productivity and infrastructure remain strong.

From an importer's perspective, both Yevchenko *et al*. (2021) and Wang *et al*. (2023) underscore how concentrated dependence on a few suppliers heightens vulnerability and drives diversification strategies that, in turn, shape export opportunities for third countries. Yevchenko *et al*. (2021) show that China's heavy reliance on Brazil has yielded low import prices but increasing exposure to supply and price volatility as extensive production expansion approaches biophysical limits, prompting calls for more intensive, diversified import arrangements and new public–private partnership contracts. Using complex network analysis of the global soybean trade network, Wang *et al*. (2023) document that the system exhibits small-world and scale-free properties, with the United States and Brazil as central hubs, while China's "anti-interference ability" has declined over time, highlighting the risks of concentrated sourcing. These analyses collectively indicate that market access must be understood as a relational outcome: exporters' ability to enter and remain in markets is shaped not only by their own competitiveness but also by importers' strategic pursuit of supply security. This has two important implications for emerging exporters. First, trade diversification by major buyers like China can create "windows of opportunity" for new suppliers that can credibly signal reliability, quality compliance, and political stability. Second, exporters that combine competitive logistics and costs with active participation in trade agreements and regional integration initiatives are better positioned to capture such opportunities, as shown by Brazil and Argentina's growing shares in China's imports after geopolitical frictions with the United States.

Global Agri-Trade Dynamics and Structural Features of Soybean Markets

Several contributions widen the lens to global agri-trade dynamics and systemic characteristics of soybean markets. Deep *et al*. (2025) argue that agricultural trade in the twenty-first century is shaped by globalization, rapid technological change, and increasingly stringent requirements on quality, logistics, and environmental sustainability, emphasizing that market penetration depends on investments in quality assurance, infrastructure, and sophisticated market intelligence rather than on production alone. Peng *et al*. (2026) provide a comprehensive synthesis of global soybean trade dynamics, highlighting that Brazil, the United States, and Argentina jointly supply over 80% of global exports, especially to China, and that geopolitical tensions and climate risks are pushing the system toward a more multipolar yet still concentrated configuration.

Complex network analysis by Wang *et al*. (2023) reinforces this picture by demonstrating that the global soybean trade network is dominated by a few exporting hubs and is characterized by increasing structural complexity and community fragmentation over time. This structural concentration means that disruptions in major exporters, be it from climate events, policy shocks, or infrastructure failures, can propagate rapidly through the network, affecting both prices and physical access. At the same time, Peng *et al*. (2026) argue that geographic diversification of production to underutilized regions, including parts of sub-Saharan Africa and Central Asia, is necessary to reduce systemic risk and create new, more resilient supply corridors.

These global-level analyses underscore that strategies for enhancing soybean market access cannot be purely national; they must account for feedback between exporter strategies, importer risk management, and network-level vulnerabilities. For emerging producers, this opens a strategic opportunity: positioning as secondary hubs that help major importers diversify away from over-concentrated reliance on current suppliers, provided that these new entrants can meet quality, logistical, and sustainability benchmarks. However, the literature to date pays limited attention to the governance and financing arrangements required to support such diversification, such as regional infrastructure initiatives, blended finance mechanisms, or coordinated policy reforms, which represent an important area for further research.

Sustainability Governance, Compliance, and Non-Tariff Barriers

The global soybean market is undergoing a transformation from price-led competition to compliance-mediated competition, where access is increasingly determined by regulatory conformity rather than agricultural productivity alone. Sustainability governance has evolved into a major determinant of who participates in global trade and under what conditions (Peng *et al*., 2026). Patias *et al*. (2021) demonstrate that Brazilian exporters increasingly face non-tariff barriers (NTBs) such as stringent sanitary and phytosanitary (SPS) measures, technical standards, and biotechnology restrictions. These regulatory requirements are especially binding in European markets where restrictions on genetically modified soybeans function as implicit barriers to entry. As a result, Brazil's production efficiency is not automatically convertible to market dominance across all regions, and exporters are compelled to choose between cost-efficient GM production and premium-market access based on non-GM standards. This trade-off reframes competitiveness as a strategic decision over product identity rather than merely yield optimization.

Beyond product standards, environmental compliance has emerged as a new dimension of market regulation. Peng *et al*. (2026) argue that sustainability frameworks such as zero-deforestation commitments and environmental traceability are no longer voluntary innovations but are increasingly institutionalized into import policies. These measures function as regulatory gateways into high-value markets. While they aim to reduce ecological damage, they also systematically disadvantage producers from countries lacking digital infrastructure and enforcement capacity.

The implications for developing exporters are profound. Sustainability compliance requires data systems, certification infrastructure, and monitoring capability; costly investments which are often beyond the reach of smallholders. Consequently, environmental regulation is simultaneously a climate instrument and a mechanism of trade stratification. Rather than leveling the field, sustainability governance risks reinforcing existing asymmetries between Global North importers and Global South producers. Furthermore, compliance is not static. The continuous evolution of environmental regulation means market access is conditional upon adaptive capacity. Exporters must update practices, documentation

systems, and audit mechanisms to retain access. Market participation thus becomes dynamic, contingent on regulatory learning rather than solely on production scale.

In summary, sustainability governance now functions simultaneously as a regulatory gatekeeper that determines export eligibility, a competitiveness driver based on producers' capacity to comply with evolving standards, a mechanism that differentiates access to premium markets from participation in bulk commodity trade, and an escalating cost burden associated with continued participation in international markets, such that soybean exporters in low-income economies face a growing risk of long-term marginalization or outright exclusion from sustainability-governed global trade regimes.

Systemic Risk, Market Volatility, and Commodity Interdependence (Expanded)

Soybean market access is increasingly shaped by forces outside traditional trade economics, particularly commodity market interdependence and geopolitical risk transmission. The work of Barboza-Martignone *et al*. (2024) fundamentally reframes soybean not as an isolated agricultural product but as a systemic node within the global commodity complex.

Using Quantile Vector Autoregressive modeling, the study demonstrates that soybean is a central shock transmitter in the international commodity system. Under extreme market conditions (both booms and crises), soybean prices exert spillover effects across energy markets, fertilizer inputs, and derivative commodities such as soybean oil and meal. This means competitive positioning is not stable across time but fluctuates dramatically during geopolitical and supply-side disruptions. Most striking is the asymmetry of volatility. During periods of geopolitical turbulence, such as the Russia-Ukraine conflict, connectedness intensifies and risk propagation accelerates. This implies that market access strategies that function during stable periods collapse under stress. Countries lacking financial instruments (hedging tools, strategic reserves, or state-backed stabilization funds) become structurally vulnerable.

Energy and fertilizer markets introduce another layer of risk. The strong linkage between natural gas, urea, and soybean production costs implies that exporters without stable energy access face cost inflation unrelated to farming efficiency. Input dependency therefore replaces land productivity as the principal bottleneck in volatile environments. This redefinition of market access implies that exporting nations must move beyond conventional trade facilitation to actively engage in risk governance, while importing nations are compelled to diversify not only their sources of supply but also the contractual structures through which trade is conducted, such that competitive advantage becomes increasingly dependent on access to financial resilience mechanisms including futures markets and strategic reserve systems, and vulnerability is reframed as a macroeconomic challenge shaped by national policy and institutional capacity rather than a problem confined to individual farms or producers.

Corporate Strategies, Internationalization Patterns, and Value-Chain Control

Corporate strategies for internationalization and value-chain control represent another crucial layer in understanding how market access is gained and consolidated. Patias *et al*. (2021) examine Brazilian soybean producers in Rio Grande do Sul and find that despite being globally competitive, producers rely heavily on intermediaries, trading companies and brokers, to navigate foreign markets, non-tariff barriers, and sanitary and phytosanitary regulations. This indirect internationalization model externalizes regulatory and logistical complexity to specialized firms, enabling high-volume trade but limiting producers' control over branding and value addition.

At a different scale, Wesz Jr. *et al*. (2023) analyze COFCO's expansion in the Southern Cone as part of China's neo-mercantilist food security strategy and show how brownfield mergers and acquisitions of established firms like Noble Agri and Nidera allowed COFCO to rapidly acquire port terminals, storage

facilities, and origination networks. By combining these corporate assets with input-for-product "barter" arrangements at farm level, COFCO secured a captive supply base and transformed itself into a global trader capable of serving both China and third markets, thereby altering the balance of power in global agri-food trade.

Together, these studies reveal two contrasting but complementary models of corporate-led market access: a decentralized model in which independent producers depend on global traders to access markets, and a state-backed, vertically integrated model in which a single entity coordinates origination, logistics, and marketing across borders. Both models highlight that control over logistics and compliance capabilities is as important as farming capacity in determining market access. For emerging exporters, this suggests potential strategies ranging from strengthening domestic trading and logistics firms to partnering with multinational or state-backed corporations through joint ventures and public–private partnerships, thereby leveraging external capabilities while seeking to retain some domestic value-added capture.

Non-Tariff Barriers, Standards, and Sustainability Governance

Non-tariff barriers (NTBs) including sanitary and phytosanitary standards, technical regulations on genetically modified organisms, and emerging sustainability requirements—are increasingly central to soybean market access. Patias *et al*. (2021) document how Brazilian exporters face complex sanitary and phytosanitary measures and technical restrictions on transgenic soybeans in certain markets, particularly in Europe, which limit direct access and reinforce reliance on specialized trading companies with regulatory expertise. These barriers shift competitive advantage toward actors able to invest in continuous compliance management and traceability, rather than those competing solely on cost.Digested-papers.docx Peng *et al*. (2026) extend this analysis by framing sustainability governance, such as zero-deforestation sourcing rules and new import regulations like the EU Deforestation Regulation, as de facto NTBs that require significant upgrades in monitoring, reporting, and verification systems. The authors argue that compliance with such standards increasingly conditions access to premium markets and to sustainability-linked finance, pushing exporters to adopt digital traceability tools, including blockchain and AI-enabled logistics optimization. Countries or firms unable to demonstrate low-deforestation supply chains risk exclusion or discounting in these markets, regardless of their traditional price competitiveness. From the perspective of emerging exporters, these developments cut both ways. On one hand, stricter sustainability standards raise entry costs by requiring investments in certification systems, farmer training, and data infrastructure; on the other, they may create niches for producers in under-deforested regions that can credibly market low-emission or deforestation-free soybeans, especially if supported by international partnerships. The reviewed literature, however, offers limited empirical evidence on how such "green access" strategies have been implemented in practice by emerging suppliers, indicating a research gap on the institutional and financial arrangements needed to operationalize sustainability as a source of competitive advantage rather than a barrier.

Price Dynamics, Systemic Risk, and Financial Strategies

Beyond physical and regulatory access, international soybean trade is deeply embedded in volatile commodity markets characterized by complex interdependencies. Barboza Martignone *et al*. (2024) apply a Quantile Vector Autoregression framework to analyze connectedness and risk spillovers among soybeans, related agricultural commodities, energy, and fertilizers between 2010 and 2023, finding that soybeans and their derivatives consistently act as primary transmitters of shocks, particularly in extreme market conditions. The Total Connectedness Index surges in upper and lower quantiles, indicating that price

relationships tighten dramatically during booms and crises, with significant implications for producers' and traders' revenue stability.Digested-papers.docx

These findings imply that strategies for enhancing international market access must incorporate mechanisms for managing systemic price risk, including hedging instruments, diversified product portfolios, and contingency planning for geopolitical shocks. Peng *et al*. (2026) highlight how events such as the Russia–Ukraine conflict and the U.S.–China trade war reconfigure soybean demand and supply patterns, creating both risks and openings for alternative suppliers. Countries or firms that can rapidly redirect flows, utilize financial risk-management tools, and adjust logistics in response to these shocks are better placed to preserve or even expand market access under volatile conditions.

However, most of the case studies focusing on emerging exporters, such as Ethiopia or local regions in India, pay limited attention to financial risk-management capabilities, reflecting a gap between systemic risk analysis and on-the-ground strategies in lower-income contexts. Future research could therefore examine how public policy (e.g., price stabilization funds) and private financial instruments (e.g., futures markets, options, index insurance) can be combined to support stable participation of small and medium exporters in highly interconnected and shock-prone global soybean markets.

Table 1: Thematic Analysis Table (Synthesis of Findings)

Title	Key Studies	Main Findings	Implications for International Soybean Market Access
Farm-Level Constraints and Initial Market Entry Barriers	Adam *et al*. (2023); Achamyelh & Hailemariam (2020); Shende & Dhoke (2025)	Informal markets, weak cooperatives, inadequate storage, limited bargaining power, poor access to credit and market information	Low integration into formal trade chains despite increased production
Supply Chain Infrastructure and Export Competitiveness	Filassi & Oliveira (2022); Valdes *et al*. (2023); Padilla *et al*. (2023)	Logistics infrastructure (ports, roads, inland connectivity) exerts greater influence than farm productivity	Infrastructure investment is a superior market access strategy
Trade Policy, Market Concentration, and Geopolitics	Padilla *et al*. (2023); Peng *et al*. (2026)	Trade agreements and geopolitical conflict reshape market access faster than productivity changes	Market access is politically contingent
Importer-Centric Market Access and Trade Network Structure	Wang *et al*. (2023); Yevchenko *et al*. (2021)	Supply concentration increases importer risk; trade networks exhibit hub dominance	Exporter success depends on importer strategy

Title	Key Studies	Main Findings	Implications for International Soybean Market Access
Sustainability Governance, Compliance, and Non-Tariff Barriers	Patias *et al*. (2021); Peng *et al*. (2026)	SPS standards, GM restrictions, environmental regulations increasingly govern trade eligibility	Compliance capacity is as crucial as production volume
Systemic Risk, Market Volatility, and Commodity Interdependence	Barboza Martignone *et al*. (2024); Peng *et al*. (2026)	Soybean prices transmit shocks across energy, fertilizer, and derivative markets	Market access requires financial risk management systems
Corporate Internationalization and Market Control	Patias *et al*. (2021); Wesz Jr. *et al*. (2023)	Reliance on intermediaries, indirect exporting, trader dominance	Firms control access more than states
State Strategy and Neo-Mercantilist Expansion	Wesz Jr. *et al*. (2023); Yevchenko *et al*. (2021)	Acquisition, ownership, and value-chain control redefine global trade	Market access is constructed through power

Comparative Approaches and Strategic Pathways for Emerging Exporters

Synthesizing across the thematic strands, the literature suggests at least four broad comparative "models" of soybean market access that different countries and actors follow. First, the logistics-dominant model, exemplified by Brazil, relies on large-scale infrastructure investments and low land and capital costs to drive export competitiveness, even amid institutional weaknesses and rising sustainability demands. Second, the supply-chain-development model, seen in Ethiopia and parts of India, emphasizes gradual upgrading of storage, transport, and market institutions to transform subsistence-oriented production into a competitive market system capable of meeting basic quality and volume requirements.

Third, a policy-driven model, particularly relevant for the United States and major importers like China, underscores how trade agreements, geopolitical alignments, and diversification strategies shape both export opportunities and import security. Padilla *et al*. (2023) and Yevchenko *et al*. (2021) jointly show that the absence or presence of free trade agreements and the concentration or diversification of trade partners can significantly alter market access dynamics, regardless of underlying productivity. Fourth, an emerging sustainability-driven model, discussed by Peng *et al*. (2026) and Deep *et al*. (2025), highlights how compliance with environmental and social standards, supported by technological innovations in traceability and logistics, is becoming a key determinant of access to premium markets and resilient value chains.

For emerging exporters seeking to enhance international market access, the literature implies that an effective strategy will likely blend elements of these models. At minimum, such a strategy would involve: (i) strengthening farm-level productivity and quality through seeds, extension, and cooperative

institutions; (ii) upgrading storage, transport, and post-harvest systems to reduce losses and improve reliability; (iii) engaging in regional and bilateral trade agreements and aligning with diversification needs of major importers; (iv) investing in sustainability compliance and traceability to meet evolving NTBs; and (v) developing financial and institutional capacities for managing price and geopolitical risk. Yet, most existing studies examine these levers in isolation rather than as integrated policy packages, limiting the guidance available to policymakers attempting to design coherent national strategies.

Directions for Future Research

Several key gaps remain and suggest directions for future research. First, there is a need for comparative, multi-country analyses that explicitly model different pathways to soybean export integration, distinguishing between incremental supply-chain development and leapfrogging through large-scale infrastructure or corporate partnerships. Second, empirical work linking sustainability regulations and deforestation governance to specific upgrading strategies and cost-benefit outcomes in emerging exporters is still limited, constraining policymakers' ability to design viable compliance roadmaps. Third, more attention is required on the design of risk-management instruments and institutional frameworks that can enable small and medium-scale exporters to participate stably in a highly interconnected and volatile global soybean market. Addressing these gaps would advance understanding of how diverse countries can strategically position themselves within a concentrated yet evolving global soybean trade system and would support the development of more inclusive, resilient, and sustainable pathways for enhancing international market access.

Conclusion

The reviewed literature demonstrates that enhancing international market access for soybeans is a multi-dimensional challenge involving farm-level competitiveness, domestic supply-chain infrastructure, trade policy and market diversification, corporate value-chain strategies, sustainability governance, and systemic risk management. Established exporters like Brazil and the United States illustrate how different combinations of cost structures, logistics, and trade policies can yield dominant positions, while case studies from Ethiopia and India highlight the persistent structural barriers that emerging producers must overcome to become credible suppliers. Importer-side analysis centered on China show that diversification and neo-mercantilist strategies can reshape global trade patterns and open new opportunities for secondary exporters that can credibly meet quality, reliability, and sustainability expectations.

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