

From Buyer Acquisition to System Readiness: A Five-Pillar Framework for African and Asian Agricultural Exporters in 2026–2027

The journey for an aspiring agricultural exporter often begins with the time consuming pursuit of finding international buyers, attending trade fairs, online marketing and securing initial purchase orders. This phase focuses intensely on product presentation, price negotiation, and establishing commercial relationships. However, a significant and growing number of these promising ventures falter not at the point of sale, but upon the first physical shipment. This phenomenon reveals a fundamental disconnect between the traditional mindset of export promotion and the modern reality of global trade, where the supply chain itself has become the primary determinant of success. The collapse of export deals post-shipment is rarely due to a single catastrophic event; rather, it is the cumulative effect of systemic weaknesses in reliability, traceability, quality control, and administrative compliance. These failures underscore a critical truth: while finding a buyer is the starting gun, building an export-ready supply chain is the marathon that determines who finishes the race. International buyers, particularly those in highly regulated markets like the European Union, North America, and increasingly China, have transformed their evaluation process into a rigorous audit of a supplier's entire operational ecosystem. They are no longer merely purchasing a product; they are investing in a partnership built on predictability, trust, and verified compliance.

A powerful illustration of this failure mode comes from a Kenyan avocado and French bean farm supplying a buyer in the Netherlands. Despite having secured a contract, the farm's first consolidated shipment was rejected by the importer. The root causes were not related to the produce's intrinsic quality but to a cascade of procedural failures across the supply chain. The investigation revealed three core breakdowns: incomplete pesticide spray records for two of its farm blocks, a lack of maintained cold chain logs once the product left the farm's collection center, and an inability to link pallets to their corresponding harvest dates through batch coding. This case is emblematic of the "readiness gap" that plagues many emerging exporters. The farm had focused on cultivation but neglected the administrative and logistical scaffolding required to move its product through a sophisticated international channel. The consequence was severe: direct financial loss from the rejected cargo and, more critical, a fractured relationship with the buyer whose confidence was irreparably eroded. Such incidents are not isolated. In Nigeria, sesame exports are reported to be losing up to 30% of their volume to international rejections, disrupting not just farmer livelihoods but also the broader trade finance system and increasing risk for the banking sector.

The underlying reason for these collapses lies in the evolving expectations of international buyers. Modern procurement strategies are driven by the need for shelf stability, brand reputation, and adherence to complex regulatory landscapes. A single rejected shipment can trigger a costly recall, damage a retailer's brand, and invite regulatory scrutiny. Consequently, buyers are shifting their compliance checks to before price negotiations begin, using a suite of mandatory criteria to filter potential partners. This creates a new export sorting system where "documented exporters" with verifiable systems thrive, while "undocumented exporters" are systematically excluded, regardless of their product's appeal or price competitiveness. This shift is not arbitrary; it is a direct response to tightening government regulations and heightened consumer demand for transparency. Regulations such as the EU's Deforestation Regulation (EUDR), the US Food Safety Modernization Act (FSMA) Section 204, and various food safety laws in the Gulf Cooperation Council (GCC) countries now legally mandate traceability, sustainability, and rigorous record-keeping. For example, South Africa's citrus exports have been damaged by customs delays and shipment rejections in Europe and the UK precisely because of traceability issues. Similarly, East African buyers have begun slowing purchases of crops that cannot be traced back to a mapped farm, directly impacting export volumes and revenues.

The cost of non-compliance is substantial and multifaceted. Financially, a rejected shipment can wipe out the entire margin for that consignment. Beyond the immediate loss, there are indirect costs including regulatory fines, which can be severe, for instance, EUDR penalties start at 4% of an operator's total annual EU turnover, and the high cost of recalls, which average over \$10 million in the US. There are also strategic costs. A failed shipment damages a company's reputation, making it difficult to win back the trust of a valuable buyer, let alone attract new ones. Furthermore, as seen in Nigeria, repeated failures disrupt trade finance flows, increase perceived risk for banks, and can make future financing more difficult and expensive. This creates a vicious cycle where the very instability that leads to rejections also undermines the financial viability of the business. The situation is particularly acute for smallholder-dominated supply chains, which form the backbone of agriculture in much of Africa and Asia. These systems often lack the institutional memory, standardized processes, and digital infrastructure needed to maintain the meticulous records demanded by modern importers. A single inconsistent inspection log at the county level or an error in a phytosanitary certificate can bring an entire export operation to a halt.

This new paradigm necessitates a profound shift in mindset for exporters. The goal must evolve from simply finding a buyer to becoming the most reliable, transparent, and compliant partner in the supply chain. Success is no longer measured by the number of purchase orders received, but by the ability to deliver against them, consistently and without incident. It requires a transition from a reactive, problem-solving approach to a proactive, system-building one. Proactive compliance functions as "shipment insurance," reducing the risk of rejection, expediting port clearance, and fostering stronger, more durable partnerships. This involves developing internal functions dedicated to export readiness, implementing quality management systems, investing in traceability

technologies, and mastering the complex web of international documentation. For exporters targeting markets like the EU, North America, and the Gulf, understanding that the supply chain is the true competitive advantage is the first and most crucial step toward achieving long-term, sustainable success in the global marketplace. The era of relying on charm, low prices, or product uniqueness alone is fading; the future belongs to the well-systematized.

Pillar I: Production Planning and Volume Consistency as a Foundation for Reliability

In the contemporary global agricultural trade landscape, the ability to deliver a consistent volume of reliably sourced products is a foundational pillar of an export-ready supply chain. While product quality and price remain important, they are insufficient on their own. International buyers operate on tight margins and demanding retail schedules, requiring suppliers who can provide predictable output to ensure continuous shelf availability and efficient production planning. This demand for reliability stems from the fact that a single failed shipment can have cascading negative effects, including financial losses, reputation damage, and the permanent loss of a valuable partnership. Therefore, robust production planning is not merely an operational function; it is a strategic imperative that builds trust and secures long-term contracts. This pillar encompasses several interconnected elements: structured farming models, seasonal forecasting, collaborative buying arrangements, and transparent communication about availability and capacity.

A prime example of successful production planning leading to sustained export success is found in Kenya's horticulture sector. The country has become a major exporter of fresh fruits, vegetables, and flowers to Europe, a feat largely attributed to the widespread adoption of contract farming. Contract farming establishes formal agreements between large-scale buyers and both individual farmers and cooperatives. These contracts often specify crop types, quality standards, delivery schedules, and guaranteed off-take arrangements, creating a stable and predictable supply chain. This model effectively bridges the gap between fragmented smallholder farms and the centralized demands of international supermarkets, ensuring a steady flow of produce throughout the year. By managing input distribution, providing technical support, and organizing logistics, contract farming organizations act as a central nervous system for the supply chain, mitigating the risks associated with smallholder agriculture and delivering the consistency that buyers require. This demonstrates a direct correlation between structured planning and the ability to penetrate and maintain a foothold in mature international markets.

Beyond formal contractual agreements, proactive communication about seasonal cycles is another critical component of production planning. Ethiopia provides an excellent case study with its coffee industry. Recognizing the importance of aligning its production calendar with the needs of international buyers, the Ethiopian Coffee & Tea Authority publishes detailed coffee harvest

calendars. These calendars delineate the harvesting periods for different regions and coffee varieties, which typically run from October through February, while the overall export window extends from December through August. By providing this information publicly, Ethiopia enables buyers to plan their procurement strategies, budget allocations, and logistics schedules far in advance. This transparency reduces uncertainty and signals a level of professionalism and preparedness that is highly valued by sophisticated international partners. It transforms the relationship from a reactive transactional one to a forward-looking, collaborative partnership. Similarly, the concept of "forward booking" in the coffee sector takes this a step further. In a forward booking arrangement, a coffee buyer commits to purchasing a future harvest from a producer, often locking in the price and volume before the crop is even grown. This provides producers with immense financial security and planning certainty, allowing them to invest in better inputs and practices, while giving buyers the assurance of a fixed supply. This mechanism is a powerful tool for building long-term stability and mutual dependence.

However, achieving this level of consistency is very challenging, especially for smallholder-dominated supply chains prevalent in Africa and parts of Asia. Smallholder farmers often operate on a fragmented basis, with varying land sizes, cultivation techniques, and harvest times, making aggregation and standardization difficult. Infrastructure deficits, such as poor road networks and unreliable electricity, further complicate logistics and post-harvest handling, impacting both volume and quality. To address these issues, innovative business models and institutional support are emerging. In Tanzania, for instance, the Horticulture Exports Accelerator program helps simplify customs procedures and align local standards with international requirements, facilitating smoother export operations. Public-private partnerships are also playing a crucial role. An initiative backed by the AfCFTA's Guided Trade Initiative, supported by a \$7.5 million facility from the African Development Bank, is helping to establish solar-powered cold storage networks in inland areas, which are critical for preserving produce and enabling more organized collection and consolidation of smaller farmer outputs. These interventions aim to create the physical and organizational structures necessary to aggregate smallholder supply into consistent, export-ready lots.

The following table summarizes key strategies and examples related to production planning and volume consistency.

Strategy	Description	Case Study / Example
Contract Farming	Formal agreements between buyers and farmers/cooperatives that guarantee off-take and standardize production.	Kenya's Horticulture Sector: A success story where contract farming ensures a consistent supply of produce for export.
Harvest Calendar Publishing	Proactive communication of seasonal harvest windows to help buyers plan procurement and logistics.	Ethiopia's Coffee Sector: The Ethiopian Coffee & Tea Authority publishes harvest calendars, enhancing transparency and partnership.
Forward Booking Agreements	Buyers commit to purchasing future harvests, locking in price and volume for producers.	Coffee Sector: Forward booking provides producers with financial security and buyers with supply certainty.
Aggregation Hubs	Establishing collection points that consolidate produce from multiple smallholders to create larger, uniform lots.	Tanzania: Solar-powered cold storage hubs supported by AfDB funding to improve smallholder aggregation.
Public-Private Partnerships (PPPs)	Collaboration between governments and private entities to build infrastructure and streamline processes.	Tanzania's Horticulture Exports Accelerator: Aligns national standards with international requirements to facilitate exports.

Ultimately, the objective of production planning is to align the entire value chain with the specific requirements of each target market. As demonstrated by the Thika farm case, success depends not merely on increasing production volumes, but on achieving consistent compliance with buyer requirements. This requires moving beyond ad hoc arrangements and implementing structured systems for monitoring, recording, and coordinating every stage of production, aggregation, and delivery.

For African and Asian exporters seeking to succeed in 2026–2027, investment in production planning is not an optional enhancement; it is a fundamental prerequisite for building a sustainable and profitable export business. Effective production planning transforms short-term transactions into long-term commercial partnerships by demonstrating reliability, traceability, and operational

professionalism. It signals to international buyers that the exporter is not simply selling a product, but is committed to being a dependable and strategic supply chain partner.

Pillar II: Quality Management and Regulatory Compliance as a Non-Negotiable Standard

Quality management in modern agricultural export has transcended the simple assessment of a product's final condition. It is now understood as a comprehensive, auditable, and documented system that governs every stage of the value chain, from seed selection and field application of inputs to post-harvest handling, processing, and transport. This evolution is driven by a confluence of factors, including stringent government regulations, heightened consumer awareness, and the internal risk-management policies of multinational buyers. For exporters, this means that quality is no longer just a feature of the product; it is a prerequisite for market access, enforced through rigorous compliance frameworks. Failure to adhere to these standards results not in minor quality deductions, but in complete shipment rejections, severe financial penalties, and the permanent loss of market access. The period of 2026–2027 is particularly significant, as it marks the enforcement of several landmark regulations that will raise the bar for all participants in the global food supply chain.

The Thika farm case in Kenya serves as a stark warning of what happens when quality management systems break down. The rejection of its first consolidated shipment was not due to rotten fruit but to a series of procedural lapses that collectively invalidated the shipment in the eyes of the importer. These included incomplete spray records, which are critical for verifying compliance with Maximum Residue Limits (MRLs); a failure to maintain cold chain logs after the product left the farm, indicating a lack of control over temperature-sensitive post-harvest handling; and a flawed batch coding system that could not reliably trace pallets back to their specific harvest dates. This case illustrates that a robust quality management system is an integrated whole. Each component, pesticide application records, temperature monitoring, hygiene protocols, and traceability, is a thread that holds the entire structure together. When one thread breaks, the system can fail completely. Research confirms that digital transformation within agri-SMEs effectively improves the quality and safety of exported products, highlighting technology as a key enabler for building these robust systems.

Two of the most influential regulatory frameworks shaping quality management globally are the European Union's Deforestation Regulation (EUDR) and the United States' Food Safety Modernization Act (FSMA). The EUDR, with staggered implementation deadlines of December 30, 2026, for medium-sized operators and June 30, 2027, for micro and small enterprises, mandates that commodities like coffee, cocoa, and cattle placed on the EU market must be free from

deforestation and produced in accordance with relevant legislation in their country of origin. This places a direct burden on upstream producers to maintain meticulous records proving legal compliance and environmental sustainability at the plot level. The U.S. FSMA, specifically Section 204, introduces a Food Traceability Rule that requires certain entities to maintain additional records for foods on a "Food Traceability List". This rule mandates lot-level tracking for high-risk foods, defining Critical Tracking Events (CTEs) and requiring the maintenance of Key Data Elements (KDEs) at each transfer point in the supply chain. The deadline for compliance was initially set for January 20, 2026, but has since been extended to July 20, 2028, giving industry more time to adapt.

The enforcement of these requirements is being reinforced by several concurrent regulatory developments. In the United States, the **Food and Drug Administration (FDA)** will begin enforcing its updated **Quality Management System Regulation (QMSR)** on **February 2, 2026**. Replacing the previous **Quality System Regulation (QSR)**, the QMSR aligns U.S. medical device manufacturing requirements more closely with the internationally recognized **ISO 13485** standard and places greater emphasis on risk-based supplier qualification, performance monitoring, and quality management throughout the supply chain. As a result, importers and manufacturers must implement robust systems to evaluate, monitor, and control their suppliers, extending compliance responsibilities to producers, processors, and other upstream partners.

Similarly, in the European Union, the **Corporate Sustainability Reporting Directive (CSRD)** and the **Corporate Sustainability Due Diligence Directive (CSDDD)** are strengthening corporate accountability by requiring companies to identify, assess, mitigate, and disclose social, environmental, and human rights impacts across their entire value chains. Collectively, these regulatory frameworks create an integrated compliance environment in which every participant, from primary producers to exporters, manufacturers, and importers, must demonstrate transparency, traceability, and effective risk management. The era in which individual segments of the supply chain could operate independently has effectively come to an end.

The following table details the key regulatory requirements and their implications for exporters.

Regulation / Framework	Jurisdiction	Key Requirements for Exporters	Implementation Timeline
EU Deforestation Regulation (EUDR)	European Union	Provide precise geolocation data (polygon mapping) for source plots; demonstrate compliance with local laws; submit a Due Diligence Statement (DDS).	Medium Operators: Dec 30, 2026 SMEs: Jun 30, 2027
US Food Traceability Rule (FSMA 204)	United States	Maintain lot-level traceability records for foods on the FDA's list; document Key Data Elements (KDEs) at Critical Tracking Events (CTEs).	Compliance: Jul 20, 2028
FDA Quality Management System Regulation (QMSR)	United States	Implement a risk-based quality management system for medical device manufacturers, including enhanced supplier controls.	Enforcement Begins: Feb 2, 2026
Corporate Sustainability Reporting Directive (CSRD)	European Union	Mandates extensive corporate reporting on sustainability performance, including environmental and social impacts.	Phased rollout beginning in 2025
China GACC Decree 248	China	Enterprise registration; lot traceability back to production source; documentation of food safety systems.	Enforced

For African and Asian exporters, navigating this complex regulatory presents both a significant challenge and an opportunity. The challenge lies in the immense effort and investment required to build the necessary record-keeping and verification systems, particularly for smallholder-dominated sectors. However, the opportunity lies in leveraging this transition as a competitive

advantage. Exporters who proactively invest in quality management systems, achieve certifications like GLOBAL G.A.P., and master the art of compliance can differentiate themselves from competitors who struggle to keep up. They can secure long-term contracts with risk-averse buyers who are willing to pay a premium for the certainty of a compliant and reliable supply chain. The path forward requires a commitment to transparency, a willingness to invest in technology and training, and a deep understanding that quality is not a one-time check but an ongoing process embedded in the DNA of the entire organization. In the years ahead, the most successful exporters will be those who view regulatory compliance not as a burden, but as a cornerstone of their brand and a testament to their professionalism.

Pillar III: Traceability and Due Diligence as a Mandatory Gateway to Global Markets

Traceability, the ability to track a product's journey through the supply chain, has undergone a dramatic evolution, transitioning from a voluntary tool for brand marketing and food safety recalls to a mandatory gateway for market access in major global economies. This shift is primarily driven by a wave of stringent new regulations designed to enforce environmental sustainability, ensure food safety, and promote ethical labor practices. For agricultural exporters, particularly those targeting the lucrative European Union market, the ability to provide verifiable, end-to-end traceability is no longer a "nice-to-have" but a non-negotiable requirement for survival. The failure to meet these traceability standards can result in shipment rejections, crippling fines, and outright market exclusion, posing a direct threat to billions of dollars in export revenue. This pillar is arguably the most complex and challenging for many African and Asian exporters, as it demands a level of data collection, digitization, and supply chain visibility that many current systems are ill-equipped to handle.

The most potent driver of this change is the European Union's Deforestation Regulation (EUDR), which came into active enforcement in 2026. The EUDR mandates that operators placing on the EU market (or exporting from the EU) seven key commodity categories, including coffee, cocoa, soy, and rubber, must prove they are not linked to deforestation or forest degradation. To comply, importers must collect information on their products, including geolocation data for source plots, documentary evidence of legal production, and details of the supply chain. Crucially, this requires collecting precise geolocation coordinates for every plot of land where raw materials are produced. This "plot-level" traceability is a monumental logistical challenge, especially for commodities like coffee and cocoa, which are often sourced from vast, dispersed smallholder farms where land boundaries may be informal and records paper-based or nonexistent. The regulation creates a retroactive compliance problem, as products must demonstrate they were produced on land not deforested after December 31, 2020, requiring extensive satellite imagery analysis or verified land registry data.

The stakes for African exporters are exceptionally high. It is estimated that only around **15% of businesses in the region currently meet the European Union's traceability requirements**, placing approximately **€2.75 billion in potential export revenue at risk**. This significant compliance gap threatens to restrict access to one of the world's largest and most valuable markets unless exporters take immediate steps to strengthen their traceability and supply chain management systems.

Under the **EU Deforestation Regulation (EUDR)**, producers and SME exporters are required to provide accurate, verifiable, and auditable data to their European trading partners. As a result, digital traceability systems have evolved from a compliance requirement into a powerful competitive differentiator. Exporters that invest in robust traceability, data management, and due diligence processes will be far better positioned to secure long-term commercial relationships with European buyers, who are under increasing regulatory and commercial pressure to manage legal, environmental, and reputational risks throughout their supply chains. By demonstrating transparency, reliability, and compliance, these exporters can transform regulatory obligations into a strategic advantage in the global marketplace.

In response to this challenge, some nations are taking decisive action to build national-level traceability infrastructure. Vietnam stands out as a positive example. In late 2025 and early 2026, the country launched its national agricultural traceability system, a unified digital platform designed to record and manage origin-related information for all agricultural products. By mid-2026, the system had already been deployed in 26 provinces and centrally governed cities, creating a shared data platform that enhances transparency, improves food safety, and facilitates market access. The system is expected to become the digital backbone of Vietnam's entire agricultural supply chain, demonstrating a top-down strategy to equip its exporters for the demands of global trade. Similarly, in Africa, Ethiopia and Rwanda are actively developing national digital traceability platforms specifically for their coffee sectors. These initiatives, often developed with international partners like Germany's GIZ, aim to map coffee acreage, digitize production data, and align supply chains with EUDR requirements. These national efforts signal a strategic recognition that traceability is a collective good that strengthens the entire sector.

The economic significance of this trend is underscored by the rapid growth of the food traceability market. Market forecasts indicate that the global food traceability market, valued at approximately \$24.28 billion in 2025, is projected to reach \$70.67 billion by 2035. Another forecast projects growth from \$36.88 billion in 2026 to \$67.44 billion by 2034. This explosive growth reflects the massive investment corporations are making to meet regulatory demands and satisfy consumer demand for transparency. For exporters, this means that investing in traceability is not just about avoiding penalties; it is about participating in a rapidly expanding global market for traceability solutions and services.

Effective traceability systems are built on five core components:

1. **Farm-Level Identity and Mapping:** Assigning unique identifiers to each farm, block, or plot and mapping them with GPS coordinates.
2. **Lot Identification:** Creating a unique identifier for each batch of product at every transfer point (e.g., from farm to collector, collector to processor).
3. **Document Management:** Linking all relevant documents (e.g., pesticide application sheets, harvest dates, phytosanitary certificates) directly to specific lots.
4. **Digital Records:** Moving away from paper-based systems to digital platforms that allow for real-time data entry, storage, and retrieval.
5. **Audit-Ready Reporting:** Ensuring that the system can generate reports that clearly answer the four core questions for any consignment: Where did it come from? Who handled it and when? What happened at each stage? What documents support these claims?

The table below outlines the traceability requirements of major destination markets, highlighting the need for exporters to develop versatile and robust systems.

Destination Market	Key Traceability Regulation/Framework	Core Requirement for Exporters	Relevant Commodities
European Union	EU Deforestation Regulation (EUDR)	Precise geolocation (polygon mapping) for source plots; due diligence records; submission of a Due Diligence Statement (DDS).	Cattle, Cocoa, Coffee, Palm Oil, Rubber, Soy, Wood.
United States	Food Traceability Rule (FSMA 204)	Lot-level traceability records for foods on the FDA's list; documentation of Key Data Elements (KDEs) at Critical Tracking Events (CTEs).	High-risk foods.
United Kingdom	Environment Act	Due diligence systems for forest-risk commodities; evidence of legal and sustainable sourcing.	Forest-risk commodities.
China	GACC Decree 248	Enterprise-level registration; lot traceability back to production source; documentation of food safety systems.	Not specified, but broadly applicable.
Gulf Cooperation Council (GCC)	National Food Safety Laws (e.g., SASO, ESMA)	Origin labelling; halal certification chain of custody for applicable products.	Food, supplements, cosmetics.

For African and Asian exporters, the path to EUDR compliance and improved traceability is paved with challenges, including high costs, a lack of technical expertise, and the sheer complexity of mapping thousands of smallholdings. However, it also opens doors to new opportunities. By successfully navigating this transition, exporters can unlock access to premium markets, command higher prices for certified sustainable products, and build stronger, more resilient partnerships with international buyers who value transparency and risk mitigation. The period of 2026–2027 is

therefore a critical inflection point, demanding urgent and strategic investment in traceability infrastructure to avoid being left behind in the global trade arena.

Pillar IV: Logistics and Documentation as the Physical and Administrative Backbone

While planning and traceability provide the strategic foundation, the physical and administrative execution of logistics and documentation forms the tangible backbone of an export-ready supply chain. For perishable agricultural goods, which constitute a significant portion of exports from Africa and Asia, the integrity of the cold chain is paramount. Breaks in temperature control can render high-value produce worthless within hours, leading to significant financial losses and reputational damage. Simultaneously, the intricate web of international documentation, phytosanitary certificates, commercial invoices, packing lists, and import permits, must be meticulously prepared and submitted without error. A single mistake in paperwork can lead to shipment detention, rejection, or destruction at the border, nullifying months of production and planning efforts. Mastering this dual challenge of physical logistics and administrative compliance is essential for any exporter aiming for consistent, reliable performance in international markets.

The critical importance of maintaining an unbroken cold chain is clearly demonstrated by a study of South Africa's fruit export industry. An analysis of **196 refrigerated export containers** revealed that temperature excursions—periods during which the cargo temperature rises above its prescribed range—are among the leading causes of quality deterioration and post-harvest losses. Surprisingly, the study found that the most common point of failure was not the refrigerated container itself, but the transfer stage between the cold store and the transport truck.

Fruit pallets, which often retain residual **field heat** from the orchard, were frequently exposed to elevated ambient temperatures while awaiting loading. As a result, **52% of all recorded cold chain interruptions occurred at the loading dock interface**, identifying this stage as the most critical operational bottleneck. The findings underscore an important principle of cold chain logistics: a refrigerated container is designed to **maintain** the temperature of pre-cooled produce, not to **remove** heat from freshly harvested fruit. Without adequate pre-cooling, the container cannot restore the required storage temperature, resulting in accelerated product deterioration and reduced shelf life.

These findings highlight the need for a comprehensive, end-to-end approach to cold chain management. Effective temperature control begins immediately after harvest and requires well-designed pre-cooling facilities at packhouses, rapid and coordinated handling procedures, minimal exposure during loading and unloading, and continuous real-time temperature monitoring

throughout storage and transport. Only by managing every stage of the cold chain can exporters consistently preserve product quality, extend shelf life, and meet the stringent requirements of international markets.

Recognizing these challenges, significant investments are being made to strengthen cold chain infrastructure, particularly in key export corridors in East Africa. In Kenya, strategic investments have led to tangible improvements. Upgrades to the Mombasa Port have slashed the dwell time for perishable goods from seven days to just 48 hours, drastically reducing the risk of spoilage during port congestion. The Kenyan government and private sector are also focusing on improving inland infrastructure, though high transport costs remain a barrier, with only 15% of smallholder farmers currently able to afford to use modern facilities. In Ethiopia, the government has declared the creation of a robust cold chain ecosystem a "necessity" for competing internationally, with a clear demand for over 5,000 new reefer containers to support its fresh produce exports. Technology is playing a crucial role in these upgrades. The deployment of IoT sensors for real-time temperature monitoring allows for instant alerts and corrective action if deviations occur. At ports, integrated systems like NAVIS and Refcon provide remote visibility into the status of all reefers, optimizing yard management and energy usage. Despite these advances, significant disparities remain. Sub-Saharan Africa's domestic cold chain infrastructure is severely underdeveloped compared to its export-oriented counterpart, with post-harvest losses for perishables estimated at 30-50%.

Alongside the physical logistics, the administrative backbone of documentation is equally critical. The export process for horticultural products involves a complex flow of documents, and errors at any stage can be fatal to a shipment. For example, when exporting plants and plant products to Great Britain, an importer must register as a professional operator, pre-notify the arrival of the shipment, and ensure the consignment holds a valid phytosanitary certificate issued by the exporting country's authority. This certificate, which certifies the goods are free from quarantine pests, must be issued within a strict timeframe relative to the shipment date. The Thika farm's shipment rejection was partly due to errors in phytosanitary records and pesticide logs, underscoring how interconnected these administrative tasks are with on-farm practices. The complexity is compounded by differing requirements across destination markets. Exporting to the GCC, for instance, requires specific certifications like SASO in Saudi Arabia or ESMA in the UAE, alongside Halal certification and adherence to labeling rules. Failure to navigate this labyrinth of regulations can lead to shipment refusal and significant financial penalties.

The following table outlines the key components of logistics and documentation, along with common failure points and potential solutions.

Component	Description	Common Failure Points	Potential Solutions
Cold Chain Management	Maintaining optimal temperature throughout the supply chain for perishable goods.	Temperature breaks at loading docks; inadequate pre-cooling; power outages; inefficient port handling.	Pre-cooling facilities at packhouses; optimized loading/unloading procedures; solar-powered cold rooms; real-time IoT monitoring.
Port and Border Logistics	Efficient movement of goods through ports and across borders, including customs clearance.	Long dwell times at ports; customs delays; incorrect documentation; inefficient handling of reefer containers.	Port automation (e.g., NAVIS); dedicated cold chain lanes; streamlined customs processes (e.g., via CEPA agreements); digital documentation.
Documentation Flow	Preparation and submission of all required export and import documents.	Errors in phytosanitary certificates, packing lists, or commercial invoices; missing documents; non-compliance with destination-specific rules.	Digital document management systems; adherence to standardized formats (e.g., GS1); close collaboration with customs brokers and buyers.
Packaging Standards	Use of packaging that protects the product during transit and meets destination market requirements.	Inadequate protection against physical damage; non-compliant materials; failure to meet specific branding or labeling rules.	Investment in graded, protective packaging; compliance with buyer-specific packaging guidelines; adherence to Chinese labeling rules.

Looking ahead to 2026–2027, the convergence of advanced logistics and seamless digital documentation will be a key differentiator. The rise of digital platforms that integrate logistics tracking with document management promises to reduce friction and increase transparency across the entire supply chain. For African and Asian exporters, strengthening this fourth pillar requires a dual focus: investing in tangible physical infrastructure like cold storage and transport, while simultaneously upgrading administrative capabilities through digital tools and staff training. Overcoming these logistical and bureaucratic hurdles is essential to translate production potential into reliable, profitable export success.

Strategic Opportunities and Actionable Pathways for African and Asian Exporters (2026–2027)

The period of 2026–2027 represents a pivotal juncture for African and Asian agricultural exporters, characterized by a volatile mix of formidable challenges and unprecedented opportunities. On one hand, the impending enforcement of stringent regulations like the EU's Deforestation Regulation (EUDR) poses a significant threat to billions of dollars in export revenue, particularly for smallholder-dominated supply chains unprepared for plot-level traceability. On the other hand, new market access agreements, such as China's comprehensive zero-tariff policy, open vast new avenues for growth, provided exporters can meet the requisite technical and quality standards. Navigating this complex landscape successfully requires a strategic shift from reactive adaptation to proactive system-building. Exporters must leverage the five pillars of an export-ready supply chain—Production Planning, Quality Management, Traceability, Logistics & Documentation, and Digital Communication—as a blueprint for transformation. This involves conducting thorough self-assessments, investing strategically in digital infrastructure, fostering genuine partnerships with buyers, and capitalizing on regional trade agreements to build resilience and capture greater value.

One of the most significant near-term opportunities for African exporters is the full implementation of China's zero-tariff policy, which took effect on May 1, 2026, for 53 African countries with which it maintains diplomatic relations. This initiative eliminates tariffs on 100% of tariff lines for these nations, removing a major price barrier and creating a massive new market for agricultural goods. With China-Africa trade volume reaching a record \$348 billion in 2024, the demand for African products is undeniable. Rwandan chili exporter Fisher Global, for example, expanded its cultivation from 15 to 300 hectares following this opportunity, tripling farmer incomes in the process. However, success in this new market is conditional. UNCTAD and other analysts emphasize that simply exporting raw commodities will not maximize long-term benefits; instead, African nations must focus on moving up the value chain by processing goods locally, improving standards, and building strong brands. To compete, exporters will need specialized training in quality control, logistics, e-commerce, and food safety, as well as reliable shipping schedules and approved packaging. This opportunity thus doubles as a catalyst for upgrading entire agricultural ecosystems.

Another major opportunity lies in leveraging regional trade agreements to boost intra-African trade and diversify export markets. The African Continental Free Trade Area (AfCFTA) aims to create a single market for goods and services, and its implementation is already showing promise. Bilateral agreements, such as the Comprehensive Economic Partnership Agreement (CEPA) between Kenya and the UAE, are already simplifying sanitary and phytosanitary (SPS) measures, reducing non-tariff barriers, and improving market access. Furthermore, increased financial support from institutions like the African Development Bank (AfDB) is addressing critical bottlenecks. The AfDB is committed to bolstering trade finance, aiming to close a projected gap that could reach \$102.6 billion by 2027, and is investing heavily in logistics infrastructure, such as a recent ZAR 18.85 billion (\$1 billion) loan

to South Africa's Transnet freight company. These financial and institutional supports are crucial for enabling the private sector investments needed to build robust supply chains.

Despite these opportunities, the challenges are substantial. The EUDR remains the most acute threat, with its requirement for precise geolocation data acting as a "comply or lose access" ultimatum for the EU market. For many African and Asian supply chains, mapping every smallholder plot is a colossal task that requires significant investment in technology, training, and coordination. Concurrently, persistent infrastructure deficits in cold chain logistics, energy, and transportation continue to plague the sector, leading to high post-harvest losses and limiting the competitiveness of domestic markets. Financial constraints also hinder investment, particularly for small and medium-sized enterprises (SMEs) and smallholder cooperatives who lack the capital to implement costly digital traceability systems or procure cold storage equipment.

To navigate this environment, exporters must adopt a systematic and strategic approach. The following actionable pathways can guide this transformation:

1. **Conduct a Five-Pillar Self-Assessment:** Every exporter should perform a rigorous audit of their current capabilities against the five pillars of an export-ready supply chain. This involves identifying specific gaps in traceability, quality management, logistics, and documentation. Using a checklist aligned with these pillars is a practical way to initiate this process.
2. **Prioritize Investment in Digital Traceability:** Given the dominance of regulations like EUDR, investment in digital traceability is non-negotiable. This can start with basic GPS mapping apps for farmers and scale to integrated farm management platforms. Public-private partnerships and development finance can help fund these critical upgrades, especially for smallholder systems.
3. **Build Collaborative Partnerships with Buyers:** Move beyond transactional relationships to co-develop solutions. Engage buyers early to understand their specific data requirements (e.g., for EUDR compliance) and explore pilot projects for new technologies or processes. Forward booking agreements can formalize these partnerships, providing mutual stability and long-term security.
4. **Develop a Phased Implementation Plan:** Given resource constraints, exporters should prioritize actions based on their most critical market access needs. For instance, focusing on EUDR compliance for the European market may take precedence over less immediate regulations, while simultaneously preparing for the opportunities presented by China's zero-tariff policy.

5. **Focus on Value Addition and Branding:** To maximize returns, exporters should resist the temptation to sell only raw commodities. Investing in local processing to add value—such as turning raw coffee beans into roasted coffee or sesame seeds into oil—allows producers to capture a larger share of the final consumer margin and build stronger, more recognizable brands.

Commodity-Specific Export Compliance Checklist

To successfully navigate international markets in 2026–2027, exporters must move beyond generic documentation and master the specific biological, chemical, and regulatory requirements of their chosen crops. Below is a targeted compliance checklist for eight major African and Asian export commodities, aligned with the Five Pillars of an export-ready supply chain.

1. Universal Baseline Documentation (Required for All Commodities)

Before addressing crop-specific metrics, every shipment must clear this administrative and logistical baseline:

- ☐ Phytosanitary Certificate: Issued by the national plant protection organization (NPPO) proving the goods are free from quarantine pests.
- ☐ Certificate of Origin (CoO): Required to claim preferential tariff rates under trade agreements (e.g., AfCFTA, AGOA, or GSP).
- ☐ Fumigation Certificate: Proof of treatment against storage pests (e.g., weevils, moths) using approved chemicals at specific dosages.
- ☐ Pre-Shipment Inspection Report: Quality, quantity, and weight certification from an internationally recognized third-party agency (e.g., SGS, Intertek, Bureau Veritas).
- ☐ Commercial Documents: Commercial Invoice, detailed Packing List, and Bill of Lading (B/L) or Airway Bill.
- ☐ Importer Registration: Proof that the destination buyer/consignee is registered with their local food safety authority (e.g., GACC in China, FDA in the US).

2. Maize (Corn)

Primary Risks: Mycotoxins, Genetically Modified Organisms (GMOs), Moisture.

- Quality & Biological Metrics:

- ☐ Moisture Content: Strictly $\leq 13\%$ to 14% (critical to prevent mold growth during ocean transit).

- ☐ Aflatoxin Testing: Laboratory certificate showing Aflatoxin B1 and total Aflatoxins are below destination limits (e.g., EU limits are strictly ≤ 2 ppb for B1 and ≤ 4 ppb for total; other markets may allow up to 20 ppb).

- ☐ Foreign Matter & Broken Kernels: Must meet the specific grade standard (e.g., US Grade 2 or local equivalent) via sieve testing.

- Regulatory & Market Specifics:

- ☐ GMO / Non-GMO Certification: Mandatory for the EU and China. If Non-GMO, a PCR (Polymerase Chain Reaction) lab test certificate proving zero or below-threshold GMO presence is required. If GMO, the exact transformation event must be approved by the importing country.

- ☐ Pest Free Status: Specific declarations regarding the absence of Fall Armyworm and Larger Grain Borer.

3. Soybean

Primary Risks: Deforestation, Pesticide Residues, GMO Status.

- Quality & Biological Metrics:

- ☐ Protein and Oil Content: Lab analysis verifying minimum percentage thresholds (often basis of contract pricing).

- ☐ Moisture Content: $\leq 13\%$ to prevent spontaneous heating in bulk vessel holds.

- ☐ Pesticide Residue Testing: Maximum Residue Limit (MRL) compliance for herbicides like glyphosate and paraquat (Paraquat is strictly banned in the EU).

- Regulatory & Market Specifics:

- ☐ EUDR Compliance (Crucial): Soy is one of the core commodities under the EU Deforestation Regulation. Exporters must provide precise geolocation (polygon mapping) of the farm plots and a Due Diligence Statement (DDS) proving the land was not deforested after Dec 31, 2020.

- ☐ China GACC Registration: The exporting silo, crushing plant, or farm must be officially registered and approved by China's General Administration of Customs.

4. Cassava (Chips, Pellets, and Flour/Starch)

Primary Risks: Cyanide Toxicity, Heavy Metal Contamination, Spoilage.

- Quality & Biological Metrics:

- ☐ Cyanide Content: Lab testing proving Hydrocyanic Acid (HCN) levels are below safe consumption thresholds (especially critical for cassava flour destined for human consumption).

- ☐ Starch Content & Fiber: For industrial/export grade, minimum starch content (often $\geq 70\%$) and low sand/silica content (checked via ash testing).

- ☐ Moisture Content: $\leq 12\%$ to 13% to prevent fungal growth and fermentation during shipping.

- Regulatory & Market Specifics:

- ☐ Food Grade vs. Industrial Grade: Clear labeling and documentation separating cassava meant for animal feed (pellets/chips) from human consumption (flour/starch), as they face vastly different sanitary inspections.

- ☐ Heavy Metals: Testing for lead and cadmium, particularly if exporting cassava flour to the EU or North America.

5. White Sesame Seed

Primary Risks: Salmonella, Ethylene Oxide, Physical Purity.

- Quality & Biological Metrics:

- ☐ Purity Level: Specification of sorting method (e.g., "Machine Cleaned 99.9% Purity" vs. "Natural/Standard 98%").

- ☐ Microbiological Testing: Strict testing for Salmonella and E. coli (zero tolerance in the EU and US for ready-to-eat/bakery seeds).

- ☐ Free Fatty Acids (FFA) & Oil Content: Tested to ensure the seeds have not degraded or become rancid.

- Regulatory & Market Specifics:

- ☐ Ethylene Oxide (EtO) Testing: Critical for EU exports. The EU has a zero-tolerance policy (0.05 mg/kg) for EtO, a pesticide historically used in warehousing. Shipments are routinely rejected at EU borders for this.

- ☐ Pesticide MRLs: Strict adherence to limits for organophosphates (e.g., Chlorpyrifos, which is banned in many major markets).

6. Cocoa Bean

Primary Risks: Deforestation, Child Labor, Heavy Metals, Poor Fermentation.

- Quality & Biological Metrics:

- ☐ Fermentation & Cut Test: Physical inspection proving a high percentage (usually ≥ 70 -80%) of fully fermented, brown beans (essential for flavor development).

- ☐ Moisture Content: Strictly $\leq 7.5\%$ to 8% to prevent mold during the 3-to-6-week ocean transit to Europe or Asia.

- ☐ Bean Count: Standardized sizing (e.g., 100-110 beans per 100 grams).

- Regulatory & Market Specifics:

- ☐ Heavy Metals (Cadmium): Compliance with EU Regulation 2021/1317, which sets strict limits on Cadmium in cocoa products (ranging from 0.10 to 0.80 mg/kg depending on the final cocoa percentage).

- ☐ EUDR & CSDDD Compliance: Polygon mapping of all smallholder farms to prove zero deforestation. Under the Corporate Sustainability Due Diligence Directive (CSDDD), buyers also require documented proof of mitigation strategies against child labor and living income gaps.

- ☐ Ochratoxin A & PAHs: Lab testing for mold toxins and Polycyclic Aromatic Hydrocarbons (often caused by improper drying over open wood fires).

7. Coffee Bean (Green)

Primary Risks: Deforestation, Ochratoxin A, Moisture, Cup Quality.

- Quality & Biological Metrics:

- ☐ Moisture Content: Strictly between 10% and 12%. Above 12.5% risks mold; below 10% risks fading and loss of cup quality.

- ☐ Water Activity (Aw): Should be ≤ 0.60 to ensure biological stability during transit.

- ☐ Physical Defect Count: Grading based on the number of primary and secondary defects (e.g., black beans, sour beans, insect damage) per 350g sample.

- ☐ Cupping Score: Specialty coffee requires a certified Q-Grader score of 80+ with documented tasting notes.

- Regulatory & Market Specifics:

- ☐ EUDR Geolocation Data: Coffee is the most heavily scrutinized commodity under the EUDR. Exporters must upload exact GPS coordinates (polygons for farms >4 hectares, single points for <4 hectares) to the EU Information System.

☐ Pesticide Residues: Testing for banned substances (e.g., Glyphosate limits are heavily debated and strictly monitored in the EU; Chlorpyrifos is banned).

☐ FDA FSMA 204 (US Market): If exporting roasted or specific high-risk green coffee lots to the US, exporters must maintain Key Data Elements (KDEs) for Critical Tracking Events (CTEs) under the new Food Traceability Rule.

8. Rice (Paddy, Brown, and Milled)

Primary Risks: Heavy Metals (Arsenic, Cadmium), Pesticide Residues (Tricyclazole), Moisture, Pest Infestation.

- Quality & Biological Metrics:

☐ Moisture Content: Strictly $\leq 14\%$ (critical to prevent fungal growth, aflatoxin formation, and insect proliferation during ocean transit).

☐ Broken Grains & Milling Degree: Physical grading to confirm the percentage of broken kernels (e.g., 5%, 15%, 25%, 100% broken) and degree of milling (e.g., well-milled, semi-milled) as per the commercial contract.

☐ Chalkiness & Foreign Matter: Strict limits on chalky kernels, damaged grains, paddy, seeds, and stones to meet specific buyer grade standards.

- Regulatory & Market Specifics:

☐ Heavy Metals (Arsenic & Cadmium): Strict compliance with destination limits. The EU and US have stringent maximum levels for inorganic arsenic, particularly for rice destined for infant food, baby food, or parboiled rice.

☐ Pesticide MRLs (Crucial): Testing for banned or highly restricted fungicides/insecticides. **Tricyclazole** is a major rejection trigger for the EU, Japan, and South Korea (often enforcing a zero or near-zero tolerance of 0.01 mg/kg).

☐ Fumigation & Phosphine Residues: Proof of proper aeration post-fumigation. High phosphine residues can lead to shipment rejection or destruction at the border.

☐ Varietal Purity & GI Protection: For premium varieties (e.g., Basmati, Jasmine), DNA testing or specific phytosanitary declarations may be required to prove varietal purity and comply with Geographical Indication (GI) import rules.

9. Crude and Refined Vegetable Oil (e.g., Palm, Soybean, Sunflower)

Primary Risks: Oxidation (Rancidity), Mineral Oil Contamination (MOSH/MOAH), Deforestation, Adulteration.

- Quality & Biological Metrics:

☐ Free Fatty Acids (FFA) & Moisture: Strict limits (e.g., FFA $\leq$ 5% for crude palm, $\leq$ 0.1% for refined; Moisture & Impurities $\leq$ 0.1%) to prevent hydrolytic rancidity during bulk liquid transport.

☐ Oxidation Metrics: Peroxide Value (PV) and p-Anisidine Value (p-AV) testing to ensure the oil has not undergone primary or secondary oxidation.

☐ Fatty Acid Profile: Gas Chromatography (GC) testing to verify the oil's authenticity and detect adulteration with cheaper, undeclared oils.

- Regulatory & Market Specifics:

☐ EUDR Compliance (Crucial for Palm & Soy): Strict geolocation mapping of the source plantations and crushing mills. Must prove zero deforestation post-2020 and provide a Due Diligence Statement (DDS).

☐ Contaminant Testing (MOSH/MOAH & PAHs): Strict EU limits on mineral oil contamination from jute bags, processing machinery, or transport vessels. Refined oils (especially palm) must also test for 3-MCPD and Glycidyl Esters (GEs).

☐ Sustainability Certification: Proof of RSPO (Roundtable on Sustainable Palm Oil) or equivalent national certification (e.g., ISPO, MSPO), which is practically mandatory for market access in Europe and for major FMCG buyers.

Pre-Shipment Action Plan for Exporters

1. Request the Buyer's Specific MRL List: Do not rely on generic "safe" pesticide lists. Ask the buyer for their specific Maximum Residue Limit sheet, as supermarkets often have stricter limits than national governments.

2. Calibrate Moisture Meters: Ensure farm-gate and warehouse moisture meters are calibrated against laboratory standards before the harvest begins.

3. Perform a Mock Audit: Run a "dummy" shipment through your digital traceability software to ensure every pallet can be traced back to a specific farmer's GPS polygon within 2 hours.

Conclusion

The following table synthesizes the key opportunities and challenges for African and Asian exporters in the 2026–2027 period.

Category	Opportunity / Challenge	Description	Strategic Implication
Market Access	Opportunity: China's Zero-Tariff Policy (May 2026)	Eliminates tariffs for 53 African nations, opening a massive new market for agricultural goods.	Requires investment in quality, packaging, and logistics to meet Chinese standards; a catalyst for value chain upgrading.
Regulatory Landscape	Challenge: EU Deforestation Regulation (EUDR)	Staggered deadlines (Dec 2026/June 2027) require plot-level geolocation data, threatening market access for non-compliant exporters.	Mandates urgent investment in digital traceability; failure risks exclusion from the EU market, representing a €2.75B risk for East Africa.
Infrastructure	Progress: Cold Chain Investments	Significant investments in cold storage, transport, and port efficiency are underway in East Africa (e.g., Kenya, Ethiopia).	Reduces post-harvest losses and improves product quality, but high costs limit access for smallholders.
Financial Support	Opportunity: Increased Development Finance	Institutions like the AfDB are increasing support for trade finance and logistics, aiming to close a projected \$102.6B trade finance gap.	Provides crucial capital for private sector investment in supply chain infrastructure and technology.
Value Capture	Opportunity: Moving Up the Value Chain	Strong push from bodies like Afreximbank and UNCTAD to shift from raw commodity exports to processed goods.	Increases profitability and creates more jobs by capturing a larger share of the final consumer price.
Systemic Issues	Challenge: Fragmentation and	Highly fragmented smallholder systems	Requires coordinated efforts through

Category	Opportunity / Challenge	Description	Strategic Implication
	Capacity Gaps	struggle with standardization, record-keeping, and accessing technology.	cooperatives, PPPs, and targeted training programs to build collective capacity.

In conclusion, the period 2026–2027 represents a defining moment for agricultural exporters across Africa and Asia. The convergence of increasingly stringent international regulations, rising buyer expectations, and expanding market opportunities is reshaping the global trading environment. While these developments will place unprecedented demands on exporters, they also create significant opportunities for those prepared to adapt.

The exporters that will succeed are those that embrace a fundamental shift in strategy, from focusing primarily on acquiring buyers to building resilient, transparent, and export-ready supply chains. By systematically strengthening the five pillars of an export-ready value chain, production planning, quality management, traceability, logistics, and regulatory compliance, businesses can move beyond transactional trading and establish themselves as trusted, long-term partners in global markets.

Rather than viewing compliance as a cost or regulatory burden, forward-looking exporters will recognize it as a strategic investment that enhances competitiveness, reduces commercial risk, and increases buyer confidence. Those who make this transition will not only preserve access to the world's most demanding markets but will also position themselves to capture new opportunities, command greater customer loyalty, and build sustainable, profitable export enterprises for years to come.

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