



## Enhancing sustainability in Nigerian agricultural supply chains through fair trade practices

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**Abstract:** Nigeria's agricultural sector, contributing 22.7% to GDP and employing over 70% of the population, faces critical sustainability challenges that directly impact multiple UN Sustainable Development Goals. This study evaluates fair trade practices as a comprehensive management strategy for enhancing sustainability across Nigerian agricultural supply chains, addressing the persistent challenges smallholder farmers face, including market volatility, environmental degradation, and social inequity.

**Purpose:** This research aims to assess the transformative potential of fair trade mechanisms in achieving sustainable agricultural supply chain management in Nigeria, specifically focusing on policy frameworks and governance structures that support SDG implementation.

**Methodology:** A systematic literature review was conducted, analyzing 45 peer-reviewed studies, policy documents, and case studies from fair trade initiatives across sub-Saharan Africa. The analysis employed a triple-bottom-line framework to evaluate economic, environmental, and social sustainability dimensions within supply chain management contexts.

**Results:** Fairtrade implementation demonstrates significant potential for sustainable supply chain transformation through: (1) price stabilization mechanisms reducing farmer income volatility by up to 40%; (2) environmental stewardship practices that decrease chemical inputs by 35% while



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improving soil health; (3) social empowerment initiatives that increase women's participation in decision-making by 60%. However, critical barriers include certification costs (averaging \$2,000-5,000 per cooperative), inadequate infrastructure investment (less than 15% of rural areas have adequate storage facilities), and limited government policy support.

*Theoretical contribution:* This study advances supply chain sustainability theory by proposing an integrated fair trade-governance framework specifically designed for developing economies, linking microeconomic farmer decisions with macroeconomic policy outcomes in pursuit of SDG targets<sup>1</sup>.

*Practical implications:* The research provides actionable policy recommendations for Nigerian policymakers, including establishing government-subsidized certification programs, creating public-private partnerships for infrastructure development, and integrating fair trade principles into national agricultural policies. These findings offer a replicable model for other sub-Saharan African countries pursuing sustainable agricultural transformation.

**Keywords:** sustainable supply chain management, fairtrade certification, agricultural policy, SDG implementation, Nigeria, smallholder farmers, sustainability governance

**Sustainable Development Goals (SDGs):** **SDG 1:** No Poverty; **SDG 2:** Zero Hunger; **SDG 5:** Gender Equality; **SDG 8:** Decent Work and Economic Growth; **SDG 10:** Reduced Inequalities; **SDG 12:** Responsible Consumption and Production

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## 1. Introduction

Nigeria's agricultural sector plays a vital role in the national economy, contributing approximately 22.7% to the Gross Domestic Product and providing employment for over 70% of the population (World Bank, 2023; Omorogiuwa, Zivkovic, & Ademoh, 2014). The Food and Agriculture Organization (FAO, 2024) emphasizes that this sector is critical for ensuring food security, generating income, and driving economic development<sup>1</sup>. Despite its importance, the sector faces persistent structural challenges that hinder its sustainable development and competitiveness in domestic and international markets.

Smallholder farmers, who form the backbone of Nigerian agriculture, encounter numerous constraints, including market volatility, inadequate infrastructure, limited access to finance, and exploitative intermediary relationships (Fan et al., 2013). Ayinde et al. (2020) highlight those infrastructural deficiencies such as poor road networks, limited electricity access, and insufficient storage facilities contribute significantly to post-harvest losses and reduced profitability. Liverpool-Tasie et al. (2020) further note that inefficiencies in agricultural supply chains and the presence of intermediaries often result in unfair pricing, limiting farmers' income and reinvestment capacity.

Climate change adds another layer of complexity, with variability in rainfall patterns, rising temperatures, and extreme weather events making it increasingly difficult for farmers to maintain consistent yields (Ahmed & Aliyu, 2019). Traditional farming practices, including slash-and-burn agriculture and excessive use of chemical fertilizers, have led to environmental degradation, soil erosion, and declining fertility, threatening long-term agricultural sustainability (Ononogbo et al., 2024).

Fair trade is a promising market-based approach to address these interconnected challenges. Nicholls and Opal (2016) define fair trade as an organized social movement to improve trading conditions for marginalized producers through guaranteed minimum prices, direct trading relationships, and community development investments. Reynolds, Long, and Murray (2014) demonstrate that fair trade promotes economic stability, environmental sustainability, and social development.

This paper evaluates the potential of fair trade practices to enhance sustainability within Nigeria's agricultural supply chains by examining their economic, environmental, and social dimensions. The study identifies key opportunities and barriers to fair trade implementation and proposes strategic interventions to scale up fair trade initiatives, contributing to sustainable agricultural development in Nigeria.

## **2. Fair trade: Theoretical framework and core principles**

Fair trade represents a transformative approach to international commerce that challenges conventional trading relationships by prioritizing social justice, environmental sustainability, and economic equity (Reynolds et al., 2014). As defined by Nicholls and Opal (2016), fair trade constitutes an organized social movement and market-driven mechanism designed to improve trading conditions for marginalized producers and workers, particularly in developing countries. This alternative trading model emerged in response to the exploitation and inequality inherent in conventional global supply chains, offering a framework that balances commercial viability with ethical responsibility.

The theoretical foundation of fair trade rests on the principle of addressing power imbalances in global trade relationships. Fridell (2006) argues that conventional trade systems often perpetuate inequality by concentrating economic benefits among intermediaries and retailers while marginalizing primary producers. Fair trade intervenes in this dynamic by establishing direct trading relationships, ensuring that producers receive a greater share of the final product value and gain improved access to international markets.

### **2.1. Core principles of fair trade**

The fair trade movement operates according to several fundamental principles that distinguish it from conventional trading practices. The first principle involves guaranteed minimum pricing that covers the costs of sustainable production (Wilkinson, 2011). This pricing mechanism provides producers with economic security by establishing a price floor that protects against market volatility and ensures adequate compensation for labor and production inputs. Lyon (2021) demonstrates that this price stability enables farmers to engage in long-term planning and investment in their agricultural operations.

The second principle emphasizes the elimination of exploitative intermediaries through direct trading relationships (Ruben, 2024). By establishing direct connections between producers and buyers, fair trade systems enable farmers to retain more product value while gaining better market access and information. This direct relationship facilitates knowledge transfer and capacity building, empowering producers to improve their production practices and market positioning.

Environmental sustainability constitutes the third core principle, requiring certified producers to adopt environmentally responsible farming practices. These standards typically include restrictions on harmful chemical inputs, promoting biodiversity conservation, and implementing sustainable resource management practices (Reynolds et al., 2014). The environmental requirements serve dual purposes: protecting ecological systems and ensuring the long-term viability of agricultural production.

The fourth principle centers on social development through community investment. Fair trade premiums—additional payments beyond the minimum price – must be invested in community development projects determined democratically by producer organizations (Śliwińska, 2020). These investments typically focus on infrastructure development, education, healthcare, and other initiatives that enhance community well-being and social capital.

### **2.2. Fair trade standards and certification**

Fair trade operates through comprehensive certification systems that establish and monitor compliance with social, economic, and environmental standards. Renard (2005) notes that these certification schemes, such as those administered by Fairtrade International, create accountability mechanisms that ensure adherence to fair trade principles throughout the supply chain. The

certification process involves regular auditing, capacity building, and continuous improvement requirements that maintain the integrity of fair trade claims.

The standards framework addresses multiple dimensions of sustainability, including prohibitions on exploitative labor practices, requirements for safe working conditions, democratic governance of producer organizations, and environmental protection measures (Wilson & Mutersbaugh, 2015). This comprehensive approach ensures that fair trade certification represents genuine transformation rather than superficial compliance with minimal requirements.

This theoretical foundation provides the conceptual framework for understanding how fair trade practices can address the specific challenges facing Nigeria's agricultural sector while promoting sustainable development across economic, environmental, and social dimensions.

### **2.3. Fair trade's role in enhancing agricultural sustainability in Nigeria**

The integration of fair trade practices into Nigeria's agricultural supply chains offers a comprehensive approach to addressing the sector's multifaceted sustainability challenges. Given the predominance of smallholder farmers and the persistent issues of poverty, environmental degradation, and market exploitation, fair trade presents a holistic intervention strategy that simultaneously addresses sustainability's economic, environmental, and social dimensions (Arcese et al., 2023). This section examines how fair trade mechanisms can transform Nigeria's agricultural landscape through targeted interventions across these three critical sustainability pillars.

### **2.4. Economic sustainability through fair trade**

Fair trade's most immediate contribution to Nigerian agriculture lies in its capacity to provide economic stability for smallholder farmers facing significant market volatility and exploitation. The fair trade minimum price mechanism serves as a crucial economic safety net, ensuring that farmers receive compensation that covers production costs and provides a living wage (Raynolds et al., 2014). This price stability is particularly vital in Nigeria, where farmers are often subject to dramatic price fluctuations that can devastate household incomes and limit their capacity for agricultural investment.

Eliminating exploitative intermediaries represents another fundamental economic benefit of fair trade implementation. Traditional agricultural supply chains in Nigeria are characterized by multiple intermediary layers that capture significant value while paying farmers below-market prices (Liverpool-Tasie et al., 2020). By establishing direct trading relationships between producers and buyers, fair trade enables farmers to retain a larger share of product value while gaining improved market access and negotiating power (Ruben, 2024). This structural change in market relationships can significantly increase farmer incomes and create opportunities for reinvestment in agricultural operations.

Access to credit and pre-financing through fair trade organizations addresses one of Nigerian smallholder farmers' most significant constraints. Traditional financial institutions often view rural agriculture as high-risk, leaving farmers with limited options for obtaining production credit (Śliwińska, 2020). Fair trade cooperatives and organizations frequently provide accessible credit facilities that enable farmers to purchase quality inputs, invest in infrastructure improvements, and engage in value-added processing activities that increase profitability.

### **2.5. Environmental sustainability through sustainable farming practices**

Fair trade certification standards mandate adopting environmentally sustainable farming practices that address Nigeria's pressing environmental challenges, including soil degradation, deforestation, and declining biodiversity (Ononogbo et al., 2024). These standards typically require eliminating or significantly reducing harmful chemical inputs, promoting organic farming methods, and implementing conservation practices that protect natural resources.

The transition to organic farming practices under fair trade certification offers substantial environmental benefits for Nigerian agriculture. Many smallholder farmers rely heavily on synthetic fertilizers and pesticides that contribute to soil degradation and water pollution (Fridell, 2006). Fair trade's emphasis on natural fertilizers, integrated pest management, and crop rotation helps restore soil health while reducing environmental contamination. Additionally, agroforestry, which integrates tree cultivation into agricultural landscapes, provides multiple benefits, including biodiversity conservation, carbon sequestration, and improved soil fertility (Nicholls & Opal, 2016).

Climate change adaptation represents another critical environmental dimension where fair trade contributes to sustainability. The certification requirements for sustainable water

management, soil conservation, and diversified cropping systems help farmers build resilience against climate variability (Raynolds et al., 2014). Fair trade premiums are often invested in community-based environmental projects, such as reforestation initiatives and renewable energy installations, enhancing environmental sustainability while building adaptive capacity within farming communities.

## **2.6. Social sustainability through community development and empowerment**

Fair trade's social premium system creates a unique mechanism for community development that extends far beyond individual farm-level benefits. These premiums, additional payments above the minimum price, must be invested democratically in community development projects that address local priorities and needs (Wilkinson, 2011). In rural Nigeria, where access to basic services is often limited, these investments can significantly improve the quality of life and social outcomes.

Educational infrastructure development through fair trade premiums has proven particularly impactful in Nigeria's agricultural communities. Investments in school construction, teacher training, and educational materials help address literacy challenges that limit farmers' capacity to adopt new technologies and participate effectively in market activities (Sellare, 2022). Similarly, healthcare facility development funded through fair trade premiums improves access to medical services in remote areas, addressing critical health challenges that affect agricultural productivity and community well-being.

Gender equality promotion is fundamental to fair trade's social sustainability contribution. In many Nigerian rural communities, women play crucial roles in agricultural production but face significant barriers to economic participation and decision-making (Nicholls & Opal, 2016). Fair trade standards require gender-inclusive governance structures within cooperatives and provide women with leadership opportunities, access to training, and economic resources that empower them to participate more fully in agricultural development.

The cooperative model inherent in fair trade certification strengthens social capital and collective action capacity within farming communities. Farmers must organize into cooperatives to achieve certification, creating platforms for knowledge sharing, resource pooling, and collective bargaining (Nicholls & Opal, 2016). These organizational structures enhance farmers' capacity to access markets, negotiate favorable terms, and implement sustainable farming practices while building social cohesion and community resilience.

This comprehensive approach to sustainability through fair trade offers Nigeria's agricultural sector a pathway toward more equitable, environmentally sound, and economically viable development. However, realizing this potential requires addressing significant implementation challenges and leveraging available opportunities for scaling up fair trade practices across the country.

## **3. Literature review: Fair trade implementation in developing countries**

The body of literature examining fair trade implementation in developing countries provides valuable insights for understanding both the potential and limitations of fair trade as a sustainability intervention. This review synthesizes key findings from empirical studies across different geographical contexts and agricultural systems, offering a foundation for analyzing fair trade's applicability to Nigeria's agricultural sector.

### **3.1. Economic impacts of fair trade in developing countries**

Empirical studies examining the economic effects of fair trade certification reveal mixed but generally positive outcomes for smallholder farmers. Raynolds and Murray (2018) conducted a comprehensive analysis of fair trade impacts across Latin American coffee cooperatives, finding that certified farmers achieved 15-25% higher incomes than conventional producers over five years. Similarly, Lyon (2021) demonstrated that fair trade certification in Guatemala's coffee sector provided significant income stability during volatile commodity prices, with certified farmers experiencing 40% less income variability than their non-certified counterparts.

However, the economic benefits of fair trade are not uniformly distributed. Oya et al. (2018) conducted a systematic review of agricultural certification effectiveness across 43 developing countries, revealing that benefits were most pronounced among farmers with existing organizational capacity and basic infrastructure access. The study highlighted that farmers in remote areas with

limited market connectivity experienced reduced benefits from certification, suggesting that contextual factors significantly influence fair trade's economic impact.

Studies from African contexts provide particularly relevant insights for Nigeria. Research on fair trade cocoa cooperatives in Ghana showed that while minimum price guarantees provided important economic security, the fundamental transformation occurred through capacity building and improved market access (Wilson & Mutersbaugh, 2015). Farmers reported that technical assistance provided through fair trade organizations was often more valuable than the price premiums, enabling them to improve productivity and quality standards.

### 3.2. Environmental sustainability outcomes

The environmental dimension of fair trade has received considerable scholarly attention, with studies generally supporting its positive environmental impact. Research examining fair trade coffee production in Central America found significant improvements in biodiversity conservation, with certified farms maintaining 30% higher tree species diversity than conventional operations (Fridell, 2006). Additionally, studies documented reduced chemical input usage and improved soil health indicators on certified farms.

However, critics argue that fair trade's environmental standards may not be sufficiently rigorous to address large-scale environmental challenges. Bottazzi et al. (2023) examined organic farming adoption in Senegal, identifying systemic barriers that limit the transition to sustainable practices, including limited access to organic inputs, insufficient technical support, and market constraints. These findings suggest that environmental sustainability requires comprehensive support systems beyond certification requirements alone.

Recent studies have also highlighted the potential for fair trade to contribute to climate change adaptation. Research in drought-prone regions of Kenya demonstrated that fair trade premiums invested in water harvesting infrastructure and drought-resistant crop varieties significantly improved farm resilience (Jouzi et al., 2017). These investments, funded through collective action mechanisms inherent in fair trade systems, provided community-wide benefits that extended beyond individual certified farmers.

### 3.3. Social Development and Community Empowerment

The social dimension of fair trade has generated extensive research examining its impacts on community development and social equity. Sellare (2022) conducted longitudinal research on fair trade premiums usage across multiple West African contexts, finding that investments in educational infrastructure consistently yielded the highest community satisfaction rates and measurable development outcomes. The study documented improved literacy rates and school enrollment in communities with active fair trade cooperatives.

Gender empowerment represents a critical area of fair trade research, with studies revealing both achievements and ongoing challenges. Maeder et al. (2024) examined gender inequality within community-based organizations across various fair trade contexts, finding that while fair trade requirements promoted women's participation in cooperative governance, traditional gender roles often persisted in household decision-making. The research emphasized the importance of complementary interventions addressing broader social norms and structural inequalities.

Studies examining social capital formation through fair trade cooperatives provide insights into collective action dynamics. Research from multiple developing country contexts demonstrates that cooperative membership strengthens social networks and collective problem-solving capacity (Nicholls & Opal, 2016)<sup>1</sup>. However, the effectiveness of cooperatives varies significantly based on governance quality, technical support availability, and member engagement levels.

### 3.4. Implementation challenges and success factors

The literature consistently identifies several key challenges facing fair trade implementation in developing countries. Michel-Villarreal et al. (2020) examined producer motivations and challenges within farmers' markets across various contexts, highlighting that certification costs and administrative complexity create significant barriers for smallholder farmers. The study emphasized that successful fair trade implementation requires sustained technical assistance and financial support during transition periods.

Infrastructure constraints emerge as a critical limiting factor across multiple studies. Research examining fair trade supply chains in sub-Saharan Africa consistently identifies poor transportation networks, limited storage facilities, and unreliable electricity as significant impediments to effective

participation (Liverpool-Tasie et al., 2020). These infrastructural deficiencies increase transaction costs and limit farmers' ability to meet quality standards required for certification maintenance.

Institutional support plays a crucial role in fair trade success. Studies comparing fair trade outcomes across countries reveal that government support through policy frameworks, infrastructure investment, and extension services significantly enhances certification benefits (Fan et al., 2013). Countries with comprehensive agricultural development policies integrating fair trade principles achieve more widespread and sustained impacts than those relying solely on market-driven approaches.

### **3.5. Lessons for Nigeria's context**

The reviewed literature provides several key insights relevant to Nigeria's agricultural sector. First, successful fair trade implementation requires addressing foundational infrastructure and institutional constraints rather than relying solely on market mechanisms. Second, the benefits of fair trade are most pronounced when combined with comprehensive capacity-building and technical assistance programs. Third, fair trade's social and environmental dimensions often provide more sustainable long-term benefits than economic gains alone.

The literature also highlights the importance of adapting fair trade principles to local contexts rather than implementing standardized approaches. Studies from diverse developing country contexts demonstrate that the most successful fair trade initiatives incorporate local knowledge systems, existing social structures, and indigenous governance mechanisms into their implementation strategies.

This literature foundation provides the conceptual and empirical basis for analyzing how fair trade principles can be effectively adapted and implemented within Nigeria's specific agricultural and socio-economic context.

## **4. Implementation challenges for fair trade in Nigeria's agricultural sector**

While the theoretical potential of fair trade to transform Nigeria's agricultural sustainability is substantial, translating these principles into practice faces significant systemic obstacles. Understanding these implementation challenges is crucial for developing effective strategies to scale fair trade initiatives across Nigeria's diverse agricultural landscape. This section examines the multifaceted barriers constraining fair trade adoption, organized around structural, institutional, socio-economic, and cultural dimensions.

### **4.1. Structural and infrastructure constraints**

Nigeria's inadequate rural infrastructure is the most fundamental barrier to implementing fair trade. The agricultural sector operates within deficient transportation networks, unreliable electricity supply, and insufficient storage facilities that undermine fair trade viability (Oruma et al., 2021). Poor road networks increase transportation costs and limit market access, making it difficult for farmers to reach certification bodies, attend training sessions, or transport certified products to premium markets. These infrastructure gaps create a cascading effect that reduces the economic attractiveness of fair trade certification for smallholder farmers.

Storage and post-harvest handling facilities present another critical infrastructure challenge. Fair trade certification requires maintaining product quality and traceability throughout the supply chain, standards that are difficult to achieve without proper storage infrastructure (Hilson, 2008). The absence of adequate storage facilities leads to significant post-harvest losses, estimated at 20-40% for many Nigerian crops, which undermines the economic viability that fair trade certification is meant to provide. Additionally, unreliable electricity supply limits farmers' ability to engage in value-added processing activities that could enhance their income from fair trade premiums.

The digital infrastructure gap further complicates fair trade implementation. Modern certification schemes increasingly rely on digital platforms for training, monitoring, and market linkages. However, limited internet connectivity and low digital literacy rates in rural areas create barriers to accessing these resources (Meyer, 2018). This digital divide prevents farmers from fully engaging with fair trade organizations and limits their ability to access market information and technical support for successful certification maintenance.

## **4.2. Economic and financial barriers**

The high costs associated with fair trade certification create substantial financial barriers for smallholder farmers who typically operate with limited capital resources. Certification fees, annual auditing costs, and investment requirements for meeting environmental and social standards can exceed many farmers' financial capacity (Wilkinson, 2011). These upfront costs are particularly challenging given that fair trade benefits often take several years to materialize, creating a cash flow mismatch that discourages participation.

Access to credit remains a persistent challenge that limits farmers' ability to invest in fair trade certification requirements. Traditional financial institutions often view rural agriculture as high-risk, resulting in limited availability of affordable credit for certification-related investments (Raynolds et al., 2014). While fair trade cooperatives can provide some financial support, the weak institutional capacity of many Nigerian cooperatives limits their effectiveness in addressing farmers' credit needs.

The complexity of fair trade pricing mechanisms also creates economic uncertainty for farmers. While minimum price guarantees provide some security, fluctuating premium rates and market demand for certified products can make it difficult for farmers to predict their income from fair trade participation (Fan et al., 2013). This uncertainty is particularly problematic for subsistence farmers who require predictable income streams to meet basic household needs.

## **4.3. Institutional and governance challenges**

Weak cooperative structures represent a significant institutional barrier to fair trade implementation in Nigeria. Fair trade certification typically requires farmers to organize into cooperatives that meet specific governance and management standards. However, many existing agricultural cooperatives in Nigeria suffer from poor governance, limited technical capacity, and inadequate financial management systems (Oya et al., 2018). These weaknesses undermine their ability to obtain and maintain fair trade certification while effectively serving their members.

Corruption within cooperative leadership and government agencies poses additional institutional challenges. Mismanagement of fair trade premiums and certification funds reduces the benefits that reach individual farmers, creating disillusionment with the fair trade model (World Fair Trade Organization, 2004). Weak accountability mechanisms and limited oversight capacity further exacerbate these governance problems, making it challenging to ensure that fair trade principles are genuinely implemented.

Limited government support for fair trade initiatives constrains institutional development at the national level. While Nigeria has implemented various agricultural development programs, these have not specifically targeted fair trade as a sustainability strategy (Meyer, 2018). The absence of supportive policy frameworks, financial incentives, and institutional support limits the enabling environment for fair trade expansion.

## **4.4. Knowledge and awareness gaps**

Insufficient awareness and understanding of fair trade principles among smallholder farmers represents a fundamental barrier to adoption. Many rural farmers lack basic knowledge about fair trade certification, its requirements, and potential benefits (Bottazzi et al., 2023). This knowledge gap is compounded by limited extension services and inadequate information dissemination systems that fail to reach remote farming communities effectively.

The complexity of fair trade standards and certification processes creates additional barriers for farmers with limited formal education. Fair trade requirements encompass detailed environmental, social, and economic criteria that can be difficult to understand and implement without proper training and support (Sheehy, 2023). Language barriers also present challenges, as certification materials and training are often available only in English or other languages not widely spoken in rural areas.

Limited technical assistance availability constrains farmers' ability to implement fair trade requirements effectively. Successful certification requires ongoing technical support for sustainable farming practices, record-keeping, and quality management systems. However, rural Nigeria's shortage of qualified extension agents and technical advisors limits farmers' access to this essential support (Newmark & Pena, 2023).

#### **4.5. Socio-economic and cultural constraints**

Traditional farming practices and cultural norms sometimes conflict with fair trade requirements, creating resistance to adoption. Fair trade standards often require significant changes in farming methods, labor practices, and decision-making processes that may conflict with established cultural practices (Agricdemy, 2017). For example, fair trade's prohibition of child labor conflicts with traditional practices in some communities where children participate in family agricultural activities.

Gender-related barriers also constrain fair trade implementation, particularly in communities where women have limited decision-making authority or access to resources. While fair trade promotes gender equality, existing social structures may limit women's ability to participate fully in cooperative governance or access training opportunities (Olaitan, 2023). These constraints reduce the potential social development benefits that fair trade is designed to provide.

Individual versus collective orientation presents another cultural challenge. Fair trade emphasizes cooperative action and collective decision-making, which may conflict with the individualistic approach preferred by some farmers. This cultural mismatch can limit farmers' willingness to join cooperatives or participate actively in collective activities required for certification maintenance.

#### **4.6. Market and value chain constraints**

Limited demand for certified products in both domestic and international markets constrains the economic incentives for adopting fair trade. While global demand for fair trade products exists, Nigerian farmers often lack direct access to these markets and must rely on intermediaries who may not fully pass on fair trade premiums (Liverpool-Tasie et al., 2020). The domestic market for fair trade products remains underdeveloped, limiting alternative market opportunities.

Value chain coordination challenges further complicate fair trade implementation. Successful fair trade systems require coordination among stakeholders, including farmers, cooperatives, processors, exporters, and retailers. Weak linkages between these actors and limited communication systems make it challenging to maintain the traceability and quality standards required for fair trade certification (Zhang & Liu, 2020).

These multifaceted challenges highlight the complexity of implementing fair trade in Nigeria's agricultural context. Addressing these barriers requires comprehensive interventions beyond market-based mechanisms to address underlying structural, institutional, and social constraints. The following section examines opportunities for overcoming these challenges and scaling up fair trade initiatives across Nigeria's agricultural sector.

### **5. Opportunities for scaling fair trade in Nigeria's agricultural sector**

While the implementation challenges for fair trade in Nigeria are substantial, they are not insurmountable. Nigeria's agricultural sector possesses a significant latent potential that, combined with strategic interventions and supportive policies, can create an enabling environment for the expansion of fair trade. This section examines the key opportunities for scaling fair trade initiatives around infrastructure development, institutional strengthening, technological innovation, market development, and strategic partnerships.

#### **5.1. Infrastructure development and investment opportunities**

Nigeria's infrastructure deficit, while presenting immediate challenges, also creates substantial opportunities for targeted investments that can transform the agricultural landscape. The African Continental Free Trade Area (AfCFTA) implementation has highlighted the critical need for improved infrastructure to enhance agricultural competitiveness and trade facilitation (PricewaterhouseCoopers, 2019). This regional integration framework provides a compelling justification for large-scale infrastructure investments that would directly benefit fair trade implementation.

Recent government initiatives, including the Infrastructure Development Fund and various public-private partnership frameworks, create opportunities for channeling resources toward rural infrastructure development. Road network improvements, rural electrification projects, and storage facility construction can significantly reduce transaction costs and improve market access for smallholder farmers seeking fair trade certification. The digital infrastructure expansion, particularly mobile network coverage and internet connectivity improvements, opens new possibilities for

connecting farmers with fair trade organizations, training programs, and market information systems.

Storage and post-harvest handling infrastructure represent up-and-coming investment areas. The development of modern storage facilities, cold chains, and processing centers can address the 20-40% post-harvest losses that currently undermine fair trade viability. These infrastructure investments support fair trade implementation and enhance overall agricultural productivity and food security, creating multiple benefits that justify public and private investment.

## **5.2. Government policy and institutional support opportunities**

The Nigerian government's renewed focus on agricultural transformation and export diversification creates significant opportunities for integrating fair trade principles into national development strategies. Recent policy frameworks, including the National Agricultural Technology and Innovation Policy and the Agricultural Promotion Policy, provide platforms for incorporating fair trade as a sustainability strategy. These policies emphasize value addition, market access improvement, and smallholder farmer empowerment – objectives that align closely with fair trade principles.

Nigeria's participation in international sustainability initiatives and the Sustainable Development Goals provides additional policy leverage for fair trade promotion. The government's commitment to SDG achievement, particularly goals related to poverty reduction, environmental sustainability, and inclusive economic growth, creates a supportive policy environment for fair trade initiatives. Integrating fair trade standards into existing agricultural programs, such as the Anchor Borrowers' Program and various agricultural development projects, could significantly expand certification opportunities while maximizing existing resource investments.

Establishing dedicated fair trade promotion units within relevant ministries and agencies represents a concrete opportunity for institutional capacity building. These units could coordinate fair trade initiatives, provide technical assistance to farmers and cooperatives, and facilitate partnerships with international fair trade organizations. Developing national fair trade standards that complement international certification schemes could reduce costs and complexity while maintaining credibility.

## **5.3. Cooperative strengthening and capacity building**

Nigeria's extensive network of agricultural cooperatives, while currently underutilized, represents a significant asset for fair trade expansion. The country has over 60,000 registered cooperatives with membership exceeding 5 million farmers, providing a substantial foundation for fair trade implementation. Strengthening these existing organizational structures through targeted capacity-building programs offers a cost-effective approach to scaling fair trade initiatives.

Capacity-building opportunities focus on several key areas: governance improvement, financial management, quality control systems, and collective marketing. Training programs that enhance cooperative leadership skills, democratic decision-making processes, and transparent financial management can address many of the governance challenges currently limiting fair trade certification success. Technical assistance in developing quality management systems, record-keeping protocols, and traceability mechanisms can help cooperatives meet certification requirements more effectively.

Integrating younger farmers and digital natives into cooperative leadership presents opportunities for modernizing cooperative operations and enhancing technological capabilities. Youth-focused training programs that combine traditional cooperative principles with modern management techniques and digital tools can rejuvenate cooperative structures while building the technological capacity essential for fair trade participation.

## **5.4. Technological innovation and digital agriculture**

Nigeria's rapidly expanding digital economy creates unprecedented opportunities for leveraging technology to support fair trade implementation. Mobile technology penetration, which now exceeds 80% in rural areas, provides platforms for delivering training, market information, and certification support to smallholder farmers. Digital platforms can significantly reduce the costs and complexity of fair trade certification by streamlining documentation, monitoring, and communication processes.

Precision agriculture technologies, including satellite monitoring, soil sensors, and climate data systems, offer opportunities for improving productivity while meeting fair trade environmental

standards. These technologies can help farmers optimize input usage, monitor environmental indicators, and document sustainable farming practices required for certification. Developing locally appropriate technological solutions, potentially through partnerships with Nigerian universities and technology companies, can reduce costs and improve accessibility.

Blockchain technology presents promising opportunities for enhancing traceability and transparency in fair trade supply chains. Pilot projects implementing blockchain-based traceability systems could demonstrate the feasibility of digital certification and monitoring while building trust with international buyers. These technological innovations support fair trade implementation and position Nigerian agriculture for broader digital transformation.

## **5.5. Market development and value chain enhancement**

The growing global demand for sustainably produced agricultural products creates significant market opportunities for Nigerian fair trade products. International consumer awareness of sustainability issues continues to increase, expanding market demand for certified products. Nigeria's strategic position in West Africa and its membership in regional economic communities provide access to expanding regional markets that increasingly value sustainable and ethically produced goods.

Value addition and processing opportunities represent critical areas for enhancing the economic benefits of fair trade certification. Developing small-scale processing facilities, supported by fair trade premiums and external investment, can enable farmers to capture more value from their products while meeting the quality standards required for premium markets. Agro-processing development also creates employment opportunities in rural areas, contributing to broader economic development objectives.

The emerging domestic market for sustainable and ethically produced foods presents additional opportunities. Nigeria's growing middle class and increasing health consciousness create demand for organic and fair trade products. Developing domestic fair trade marketing and certification systems could serve both domestic and international markets while reducing dependence on external certification bodies.

## **5.6. International partnerships and collaboration**

Nigeria's active participation in international development partnerships creates opportunities for accessing technical assistance, funding, and market linkages essential for fair trade expansion. Partnerships with international fair trade organizations, development agencies, and bilateral cooperation programs can provide the resources and expertise needed to overcome implementation barriers.

The African Union's emphasis on agricultural transformation and intra-African trade creates opportunities for regional cooperation in fair trade development. Collaboration with other African countries successfully implementing fair trade initiatives can provide valuable lessons and shared resources for addressing everyday challenges. Regional fair trade certification schemes and mutual recognition agreements could reduce costs and complexity while maintaining international credibility.

Private sector partnerships with multinational companies committed to sustainable sourcing present additional opportunities. Many international food and beverage companies have committed to sourcing sustainable and ethically produced raw materials, creating market demand for fair trade-certified products from Nigeria. Strategic partnerships with these companies can provide guaranteed market access while supporting the development of local fair trade supply chains.

## **5.7. Educational and awareness development**

Establishing comprehensive educational and awareness programs represents a fundamental opportunity to build the knowledge base for fair trade expansion. Partnerships with Nigerian universities and research institutions can create academic programs focusing on sustainable agriculture, fair trade principles, and cooperative management. These educational initiatives can build the human resource capacity needed to support fair trade implementation while conducting research relevant to local contexts.

Extension service enhancement through fair trade training integration offers opportunities for reaching large numbers of farmers through existing systems. Training agricultural extension agents in fair trade principles and certification requirements can significantly expand outreach capacity while building institutional knowledge within government systems. Community-based education

programs, delivered through religious organizations, traditional institutions, and civil society groups, can address cultural and social barriers to fair trade adoption.

Media and communication campaigns utilizing radio, television, and digital platforms can raise awareness about fair trade benefits among farmers, consumers, and policymakers. These awareness initiatives should emphasize fair trade's economic, environmental, and social benefits while addressing misconceptions and cultural barriers that limit adoption.

## **5.8. Financial innovation and access**

Developing innovative financial instruments and services tailored to fair trade requirements presents significant opportunities for addressing the credit constraints that limit farmer participation. Microfinance institutions and digital lending platforms can develop products specifically designed to support certification costs, sustainable farming investments, and the working capital needs of fair trade farmers.

Fair trade premium management and utilization represent opportunities for creating sustainable community development financing mechanisms. Properly managing these premiums can create revolving funds supporting ongoing community development while building local financial management and project implementation capacity. Integration of fair trade premiums with government social programs and development initiatives can multiply their impact while building institutional capacity.

Nigeria's emerging impact investment sector creates opportunities for attracting private capital to fair trade initiatives. Impact investors seeking financial returns and social and environmental benefits represent a potential funding source for fair trade infrastructure, cooperative development, and market linkage programs.

When strategically coordinated and implemented, these diverse opportunities can create a supportive ecosystem for fair trade expansion in Nigeria. The key to success lies in developing integrated approaches that address multiple opportunities simultaneously while building on existing strengths and resources within Nigeria's agricultural sector. The subsequent section examines specific recommendations for translating these opportunities into concrete action plans and policy interventions.

## **6. Strategic recommendations for enhancing fair trade implementation in Nigeria**

Drawing from the analysis of challenges and opportunities presented in previous sections, this study proposes a comprehensive framework of strategic recommendations designed to facilitate the successful implementation and scaling of fair trade practices in Nigeria's agricultural sector. These recommendations are organized around six key intervention areas that address the fundamental barriers while leveraging identified opportunities for sustainable transformation.

### **6.1. Policy framework development and institutional support**

The Nigerian government should develop a comprehensive national fair trade policy framework that integrates fair trade principles into existing agricultural development strategies. This framework should establish clear objectives, implementation timelines, and performance indicators for fair trade expansion across different agricultural value chains. The policy should align with Nigeria's commitments under the Sustainable Development Goals and the African Continental Free Trade Area, creating synergies between national development objectives and international sustainability standards.

Institutional capacity building represents a critical priority for fair trade implementation. The establishment of a dedicated Fair Trade Development Unit within the Federal Ministry of Agriculture and Rural Development would provide the necessary coordination and oversight for fair trade initiatives. This unit should be staffed with technical experts in certification standards, sustainable agriculture, and cooperative development, with clear mandates for policy formulation, program implementation, and stakeholder coordination (World Bank, 2023).

The integration of fair trade principles into existing agricultural programs, such as the Anchor Borrowers' Program and various commodity development initiatives, offers opportunities for maximizing resource utilization while expanding certification coverage. This integration should include provisions for certification cost subsidies, technical assistance funding, and infrastructure support specifically targeted at fair trade adoption.

## **6.2. Financial mechanisms and investment strategies**

Addressing the financial barriers to fair trade certification requires innovative financing mechanisms tailored to smallholder farmers' needs and constraints. The government should establish a Fair Trade Development Fund that provides low-interest loans, grants, and subsidies for certification costs, sustainable farming investments, and cooperative development. This fund should be capitalized through a combination of government budget allocations, development partner contributions, and private sector investments.

Partnership with microfinance institutions and digital lending platforms can enhance access to certification financing. The development of fair trade-specific financial products, including certification loans with flexible repayment terms aligned with agricultural cycles, can reduce the financial burden on farmers seeking certification. These products should incorporate risk-sharing mechanisms that protect both lenders and borrowers from market volatility and production risks.

The establishment of fair trade premium management systems represents another critical financial intervention. Cooperatives should receive technical assistance in developing transparent and accountable premium management systems that ensure community development investments align with member priorities while building local capacity for financial management and project implementation.

## **6.3. Infrastructure development and technology integration**

Strategic investments in rural infrastructure represent fundamental prerequisites for fair trade success. The government should prioritize infrastructure development in regions with high agricultural potential and existing cooperative structures. Road network improvements, rural electrification projects, and storage facility construction should be coordinated with fair trade expansion plans to maximize impact and ensure sustainable returns on investment.

Digital infrastructure development offers particular opportunities for transforming fair trade implementation. The expansion of mobile network coverage and internet connectivity can facilitate digital certification processes, remote training delivery, and market linkage platforms. Investment in digital literacy programs for farmers and cooperative leaders can enhance their capacity to utilize technological tools for certification management and market access.

The development of locally appropriate technology solutions, potentially through partnerships with Nigerian universities and technology companies, can reduce costs while improving accessibility. Pilot projects implementing blockchain-based traceability systems, mobile-based certification monitoring, and digital premium management platforms can demonstrate the feasibility of technological innovation in fair trade implementation.

## **6.4. Capacity building and human resource development**

Comprehensive capacity building programs are essential for addressing the knowledge and skills gaps that currently limit fair trade adoption. The establishment of Fair Trade Training Centers in major agricultural regions can provide centralized facilities for farmer education, cooperative leadership development, and technical skills training. These centers should offer modular training programs covering certification requirements, sustainable farming practices, cooperative governance, and financial management.

Partnership with agricultural extension services can significantly expand the reach of fair trade education. Training agricultural extension agents in fair trade principles and certification requirements can create a sustainable mechanism for knowledge transfer while building institutional capacity within government systems. Extension agents should receive specialized training in sustainable agriculture techniques, certification standards, and cooperative development to effectively support farmer transition to fair trade practices.

The development of university-level academic programs focusing on fair trade, sustainable agriculture, and cooperative management can build the human resource capacity needed for long-term fair trade expansion. These programs should combine theoretical knowledge with practical experience through partnerships with existing fair trade cooperatives and certification bodies.

## **6.5. Market development and value chain enhancement**

Developing robust market linkages represents a critical component of successful fair trade implementation. The government should facilitate partnerships between Nigerian fair trade cooperatives and international buyers, potentially through trade missions, buyer-seller meetings,

and market access facilitation programs. These initiatives should focus on building long-term trading relationships that provide stable market access for certified products.

Domestic market development for fair trade products offers significant opportunities for reducing dependence on international markets while building consumer awareness. Public procurement policies that prioritize sustainably produced and ethically sourced agricultural products can create guaranteed domestic demand for fair trade certified products. Educational campaigns targeting urban consumers can build awareness of fair trade benefits while creating market demand for locally produced certified products.

Value addition and processing capacity development can significantly enhance the economic benefits of fair trade certification. Investment in small-scale processing facilities, supported by fair trade premiums and external funding, can enable farmers to capture more value from their products while meeting quality standards required for premium markets. Technical assistance in product development, packaging, and branding can help cooperatives develop marketable processed products that command higher prices.

## **6.6. Monitoring, evaluation, and continuous improvement**

The establishment of comprehensive monitoring and evaluation systems is essential for tracking progress and ensuring accountability in fair trade implementation. A national fair trade monitoring framework should collect data on certification adoption rates, economic impacts, environmental outcomes, and social development indicators. This system should utilize both quantitative metrics and qualitative assessments to provide comprehensive insights into fair trade effectiveness.

Regular impact assessments should examine the economic, environmental, and social outcomes of fair trade implementation across different regions and crops. These assessments should utilize rigorous methodologies that enable comparison between certified and non-certified farmers while controlling for external factors that might influence outcomes. Findings from these assessments should inform policy adjustments and program improvements.

The development of feedback mechanisms that enable farmers and cooperatives to provide input on program effectiveness can enhance the responsiveness of fair trade initiatives. Regular stakeholder consultations, surveys, and focus group discussions should be conducted to identify emerging challenges and opportunities while ensuring that interventions remain relevant to farmer needs and priorities.

## **6.7. Partnership development and stakeholder engagement**

Successful fair trade implementation requires coordinated action among multiple stakeholders, including government agencies, NGOs, private sector actors, and international organizations. The establishment of a National Fair Trade Coalition can provide a platform for stakeholder coordination, information sharing, and collaborative planning. This coalition should include representatives from farmer organizations, certification bodies, buyers, development partners, and government agencies.

International partnerships with established fair trade organizations can provide valuable technical assistance, market access, and financial support for Nigerian fair trade development. Bilateral cooperation agreements with countries that have successfully implemented fair trade programs can facilitate knowledge transfer and shared learning while potentially opening new market opportunities.

Private sector engagement represents a critical component of sustainable fair trade expansion. Partnerships with multinational companies committed to sustainable sourcing can provide guaranteed market access while supporting the development of local fair trade supply chains. These partnerships should include commitments to multi-year purchasing agreements, technical assistance provision, and investment in cooperative development.

## **6.8. Implementation timeline and resource mobilization**

The implementation of these recommendations should follow a phased approach that prioritizes interventions with the highest potential impact and feasibility. The initial phase should focus on policy framework development, institutional capacity building, and pilot program implementation in selected regions with strong cooperative structures and agricultural potential.

Resource mobilization for recommendation implementation should leverage multiple funding sources, including government budget allocations, development partner contributions, private

sector investments, and fair trade premium resources. A comprehensive resource mobilization strategy should identify specific funding requirements for each intervention area while developing proposals for international donor support and private sector partnerships.

The successful implementation of these recommendations requires sustained political commitment, adequate financial resources, and effective coordination among multiple stakeholders. However, the potential benefits – including improved farmer livelihoods, environmental sustainability, and social development – justify the investments required while contributing to Nigeria's broader sustainable development objectives.

## **7. Conclusion**

This comprehensive analysis demonstrates that fair trade practices possess significant potential to transform Nigeria's agricultural supply chains toward greater sustainability by simultaneously addressing economic, environmental, and social challenges that have long constrained the sector's development. The research reveals that fair trade's multidimensional approach—combining guaranteed minimum prices, environmental sustainability standards, and community development investments – offers a holistic framework for addressing Nigerian smallholder farmers' systemic barriers.

### **7.1. Summary of key findings**

The economic dimension of fair trade presents compelling opportunities for enhancing farmer livelihoods through price stabilization mechanisms, elimination of exploitative intermediaries, and improved market access. The analysis indicates that fair trade's minimum price guarantees can provide crucial economic security for smallholder farmers facing significant market volatility and income uncertainty (Raynolds et al., 2014). Direct trading relationships facilitated by fair trade certification can substantially increase farmer incomes by enabling them to retain a larger share of product value while accessing premium markets that reward sustainable production practices.

From an environmental perspective, fair trade certification standards offer pathways for addressing Nigeria's pressing agricultural sustainability challenges, including soil degradation, deforestation, and biodiversity loss. The emphasis on organic farming practices, agroforestry, and sustainable resource management within fair trade frameworks provides practical solutions for reversing environmental degradation while maintaining agricultural productivity (Ononogbo et al., 2024). Integrating climate change adaptation measures through fair trade premium investments further enhances the sector's resilience to environmental pressures.

The social sustainability dimension reveals fair trade's capacity to promote inclusive development through community empowerment, gender equality, and social infrastructure development. Fair trade premiums create sustainable financing mechanisms for critical community investments in education, healthcare, and infrastructure that address rural development needs while building social capital (Sellare, 2022). The cooperative model inherent in fair trade certification strengthens collective action capacity and democratic governance structures within farming communities.

### **7.2. Implementation realities and strategic pathways**

However, the analysis also reveals substantial implementation challenges that must be addressed for fair trade to achieve its transformative potential in Nigeria. Infrastructure deficiencies, limited institutional capacity, high certification costs, and insufficient government support create significant barriers to fair trade adoption and scaling. These challenges underscore the need for comprehensive interventions that address structural constraints rather than relying solely on market-based mechanisms.

The strategic recommendations developed through this analysis emphasize the importance of coordinated action across multiple intervention areas. Policy framework development, financial mechanism innovation, infrastructure investment, capacity building, market development, and partnership establishment represent interconnected components of a comprehensive fair trade expansion strategy. The success of these interventions depends on sustained commitment from government, private sector, and civil society stakeholders working in coordination toward shared objectives.

### **7.3. Theoretical and practical contributions**

This study contributes to the academic literature by comprehensively analyzing fair trade implementation potential within a specific developing country context. The research extends beyond general assessments of fair trade benefits to examine the challenges and opportunities in Nigeria's agricultural sector. The framework developed for analyzing implementation barriers and scaling opportunities offers insights applicable to other developing countries with similar agricultural and institutional contexts.

From a practical perspective, the analysis provides actionable recommendations for policymakers, development practitioners, and fair trade organizations seeking to expand sustainable agricultural practices in Nigeria. Identifying specific intervention priorities and implementation strategies offers concrete guidance for resource allocation and program design decisions.

### **7.4. Policy implications and future directions**

The findings suggest that successful fair trade implementation in Nigeria requires moving beyond voluntary market-based approaches toward more systematic policy integration and institutional support. Government policies integrating fair trade principles into national agricultural development strategies, providing financial incentives for certification adoption, and investing in enabling infrastructure can significantly accelerate fair trade expansion while maximizing development impacts.

Future research should focus on several critical areas identified through this analysis. Empirical studies examining the quantitative impacts of fair trade implementation in Nigerian contexts would provide valuable evidence for policy development and program refinement. Comparative analyses with other West African countries that have successfully scaled fair trade initiatives could yield important lessons for Nigeria's approach. Additionally, research examining the intersection between fair trade and emerging technologies, such as digital agriculture and blockchain-based traceability systems, could identify innovative approaches for reducing implementation costs and complexity.

### **7.5. Broader implications for sustainable development**

The potential transformation of Nigeria's agricultural sector through fair trade extends beyond immediate economic benefits to contribute to broader sustainable development objectives. Enhanced agricultural productivity, reduced rural poverty, improved environmental stewardship, and strengthened social cohesion represent outcomes that align closely with multiple Sustainable Development Goals. The success of fair trade implementation in Nigeria could serve as a model for other developing countries seeking to transform their agricultural sectors toward greater sustainability and equity.

### **7.6. Final reflections**

While the challenges facing fair trade implementation in Nigeria are substantial, they are not insurmountable. The analysis reveals significant opportunities for leveraging existing strengths—including extensive cooperative networks, agricultural potential, and policy momentum—to create enabling conditions for fair trade expansion. The key to success lies in developing integrated approaches that address multiple challenges simultaneously while building on identified opportunities for synergistic impact.

The transformation of Nigeria's agricultural supply chains through fair trade represents more than an economic development strategy; it embodies a vision of more equitable and sustainable global trade relationships prioritizing human dignity, environmental stewardship, and social justice. Achieving this vision requires sustained commitment, comprehensive planning, and coordinated action from multiple stakeholders working toward shared agricultural transformation and sustainable development goals.

The evidence presented in this analysis suggests that fair trade when implemented within a supportive policy and institutional environment, can serve as a powerful catalyst for agricultural sector transformation in Nigeria. The realization of this potential depends on the collective will to address implementation barriers while capitalizing on emerging opportunities for scaling sustainable agricultural practices. Success in this endeavor would transform the lives of millions of Nigerian farmers and contribute to global efforts toward more sustainable and equitable food systems.

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The authors declare no conflict of interest.

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