



Research Article

Trade and sustainable development in agriculture

Fair Trade certification in the agricultural sector as a strategy for access to international markets: cocoa case in the department of Santander, Colombia

La certificación Fair Trade en el sector agrícola como estrategia de acceso a mercados internacionales: caso cacao departamento de Santander, Colombia

A certificação do comércio justo no sector agrícola como estratégia de acesso aos mercados internacionais: o caso do cacau no departamento de Santander, Colombia

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Abstract

Introduction: This article analyzes the potential of Fair Trade as an internationalization strategy for cocoa farmers in Santander, Colombia. In a globalized economy, Fair Trade offers fair trading conditions, facilitating access for small producers to international markets. Objective: To examine how the Fair Trade model can generate concrete benefits for cocoa farmers in Santander. Methodology: A descriptive and qualitative approach is used, based on a literature review and the analysis of experiences of producers in other regions. Results: The study identifies that Fair Trade can improve access to international markets, guarantee fair prices and promote sustainable practices. Its principles, certification mechanisms and social, economic and environmental benefits are also analyzed. Conclusion: Fair Trade represents an opportunity to strengthen the position of Santander's cocoa producers in the global market. The adoption of this model can contribute to regional sustainable development and the improvement of the living conditions of producers. The results provide useful information for producers, organizations and government entities interested in promoting fair trade strategies.

Keywords: agricultural markets; prices; small enterprises; sustainable economy; trade policy. **JEL:** F14; L10; O13; Q13; Q17.



Resumen

Introducción: Este artículo analiza el potencial del Comercio Justo (Fair Trade) como estrategia de internacionalización para los productores de cacao en Santander, Colombia. En una economía globalizada, el Fair Trade ofrece condiciones comerciales equitativas, facilitando el acceso de pequeños productores a mercados internacionales. Objetivo: Examinar cómo el modelo Fair Trade puede generar beneficios concretos para los productores de cacao de Santander. Metodología: Se emplea un enfoque descriptivo y cualitativo, basado en una revisión de literatura y el análisis de experiencias de productores en otras regiones. Resultados: El estudio identifica que el Fair Trade puede mejorar el acceso a mercados internacionales, garantizar precios justos y fomentar prácticas sostenibles. También se analizan sus principios, mecanismos de certificación y beneficios sociales, económicos y ambientales. Conclusión: El Fair Trade representa una oportunidad para fortalecer la posición de los productores de cacao de Santander en el mercado global. La adopción de este modelo puede contribuir al desarrollo sostenible regional y a la mejora de las condiciones de vida de los productores. Los resultados ofrecen información útil para productores, organizaciones y entidades gubernamentales interesadas en promover estrategias de comercio equitativo.

Palabras clave: economía sostenible; mercados agrícolas; pequeñas empresas; política comercial; precios.

JEL: F14; L10; O13; Q13; Q17.

Resumo

Introdução: Este artigo analisa o potencial do Comércio Justo como estratégia de internacionalização para os produtores de cacau em Santander, Colômbia. Em uma economia globalizada, o Comércio Justo oferece condições comerciais justas, facilitando o acesso dos pequenos produtores aos mercados internacionais. Objetivo: Examinar como o modelo de Comércio Justo pode gerar benefícios concretos para os produtores de cacau de Santander. Metodologia: Utiliza-se uma abordagem descritiva e qualitativa, baseada em uma revisão bibliográfica e na análise de experiências de produtores de outras regiões. Resultados: O estudo identifica que o Comércio Justo pode melhorar o acesso aos mercados internacionais, garantir preços justos e promover práticas sustentáveis. Seus princípios, mecanismos de certificação e benefícios sociais, econômicos e ambientais também são analisados. Conclusão: O Comércio Justo representa uma oportunidade para fortalecer a posição dos produtores de cacau do Santander no mercado global. A adoção desse modelo pode contribuir para o desenvolvimento

regional sustentável e a melhoria das condições de vida dos produtores. Os resultados fornecem informações úteis para produtores, organizações e entidades governamentais interessadas em promover estratégias de comércio justo.

Palavras-chave: economia sustentável; mercados agrícolas; pequenas empresas; política comercial; preços.

JEL: F14; L10; O13; Q13; Q17.

Introduction

Fair Trade has established itself as an effective global strategy for the internationalization of agricultural products, by offering more equitable conditions to small producers in developing countries (Ramírez et al., 2024). In the current context of the globalized economy, the growing demand for sustainable practices has transformed the way companies operate. Companies are adjusting their processes (from production to marketing) to comply with increasingly stringent environmental and ethical standards, in response to increasingly conscious consumers (Krumbiegel et al., 2018). In this sense, obtaining Fair Trade certification has become a fundamental requirement to access demanding markets, while maintaining a balance between competitiveness and environmental commitment (León et al., 2022).

Fair Trade is presented as a strategic approach to promote more equitable agricultural systems in emerging economies, standing out for its proven benefits in various aspects, according to the available evidence. This model is not only conceived as an alternative business option, but also as an ethical approach that combines economic development with environmental awareness, as demonstrated by analyses on the effects of industrial agricultural production and the need to integrate sustainability criteria (Fuerte et al., 2023).

In the Anglo-Saxon sphere, the idea of Fair Trade has been developed, known in its beginnings as Alternative Trade; according to Socías and Doblas (2005) as a form of solidarity to negotiate and actively collaborate with producers from developing regions. This concept has its origins in the 1960s, when the first initiatives promoted by retailers and non-governmental organizations began to emerge (Calisto, 2016), paving the way for the creation of commercial networks based on cooperation.

In essence, this scheme is articulated under guiding principles of transactional equity, social justice and integral sustainability, prioritizing the improvement of the socioeconomic conditions of farmers. These principles are reinforced by initiatives such as publicly funded agricultural extensionism, considered a catalyst for inclusive innovations for smallholders (Rendón et al., 2018), and food biofortification, which emphasizes the need for value-added measures for food security and quality (Costa & Santos, 2022).

Fair Trade certification goes beyond simply carrying out economic transactions, since it proposes an economically viable integral development model, which combines fair prices with socio-environmental responsibility. This approach promotes the active participation of small producers in key areas of the value chain, strengthening their capacity for self-management and generating opportunities from the perspective of conscious consumption (Infante, 2012).

Therefore, Fair Trade is established as an innovative system that transforms conventional commercial relations by incorporating ethical, environmental and economic aspects in a coherent framework of action. Fair Trade certification promotes fair payments and protects working conditions from the beginning of production, standing out as one of the main initiatives for the promotion of sustainable models in recent decades. These certified systems seek to encourage sustainable agricultural practices in developing countries and balance economic progress with social justice (Pyk and Abu, 2018).

Thus, Fair Trade is described as a trade system based on principles of collaborative communication, transparency in its actions, and mutual respect, with a particular focus on balancing the disparities in international trade (Calderón & Tapia, 2019; Suárez et al., 2022). This approach not only aims to improve the conditions of exchange for the least advantaged producers, but also to incorporate socio-environmental aspects within the value chains, contributing directly to the Sustainable Development Goals (SDGs) established for the year 2030.

The organizations that are part of this movement take a comprehensive approach by providing technical support to farmers and fostering public awareness, while advocating for structural changes to conventional trading systems. Recent studies show that these actions have improved economic and social indicators in farming communities, by increasing their incomes, stabilizing working conditions, and reducing their prolonged dependence on commercial intermediaries (Hernández et al., 2020). However, important challenges remain, such as the lack

of technical training and the limited availability of productive resources, which require the strengthening of public policies and the consolidation of international collaborations to increase their effectiveness.

Beyond its commercial dimension, Fair Trade is consolidated as a mechanism for community empowerment. Miguez (2009) emphasizes its role in the promotion of local businesses and in the economic independence of small producers; while Gil (2014) defines it as an alternative model that guarantees fair wages, labor rights, and sustainable ways of life. The importance of this model lies in the comprehensive improvement of the living conditions of workers and their communities, laying the foundations for regenerative economies (Escobar-Quiñones et al., 2022), contributing significantly to breaking the cycle of poverty and exploitation.

Applied research such as that of Pinzón and Fuentes (2022) and Pinedo et al. (2020) supports these premises, demonstrating how sustainable agriculture and the integration of economic and environmental dimensions can maximize productivity without compromising natural resources. These findings are especially relevant in regions such as the department of Santander (Colombia), where Fair Trade is emerging as a key strategy to balance agricultural growth, distributive equity and ecosystem preservation.

In short, Fair Trade transcends the notion of a certification system and is constituted as a comprehensive approach that articulates ethics, economics and ecology. Despite the structural challenges involved in its implementation, its ability to transform business dynamics (prioritizing both people and the planet) positions it as an essential element for the construction of sustainable futures. This model is based on principles of fair prices, transparency, training, and environmental sustainability, empowering farmers through access to financing, technical assistance, and greater control over their livelihoods (Rodríguez, 2019). Previous research suggests a positive impact of its implementation on the income, well-being, and resilience of producers in regions such as Santander in Colombia (Escobar-Quiñones et al., 2022).

Despite Santander's potential as an important agro-productive pole with high production of cocoa and specialty coffees, its small producers face significant barriers to accessing international markets and obtaining fair prices. The implementation of the Fair Trade model in the agro-industrial value chain, although promising, presents challenges related to the organization of producers and the diversification of export markets (Ramírez et al., 2024).

In this context, the present research aims to determine how the implementation of the Fair Trade model can generate concrete benefits for small cocoa farmers in the department of Santander, Colombia. Unlike previous studies that address Fair Trade in a general way, this paper focuses on the cocoa industry in Santander, whose socioeconomic and productive relevance is key, and is based on a diagnosis that identified the need for more equitable business models in the face of traditional market dynamics.

It is considered that the application of the Fair Trade framework can enhance the entry of Santander cocoa into international markets, such as the European Union, where responsible consumption practices and ethical certifications are decisive. The findings of this study will contribute to the design of strategies that strengthen the position of local producers, promote the sustainable development of the region and improve their living conditions.

Methodology

This research is framed in a qualitative methodological approach, with a descriptive scope, and responds to the central objective of analyzing the potential of the Fair Trade model for small cocoa producers in the department of Santander, Colombia.

The study begins with a systematic review of the scientific literature, using academic databases such as Dialnet, EBSCO, Redalyc, SciELO, Scopus, ScienceDirect and the academic search engine Google Scholar. Specific search criteria were used, combining key terms such as "Fair Trade certification", "application and benefits of Fair Trade certification", "principles and barriers of Fair Trade certification", "sustained growth of Fair Trade certification" and "contribution to the development of the cocoa sector in Santander". The search focused on the title, abstract and keyword fields of scientific articles and technical documents relevant to the topic.

The search equation used for the systematic review combined the key terms using Boolean operators, as follows:

("Fair Trade certification", OR "application and benefits of Fair Trade certification", OR "principles and barriers to Fair Trade certification", OR "sustained growth of Fair Trade

certification", OR "Fair Trade certification", OR "benefits of Fair Trade certification", OR "principles of Fair Trade", OR "barriers to Fair Trade", OR "sustainable growth of Fair Trade"))
AND (("contribution to the development of the cocoa sector in Santander" OR "cocoa" OR "chocolate" OR "cocoa" OR "Santander cocoa industry" OR "cocoa producers Colombia" OR "cocoa producers Colombia"))

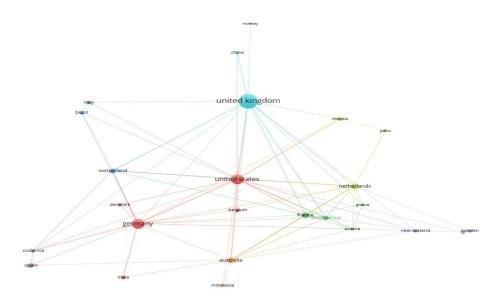
The analysis of the information was developed in two stages. In the first, the analytical-synthetic and inductive-deductive theoretical methods were applied. This process involved extracting the main information from the sources consulted, identifying key concepts, empirical findings, and relevant theoretical discussions. Subsequently, the information was organized and classified, establishing relationships between the different elements identified and synthesizing the main arguments and conclusions.

In the second stage, it was complemented with the use of VOSviewer software, which made it possible to map the relationships between studies on fair trade and cocoa, identifying trends, research areas and influential actors through keyword co-occurrence maps, co-authorship networks and cocitation. These bibliometric analyses complemented the qualitative review by offering a macro perspective on the dynamics of the field of study and its main actors.

Among the outstanding graphs on the subject of Fair Trade is co-authorship by country (Figure 1).

Figure 1

Co-authorship by country



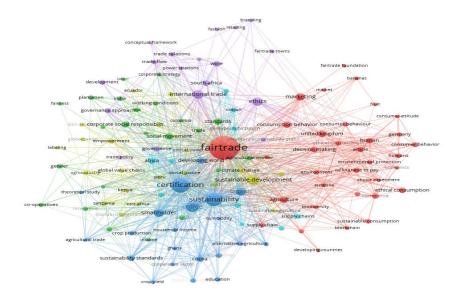
Source: Authors' elaboration in VOSviewer.

It can be seen that this issue is being worked on to a large extent in the United States, the United Kingdom and Germany, connecting with Latin American countries such as Mexico, Peru, Brazil and Costa Rica.

On the other hand, in Figure 2, Co-occurrence is analyzed according to the keywords used.

Figure 2

Co-occurrence by keywords



Source: Authors' elaboration in VOSviewer.

The main relationships identified were with the concepts of certification, sustainability,

sustainable development and coffee.

Methodological rigor was guaranteed through the systematic application of criteria for searching and selecting sources. The integration of the results of both stages allowed for a holistic understanding of the potential of fair trade for cocoa farmers in Santander.

The research question that guided this study, formulated under the PICO scheme, was: How does the implementation of the Fair Trade model (I), compared to traditional or non-certified trade schemes (C), benefit access to international markets, income, the well-being, capacities, community development and environmental sustainability (O) of smallholder cocoa farmers (P) in the department of Santander, Colombia?

The systematic review of the literature was carried out following the guidelines of the PRISMA statement, adapted to the descriptive and qualitative approach of the study. This ensured transparency and reproducibility in the selection and analysis of sources. The breadth of the databases consulted allowed for an exhaustive coverage of the relevant literature on fair trade and its application in the cocoa sector.

Results

Various studies address the importance of fair trade in developing countries. De la Piedra et al. (2024) present in their research how fair trade practices influence the performance of companies and how they obtain a competitive advantage, which can be a success factor for emerging markets such as Peru; Additionally, the document analyzes how fair trade practices become an effective strategy to combat poverty among producers in the primary sector, which links business practices with social results, having a positive impact.

Andersson (2019) underlines the complexity that exists in the relationship between fair trade and sustainable development, together with the local realities in the producing communities, in his research he highlights that in some cases social and economic inequalities in local communities have deepened; For example, access to technologies suitable for production is not available to everyone, leading to disputes between different groups of producers. On the other hand, the study also comments that, given the increase in demand for quinoa, a product

marketed as an alternative and sustainable, it has led to conflicts in villages due to growing production for export. This has put at risk the environmental sustainability and has negatively affected local nutrition, especially in children, as quinoa is not used as much in the daily diet as it used to.

While fair trade certification offers significant benefits, farmers in developing countries face multiple challenges that can impede the ability to obtain and maintain certification. According to Singh and Singh (2020), some of the main challenges are:

Understand certification requirements: Many farmers, especially in developing countries, may lack the knowledge or resources to fully understand the certification process. This includes the specific standards they must meet in relation to sustainable practices and fair working conditions. The complexity of these requirements can be overwhelming for smallholder farmers.

Financial constraints: The costs associated with obtaining certification can be prohibitive. Farmers may need to invest in better farming practices, training, and sometimes even infrastructure improvements to meet certification standards. This financial burden can deter many from becoming fair trade certified, as they may not have access to the necessary funds or credit.

Resource constraints: Farmers often face constraints in terms of resources such as water, soil quality, and technology. Optimizing these resources to meet certification standards requires time and investment, which may not be feasible for all farmers. The need to improve soil and water quality, manage waste and reduce greenhouse gas emissions can be particularly challenging for those with limited means.

Market Access and Competition Challenges: Fair trade certification does not automatically guarantee market access. Farmers, even after obtaining it, can face a highly competitive environment. There is no certainty of sale for all certified products, and pressure from large dominant companies can make it difficult to sell at prices that reflect the principles of fair trade.

Support and training: There is often not enough support and training for farmers to cope with the certification process. Organizations that promote fair trade can help, but the

availability of such support varies. Without proper guidance, farmers could struggle to meet the

standards needed for certification.

According to Sánchez (2018), certifications, such as the Fair trade seal, have played a

key role in the promotion of fair trade, especially in European and North American markets; in

the Colombian context, fair trade and the social solidarity economy are perceived as instruments

for peacebuilding and rural development, mainly within the framework of the final peace

agreement in Colombia, but a problem that arises is that access to these certifications is limited

for small producers, and there may be a risk that large corporations use these certifications to

improve their image without changing their practices Fundamental.

For Carvajal (2019), coffee growers in Ubaque-Cundinamarca are not receiving "fair" for

the work done, and it is the intermediaries who are obtaining a greater profit from the entire

process, since they control the machinery and contacts for the commercialization of coffee.

In 1997, the Fairtrade Labelling Organizations International (FLO) was established to

monitor product credentials. This institution has boards of directors and several committees

where its members were manufacturers and sellers (Dankers & Nations, 2004). From then on,

the distinctive mark of Fairtrade certification emerged, which guarantees that any product with

the Fairtrade seal complies with the standards set by FLO.

The basis of Fairtrade certification lies in the fairness of international trade, supporting

the well-being of all actors involved in the value chain (Staricco and Naranjo, 2018),

compensating manufacturers with a premium price for sustainable agricultural practices that

preserve and protect the environment (Estevez et al., 2018), and the goal of having a safe lifestyle

and fair trade.

Criteria involved in the development of a Fair Trade system

Fair trade is based on criteria that aim to ensure that workers' human rights and the

environment are respected throughout the business process (Table 1).

Table 1

Criteria for implementing Fair Trade in companies

Criteria	Implementation
Opportunities for economically	Supporting smallholder farmers, such as families,
disadvantaged producers	cooperatives, and marginalized communities, to achieve
	economic independence through tools, resources, and
	equitable collaboration.
Transparency and accountability	Prioritizing honesty at every step, openly sharing how you
	work, how decisions are made, and how resources are
	managed, ensuring that all parties are informed and actively
	engaged.
Paying a fair price	Guarantee a payment that covers production costs and
	allows producers to live a decent life. Valuing their work
	and ensuring financial stability.
Absence of child labour	Protect children's rights. Commit to ensuring that no child
	is exploited and to promote their access to education, health
	and full development.
Fair Business Practices	Build long-term business relationships based on mutual
	respect, clear contracts, and ongoing support, rejecting
	exploitation, and fostering fairness.
Respect for the environment	Take care of the planet using sustainable methods, reducing
	waste and prioritizing technologies that do not harm
	ecosystems. Every action seeks a green future.
Commitment to equal treatment	Value diversity, offer the same opportunities regardless of
and gender	gender, age, religion or origin, promoting environments
	free of discrimination.
Good working conditions	Guarantee safe workspaces, decent wages and fair hours.

Respect local and international labor laws to protect each worker.

Capacity building

Invest in continuous training, train producers and employees in technical skills, management and sustainability to empower their personal and professional growth.

Source: Authors.

The above analysis shows how Fair Trade certification benefits smallholders because consumers willing to pay a higher value than conventional foods are concerned about social and environmental sustainability. Therefore, they are based on the fair trade principle of remunerating a premium for ethical consumption, becoming one of the means to drive change at the organizational level (Guzmán et al., 2021; Raynolds, 2020).

Through market procurement, companies focus on maximizing both social and economic impact and decreasing environmental impact by being in the context of a green economy. Fairtrade-certified products have successfully reached important distribution channels in developed countries in recent years, which has led them to consolidate themselves in the pantries of the most renowned shopping centers (Raynolds, 2017).

Actors involved in the Fair trade system

There are four Fair Trade participants, and they must meet certain criteria to be part of it, which are supervised by international organizations or alliances (Table 2).

Table 2

Fair Trade Actors

Actors	Description
Producers	They are the heart of fair trade, small families, cooperatives and
	communities that face difficulties in accessing the market. Fair Trade
	gives them tools to overcome economic barriers, ensuring that their
	work is valued and that they can live with dignity. Their effort not only
	sustains homes, but preserves cultures and traditions.
Fair Trade	They act as allies that unite worlds. Its mission is to build bridges of
Organizations	trust between those who grow, process or weave, and the people or
	companies that enjoy those products. They guarantee transparency, fair
	prices and ethical treatment, becoming voices that amplify the stories of
	producers and protect their rights.
Fair Trade Stores	More than points of sale, they are spaces of connection, mostly managed
	by non-governmental organizations. In them, not only do you buy the
	products, you also discover the stories behind each product. They are
	places where social justice education is conducted, campaigns for a
	better world are organized, and the power of conscious choices is
	celebrated.
Consumers	They are agents of change. Every time they choose a fair trade product,
(conscious and	they vote for a model where people and planet matter. Their purchase is
responsible	an act of solidarity, they support decent wages, reject exploitation and
consumption)	build, from their day to day, a more equitable future.

Source: Authors.

Trade opportunities that arise as a result of the implementation of fair trade

From the perspective of this study, the fair trade strategy is presented as the most

promising option for the development of the cocoa and specialty coffee sectors in the region,

which could translate into the following benefits for producers.

1. Improved income and welfare of producers: Fair Trade guarantees farmers a fair

minimum price for their cocoa, allowing them to earn better incomes and improve their

living conditions.

2. **Strengthening the capacities and organization of producers:** the Fair Trade model

supports producer associations to improve their cultivation, management and marketing

practices.

3. Access to export markets and increased trade opportunities: Fair Trade certification

allows small producers in Santander to access export markets on more favourable terms,

increasing their trade opportunities.

4. **Investment in community development:** Fairtrade producers receive an additional

premium when they invest in projects that benefit their communities, such as

improvements in education, health, and infrastructure.

5. **Promoting environmental sustainability:** Fair trade and Fair Trade encourages more

sustainable agricultural practices, such as agroforestry, which reduces the environmental

effects of cocoa production (Suárez et al., 2022).

Methodology for the implementation of fair trade certification in the cocoa sector and

Santander

Although the Fair Trade certification process is complex, this handbook can help

producers, traders, or organizations understand how to participate in this alternative.

Phase 1: Application Submission

The applicant must request the online form from FLOCERT, the global accreditor of

Fairtrade, to begin their certification procedure. FLOCERT optimizes global exchange and supports sustainable companies. They ensure that the entire supply chain is grounded in equitable

measures and assist producers, sellers and brands to become truly sustainable.

FLOCERT will provide an application form and the conditions for obtaining certification

once the producer has finalized the online application and their products and organization are in

the scope of certification. Once the application has been completed and all the required

documents are ready, FLOCERT will contact the interested party within the next 30 days to

resolve the pending issues, and clarify any doubts that may be had. If the applicant is a trader,

FLOCERT will grant them a business permit that will allow them to operate trusted businesses

for the first nine months, and the operations carried out in this period will be examined.

Phase 2: Audit

After the approval of the request, FLOCERT will carry out an audit of the facilities, with

the aim of confirming and assessing whether the entity meets the standards and certification

criteria. The auditor will organise interviews and meetings with farmers, managers, trade unions

and communities to assess the financial condition linked to fair trade; In the case of traders, only

fair trade transactions will be examined.

At the conclusion of the audit, a closing meeting is held, where the auditor presents the

findings, views, recommendations, or corrective actions that he or she considers appropriate for

the entity or to clarify any questions that may arise.

Fase 3: Análisis e informe de auditoria

En el proceso de certificación, este punto es crucial. El auditor diseñará un informe que

resumirá todos los hallazgos y lo enviará a un analista de FLOCERT.

Phase 4: Certification

Following the implementation of the required modifications and the applicant's

compliance, FLOCERT will assess the suitability to grant Fair Trade certification to the

organization. Once all non-conformities have been corrected, FLOCERT will proceed to issue

the corresponding certificate.

Phase 5: Follow-up

In the follow-up stage, FLOCERT will carry out periodic verifications through audits to ensure the continued compliance of the certified organizations with Fair Trade standards.

Discussion

From an optimistic point of view, the global literature suggests that Fair Trade certification could catalyze significant improvements in the cocoa value chain in Santander, Colombia, by addressing intrinsic challenges that have historically constrained smallholders in the region. The guarantee of a fair minimum price, a fundamental pillar of Fair Trade (De la Piedra et al., 2024; Staricco and Naranjo, 2018), can offer crucial economic stability for Santander cocoa farmers, who, as is known, are frequently exposed to the volatile price dynamics of conventional markets. This financial stability would not only allow families to plan more effectively in the medium term, but, more importantly, it would substantially raise their living conditions in a sustained manner, responding to a pressing need, identified in the initial diagnosis of the region.

In addition, Fair Trade's inherent emphasis on capacity building and the provision of technical assistance (Singh & Singh, 2020; Pyk & Abu, 2018), would be particularly beneficial for cocoa producer associations in Santander. Considering the remarkable heterogeneity in organizational levels and unequal access to technical information that characterizes the local cocoa sector, these programs would not only promote the adoption of sustainable agricultural practices and efficient management, but would also facilitate rigorous compliance with the international standards required for certification. Moreover, Fair Trade certification would open potential doors to high-value international markets, especially in the European Union and North America, where there is a growing and consolidated demand for products that accredit ethical and sustainability criteria (León et al., 2022; Krumbiegel et al., 2018). For Santander cocoa, this certification would represent a strategic way to overcome barriers access to specialized markets and, crucially, to reduce dependence on intermediaries (Carvajal, 2019), a persistent challenge recognized in the region's productive framework. Participation in international trade networks would also enhance the visibility and positioning of Santander cocoa with differentiating attributes in more equitable global circuits.

The impact of Fair Trade also transcends the purely economic sphere to embrace integral community development and environmental sustainability. The social premium associated with certification, strategically allocated to collective projects (Staricco and Naranjo, 2018), could be a vital source of investment for the improvement of educational infrastructure, health services, and the modernization of rural roads in Santander's cocoa-growing communities, which have historically lagged behind. In parallel, the promotion of regenerative agricultural practices and the efficient use of resources (Estevez et al., 2018; Suárez et al., 2022), not only aligns with the imperative need to preserve the region's rich biodiversity (recognized as a critical ecological hotspot), but would also intrinsically improve the organoleptic quality of cocoa, a key attribute for its positioning in the premium segment and for the contribution to the SDGs.

However, despite this considerable potential, the implementation of Fair Trade in Santander is not without significant challenges and, according to critical literature, could face structural limitations inherent to the model that must be meticulously evaluated. Practical challenges, such as the complexity of certification requirements, financial constraints, and limitations in access to resources such as water or technology (Singh & Singh, 2020), are particularly relevant for smallholder cocoa farmers in Santander. Many of them may lack the initial capital or specialized advice to face the investments in infrastructure and processes required by certification standards (Sánchez, 2018). This financial burden and potential discontinuity in support could create a barrier formidable entry for the most vulnerable producers or those with less initial investment capacity. In addition, certification alone does not guarantee immediate access to markets, a factor that could discourage farmers if economic returns do not materialize within a perceived reasonable time horizon.

Beyond these operational obstacles, it is imperative to incorporate the critical views on the Fair Trade model, which the literature review has also revealed. Authors such as Andersson (2019) warn that, although fair trade pursues equity, it does not always succeed in radically transforming global structures of inequality, even achieving, in certain contexts, reproducing or reconfiguring relations of dependency; in the Santander scenario, this could manifest itself in a continuous dependence on the demands, standards and price fluctuations of the markets of the global North, without promoting full autonomy in decision-making or a diversification of markets that transcends the traditional sphere of ethical consumption. There is also a palpable risk that benefits, such as Fair Trade premiums, will not be distributed equitably among all producers if local organizations do not exhibit the robustness or transparency necessary to ensure

genuine participation and democratic control. This situation, ironically, could deepen internal inequalities or generate conflicts over access to the resources and benefits of certification. Persistent pressure from large dominant corporations in the global value chain could also make it difficult for certified small producers in Santander to obtain prices that truly reflect the principles of fair trade in the long term (Sánchez, 2018).

Conclusions

This research has allowed us to analyze the transformative potential of Fair Trade certification for the cocoa sector in the department of Santander, Colombia. The findings suggest that its implementation could catalyze a process of substantial improvement across multiple dimensions, addressing historical challenges faced by smallholder farmers in the region.

First, the adoption of Fair Trade certification could lead to a significant strengthening of technical and productive capacities among smallholder cocoa farmers. By linking to structured training and technical assistance programs (a central pillar of the model), these actors would acquire essential competencies in sustainable agricultural practices, integrated pest management, and advanced cultivation and post-harvest techniques. This process would not only allow the optimization of production processes and qualitative progress in cocoa, facilitating compliance with international standards, but would also promote technological innovation, increasing operational efficiency and profitability, thus generating a virtuous circle of continuous improvement in the sector.

Second, Fair Trade would operate as a strategic mechanism for access to differentiated markets. Beyond being a simple seal of quality, the Fair Trade certification would represent a crucial opportunity for Santander producers to position themselves in high-value niches in international markets, particularly in the European Union and North America, where the demand for ethical and sustainable products is expanding exponentially. This positioning would make it easier to negotiate fair prices and more favorable contract clauses, resulting in a direct increase in your profit margins. Likewise, participation in commercial networks and sectoral events would expand the visibility of their products, promoting their insertion in global trade circuits under more equitable and transparent conditions.

A third axis of impact lies in the promotion of integral community development. The adoption of the Fair Trade model transcends the purely economic by prioritizing tangible socio-environmental impacts. The economic premium associated with this certification, strategically allocated to collective projects, could finance initiatives of great social impact, such as the construction or improvement of educational infrastructure, the expansion of health services and the modernization of rural roads. These advances would not only raise the quality of life of the communities, but would also promote social cohesion and the reduction of historical gaps. At the same time, the minimum price guarantee would protect farmers from market volatility, granting them financial stability to plan medium-term investments and strengthen the resilience of their production units.

Finally, Fair Trade certification would be consolidated as a catalyst for environmental sustainability as a transversal axis. The model would promote the adoption of regenerative agricultural practices in Santander, prioritizing soil conservation, efficient water use and the reduction of agrochemicals. This agroecological approach would not only preserve the region's rich biodiversity (a critical ecological hotspot), but would improve the organoleptic quality of cocoa, a key attribute for premium markets. The integration of these environmental and social criteria in production would also generate reputational value for Santander cocoa, attracting global consumers committed to sustainable consumption and aligning with the SDGs of the 2030 Agenda.

However, it is crucial to recognise that the realisation of this potential in Santander is not without its challenges and must be analysed with a balanced view. The literature also warns of inherent limitations of the Fair Trade model, such as the potential reproduction of dependency relationships with the markets of the global North, the high costs of certification, the bureaucratic complexity for small producers, and the need for robust local governance to avoid the deepening of inequalities (Andersson, 2019). The viability of these transformations in Santander will therefore depend not only on the adoption of the model, but also on the ability to proactively mitigate these risks and adapt the model to the socio-economic and organisational particularities of the territory.

Ethical considerations

The present study did not require the endorsement of an Ethics or Bioethics Committee since it did not use any living resource, agent, biological sample or personal data that represent any risk to life, the environment or human rights.

Conflict of interest

All authors made significant contributions to the document and declare that there is no conflict of interest related to this article

Declaration of authors' contribution

Jaime Enrique Sarmiento Suárez: Conceptualization, Methodology, Software, Validation, Formal analysis, Research, Resources, Data curation, Writing - Original draft, Writing: revision and editing, Visualization.

Julio César Ramírez Montañez: Conceptualization, Methodology, Software, Validation, Formal Analysis, Research, Resources, Data Curation, Writing - Original Draft, Writing: Proofreading and Editing, Visualization, Supervision, Project Management, Fund Acquisition.

Paola Martínez Higuera: Conceptualization, Methodology, Software, Validation, Formal analysis, Research, Resources, Data curation, Writing - Original draft, Writing: review and editing, Visualization, Supervision, Project management, Acquisition of funds.

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