

# **Feasibility of Fairtrade Adoption by Cashew Farmers and its Potential Contribution to the Sustainability in Guinea-Bissau**

Jean Claude Nsengiyumva<sup>1,2</sup>, Filipa Monteiro<sup>3,4</sup>, Joana Ferreira, Amidu Silva Barai<sup>3,4,5</sup>  
Montserrat Costa Font

1 Scotland Rural College (SRUC), King's Buildings, West Mains Road, Edinburgh EH9 3JG, UK

2 University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL, UK

3 LEAF—Linking Landscape, Environment, Agriculture and Food, Associated Laboratory TERRA, Instituto Superior de Agronomia (ISA), Universidade de Lisboa, Tapada da Ajuda, 1349-017 Lisboa, Portugal.

4 Instituto Nacional de Pesquisa Agrária (INPA), Bissau, Guiné-Bissau.

5 Direção de Serviço de Proteção Vegetal (DSPV), Ministério da Agricultura da Guiné-Bissau, Bissau, Guiné-Bissau.

## **Abstract:**

Guinea-Bissau, a former Portuguese colony, has been heavily affected by constant political instabilities since its independence in 1973. The country produces high-quality cashew nuts, but the dysfunctionality of home institutions has produced an inefficient supply chain which pushed smallholder farmers into poverty and severe food insecurity. Voluntary certifications which encourage micro-level organizations based on cooperatives present a solution to thousands of farmers. This empirical study provided primary insights on determining the feasibility of Fairtrade adoption for the cashew cooperatives and analysed whether the promises of Fairtrade can potentially contribute to the sustainability of the supply chain in Guinea Bissau. The study considered four cooperatives covering four different regions. The findings showed that cashew cooperatives meet some of the Fairtrade standards such as consisting of smallholder farmers and being primary decision makers of their cashew orchard management. Still, there are practices and behaviours which don't align with Fairtrade principles such as the use of hired child labour. Adoption of Fairtrade would contribute to the sustainability of the supply chain through increasing farmgate prices, reliable market, etc which would increase farmers' income, improve food security, and enhance communities' development. Future research should include other players in the supply chain such as traders and exporters.

## Introduction

Cashew farmers in Guinea-Bissau struggle to make a decent living, many face difficult working conditions and are poorly paid (Lundy, 2021). Despite the growth of the cashew global market over the past decades which is estimated to reach over USD 10.35 billion by 2031 (Research Straight, 2021), the cashew producers dominated by the smallholder farmers from developing countries don't benefit fairly from their produce (Fitzpatrick, 2019). Specifically, in Guinea-Bissau, the inefficiency of the cashew value chain is characterised by a lack of proper coordination between different actors involved, price volatility, lack of financial facilities and a reliable market for farmers, resulting in their vulnerability to poverty and food insecurity. Such a situation in Guinea-Bissau is attributed to the political instabilities the country has been experiencing since its independence in 1973 which has created the dysfunctionality of home institutions leaving the cashew nuts supply chain improperly regulated.

Voluntary certifications, majority regulated by international private or non-governmental organisations, encourage micro-level organisations based on cooperatives offering a solution to thousands of smallholder farmers, facilitating a properly regulated supply chain that unites all stakeholders and ensures the fair market share of all actors involved, especially farmers. In this research, we focused on Fairtrade as a product differentiation approach on a global market, it has worked well in some countries for different agricultural products such as coffee, herbs, nuts, fruits, cotton, and others (Khan, Khan and Haleem, 2019). In countries where Fairtrade was introduced, farmers operate in a stable market and receive better prices for their products which help them to withstand the global market shocks in times of crisis. They also receive a Fairtrade premium which is an amount of money given to the certified cooperative of farmers to invest in different projects that may facilitate their community's development. In addition, farmers who participate in the Fairtrade certification receive technical training on good agricultural practices which incentivises sustainable practices in their respective farms.

Fairtrade has been extensively studied as an international development approach and is among the top popular certification schemes to date, particularly for Western consumers. Most of the existing literature focuses on its impact on farmers from developing countries where it operates and on coffee (Elder, Zerriffi and Le Billon, 2012; Pyk and Abu Hatab, 2018; Arnould, Plastina and Ball, 2009). However, there is not much empirical data on its feasibility in countries where it does not operate yet. Ortiz-Miranda and Moragues-Faus (2015) stated that understanding the feasibility of Fairtrade in countries where it does not operate contributes to the knowledge of assessing whether the introduction of Fairtrade would be beneficial to farmers. They suggested that it is important to acknowledge producers' marketing decisions before assuming that Fairtrade would be attractive to them. Also, it can provide insights into what to consider in reducing the number of pitfalls during Fairtrade certification implementation. Dragusanu, Giovannucci and Nunn (2014) in a comprehensive study on the economics of Fairtrade, recommended conducting specific product and country evaluation because the experience of

farmers can vary from one product to another and one country to another. Therefore, in this research, we aim to understand the feasibility of Fairtrade's adoption of cashew cooperatives in Guinea Bissau given its set of standards and principles versus the existing operating conditions, then determine the potential contribution of Fairtrade to sustainability<sup>1</sup>, given its promises to certified nut producers. The research seeks to answer the following questions:

1. Do cashew cooperatives' operating conditions meet the set of standards established by Fairtrade?

- a. Are cooperatives led democratically?
- b. Do farmers employ environmentally friendly practices?
- c. Do farmers respect workers' rights?
- d. Do cooperatives foster gender equity?
- e. Do cooperative farmers make primary decisions about the management of their cashew plantation?

2. Are social, economic, and environmental benefits experienced by cashew farmers the same as those promised by Fairtrade?

- f. Do farmers have access to a reliable market?
- g. Do farmers receive better prices than the minimum price established by Fairtrade International?
- h. Do farmers have access to financial credits?
- i. Do farmers have a sense of belonging in a cooperative?

In line with the study objective, the adoption of Fairtrade for cashew cooperatives is feasible (i) If cashew cooperatives' operating conditions meet the set of standards established by the Fairtrade certification scheme and (ii) If socio-economic and environmental benefits promised by Fairtrade certification are better compared to those obtained by cashew farmers within the existing supply chain.

## 1. Literature review

### 1.1 Guinea-Bissau – Agricultural dependent economy

Guinea-Bissau officially known as the Republic of Guinea-Bissau, is a country in West Africa that covers 36,125 square kilometres with an estimated population of 2,026,778. It borders Senegal to its North and Guinea to its Southeast (nationsonline.org, no date). The country has between 28 to 40 different ethnic groups, and the dominant religion includes Islam, Christianity, and traditional faiths, but there is no single religious group that represents most

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<sup>1</sup> Sustainability is defined here as the provision of social, economic, and environmental benefits for both short and long-term in the lives of cashew farming communities in Guinea Bissau.

of the population and there is no track of the history of tribal-based conflicts (Adebajo, 2002). The hierarchy of local government is explained in Figure 1.

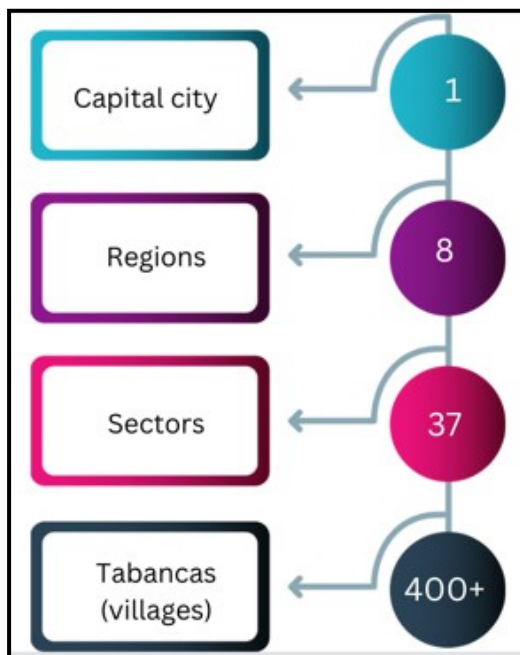


Figure 1. Local government structure. Source: Own data.

Since its independence in 1973 has experienced political instabilities consisting of several coup d'états and the civil war of 1998-1999 (Jaló, 2023). The political instabilities have hindered the major development of the country, and to date, over 70% of the population lives under the poverty line, in 2019, the prevalence of stunting for children under five was 28.1%, and in 2020 the prevalence of severe food insecurity in the population was 29.2% (World Bank Open Data, no date). Guinea-Bissau's primary sector (agriculture, livestock farming, forestry, and fisheries) accounts for more than 60% of GDP, contributes to over 90% of exports and employs 83% of the labour force (Martiarena and Temudo, 2023). Thanks to its favourable climatic conditions, Bissau Guineans grow numerous varieties of crops for their consumption such as rice, maize, millet, potatoes, sorghum, carrots, sweet potatoes, papaya, pineapple, pumpkin, limes, oranges, bananas, plantains, yams, lettuce, cucumber, tomatoes, tamarind, okra, roselle, sesame, among others (Martiarena and Temudo, 2023).

Havik et al., (2018) argue that agricultural policy tools prioritize commercially profitable cash crops rather than providing support to farming communities to achieve the objectives of food security, rural employment, and integration into the regional market. They indicate that peanut was the first popular crop cultivated during colonial times and was followed by cashew after independence from the 1980s onwards, to date, Guinea Bissau is among the top world exporters of cashew. However, over the past decades, there has been a decline in the agricultural sector due to many factors including being neglected by public investment and financed heavily by

external borrowing (Diallo and Wouterse, 2023). Such decline has been accompanied by a shift in land use change where many farmers transitioned from growing staple crops to cultivation of cashew orchards (Adjei, Anlimachie and Ativi, 2020).

## 1.2 Cashew and Guinea Bissau's Food Security

Cashew (*Anacardium occidentale*. L ) was brought by the Portuguese in the 16<sup>th</sup> century into Guinea Bissau. During the early 20<sup>th</sup> century was mainly used by local farmers under afforestation schemes or as a fire protection barrier around forest demarcation Fields (Catarino, Menezes and Sardinha, 2015). By the mid-1980s, due to villagers' non-organized race for land occupation, many farmers planted cashew trees linked to securing land and the claim of ownership (Lundy, 2021). However, since 1984, government policy aiming to increase agricultural production has led to a drastic increase in cashew plantations where cashew orchards cover approximately 45% of the total agricultural area, cultivated by more than 60% of the farmers (Catarino, Menezes and Sardinha, 2015).

Availability and accessibility are ones of the most important pillars of food security as they estimate whether adequate food is ready at people's disposal and if all households and individuals have adequate resources either physically or economically to obtain the food they need (Havas and Salman, 2011). Cashew production in Guinea Bissau largely influences accessibility because cashew producers sell their produce to buy rice for home consumption. However, the overall impact of cashews on the food security of Bissau Guineans is still inconclusive because despite producing over 160,000 tonnes of cashew nuts annually, the country imports over 150,000 tonnes of rice and wheat (Statista, 2021), and over 50% of its population are moderate or severely food insecure (FAOSTAT, no date).

Some opponents of the rise of cashew cultivation argue that the levels of malnutrition and food insecurity could be reduced if the resources currently utilised to grow export-driven crops were switched to the production of staple crops for domestic consumption (Ayeni and Adewumi, 2023). Over the past three decades, cashew production in Guinea Bissau has increased substantially to the detriment of rice farming. That represents a threat to food availability in the country as rice is an important crop that constitutes various dishes of Bissau Guineans (Barry, Creppy and Wodon, 2007).

Conversely, proponents assert that prioritising cash crops has the potential to increase household income from agriculture. Cashew in Guinea Bissau is an opportunity for rural employment which provides some income to improve the economy of the rural households. The sector employs unskilled workers who are hired to collect crops and perform other tasks such as weeding, forest clearing, and planting during the establishment and maintenance of cashew plantations (Kyle, 2009). Monteiro et al. (2017) emphasize that cashew production provides the opportunity of getting higher profitability to the farmers, simply because the

cashew farming system requires less production costs, particularly in terms of labour inputs when compared to cereals. Barry, Creppy and Wodon (2007) showed the relationship between farmgate prices and food insecurity in Guinea Bissau. They state that better prices for the farmers increase their income and reduce vulnerability to food insecurity.

### 1.3 The inefficiency of the cashew nuts value chain system

Guinea Bissau produces close to 200,000 metric tonnes of cashew nuts annually; less than 4% is processed internally, and more than 95% is exported as raw nuts largely to India for processing (Carvalho and Mendes, 2016). There is no fixed price for cashew nuts. Every harvesting season, the government sets and announces the farmgate prices depending on the prices from international markets and neighbouring countries. A comprehensive study on cashews from Senegal, Gambia, and Guinea Bissau (SeGaBi) sponsored by United States Development Agency (USDA) and Farm Service Agency (FSA) (2017) shows that prices set by the government estimated 50-53% proportion of the market share to be taken by farmers, but because there is neither follow-up process nor proper regulations to ensure those conditions are respected, farmers end up with less than 20% of the market share while the largest share is taken by the exporters (Barry, Creppy and Wodon, 2007). It is estimated that cashew farmers in Guinea Bissau are more than 400,000 and 80% are smallholder farmers with one to two hectares. The main constraints faced by the farmers include lack of a reliable market, poor prices, low productivity of their cashew trees, the incidence of pests and diseases, lack of proper storage for the post-harvest period waiting for the market, inaccessibility to financial credits, among others (Rege and Lee, 2023).

There are different levels of traders between the farmer and export house. Even though there are various informal traders such as the local merchants and other middlemen, all traders must be licensed and should have what is known as “Alvara” (a license issued by the Ministry of Finance), and the authorization to trade is known as “balanca,” since it is accompanied by the need to have a balance. Most of the farmers drop off their raw cashew nuts produce at the primary collection shops which are present almost in every village. USDA and FSA (2017) reported over 450 licensed traders in Guinea Bissau, but many unlicensed ones exist. Each buyer playing the role of middlemen earns a commission while selling to licensed traders which implies the loss of market share that was supposed to be taken by farmers.

The current cashew supply chain system in Guinea-Bissau has been questioned to be unsustainable (Lundy, 2021). Farmers keep expanding their cashew plantations with the hope of increasing their production to get more return from their farm's investments. In the process of doing so, they cut down trees, employ child labour, and increase gender inequality as more work is given to women (Seca, Pereira and Silva, 2021). To guarantee the sustainability of the cashew value chain in Guinea-Bissau, some scholars have indicated the need for domestic processing of cashew nuts to export the finished products (Yomichan, 2020; Temudo and

Abrantes, 2013). However, the high investment needed leaves many questions unanswered, and there exist doubts about whether the current geopolitical climate would attract foreign investment (University of Denver et al., 2022).

Some organizations and programs such as Beyond Cashews, Nuts 2, Linking Infrastructure, Finances, and Farmers to Cashew (LIFFT) run by Shelter for Life International, and Sustainable Nut Initiative, among others. They have identified the inefficiency of the cashew supply chain in Africa, and they work on different initiatives to bring improvement for different cashew-producing countries such as Cote d'Ivoire, Benin, Senegal, Guinea Bissau, Ghana, Nigeria, Gambia, Mozambique, Tanzania. Some of the projects focus on promoting fair prices for the farmers, domestic processing, good agricultural practices, extension services to bring technical knowledge to the farmers, and post-harvest handling and storage, among others

#### 1.4 Voluntary certification – Fairtrade as a potential solution to inefficient cashew supply chain

Voluntary certification is a market-based tool used to improve the quality, safety, or management of certain products against a defined set of standards through third-party auditing whose principles are well agreed upon by all involved stakeholders (Duchelle, Kainer and Wadt, 2014). Theoretically, on one end of the product supply chain, there is a consumer who is willing to pay more for a product labelled as environmentally friendly or socially just, and on the other, a producer who seeks market advantages through following the high-level set of standards (Klooster, 2006).

Certification schemes create a well-regulated supply chain that unites different stakeholders and protects the benefits of the vulnerable players of the supply chain, farmers. Certification has been conceptualised as a regulatory mechanism that alters market governance rules, a signal mechanism that illuminates organisational characteristics and practices, and a learning mechanism that promotes technical, leadership, knowledge transfer and experiential learning (Overdeest and Rickenbach, 2006). Even though there has been debate about whether voluntary certification programs fulfil their potential, that rests on whether they can deliver the benefits on the ground, producers will only adopt the practices if they perceive that they will be better off than they would otherwise be doing traditionally, including non-certified operations and other livelihood strategies.

A study conducted by (Duchelle, Kainer and Wadt, 2014) to evaluate if certification is associated with better forest management and socioeconomic benefits to Brazil nuts producers in Western Amazonia, used 231 producers from 17 communities and compared the certified producers with non-certified producers. The results found that organic and Fairtrade certification was associated with better postharvest practices and higher prices, while Forest Stewardship Council (SFC) certification was associated more with preharvest planning.

Overall, the certified producers gleaned more conservation practices, and financial and social benefits compared to their non-certified counterparts.

The study used household and community-level research in Nicaragua conducted from 2000 – 2006 to assess the response to the 1999 coffee crisis. Using 177 households selling into conventional and Fairtrade markets in 2006, participatory research was done, and the findings indicated that Fairtrade cooperatives experienced different positive impacts on education, monetary savings, and infrastructure investment (Bacon *et al.*, 2008). Also, Gitter *et al.*, (2012), reported that household participation in the Fairtrade-organic cooperatives contributed to the increase of 0.7% in schooling for girls in Southern Mexico.

Figure 2 shows when some voluntary certification programs started with their respective specific objective. The crops and countries listed are not the only ones those certification programs work with, it's just an example.

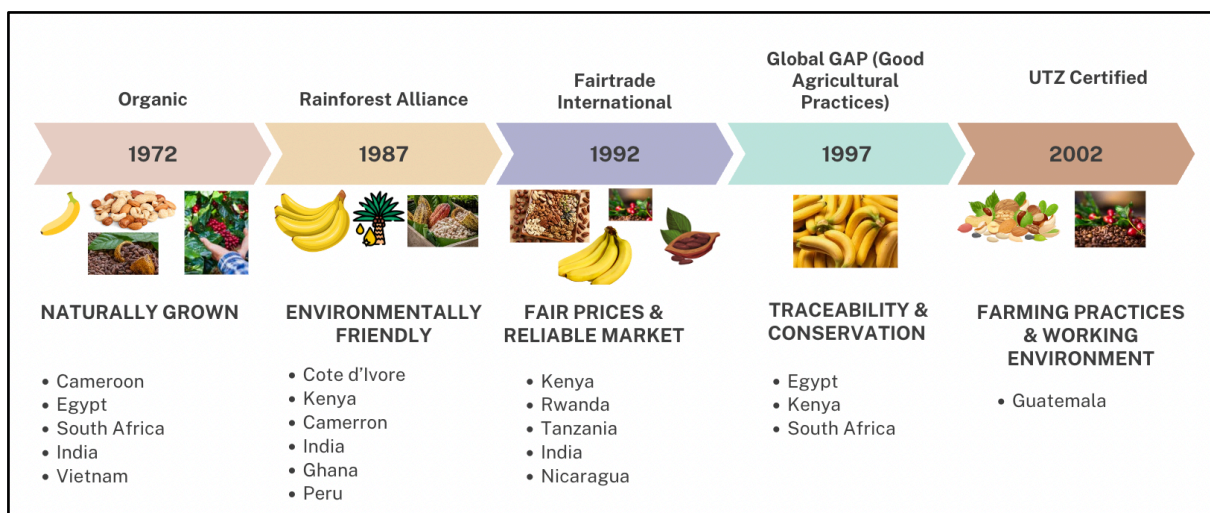


Figure 2. Example of some voluntary certification programs. Source: author's elaboration.

Even though the certification program can be chosen depending on the type of crop grown by farmers, there are cases where multiple certification programs exist for a single crop. In different coffee-producing countries, there are organic certification, Fairtrade certification, and organic – Fairtrade certification, and Rainforest Alliance certification (DeFries *et al.*, 2017).

Another important aspect of choosing a certain certification program is meeting its standards and principles; for example, organic certification standards demand producers to abstain from the use of synthetic agricultural products such as pesticides, inorganic fertilizers, herbicides, or genetically modified organisms (GMOs). Fairtrade certification standards demand compliance with particular social and economic principles but are less strict on environmental requirements. While Rainforest Alliance tends to be more holistically interested in



sustainability and includes to a larger extent the dimensions of economic, social, and environmental criteria (Schleifer and Sun, 2020).

Fairtrade premium sets Fairtrade apart from other certification schemes; the Fairtrade Premium is an extra sum of money farmers and workers can invest in community, environmental or business projects of their choice. This could include essentials such as healthcare, education, housing, and water, as well as developing their businesses and caring for the environment. Other benefits of Fairtrade are demonstrated in Figure 3.

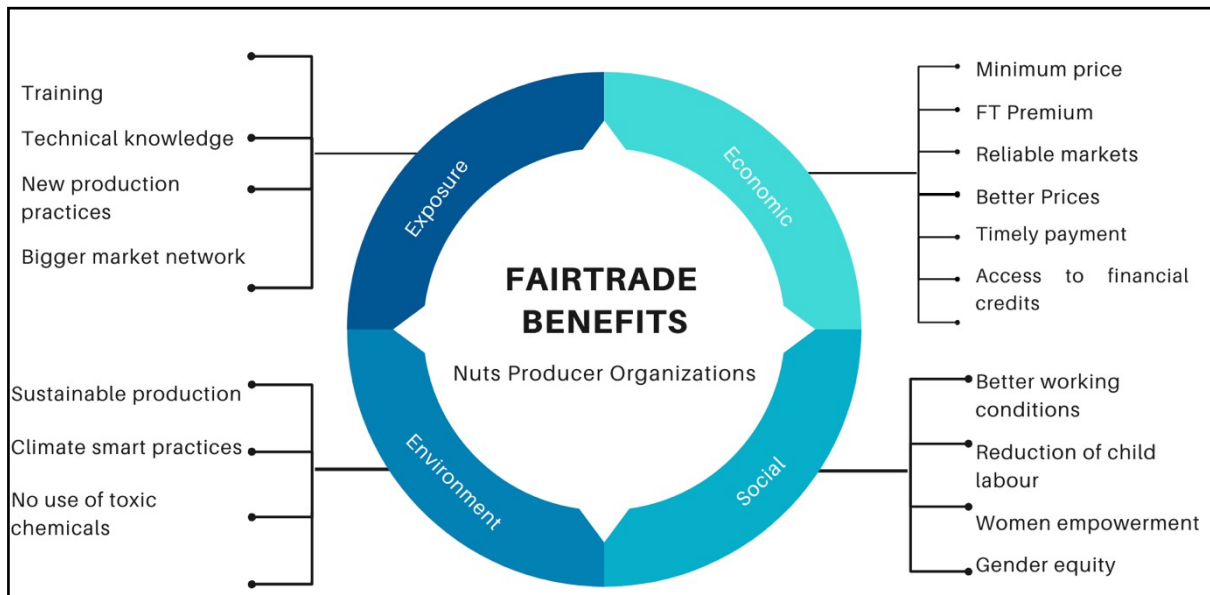


Figure 3. Fairtrade promised benefits to Nuts producer organizations. Source: Author’s elaboration.

For nuts, the certification started in the Amazon region where there was a need for forest management and other non-timber forest products (NTFP) to enhance the sustainability of timber production and the livelihood of Amazon communities. The certification system was introduced through the Forest Stewardship Council (FSC) and focused on timber. However, the considerable work of some NGOs, the private sector, the government, researchers, and communities led to the incipient certification of NTFPs such as Brazil nuts, both by industries and communities (GUEDES PINTO *et al.*, 2008).

Opposed to free trade, Fairtrade certification seeks to promote a trading system that encourages consumers from the Global North to pay more for products certified by Fairtrade to contribute to the improvement of the livelihood of producers from the Global South (Pedregal and Ozcaglar-Toulouse, 2011). To date, Fairtrade International works worldwide with 1.8 million farmers and workers and encompasses over 1800 producer organizations across 72 countries (Fairtrade International, no date).

Using quality of life indicators, a study conducted in Kenya that compared farmers affiliated with Fairtrade with farmers from a randomly selected control sample found significant differences in terms of product diversification sold, increase in monthly household income, price satisfaction, better dietary quality, and reduction of child mortality associated with Fairtrade certification (Becchetti and Costantino, 2008). Also, because of Fairtrade, Rwanda specifically has made progress towards Sustainable Development Goal Five for Gender Equality. 65% of farmers who belong to Rwandan Fair Trade Certified cooperatives perceive that there is an improvement in women’s participation and decision-making process (Elder, Zerriffi and Le Billon, 2012).

Figure 4 shows different conditions a certain cooperative must meet before applying to be certified by Fairtrade. On the other side, a quantitative survey to analyse the motivation for Fairtrade certification among smallholder coffee growers in Tanzania consisted of 148 Fairtrade-certified smallholder coffee farmers Pyk and Abu Hatab (2018) found that overall Fairtrade certification is predominantly economically motivated. However, Loconto *et al.*, (2019) state that Fairtrade cooperatives receive technical agricultural training that facilitates them to be more sustainable in their farming practices which consequently leads to improved yield and increased income.

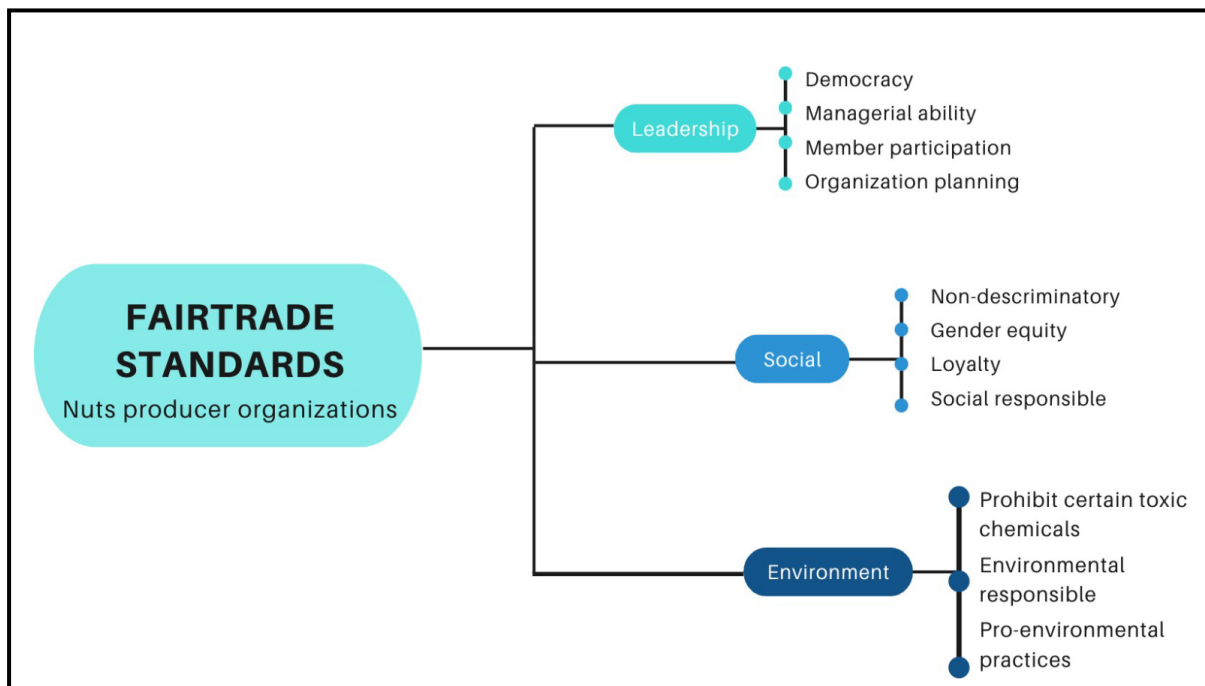


Figure 4. Fairtrade set of standards and principles for Nuts producer organizations.  
Source: Author’s elaboration.

## 2. Methodology and sample

The rationale for selecting study participants was to have at least one cooperative from each region of the country as the ecological conditions, infrastructure, and public services tend to differ from one location to another, and all those factors influence farmers' experiences. In the Beginning, eight cooperatives were contacted and asked to participate in the study, but due to some constraints such as time or conflicting agenda with other activities, four cooperatives participated in the study. In each cooperative, 20 to 26 cashew farmers were interviewed in person, and in total, 96 farmers participated as detailed in Table 2.

Table 1. Study participants and their respective regions

Cooperative (Region)	Female	Male	Grand Total
ANAG – Buba (Quinara)	6	14	20
Bodjar (Biombo)	10	16	26
Federação Kafo (Oio)	0	25	25
Gollem Badora (Bafatá)	2	23	25
Grand Total	18	78	96

Source: Own data.

The qualitative structured questionnaire survey was designed based on the literature review and Fairtrade handbook<sup>2</sup> for nuts producers available on the Fairtrade International website that details the specifications for nuts producer organisation (Fairtrade International, no date). The handbook contains a set of standards the nuts producers must meet to be certified by Fairtrade and indicates the benefits such as the minimum price for organic or conventional nuts.

In line with the study objectives, we prepared a questionnaire that consisted of qualitative and quantitative questions. Firstly, to understand if cashew cooperatives' operating conditions meet the set of standards established by the Fairtrade certification scheme. Secondly, to analyse if socio-economic and environmental benefits promised by Fairtrade certification are better compared to those obtained by cashew farmers within the existing supply chain.

For data analysis, R-software was used to perform a mixed approach of data manipulation and analysis. A chi-square test was often conducted to evaluate the degree of association between respondents' responses and their respective cooperatives. Where responses are continuous, an analysis of the Variance (ANOVA) test was conducted to evaluate if there is any statistically significant difference in the mean of each response across the cooperatives.

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<sup>2</sup> Fairtrade handbook for nuts producers

Specifically, due to the emphasis on the Fairtrade principle that restricts the use of child labour, we performed a linear regression to find different variables that are related to such practice.

For all statistical calculations performed, the confidence level was assumed at 95% which implies the p-value equalling to 0.05.

### 3. Results and Discussion

#### 3.1 The status quo of cashew farmers' cooperatives operating conditions in the perspective of Fairtrade standards and principles

For cashew cooperatives to be certified by Fairtrade, there are a set of standards they must meet as was discussed in the literature review section. This part analyses farmers' perceptions of Fairtrade's principles and uses a statistical approach to understand if farmers' experiences differ across the cooperatives.

##### 3.1.1 Democracy in the Cooperatives

The first principle considered in the analysis was the freedom to give an opinion as a member of a cooperative. Among the total of 96 respondents, 4% think that they don't have the freedom to give opinions in their respective cooperatives, while 96% think that they do have the freedom. All respondents who think they don't have the freedom to give opinions are from ANAG-Buba representing 20% of its participants. The next element considered is the value of the members' opinions. 85.4% of the respondents feel that their opinion in a cooperative is always valued, 10.4% feel that their opinion in a cooperative is valued sometimes and 4.4% feel that their opinions are never valued. most respondents who reported that their opinions are not valued within the cooperative are from ANAG-Buba. The Next element considered was cooperative leaders' trustworthiness, 94% of the farmers think their leaders are trustworthy, 4% think their leaders are somewhat trustworthy, and 2% think their leaders are not trustworthy. farmers' freedom to give opinions, the feeling of their opinion being valued, and their respective cooperatives can be related to how often members meet frequent meetings increase the trust between farmers and create a good environment for everyone to give their ideas. For ANAG-Buba, where 20% of the total cooperative participants revealed feeling that they don't

have the freedom to give an opinion, it was reported that there are no fixed dates for cooperative meetings. In comparison Bodjar with 100% of surveyed members feeling that their opinions are valued, meets every month, and monitors absences to encourage everybody to attend constantly.

Fairtrade certification program demands the producers' cooperatives to be led democratically because fulfilling some of its goals, such as using premium money in community development projects, requires everyone's contribution during decision-making.

### 3.1.2 Environmentally friendly practices in cashew Orchards

The use of environmentally friendly practices is an important element for the Fairtrade certification. In the case of this study, 98% of the respondents reported that they don't use any agricultural synthetic chemical products, and only 2% of the respondents reported that they use agricultural synthetic chemical products. The survey also requested farmers' information about deforestation practices, 80% of the respondents reported having cut down trees during cashew orchard plantation or expansion, and 20% of the respondents reported not practised deforestation. A chi-square test was considered and there was no significant degree of association between respondents' deforestation practices and their respective cooperatives. This deforestation practices can be explained by the monocultural production practices for Guinea Bissau's cashew production as explained by Seca, Pereira and Silva (2021) On the other side, many farmers don't use any agricultural synthetic chemicals in their cashew orchards. That is possible because cashew trees in Guinea Bissau haven't been affected by pests or diseases whose damage exceeds the economic threshold.

If cashew cooperatives were to participate in the Fairtrade certification program, there is a possibility for their cashew nut produce to be traded as organic which would lead to higher prices on the global market. Also, Fairtrade services include the provision of new agricultural techniques which could introduce cashew farmers to farming systems like agroforestry, where cashew trees can be mixed with other crops such as sesame to provide an alternative source of food and household income which could reduce the incentive of cutting down trees. Elder, Zerriffi and Le Billon (2012) by analysing 10 Fairtrade-certified cooperatives in Rwanda, examined the effects of Fairtrade certification on coffee practices. Their results indicated that the Fairtrade certification program influences agricultural practices via opportunities for training smallholder farmers.

### 3.1.3 Workers' conditions and child labour regulations

On average each respondent uses 25 people annually as the source the labour on cashew orchards. That labour consisted of 48% family labour, 40% hired labour, and 12% hired child labour. Anova test results indicated that there are no significant differences neither between the mean of family labour nor the mean of hired child labour across all cooperatives. However, there was a significant difference between the mean of hired labour.

The significant difference in the mean of hired labour can be attributed to the size of cashew orchards where those with bigger size land are likely to hire more people on their farms. Also, farmers whose family working members are few, tend to hire more labour externally.

The finding that the hired child labour represents 12% of the total labour caught our attention. We emphasized the hired child labour as being an important aspect of Fairtrade certification, and regression analysis results demonstrated in table 2 below show different variables with positive coefficients that significantly influence such practice.

**Table 2:** Linear regression analysis result for predictors of hired child labour on cashew orchards.

Parameters	Linear regression model				
	Use of hired child labour				
	Estimate	Std.Error	t-value	Pr(> t )	
Intercept	16.558	3.857	4.293	0.000	***
Gender (Male = 0, Female = 1)	1.836	1.062	1.729	0.087	.
Freedom to give opinion (No=0, Yes=1)	-11.237	2.020	-5.563	0.000	***
Primary decision maker on orchard management (No=0, Yes=1)	-3.602	1.721	-2.093	0.039	*
Practice of deforestation (No=0 Yes=1)	-1.434	1.072	-1.338	0.184	
Average farmgate price (\$/kg)	-2.505	4.250	-0.589	0.557	
Number of days to payment (Days)	0.055	0.019	2.972	0.004	**
Cashew orchard size (2ha – 5ha=1, <2 ha=0)	-0.340	0.983	-0.346	0.730	
Cashew orchard size (> 5ha=1, < 2ha=0)	0.694	1.094	0.635	0.527	
Family labour	0.007	0.055	0.123	0.903	
Hired labour	0.160	0.036	4.436	0.000	***
<b>Model fit</b>					
Multiple R-squared			0.501		
Adjusted R-squared			0.442		
p-value			0.000		
F-statistic			8.539		
Degree of freedom	85.000				

Signif codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1. Source: Authors' elaboration.

Farmers who have the freedom to give opinions in their respective cooperatives tend to use more hired child labour. That is possible because they are the ones who are more empowered, and they are likely to get information on finding cheap labour in their respective communities. An increase in the number of days for farmers to receive money from the buyers after giving their produce tends to increase the use of hired child labour and the fact that hired child labour is cheap can explain that relation. Also, farmers who use more hired labour tend to increase the use of hired child labour which implies that cashew farmers who have many people outside their families to work in their cashew orchards are more likely to hire children.

Fairtrade certification prohibits the use of child labour for certified producers' organizations. In fact, in Mexico, there was an increase in girls' education because of Fairtrade's introduction (Gitter *et al.*, 2012). Therefore, this is an important aspect that needs to be addressed to meet the required standards for Fairtrade certification. Probably, the use of child labour is among the main reasons Fairtrade International reported that only 3% of the world's raw cashews can be certified as Fairtrade (*Beau's Gelato*, no date).

#### 3.1.4 Gender equity

From a gender perspective, considering the female participants only, 94% reported they have the freedom to give opinions while 6% they don't have the freedom to give opinions in their respective cooperatives. On the other hand, for the male participants, 96% of the respondents reported they have the freedom to give opinions while 4% reported they don't have the freedom to give opinions. There was a lack of association between gender and farmers' freedom to give opinions in their respective cooperatives, and due to the small number of female participants in the study didn't facilitate any further analysis to understand in-depth the gender aspects in the daily operations of cashew cooperatives.

However, Galvão and Laranjeiro (2019) who wrote about the gender struggle in Guinea Bissau described the existing patriarchal structure in the society where most families are male-dominated, and responsibilities are mostly gender specific. Such illustration embodies the truth given the fact that for this study, it was difficult to find female participants as it was conducted in the period of harvesting cashew nuts which is regarded as women's responsibility in Guinea Bissau's society. Since Fairtrade certification emphasises the importance of gender equity for certified producers' organisations, more research is needed to understand better how gender, particularly females perceive their inclusiveness within the cooperative decision-making process.



### 3.2 The socio-economic benefits obtained by cashew farmers cooperatives in the light of benefits promised by Fairtrade International

The Fairtrade certified nuts producers have various benefits they receive by participating in the certification scheme as was discussed in the literature review section. This part analyses farmers' socio-economic experience both individually and across cooperatives in line with Fairtrade promises.

#### 3.2.1. Access to the market

Of the 96 participants, 73% reported that are always worried about the market of their cashew nut produce, 25% are sometimes worried, and 2% are never worried about the market. There was a significant degree of association between farmers' response and their respective cooperatives where all participants from ANAG-Buba reported worrying always about the market for their produce.

As discussed in the literature review section, farmers don't have any strong relationship with buyers, and that's probably why most of them are always concerned about whether someone will be coming to buy their produce in the coming season. A typical example happened in 2012 when India decided to reduce their cashew nut imports as its domestic production had increased significantly. Guinea Bissau farmers suffered from a lack of market and such a crisis exacerbated their food insecurity experience (Yomichan, 2020). Fortunately, India opened again, and to date, is the primary importer of raw cashew nuts from Guinea Bissau, followed by Vietnam. The significant degree of association between farmers being worried about the market and their respective cooperatives implies that belonging to a functional group leads to some benefits such as having market information which influences the farmers' confidence about finding a market for their produce.

A study conducted in Guinea Bissau evaluating how providing market information to cashew farmers could influence their market decisions finds that when farmers know the real prices may keep their produce longer waiting for prices to go up and concluded that those with market information received higher farmgate prices compared to those who didn't have information (esellers@cepr.org, 2020).

Fairtrade certification program could provide a worldwide reliable market for cashew nut produce and avoid being worried about the market. According to Chen and Tang (2015), when farmers have access to a reliable market, they increase their investment in agriculture which could lead to improved yields and ultimately increased income which could potentially improve food security and other better household living standards.

### 3.2.2 Better Prices

The average cashew nut farmgate price was found to be \$0.541/kg, and there was no statistically significant difference in the mean across cooperatives. That is because none of the cooperatives facilitates its members to find a better market for their produce. Compared to minimum prices established by Fairtrade as illustrated in figures 4 and 5, the prices received by farmers are lower given that cashew nuts from Guinea Bissau have a higher quality and that is why they are bought by Indians and Vietnamese to mix with their local produce of low quality to preserve the quality of cashew nuts exported to markets of Europe and United States of America (Yomichan, 2020).

		KOR														
		44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
Nut Count (per kg)	198	0.513	0.523	0.533	0.543	0.553	0.563	0.573	0.583	0.593	0.603	0.613	0.623	0.633	0.643	0.653
	199	0.512	0.522	0.532	0.542	0.552	0.562	0.572	0.582	0.592	0.602	0.612	0.622	0.632	0.642	0.652
	200	0.511	0.521	0.531	0.541	0.551	0.561	0.571	0.581	0.591	0.601	0.611	0.621	0.631	0.641	0.651
	201-210	0.510	0.520	0.530	0.540	0.550	0.560	0.570	0.580	0.590	0.600	0.610	0.620	0.630	0.640	0.650
	211	0.509	0.519	0.529	0.539	0.549	0.559	0.569	0.579	0.589	0.599	0.609	0.619	0.629	0.639	0.649
	212	0.508	0.518	0.528	0.538	0.548	0.558	0.568	0.578	0.588	0.598	0.608	0.618	0.628	0.638	0.648
	213	0.507	0.517	0.527	0.537	0.547	0.557	0.567	0.577	0.587	0.597	0.607	0.617	0.627	0.637	0.647

Figure 5. Fairtrade minimum farmgate prices for Conventional cashew nuts. Source: Fairtrade.net

		KOR														
		44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
Nut Count (per kg)	198	0.596	0.606	0.616	0.626	0.636	0.646	0.656	0.666	0.676	0.686	0.696	0.706	0.716	0.726	0.736
	199	0.595	0.605	0.615	0.625	0.635	0.645	0.655	0.665	0.675	0.685	0.695	0.705	0.715	0.725	0.735
	200	0.594	0.604	0.614	0.624	0.634	0.644	0.654	0.664	0.674	0.684	0.694	0.704	0.714	0.724	0.734
	201-210	0.593	0.603	0.613	0.623	0.633	0.643	0.653	0.663	0.673	0.683	0.693	0.703	0.713	0.723	0.733
	211	0.592	0.602	0.612	0.622	0.632	0.642	0.652	0.662	0.672	0.682	0.692	0.702	0.712	0.722	0.732
	212	0.591	0.601	0.611	0.621	0.631	0.641	0.651	0.661	0.671	0.681	0.691	0.701	0.711	0.721	0.731
	213	0.590	0.600	0.610	0.620	0.630	0.640	0.650	0.660	0.670	0.680	0.690	0.700	0.710	0.720	0.730

Figure 6. Fairtrade minimum farmgate prices for organic cashew nuts. Source: Fairtrade.net

In Guinea Bissau, the average kernel outturn ratio (KOR) ranges between 52 to 54 (USDA and FSA, 2017.p44) and nut count per kilogram ranges between 212 to 215. If cashew cooperatives were to adopt Fairtrade certification, farmers would receive higher farmgate prices. In addition, their cashew nuts can be certified as organic, which could potentially increase their income and consequently improve their food security status.

### 3.2.3 Timely payment

The number of days that farmers need to wait until receiving payment after giving their cashew nut produce to buyers ranges from 0 to 90 days. However, the majority, 57% of the participants receive their payment immediately when they give their cashew nuts to buyers. Also, there was a statistically significant difference in the number of days to payment experience by farmers across cooperatives as shown by ANOVA test results in Table 14. Across the cooperatives, the average number of days to payment is 0, 4, 20, and 22 for ANAG- Buba, Federaçao KAFO, Bodjar, and Gollem Badora respectively.

The significant difference in the mean of days to payment across cooperatives can be attributed to their respective regions because farmers from the region that is far from the capital city wouldn't easily trust the buyers to take their harvest without paying them. For contracts involving Fairtrade buyers and producers, payment must be made according to the international customary conditions, and no later than 15 days after the receipt of the documents transferring ownership. Therefore, if cashew cooperatives were to adopt the Fairtrade, there is a need to explain to the farmers the entire structure because some of them have had bad experiences in the past, as one farmer testified during interaction with one cooperative.

*“One time, we gave our cashew nut to this person who was promising to give us higher prices, but never returned to our village”.*

Participant from ANAG-Buba.

### 3.2.4 Access to Financial Credits

76% of the respondents reported that they have never received any financial credits while 24% reported that they have received financial credits. There was a significant degree of association between if respondents' response and their respective cooperatives.

As discussed in the literature review section, there are no commercial banks that give loans to farmers, and since there is no relationship with the buyers, they cannot get any cash advance from them. However, the significant degree of association between cooperatives and financial credits is possibly due to some cooperatives having services they provide to their members and can allow them to pay later. For instance, two cooperatives whose members reported a higher number of respondents who have received financial credits are Bodjar and Federaçao KAFO, with 42% and 28% respectively of their total participants. Both cooperatives have a system of working together during land preparation before the planting period. They rent agricultural machinery such as tractors and rent them to community members while their members pay reduced fees compared to non-members.

The inaccessibility of financial credits is associated with barter trade practices where farmers exchange their cashew nut produce to get rice from local merchants. Such a situation happens in favour of the local merchants and farmers as a coping mechanism as reported by some of them during data collection.

*“Local merchants can’t accept to give you rice for you to pay later, rather they ask you to provide two kilograms of cashew nut to get one kilogram of rice”.*

Participant from Bodjar cooperative.

*“We can’t request financial credits from the buyers because we don’t have any relationship with them, and they vary each season”.*

Participant from ANAG-Buba cooperative.

*“Imagine for me I have a family of eight people; we use four kilograms of rice every day and that means I have to give eight kilograms of cashew nut to local merchants who buy from us at half of the price we could be getting in the normal situation”.*

Participant from Gollem Badora cooperative.

## Conclusion

The overall objective of this study was to understand whether the adoption of Fairtrade is feasible for the cashew cooperatives and its potential contribution to sustainability in Guinea-Bissau. The findings demonstrated that cashew cooperatives consist of many smallholder farmers, a high proportion of labour is from family, they don’t use any synthetic chemicals, and the majority are the primary decision makers for their cashew orchard management. All these are factors that would make cashew cooperatives potential candidates for Fairtrade certification. However, the data showed some practices and behaviours, such as deforestation and use of hired child labour which don’t align with Fairtrade principles. There was a significant variation in members’ perception regarding democratic leadership across cooperatives, which means that the suitability of Fairtrade can vary from one cooperative to another. The study found that many cashew farmers worry about the market of their cashew nut produce and experience lower prices which force them to practice barter trade by exchanging cashew nuts for rice with local merchants losing a big range of market value for their product. Such conditions demonstrate that the introduction of Fairtrade would contribute to sustainability in Guinea Bissau by providing Fairtrade promised benefits such as better prices, a reliable market, sustainable agricultural practices, and training that promote social inclusivity and foster gender equity towards building communities that are thriving with better standards of living, and improved food security.

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