

Research Article

# Fairtrade and quality of working life in Ecuadorian banana production

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**Resumen:** Este estudio evalúa el impacto de la aplicación de las normas de FAIRTRADE en la calidad de vida laboral de los trabajadores del sector bananero. La investigación propone estrategias para optimizar la distribución de la prima de FAIRTRADE entre los empleados de las empresas. Se realizaron entrevistas en profundidad a una muestra de 196 familias de la provincia de Los Ríos que participaron en el proceso de precertificación y en la posterior implementación de las prácticas de FAIRTRADE en tres plantaciones de plátanos. Los datos se analizaron mediante el procedimiento de agrupamiento por medias, tras lo cual se estimaron la puntuación de propensión y el efecto medio del tratamiento. Se observó que la implementación de los estándares FAIRTRADE ha tenido un impacto positivo en la calidad de vida laboral de los trabajadores de la industria bananera, particularmente en términos de indicadores como bonificaciones escolares, becas, participación comunitaria, salarios y número de horas de trabajo. Aunque su alcance sigue siendo limitado en comparación con el comercio convencional, para optimizar la prima de comercio justo que reciben las empresas bananeras, deben implementarse estrategias para reducir las diferencias salariales entre el personal administrativo y los trabajadores de campo.

**Palabras clave:** comercio justo, calidad de vida, socios, plátanos.



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**Abstract:**

This study evaluates the impact of implementing FAIRTRADE standards on the quality of working life for workers in the banana sector. The research proposes strategies to optimize the distribution of the FAIRTRADE premium among company employees. In-depth interviews were conducted with a sample of 196 families in the province of Los Ríos who participated in the pre-certification process and the subsequent implementation of FAIRTRADE practices on three banana plantations. The data were analyzed using the mean-grouping procedure, after which the propensity score and the average treatment effect were estimated. It was observed that the implementation of FAIRTRADE standards has had a positive impact on the quality of working life for workers in the banana industry, particularly in terms of indicators such as educational bonuses, scholarships, community participation, wages, and number of working hours. Although its scope remains limited compared to conventional trade, to optimize the fair trade premium received by banana companies, strategies must be implemented to reduce wage disparities between administrative staff and field workers.

**Keywords:** fair trade, quality of life, partners, bananas.

## 1. Introduction

Fair trade is an alternative model of economic exchange designed to address inequalities in global trade by promoting stable minimum prices, gender equality, non-exploitation of labor, environmental responsibility, and democratic participation within producing communities (Morales & Ponguillo, 2025). It has also been described as a private governance system that introduces rules and verification mechanisms into global value chains to reduce asymmetries and strengthen labor and environmental standards through minimum prices, social premiums, and requirements linked to working conditions and well-being (Jodrell & Kaoukji, 2020). In this sense, fair trade seeks to foster more equitable commercial relations between developed and developing countries by guaranteeing fairer prices and improving the livelihoods of farmers and workers in marginalized territories (Salim et al., 2025). It also facilitates access to international markets, encourages sustainable practices, and supports fairer conditions of exchange (Sarmiento et al., 2025).

For a company to be recognized as fair trade, it must comply with standards established by independent certification bodies intended to reduce asymmetries among actors in agri-food chains and provide equitable trading conditions. However, the cost and complexity of certification may become barriers when technical support is insufficient (Armijos et al., 2022). In Latin America, fair trade has been associated with equitable, transparent, and environmentally responsible relationships, although structural constraints remain, including certification costs, limited participation of small producers, and low public recognition of the label (Salas et al., 2021). Likewise, the

growing number of export companies adopting fair trade certification reflects an interest in demonstrating responsible business practices and transparent commercial relations with suppliers and consumers, even though this process has also generated debate regarding its effects on smallholder well-being, environmental protection, and consumer behavior (Milla et al., 2023).

The standards governing certified production are defined by internationally recognized organizations such as FAIRTRADE, GLOBALG.A.P., and Rainforest Alliance. Their implementation usually requires periodic audits, traceability, and technical adaptation of productive practices (Lostao, 2022). In organizations employing hired labor, fair trade standards include provisions on remuneration, freedom of association, and occupational health and safety, as well as participatory guidelines for the allocation of premiums to education, housing, and community services linked to family well-being (Jodrell & Kaoukji, 2020). Through these mechanisms, certified organizations can access a social premium that may be invested in infrastructure, health, education, and other collective improvements, thereby reinforcing local equity and promoting inclusive rural development (Ramírez, 2025).

Recent evidence from Latin America suggests that the effects of fair trade extend beyond commercial exchange and connect with processes of rural inclusion and sustainability. The success of these initiatives depends on government support, increased production, capacity building, skills development, and access to international markets, particularly for vulnerable rural communities (Valdivieso-Albán et al., 2024). In Peru, fair trade has promoted agricultural sustainability and social justice through sustainable technologies and democratic participation in cooperatives, although additional external conditions are still required to consolidate well-being (Lozano et al., 2025). Similarly, organic and fair trade certifications have been associated with improved food security and household well-being among Peruvian mango producers, with differentiated effects according to production scale (Schulte & Abdulai, 2025).

In Bolivia, organic quinoa production has improved the economic conditions of smallholder farmers, although fair trade continues to face restrictions derived from oversupply and stronger international competition (Stöcker et al., 2024). Fair trade has also shown potential for sustainable supply-chain transformation through income stabilization, reduced dependence on chemical inputs, and greater social participation, although certification costs, deficient infrastructure, and limited policy support remain obstacles (Tyozenda & Ahemen, 2025).

Within this framework, quality of working life refers to the well-being and satisfaction experienced by workers in their labor environment, including work-life balance, organizational climate, motivation, professional development, autonomy, job satisfaction, and interpersonal relationships in the workplace (Acosta, 2015). This perspective is relevant because evaluating fair trade only in terms of prices or income provides a partial view; it is also necessary to examine whether certification standards are reflected in more dignified, participatory, and satisfactory work experiences.

Banana (*Musa* spp.) is one of the most important agricultural commodities worldwide. Commercial plantations represent a share of global production and depend on investments in infrastructure and external inputs, whereas small-scale farmers generally cultivate bananas for local markets under lower-input conditions (Panigrahi et al., 2021). In Ecuador, banana production has economic relevance, and national output reached 7.5 million tons (Ministerio de Agricultura y Ganadería, 2025). Despite this importance, the commercial dynamics of the sector have had limited influence on the quality of life of workers, while contributing to national economic growth (Polo, 2020). For this reason, fair trade-certified commercial alternatives have been proposed as mechanisms to distribute benefits more equitably and promote sustainable development in banana-growing territories (Sánchez et al., 2020).

In Ecuador, several studies have examined the effects of fair trade on income, profitability, and quality of life, especially among organizations of small producers. A positive association has been reported between fair trade certification and monthly income, as well as a greater probability of reporting profits and satisfaction with income, although direct causality has not been demonstrated (Guevara-Rosero et al., 2024). Likewise, in certified flower plantations, standards related to gender and decent work have been associated with better conditions for women workers, including maternity leave, childcare, and anti-discrimination measures, although structural inequalities persist (Raynolds, 2022).

In the agricultural sphere, a moderate positive relationship has been identified between fair trade and quality of life among cocoa producers, particularly in economic, social, and environmental dimensions, although weaknesses remain in dissemination, environmental actions, and family-level benefits (Loor et al., 2025). The current legal wage in Ecuador remains below the estimated living wage for the rural coastal area where banana production is concentrated, revealing a structural gap between actual remuneration and the income required for decent living conditions among working families (Andersen et al., 2021). Although these studies provide relevant evidence, they also show that research has focused mainly on producers, income, and general well-being, leaving insufficiently explored how fair trade standards are expressed in the quality of working life of wage workers in Ecuadorian banana companies

## 2. Materials and methods

Given that a counterfactual is crucial for evaluating the impact of a project, the following research question was proposed: What will have happened to working conditions on banana plantations after the implementation of the Fairtrade standard? The study covers the period from 2018 to 2024 and is based on in-depth interviews conducted with a sample of 196 people who were part of the pre-certification process and subsequent implementation of fair trade on three banana plantations in the Buena Fé canton of the Los Ríos province. Social variables were defined for the analysis of the characteristics of the beneficiary families, using a registration form on banana

plantations. This form allowed the data from eight variables to be organized and transformed into indicators (Table 1).

**Table 1**  
*Socioeconomic variables and indicators of fair trade beneficiaries*

Variables/indicators	Description	Unit of measurement
Age	Person recognized as head of household (Instituto Nacional de Estadística y Censos [INEC], 2021).	Years
Women's labor inclusion	Elimination of gender barriers in the workplace (INEC, 2021)	Men, women
Formal education	Levels of education: Early childhood, primary, secondary, and higher (Chamba-Zarango & Aguilar-Gordón, 2025)	Years
Continuing education	Acquisition of knowledge and professional development (Ochoa & Balderas, 2021)	Relative value
Work experience	Sum of experience throughout their relationship with the organization (Radley, 2022)	Years
Job specialization	Division of tasks based on specific skills and knowledge	Relative value
Community participation	Active beneficiaries in rural development (Rosales, 2024)	Relative value
Home ownership	Legal right to housing	Relative value

Note: (Authors, 2026).

To assess the impact of the fair trade standard, ten covariates related to the quality of working life based on the application of the Fairtrade standard were considered (Table 2). Salary amounts were obtained from the financial departments of the farms and were calculated in nominal terms, as the annual inflation rate reported by Ecuador's official agency did not exceed 1% and deflation was even recorded in 2019 and 2020.

**Table 2**  
*Variables and indicators of quality of working life*

Variables	Description	Unit of measurement
Overtime pay	Number of hours paid per month	Hours/month
School vouchers and scholarships	Beneficiaries of vouchers and scholarships in relation to the total	Relative value
Office assistant salary	Annual remuneration	\$/person/year
Field supervisor salary	Annual remuneration	\$/person/year
Palletizer salary	Annual remuneration	\$/person/year
Packager salary	Annual remuneration	\$/person/year
Plant defoliator salary	Annual remuneration	\$/person/year
Hours worked per week	Number of hours worked per week	Hours/week
Vacation time	Paid days off	Days/year
Turnover rate	Job security	Relative value

Note: (Authors, 2026).

The data obtained were tabulated and statistically analyzed using the mean grouping procedure proposed by Scott-Knott (1974, as cited in Bhering et al., 2008). Subsequently, the propensity score (Wooldridge, 2010) was estimated, which is the probability that each contributor will benefit from the Fairtrade standard.  $PS = P(W = 1)$ , where  $W_i = 1$  is the treatment group, which participates in fair trade; and  $W_i = 0$  is the control group, which does not participate in fair trade. To estimate PS, a probit

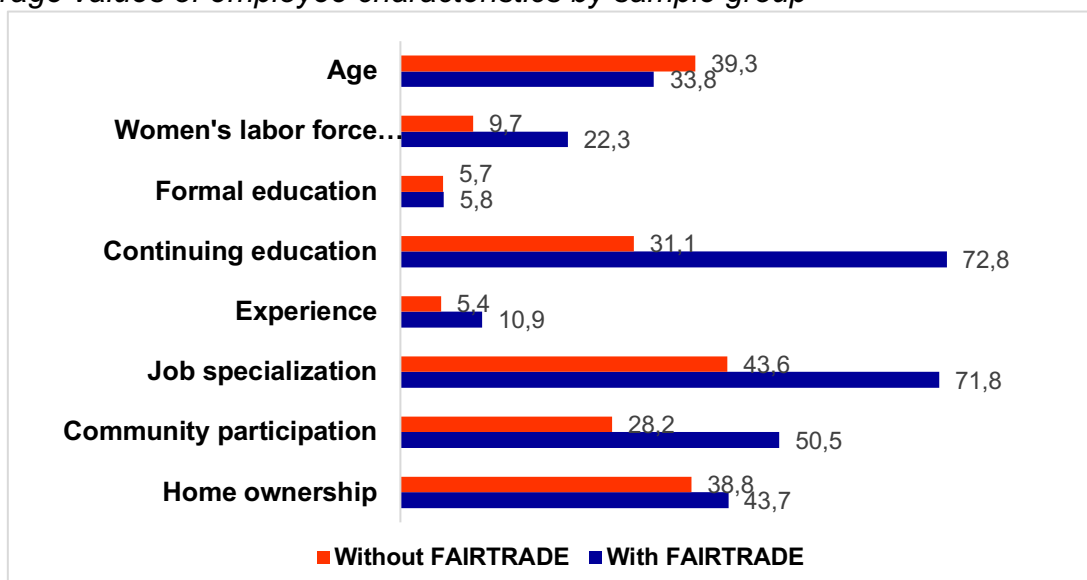
model was used, with the set of covariates X, which explain, albeit partially, a possible non-random distribution of banana workers who have Fairtrade certification:  $PS = P(W = 1|X)$ . Finally, the average treatment effect on the treated (ATT) was estimated using the mean difference in working conditions indicators between the group of beneficiaries with Fairtrade and those without. The average treatment effect was calculated using the following equation:  $ATT = E[Y(1) - Y(0)|W = 1] = E[Y(1)|W = 1] - E[Y(0)|Y(1)|W = 1]$  Where Y (1) refers to each working conditions indicator for the group of beneficiaries participating in Fairtrade and Y (0) refers to each working conditions indicator for the group of beneficiaries not participating in Fairtrade. To estimate the impact of Fairtrade on working conditions, Stata 15 statistical software was used, employing the “teffects psmatch” command and nearest neighbor matching as the matching estimator, without replacement. According to Caliendo and Kopeinig (2008), this is the simplest estimator when comparing observations with the nearest neighbor.

### 3. Results

#### 3.1. Analysis of employee characteristics

As for the age of workers on banana plantations, although a slight decrease was observed during the period analyzed, no significant differences were found, as the average age with Fairtrade was around 33.8 years and without Fairtrade it was 39.3 years (Figure 1).

**Figure 1**  
Average values of employee characteristics by sample group



Note: (Authors, 2026).

The distribution of plantation employees by gender shows a significant difference, as the inclusion of the average number of women hired increases from 9.7 to 22.3. Although this inclusion is favorable, it should be noted that work on banana plantations

involves long hours, which during harvest and post-harvest periods can exceed twelve hours of work, during which banana workers also have to take care of their homes, whether they are single mothers or in a relationship, because the distribution of essential tasks for subsistence is rarely shared, so women's actual working hours are much longer than men's (Vitali-Bernardi & Marega, 2023).

The average level of education among employees increased from 5.7 to 5.8 following the implementation of the Fairtrade standard, meaning that there have been no significant changes in this variable. However, there has been a notable increase in the number of training courses or workshops offered by the company to employees, which is very significant, as it has risen from an average of 31.1% to 72.8% (Table 3). These data are related to the fair trade success story of the El Oro Banana Growers Association (ABFE), which has developed projects for the production of biofertilizers through training courses and workshops on topics such as production, the environment, organization, and occupational health and safety, among others (Solano et al., 2023).

The average number of years of experience of the groups with and without fair trade was statistically significant, increasing from 5.4 to 10.9 years. A similar result was obtained in terms of job specialization, which showed a significant difference, with an increase in the average from 43.6% to 71.8% with Fairtrade and without Fairtrade, respectively. These results are consistent with data obtained by Quinde et al. (2024), which states that farmers are adopting new technologies such as precision agriculture, the use of drones for crop monitoring, smart irrigation systems, crop rotation, and the use of organic fertilizers. These innovations optimize the use of resources and increase farm productivity.

The covariates associated with community participation reveal a considerable average increase, from 28.2 without the application of the Fairtrade standard to 50.5 with the implementation of Fairtrade. This allows us to deduce that the degree of familiarity of staff with the principles, objectives, and benefits of this certification has had a positive impact on employee participation in activities organized inside and outside the company. These results coincide with Merchán-Borbor (2022), who found that in the canton of Santa Elena, 45.54% of community members affirm that associativity is very important for achieving true sustainable local development. Finally, no significant difference was found in home ownership among employees, as the averages were close to 38.8 and 43.7 with Fairtrade.

### **3.2. Performance of indicators of quality of working life**

Overtime pay as an indicator of quality of working life showed a significant difference between the two groups. Fair trade employees had an average result three times higher, around 6.8 hours per month (Table 3). This result represents a labor achievement, as studies such as those by Sánchez (2025) report that, despite its economic importance, the banana sector in agriculture presents unequal conditions and exposes workers to long hours, low wages, and risks. Women suffer a double

burden of work and harassment, and attempts at unionization are suppressed, perpetuating exploitation.

**Table 3**

*Average values of work life quality indicators by sample group*

Indicators	With Fairtrade	Without Fairtrade
Overtime pay	6,8 a	2,2 b
School vouchers and scholarships	65,1 a	9,7 b
Office assistant salary	11 961 a	6966 b
Field supervisor salary	14 676 a	13 586 a
Palletizer salary	8789 a	7981 a
Sleeve maker salary	5876 a	5217 a
Plant defoliator salary	7577 a	4950 b
Hours worked per week	40 a	45 a
Vacation time	14,9 a	5,2 b
Turnover rate	11,6 a	15,5 a

*Note:* Means followed by the same letter do not differ from each other at a nominal significance level of 5% (Authors, 2026).

Table 3 shows a significant positive trend in scholarships and financial aid; in 2018, it was sporadic, but since the implementation of the Fairtrade standard, it has reached 65.1% of beneficiary families. This company policy has an additional benefit, as Cabrera and Jiménez (2025) found that scholarship recipients achieved better academic results than those who did not receive them, demonstrating the importance of continuing to invest in these programs to promote equal educational opportunities. The salary of office assistants in the Fairtrade group was \$11,961 per year, much higher than that of the other group, \$6,966, which generated a statistically significant difference. A similar pattern is reflected in the wages of workers engaged in the defoliation of banana plants, which rose from \$4,950 to \$7,577 without and with Fairtrade, respectively. The rest of the average values of the wage covariates, as well as the number of hours worked per week and the level of staff turnover, show positive impacts but do not present statistically significant differences (Table 3).

Workers in the annual leave dimension indicator showed significant differences between groups. For the group of employees with Fairtrade standards, the number of vacation days almost tripled, reaching 14.9 days/year (Table 3). This result is consistent with the Asamblea Nacional del Ecuador (2021), which establishes in the Ecuadorian Labor Code that agricultural companies, like other companies, must grant 15 days of rest after one year of service, including non-working days. Workers who have been employed for more than five years by the same company or employer are entitled to an additional day of vacation for each additional year of service or to receive monetary compensation for the additional days.

### 3.3. Impact of Fairtrade on the quality of working life

Table 4 shows the second step of the PSM model, in which the average effect of Fairtrade implementation was estimated separately for each working conditions indicator. Most working conditions indicators, seven out of the eleven analyzed,

showed that Fairtrade implementation on banana farms had a positive impact with a statistical significance level of at least 10%.

**Table 4**

*ATT Fairtrade on indicators of quality of working life*

Indicators	ATT	Standard error	Z-score
Overtime pay	4,60	2,53	1,82
School vouchers and scholarships	55,40	4,92	11,26***
Office assistant salary	4995	2038,27	2,45
Field supervisor salary	1090,00	1066,33	1,02
Palletizer salary	808,00	514,29	1,57
Sleeve assembler salary	459,00	336,22	1,37
Plant defoliator salary	2627,00	1340,31	1,96
Weekly working hours	-5,00	2,55	-1,96**
Vacation time	9,70	4,95	1,96
Turnover rate	-3,90	4,24	-0,92
Community involvement	32,30	11,71	2,76**

Note: \* 10% significance; \*\* 5% significance; \*\*\* 1% significance (Authors, 2026).

The estimated overtime pay had a positive and significant average effect of 4.60 hours per person per month, and similarly for the vacation variable, a significant average effect of 9.7 days per person per year for the Fairtrade group (Table 4). The school bond and scholarship indicator shows a positive and significant average effect of 55.4% for the Fairtrade beneficiary group. According to Aronés-Cisneros et al. (2025), scholarship programs promote interculturality and capacity building, but education policies need to be strengthened to better adapt them to the cultural and linguistic needs of rural students.

Of the five wage indicators, only those corresponding to administrative assistants, with an average positive effect of \$4,995 per year, and workers engaged in removing leaves from banana plants, with \$2,627 per year, were significant for the Fairtrade beneficiary group (Table 4). This result should be extended to the rest of the field workers if banana production per unit of labor is to be increased, considering the findings of Cock et al. (2022) that agricultural labor productivity in low-income countries is lower than in high-income countries. Most wage indicators (field supervisor, palletizer, bagger) and employee turnover rates in the company were not statistically significant with the application of Fairtrade standards. Most of the results are consistent with Loor et al. (2025), who used Kolmogorov-Smirnov and Spearman tests to find a moderate positive correlation between fair trade and quality of life.

## 4. Discussion

Los resultados del estudio evidencian que la implementación de los estándares Fairtrade incidió positivamente en varias dimensiones de la calidad de vida laboral de los trabajadores bananeros, especialmente en beneficios educativos, participación comunitaria, reducción de la jornada semanal, aumento de días de vacaciones y mejoras salariales en determinados cargos. Este comportamiento coincide con Jodrell & Kaoukji (2020), quienes sostienen que el comercio justo opera como un sistema de

gobernanza privada orientado a fortalecer las condiciones laborales mediante primas sociales, reglas de cumplimiento y mecanismos de verificación. De igual manera, los hallazgos se relacionan con Guevara-Rosero et al. (2024), quienes identificaron una asociación positiva entre certificación Fairtrade, ingresos y satisfacción económica en organizaciones ecuatorianas. Sin embargo, los resultados también muestran que el impacto no fue uniforme, pues algunos salarios operativos y la tasa de rotación no presentaron diferencias estadísticamente significativas, lo que permite afirmar que la certificación mejora ciertas condiciones, pero no transforma automáticamente toda la estructura laboral del sector bananero.

La mejora en becas, bonos escolares y participación comunitaria demuestra que la prima Fairtrade tuvo efectos que trascienden el ingreso directo del trabajador y alcanzan a su familia y entorno social. Este resultado coincide con Cabrera y Jiménez (2025), quienes destacan la importancia de los programas de apoyo educativo para mejorar oportunidades académicas, y con Valdivieso-Albán et al. (2024), quienes señalan que el éxito del comercio justo en América Latina depende del fortalecimiento organizativo, la capacitación y la participación de comunidades vulnerables. Asimismo, la reducción de horas trabajadas y el aumento de vacaciones reflejan avances frente a las condiciones históricamente desiguales del trabajo bananero descritas por Sánchez (2025), aunque persisten desafíos vinculados con la brecha salarial entre personal administrativo y trabajadores de campo. En consecuencia, Fairtrade se presenta como una herramienta relevante para mejorar la calidad de vida laboral, pero requiere políticas empresariales más equitativas, distribución transparente de la prima y estrategias orientadas a fortalecer los beneficios de los trabajadores operativos, quienes continúan siendo el grupo más expuesto a las desigualdades estructurales del sector.

## 5. Conclusiones

Fair trade has helped improve working conditions in the banana industry, particularly in terms of wages, scholarships, community engagement, and working conditions, thereby reaffirming its social value in the sector. However, inequalities between field and administrative staff still persist. Therefore, it is recommended that companies strengthen more equitable wage policies and expand initiatives related to environmental sustainability and fairer market access to consolidate these benefits.

## CONFLICTO DE INTERESES

“Los autores declaran no tener ningún conflicto de intereses”.

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