



Assessing the Impact of Fair Trade on Coffee Producer Resilience

September, 2026

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1. Introduction

This report was prepared by Fair Trade USA™ as part of ongoing monitoring and evaluation of our coffee program. The study was conducted by Fair Trade USA's Impact, Research, and Learning Team over the course of 10 months. The team gathered and analyzed yield and revenue records from coffee farmers in five coffee-producing groups across Peru and Colombia. This study builds on earlier research conducted between 2022 and 2023 to deepen the understanding of the challenges coffee producer¹ organizations face in an increasingly volatile market environment. By extending the study's scope and collecting production and revenue data over a longer period, we seek to capture how coffee producers navigate changing risks and opportunities. The findings from this research study will help Fair Trade USA better understand supplier resilience to better support coffee-growing communities in the future. In addition, this research can help Fair Trade USA to make a more competitive and compelling business case in support of the organization's 2030 vision for impact at scale and ultimately reaching more communities around the world with our transformational Fair Trade (FT) model.

We are pleased to share this final report and its findings.

¹ Throughout this report, 'producer' is the term used to refer to the farmer in the context of coffee farming. There are instances when 'farmer' is used as well. The meaning and intention of the use is the same.



1.1. A brief background of Fair Trade USA

Fair Trade USA, originally known as TransFair USA, was established in 1998 in response to struggles and inequities suffered by farmers in the global South. It is currently the leading third-party certifier of Fair Trade commodities in North America, and since its inception, has generated a total of about \$1.5 billion in impacts, as of December 2025, that have been invested around the world.

The Fair Trade USA program addresses issues of economic justice, equity, diversity, and inclusion, using methods that create market opportunities for a wider set of stakeholders to deliver more equitable benefits. Unlike other third-party Fair Trade certifiers that work with a particular set of producers in a cooperative, Fair Trade USA works with all producers, including those who are not part of a cooperative, as well as workers employed on larger farms and factories. With this unique model and the Fair Trade Certification™ and accompanying label, Fair Trade USA has expanded to certify more than 30 product categories, including coffee, cocoa, fresh produce, apparel, home goods, and seafood. In some commodities (e.g., coffee and cocoa), Fair Trade sets a minimum price, which is typically higher than the market price or a country's minimum price, and is intended to cover the average costs of sustainable production and to provide a guarantee that reduces the economic and well-being risks producers face.

In addition to the Fair Trade minimum price, for every product sold on Fair Trade terms, the buyer pays a defined premium amount to the producers, which is deposited into a premium fund and used to finance developmental projects in the producers' community. The details of how the premium funds are used are determined democratically by the producers, fishers, and workers themselves without any interference from Fair Trade USA. The community development projects that the premium funds could be invested in include healthcare facilities, water supply and sanitation systems, schools and educational scholarships, and other community infrastructure, and are also referred to as Community Development Funds. Overall, the net effect of the Fair Trade USA program is twofold: producers secure fair prices for their products to improve their livelihoods, and premium funds to develop their communities and/or encourage sustainable production.

1.2. Purpose, research question, and hypothesis

This study examined whether participation in a Fair Trade Certified coffee cooperative or association strengthens producer **resilience** relative to non-Fair Trade certified producer organizations. Specifically, it explores how Fair Trade certification influences producers' capacity to **sustain production volumes, retain market access, and maintain organizational stability** in the face of **economic and environmental stress**. This is a follow-up study that builds on previous research conducted by Fair Trade USA between 2022 and 2023, which captured periods of relatively low and stable coffee prices and included the economic disruption of the COVID-19 pandemic in 2020.

The current study focuses on Peru and Colombia, two major coffee-producing countries within Fair Trade USA's certified network with distinct market environments: Peru operates without a national coffee price floor, while Colombia maintains a national price support system through the National Federation of Coffee Growers (FNC). Unlike the previous study, this research examined **producer resilience under a substantially different set of conditions of high and volatile coffee prices, increasing climate-related pressures, and continued market uncertainty**.

The central research question guiding this study is:

To what extent does participation in a Fair Trade Certified cooperative or association strengthen the resilience of smallholder coffee producers compared with participation in non-Fair Trade certified producer organizations, under conditions of market volatility and climate-related challenges?

We hypothesized that coffee producers in Fair Trade organizations would demonstrate greater economic sustainability and stronger supply continuity than comparable non-Fair Trade producers. By examining production, revenue, quality, and supply continuity outcomes across the period 2016–2025, this research contributes to an evolving evidence base on the effectiveness of Fair Trade in supporting coffee-growing communities. The findings are intended to identify both the strengths and limitations of the Fair Trade model and to inform future strategies for strengthening producer resilience in an increasingly volatile market and climate environment.

2. Methodology

2.1. Study design

Recognizing the challenges previous research faced in comparing Fair Trade and non-Fair Trade coffee producers, we adopted a quasi-experimental design based on naturally occurring groups. Because access to information was limited and the study needed to be cost effective, we selected a small set of geographically concentrated cooperatives and associations. We focused on smallholder Fair Trade and non-Fair Trade producer organizations located in areas with similar geological, regional, and social characteristics. Peru and Colombia were chosen because they represent most Fair Trade USA certified coffee groups in Latin America while sharing similar geographic conditions and markedly different coffee-sector structures.

We refined our expectations about the type and depth of data participating organizations could realistically provide. To preserve the comparative logic of the previous study, we sought countries with and without national coffee price regulations. However, to better reflect the largest coffee-producing countries represented in the Fair Trade USA certification system, we selected Peru and Colombia instead of Panama, Costa Rica, and Kenya (i.e., the previously studied countries). The final sample included data from 815 farmers across five coffee cooperatives: two Fair Trade and one non-Fair Trade cooperative in Peru with a

total of 763 samples, and one Fair Trade and one non-Fair Trade association in Colombia with a total of 52 samples. The detailed yearly sample size obtained from the groups in each country is presented in [Table A1 in Appendix II](#). Peru has no national coffee price-support mechanism, whereas Colombia maintains a national pricing and market-support system through the National Federation of Coffee Growers (Federación Nacional de Cafeteros, FNC). This contrast allowed us to examine producer resilience under different institutional conditions. Participating organizations were identified through existing networks with support from Fair Trade USA field advisors. To improve comparability and reduce the influence of external factors, organizations were selected based on geographic proximity, coffee type (primarily Arabica), organizational structure, the predominance of smallholder producers, and years of operation prior to COVID-19, with commercial activities since at least 2018. We initially planned to include Kenya to broaden the geographic scope and maintain continuity with the previous study; however, the data that could be obtained from these groups were insufficient, and we therefore excluded it.

To assess the drivers of productivity, supply continuity, and resilience, we collected quantitative data on production and sales, along with contextual information on regional and producer characteristics such as climate, elevation, and farming experience. Specifically, each cooperative received a data form ([see Appendix I](#)) requesting the following information:

- Coffee volume produced and sold by each farmer per season from 2016 to 2025
- Total amount paid to each farmer for coffee sold in each season across the full study period
- Farm size for each farmer
- Annual coffee grade for processed coffee sold by the cooperative
- Annual cooperative investment in farm improvements, if available
- Farm location by region, altitude, and use of shade or pest-resistant trees
- Average annual production costs, if available
- Annual net profit, if available
- Buyer types (domestic or international)
- Annual percentage of coffee sold under Fair Trade terms (FT groups only)
- Farmer characteristics, including the principal farmer's age, number of generations of family farming experience, and education level
- Use of hired or family labor during harvest, including the number of workers when available

To reduce survey fatigue and reporting burden, producer information was collected at the cooperative or association level following prior consultation on data availability.

As a novelty, the study also included qualitative interviews to contextualize and support interpretation of the quantitative findings. All participating organizations were invited to join a 60–90-minute virtual interview conducted via Zoom. Each interview included three to six representatives from areas such as production, technical assistance, quality management, commercial and warehouse operation. Interviews were conducted in Spanish, the participants' official language in both countries, and explored factors shaping production and revenue trends over time, including, changes in the producer base (2016–2025), drivers of production changes, effects of high market prices, market volatility and planning, contracts and negotiating power, external risks, and the role of Fair Trade in stability (Fair Trade Certified organizations only). An English translation of the focus group interview questions is presented in Appendix I together with quantitative data points. To support participation and data quality, and following our research ethical guidelines, organizations received fixed compensation for staff time devoted to data collection and reporting. Participants were informed that responses would remain anonymous. Qualitative insights are presented to set the context for the quantitative analysis and provide a deeper understanding of producer experiences, challenges, and resilience strategies.

2.2. Data Processing and Analysis

Upon getting the datasets from the various coffee groups, we performed data quality control by checking data completeness and consistency across years. Where possible, missing data were re-supplied by the affected cooperatives. We then translated the datasets (from Peru and Colombia) written in Spanish into English and converted all currencies into U.S. Dollars using the average foreign exchange rates for the year, obtained from the United Nations Food and Agriculture Organization's database (FAO, 2026). To contextualize the cooperatives' productivity, we obtained national average coffee yields from 2016 to 2024 (2025 not available yet) for each country from the United Nations Food and Agriculture Organization's database (FAO, 2025). In addition, we obtained the regional normal climate data, including precipitation, temperature, relative humidity, and sunshine exposure, for the cooperatives' locations from the World Bank Group's climate change knowledge portal (World Bank Group, 2026) to understand the extent to which regional characteristics affect productivity.

To select a robust statistical method for the data analysis, we first tested the assumptions of a normal distribution for the farm size, yield, and financial datasets using the Shapiro-Wilk test and Q-Q plots. The Shapiro-Wilk test and Q-Q plots revealed that the datasets from both the Fair Trade and Non-Fair Trade farmers deviated significantly from a normal distribution across all years analyzed ($p < 0.05$) ([Figure A6 in Appendix III](#)).

Consequently, rather than parametric mean comparisons, we employed the non-parametric Mann-Whitney U test to compare mean ranks between the two groups. In other words, due to the non-normal distribution and unequal variances observed across years, farm size, yield, and gross revenue were presented as medians, and significant differences between Fair Trade and Non-Fair Trade groups were determined using the Mann-Whitney U test (comparing mean ranks), as it is a robust non-parametric alternative for independent samples. All analyses for significant differences were performed at a 95% confidence level (i.e., $p < 0.05$).



Significant differences between groups indicate association rather than causality; thus, we used propensity score matching (PSM) to estimate the causal effects of Fair Trade participation on coffee yield and revenue. PSM compares "likes-for-likes" by matching groups based on specific confounding factors. The matching was performed using the nearest-neighbor method (Euclidean distance) with a 0.1 caliper. For yield, we controlled for farm size, coffee type, and altitude; for revenue, we included proximity to roads. Climate and soil were excluded as confounders because both groups are in the same region and share similar environmental characteristics. All PSM analyses were conducted at a 95% confidence level ($p < 0.05$) and for only the groups in Peru. PSM was not conducted for the Colombian groups due to their small sample sizes (31 for FT vs. 21 for Non-FT), which did not enable us to get enough matching samples based on the confounding factors for the analysis.

It is also worth noting that the small sample sizes of the Colombian groups (31 FT and 21 Non-FT) limit the generalizability of the Mann-Whitney results for Colombia. Findings from these groups should therefore be interpreted with caution and treated as indicative rather than definitive. The reliability of coffee supply (i.e., supply continuity) from both Fair Trade and non-Fair Trade groups was measured using the annual share of total coffee production purchased by the cooperative from its member farmers. For each group per year, the total volume purchased by the cooperative was divided by the total production volume of all member producers in that group and expressed as a percentage. A higher percentage indicates that a greater proportion of the group's collective production was channeled through the cooperative, reflecting stronger farmer-cooperative integration, lower side-selling, and by extension, more reliable supply continuity to downstream buyers.



3. Results and Discussion





3.1. Qualitative Findings from Focus Group Interviews

This section draws on interviews with five coffee producer groups across Peru and Colombia. Peru is the primary focus of this analysis, whereas Colombia was included as a smaller, comparative case to begin examining how Fair Trade's contribution interacts with the presence or absence of a national coffee price floor. Findings are organized thematically into climate and disease pressure, producer loyalty and selling behavior across the price cycle, and market access and financial stability, followed by a summary of qualitative insights.

These qualitative findings reflect what participants reported about their own organizations in interviews, not independently verified production or financial records. Several of the patterns described below, the counter-cyclical value of the Fair Trade Premium and price floor, side-selling risk when market prices exceed the Fair Trade threshold, and certification functioning

primarily as a market-access and credibility signal, are expected and well established in existing Fair Trade theories of changes; this section corroborates those theories in participating cooperatives' own words, but does not independently establish it on a sample of this size. While major efforts were done to obtain participants with high compatibility into region, coffee type and size, still the participating Cooperatives differ in age, and farmland altitude differs substantially between the certified and non-certified organizations studied, and several of the differences described below may also be explained by these factors as by certification status; that caveat should be clear when reading the qualitative insights.

3.1.1. Overview of Participating Organizations

Characteristics of Peruvian groups:



LOCATION/PROVINCE

Cajamarca



PARTICIPANT GROUPS

Two Fair Trade Certified and one non-Fair Trade Certified



COFFEE TYPE

Arabica (Catimor, Bourbon, Obata, Geisha, Marsellesa, and Parainema varieties)



ALTITUDE OF FARMLAND

Between 970 and 2,600 meters above sea level



FARM CLASSIFICATION

Small producers (typically cultivate fewer than 5 hectares of land)

The interviewed cooperatives are similarly located across the state of Cajamarca in northern Peru, bordering Ecuador and the Amazon region, a mountainous, fertile area between 400 and 3,550 meters above sea level¹. The groups are similar in farmer characteristics and producer numbers but differ in gender composition (the Fair Trade groups predominantly comprise male farmers, while the non-Fair Trade certified group sources from female producers) and in organizational maturity as the Fair Trade Certified groups have more than ten years of international sales experience, one has operated for roughly sixty years, while the non-certified group is younger, legally formalized in the early 2020s with its first export sale in 2025, though it has organized producers locally since 2018. Due to difficulties obtaining more mature non-certified groups, this younger group was accepted and serves as a relevant comparison given its pre-COVID-19 establishment, a well-established producer base, and active engagement in national markets since 2018. This still allows meaningful analysis of development trajectories over a shared period spanning pre-pandemic conditions and subsequent recovery, while acknowledging that differences in organizational maturity may influence the findings.

1. <https://www.bcrp.gob.pe/docs/Sucursales/Trujillo/Cajamarca-Characterizacion.pdf>

Characteristics of Colombian groups:**LOCATION/PROVINCE**

Cauca

**PARTICIPANT GROUPS**

One Fair Trade Certified and one non- Fair Trade Certified

**COFFEE TYPE**

Arabica (Castillo and Geisha varieties)

**ALTITUDE OF FARMLAND**

Between 1,500 and 2,200 meters above sea level

**FARM CLASSIFICATION**

Small producers (typically cultivate fewer than 5 hectares of land)

The Colombian groups are in the Cauca region, located in southwestern Colombia, where the Central and Western Andes converge, bordering Nariño, Huila, and Tolima. It's mountainous, with coffee grown at high altitude, roughly between 1,500–2,200 meters above sea level. One Colombian cooperative is Fair Trade Certified and has sold coffee since the mid-1990s; the other is not Fair Trade Certified and instead sells through a large international buyer's direct-sourcing and social-investment program, active in the region since the early 2010s. Cooperative and buyer program names are withheld throughout; organizations are identified only as Fair Trade Certified or non-Fair Trade certified, and by country.



3.1.2. Climate Variability and Plant Disease

Participants in both countries described rising input costs and price volatility as ongoing constraints, and on plant disease specifically, the differences that emerged track more closely with farmland altitude and cooperative age than with certification status itself.

In Peru, both Fair Trade Certified cooperatives reported significant, repeated disruption from coffee leaf rust. One cooperative's export volume declined from approximately 25 containers a year in 2016 to about 18 today, a decline its manager attributed to two compounding factors: *"the coffee trees themselves, which have reached the end of their productive life, which is why we're renovating them, and also the coffee price, which has been very volatile."* The other certified cooperative experienced a sharper single-year shock, a 2023 drought and rust outbreak that cut its volume from a 40–45 container target down to 26 containers, before recovering to 52 containers in 2025; its staff described this as inherent to the crop rather than a structural decline, noting that

"coffee is a cyclical product, one good year, one bad year," a rhythm the cooperative manages toward its target range, supported by a producer base of roughly 400 members. The non-certified Peruvian cooperative reported comparatively little disease pressure, which its technical lead attributed directly to altitude: *"60 to 70 percent of our producers are in an area with good elevation, between 1,700 and 2,600 meters, so the problem of pests and diseases has been minor for us,"* though he noted a 2024 drought still affected some lower-altitude plots.

Both certified Peruvian cooperatives described active variety-replacement programs. Catimor was introduced after the 2012 rust outbreak for its resistance, but had become susceptible again in 2023 to 2024, prompting both to shift toward Marsellesa and Parainema varieties. One technical lead described the newer variety directly: *"it's a variety that gives good results in cup quality, has been tested, and is also resistant to rust. It's not immune to rust, but it resists more than Catimor, for example, and it adapts very well to low- and mid-altitude areas, from 1,000 to 1,500 meters above sea level."*

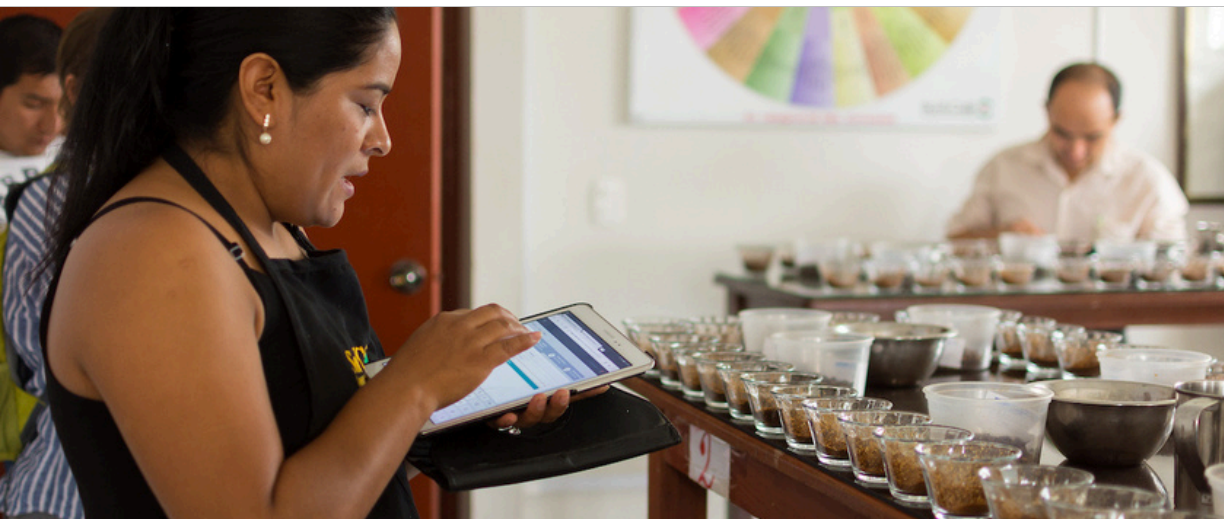
A second participant from the same certified cooperative corroborated this account of its own adoption history, noting that Marsellesa *"arrived in 2014... and [our cooperative] was one of the first organizations that brought in this variety,"* and that it continues to serve primarily as a defense against rust today. Equally, one certified cooperative in Peru uses the premium to subsidize organic fertilizers to support productivity:

"The Premium also lets us fund things that benefit producers indirectly, like a subsidized discount on organic fertilizer, tied to a categorization system based on their commitment to the cooperative"

Whereas the non-certified cooperative has not needed a comparable renovation program to date, largely because its producers' altitude has kept rust pressure low; it is worth noting that this cooperative

has not yet operated through a full multi-decade planting cycle, so it remains untested against the aging-plantation pressure the certified cooperatives now report managing.

In Colombia, the certified cooperative's technical staff linked declining or fluctuating production directly to planting density and rainfall: *"we were working with planting densities of around 6,000 plants per hectare, in an area where it rains 2,200 millimeters a year, and when the coffee trees are older than four years, that density really works against you when disease pressure is high."* This has driven wider row spacing, more deliberate shade management, and a shared technical school where producers learn soil and residue management together. The non-certified Colombian association described the 2010 to 2012 national rust outbreak as countered mainly through the national coffee federation's renovation policy and its research institute's ongoing development of rust-resistant varieties, a response coordinated at the country level rather than by any single cooperative or buyer program.



3.1.3. Producer Loyalty and Selling Behavior Across the Price Cycle

Across both countries, participants described producer loyalty as something actively built and monitored rather than assumed, with the specific mechanisms differing by certification status, cooperative history, and, in Colombia, by the presence of a national buyer of last resort.

In Peru, one certified cooperative's manager linked producer loyalty partly to the Fair Trade Premium and partly to factors that predate certification, noting that the cooperative has operated for roughly sixty years and that *"the majority of our producers have stayed with the cooperative... that's where you see the loyalty of the members who keep staying with us,"* framing membership in ownership terms: a producer *"becomes a member of a company because they own the company, and they'll also receive some share of the profits in the end".*

Fair Trade appears to reinforce loyalty in this cooperative, but alongside, not in place of, the loyalty generated by decades of shared history and cooperative ownership.

Simultaneously, when asked about the role of Fair Trade, the premium serves as an incentive to support producer well-being that is used to support education, housing, and productivity, stating: *"Well, in that regard, I think that we, as the local administration, always focus on the farmers. We always talk to them about the social bonus (premium), and a portion of it always goes to them, the farmers, as I mentioned earlier, so that they can improve their children's education, improve their housing conditions, and also increase productivity on their farms, we always discuss these things with them."*

On price mechanics specifically, a representative described the Premium's counter-cyclical role: *"when coffee prices rise, our Fair Trade Premium allows us to supplement or match the market price for producers... that's just a small thing that helps us ensure we maintain our producers."*

Both certified Peruvian cooperatives described a specific risk once market prices exceed the Fair Trade threshold and producers can secure better short-term returns from informal, untaxed local buyers. One representative connected this to producer behavior risks directly by stating: *"the producer doesn't feel that they benefit the way they did before, when prices were low, because when the market is high, informal domestic buyers, who don't carry operating or export costs and often don't pay taxes, can outbid us. That's where producer loyalty gets tested."* This side-selling risk was described as a market-wide dynamic rather than something either cooperative had directly measured in lost volume. On the buyer side, staff from both certified cooperatives described constrained demand for Fair Trade coffee itself contracting when market prices are high, since importers are less willing to add the Premium on top of an already elevated market price. This reframes part of the high-price challenge as a buyer-demand issue rather than solely a matter of producer loyalty.

In today's higher-price environment, the stabilizing function of Fair Trade is less pronounced, though staff still describe Fair Trade as foundational to their organizations' survival:

So, from that perspective, Fair Trade is a tool and a very important element within the cooperative that allows it to be sustainable and competitive in a market that is becoming increasingly aggressive. Without Fair Trade certification, I believe organizations like ours would very likely not be able to compete or survive. It's very clear that during periods when prices are low, the benefit is more noticeable; unlike when prices are high, when that benefit may be diluted, but in either case, this is the main strength of these organizations.

Peru's non-certified cooperative builds loyalty through a different mechanism, a conservative, contract-first pricing approach in which the cooperative secures a sales contract before setting the price it pays producers. Its commercial lead explained: *"we always base our producer price on contracts we've secured throughout the year... we don't encourage speculation, because it hasn't paid off well in recent years."* This cooperative is actively considering Fair Trade certification, motivated by market access as their current organic certification can be limited: *"we want to expand, get certified, and build a bigger client base, since being organic-only limits us a bit... some clients have asked us if we have any certifications."*

In Colombia, high market prices produced a similar dual effect for the certified association, improving short-term revenues for some producers while intensifying competition from private buyers offering above-reference prices and encouraging side-selling. At the same time, the certified association's own representative described many of its longer-standing producers as relatively insulated from this dynamic, crediting the technical assistance and social investment built up during earlier, higher-investment years:

"many of the people in our producer base today don't pay much attention to price anymore; they sell to the organization because they know the high prices offered elsewhere are temporary," attributing this to the association's ongoing technical support and social programs rather than to price alone. This echoes the pattern already noted in Peru, where non-price investment appears to matter for retaining longer-tenured producers even as Fair Trade Certified's pure price advantage narrows during high-price periods.



3.1.4. Market Access, Contracting, and Financial Stability

Across both countries, certification's most consistently supported role is market access and buyer credibility, not price alone. In Peru, one certified cooperative's representative put it directly: *"certification really helps us, because that's where the referrals come from; that's where our name starts to gain visibility."* The same cooperative described building its buyer base historically through direct relationships, recalling that it *"always traveled abroad, to the trade fairs that existed... there we met our clients, and that strengthened the commercial side, because they knew where the coffee came from,"* a strategy it intends to revive.

On contracting, market volatility affects certified and non-certified cooperatives alike in Peru, though each has adapted differently. Since around 2022, both certified cooperatives report that most or all of their contracts have become open-ended rather than fixed-price, since neither buyers nor exporters are willing to absorb the risk of a fixed price in a volatile market. The non-Fair Trade certified cooperative, by contrast, continues to use signed sales contracts to set producer prices as a matter of policy, which it credits with more predictable cash flow. Fair Trade Certified cooperatives finance producer advances against future coffee deliveries, in some cases securing bank credit against cooperative assets, using cooperative buildings as collateral for commercial loans.

In Colombia, market volatility has similarly constrained planning for the certified association, which reports increasing difficulty forecasting volumes and managing cash flow under short-term contracts with flexible price fixation; the non-certified association operates under even shorter planning horizons, relying predominantly on spot-market dynamics. A structural feature distinguishes Colombia from Peru here: Colombia's national coffee federation provides a daily reference price linked to international coffee market conditions and a standing purchase guarantee through its association network, independent of certification status, a mechanism Peru's cooperatives have no equivalent of. The non-certified association's representative in Colombia described this directly: *"one of the pillars is the purchase guarantee. That coffee is traded daily through the federation, which sets an internal reference price to buy coffee from all producers"*. The federation has more recently added a price stabilization fund built from savings during high-price periods, explicitly open to all producers regardless of certification (*"it doesn't require it, it's for every coffee grower, in general"*), alongside a government-negotiated input subsidy. For the certified Colombian association, Fair Trade's contribution operates mainly through non-price channels, technical assistance, infrastructure, and social programs, and through demonstrated transparency with buyers, which its coordinator described as central to sustaining demand.

3.1.5. Summary and Conclusion of the Qualitative Findings

Across both countries, the qualitative evidence suggests that the most meaningful distinction between Fair Trade Certified and non-Fair Trade certified organizations lies in the nature and strength of organizational systems rather than in the specific challenges producers confront. Climate variability, coffee diseases, aging plantations, rising production costs, financing constraints, and increasing market volatility were reported consistently across all participating organizations, regardless of certification status in varying degree. Fair Trade Certified organizations reported stronger institutional capacity, reflected in more diversified market access, greater investment in producer services, and more formalized mechanisms for collective reinvestment, though these investments do not necessarily translate into immediate commercial advantages. The non-Fair Trade certified organizations studied demonstrated greater commercial flexibility and, in some cases, achieved comparable outcomes through private-sector partnerships and buyer-driven programs, though these benefits were less institutionalized and more dependent on specific commercial relationships.

As such the qualitative evidence points to a consistent conclusion: certification does not change the nature of the risks coffee producers face but it does appear to change the organizational resources available to manage those risks.

On price specifically, the Fair Trade minimum price and Premium were described consistently as most valuable during periods of low market prices, when they provide a counter-cyclical floor that certified cooperatives in Peru, in the absence of any national price regulation, described as foundational to their survival. That value diminishes in high-price environments, both because producers face a real incentive to side-sell to informal buyers, and because importers themselves become less willing to add a premium on top of an already elevated market price.

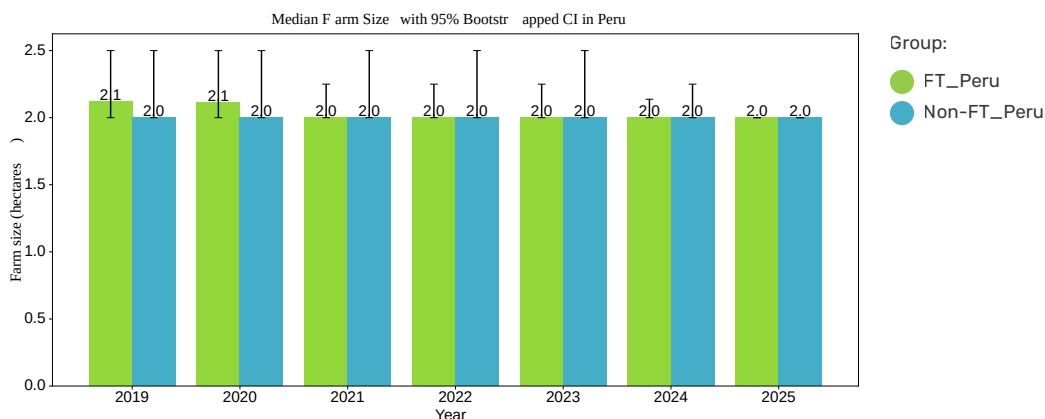
This qualitative evidence should be read for what it is: an exploratory and complementary look at how five coffee cooperatives describe and experience these challenges and opportunities in their own words, not a validated measurement of Fair Trade's causal effect on resilience.



3.2. Quantitative Findings

3.2.1. Farm size

Overall, the Fair Trade and non-Fair Trade coffee Producers in Peru and Colombia are primarily smallholders, with more than 80% of producers in both groups cultivating less than five hectares of land. In Peru, both Fair Trade and non-Fair Trade producers had similar median farm sizes from 2019 to 2025, at 2 hectares (Figure 1; Table 1). In Colombia, the non-Fair Trade group had consistently larger median farm sizes from 2016 to 2025, at 1.5 hectares, compared to Fair Trade farms at one hectare (Figure 1; Table 1).



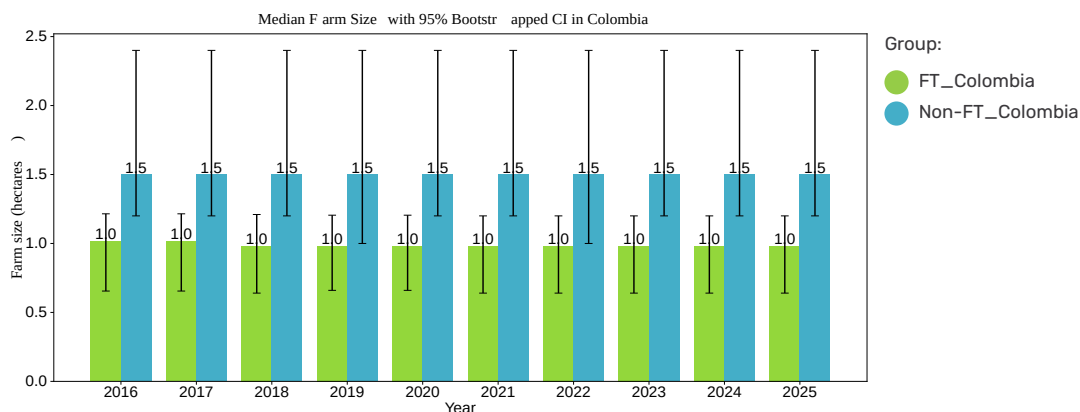


Figure 1. Median farm size of Fair Trade Certified coffee producers compared to non-Fair Trade coffee producers in Peru (top) and Colombia (bottom). Error bars represent the 95% bootstrapped confidence interval.

Table 1. Mann-Whitney U mean rank comparisons of annual farm size between Fair Trade (FT) and non-Fair Trade (non-FT) coffee producers in Peru and Colombia (2016–2025). Asterisks (*) denote significant stochastic dominance at $p < 0.05$. The number of samples for the mean rank analysis ranged from 381 – 566 and 172 – 194 for FT and non-FT, respectively in Peru and 28 – 31 and 21 for FT and non-FT, respectively in Colombia.

Group	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peru										
FT	–	–	–	274	281	304	309	324	342	370
Non-FT	–	–	–	285	295	326	335	349	382*	412*
Colombia										
FT	20	20	20	21	21	21	21	21	21	21
Non-FT	31*	31*	32*	33*	33*	34*	34*	34*	34*	34*

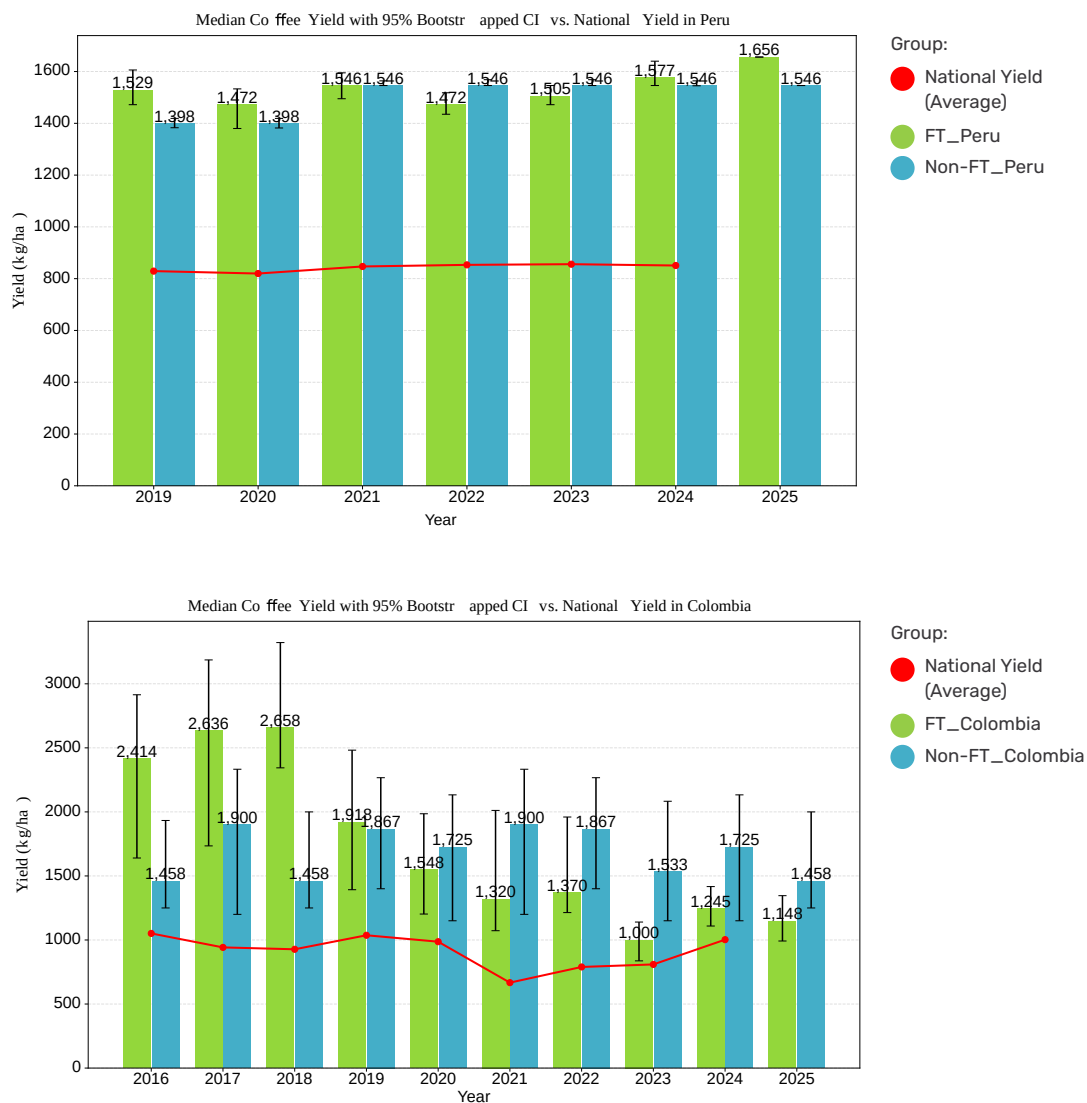


Figure 2. Median coffee produced per hectare by Fair Trade farmers compared to non-Fair Trade producers in Peru (top) and Colombia (bottom). Error bars represent the 95% bootstrapped confidence interval.

Table 2. Mann-Whitney U mean rank comparisons of annual coffee produced per hectare between Fair Trade (FT) and non-Fair Trade (non-FT) coffee producers in Peru and Colombia (2016–2025). Asterisks (*) denote significant stochastic dominance at $p < 0.05$. The number of samples for the mean rank analysis ranged from 377 – 562 and 172 – 194 for FT and non-FT, respectively in Peru and 28 – 31 and 21 for FT and non-FT, respectively in Colombia.

Group	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peru										
FT	–	–	–	291*	295*	308	301	322	360*	424*
Non-FT	–	–	–	240	263	314	355*	356*	318	246
Colombia										
FT	30*	29*	32*	27	25	25	26	23	22	23
Non-FT	19	20	17	25	27	28	27	32*	29	27

3.2.2. Effects of Fair Trade participation on producers' productivity and prices

When it comes to coffee production, we observed that the Fair Trade and non-Fair Trade groups studied in Peru and Colombia consistently produced substantially higher volumes per hectare than their respective national averages in all the years analyzed. In Peru, the median yields spanned about 1.5 – 2 times the yearly national average, whereas in Colombia the median yields spanned 1.2 – 3 times the yearly national average (Figure 2). The significantly higher-than-average yields from both groups are not surprising, considering that both groups in Peru and Colombia are located in the same region of their respective countries (i.e., Cajamarca, Peru and Cauca, Colombia), known to be highly productive coffee regions, and typically grow the same rust-resistant Arabica coffee varieties such as Catimor, Bourbon, Obata, Geisha, and Castillo.

In Peru, the Fair Trade farmers produced significantly higher median yields than the non-Fair Trade group in 2019 and 2020; however, the non-Fair Trade group caught up in 2021 and slightly outperformed the Fair Trade group in both 2022 and 2023, before the Fair Trade group slightly regained the lead in 2024 and 2025 (Figure 2). The stochastic dominance (mean ranks) between the groups in Peru also followed a similar pattern as the median yield (Table 2). This shows that the difference in productivity of Fair Trade producers in comparison to non-Fair Trade producers in Peru is inconsistent. On the other hand, in Colombia, the Fair Trade producers significantly outperformed the non-Fair Trade producers

from 2016 to 2018; however, non-Fair Trade farmers caught up and produced consistently similar coffee volumes in all the remaining years, except 2023, when non-Fair Trade outperformed FT (Figure 2; Table 2). The lack of a consistently clear pattern of dominance in coffee production between Fair Trade and non-Fair Trade in Peru and Colombia could be attributed to the fact that both groups in their respective countries grow similar coffee varieties and thus likely adopt similar farming practices. A 'like-for-like' comparison of Peruvian producers using propensity score matching—controlling for farm size, coffee type, and altitude revealed that Fair Trade membership had a productivity boost that diminished over time (Table 3). Fair Trade producers recorded significantly higher yields initially, averaging 400 kg/ha and 360 kg/ha more coffee than non-Fair Trade farmers in 2019 and 2020, respectively. However, this gap closed between 2021 and 2023, with no statistically significant differences observed. Notably, in 2024, Fair Trade farmers produced significantly less per hectare than their counterparts before returning to parity in 2025.

In Peru, where there is no country-level minimum price, the median price received by Fair Trade producers moved from \$1.99 per kg in 2019 to \$5.87 per kg in 2025, while non-Fair Trade farmers moved from \$2.06 to \$5.00 per kg over the same period (Figure 3). The Fair Trade price advantage is significant in most of the years: Fair Trade farmers received marginally less in 2019 (-4%) and the two

groups were level in 2020 and 2024, however, Fair Trade producers received between 6% and 79% more in 2021, 2022, 2023, and 2025 (Table 4). Prices received by the participating organizations from their own buyers follow the a similar pattern. The two Fair Trade cooperatives sold at a volume-weighted \$4.25 per kg in 2019 rising to \$8.76 per kg in 2025; the non-Fair Trade association sold at \$3.47 and \$8.59 respectively. Between 47% and 72% of the Fair Trade organizations' sale price reached the producer, against 56% to 80% for the non-Fair Trade association.

The clearest difference between the Peruvian groups is not price but the share of each producer's harvest that the organization buys. Fair Trade cooperatives purchased between 93% and 99% of their members' production in most years, while the non-Fair Trade cooperative purchased between 11% and 17% from 2019 to 2022, rising to 52% by 2025. Producers in the non-Fair Trade group sell the balance through other channels. This corroborates the account given in the focus group interviews, where both certified cooperatives described producer loyalty as actively maintained and identified informal domestic buyers as the main competing outlet. In Colombia, where a country-level coffee reference price applies, the two groups received similar prices per kg. The median Fair Trade price moved from \$1.89 per kg in 2019 to \$5.40 per kg in 2025, against \$2.00 and \$9.99 for the non-Fair Trade group over the same years, and non-Fair Trade prices were at or above Fair Trade prices in eight of the ten years studied, including 2024 and 2025 (Figure 3; Table 4). The two organizations sold in different processing grades, the certified association in Excelso and C.P.S. and the non-

certified association in Pergamino, so their organization-level sale prices are not directly comparable. The similarity in producer prices is consistent with the country-level reference price setting a common floor for both groups regardless of certification. A 'like-for-like' comparison of Peruvian producers matched on farm size, altitude and road access shows the same pattern as the unmatched medians (Table 5). Matched Fair Trade producers received slightly less (-\$0.13) per kg than non-Fair Trade farmers in 2019 and 2020, but received between \$0.26 and \$1.87 more per kg from 2021 to 2025.

The narrow price gap observed here should not be read as evidence that Fair Trade delivers no price advantage in other settings. Earlier Fair Trade USA research reported substantially larger differences, and both organizations selected as comparisons in this study pursue their own differentiated commercial strategies. The Peruvian cooperative is organic certified, sources from women producers and markets its coffee on that basis, and sets its producer price against secured contracts rather than the spot market; the Colombian association sells through a large international buyer's direct-sourcing and social-investment program. Both function as price and market-access strategies broadly comparable to Fair Trade, which offers a plausible explanation for the similarity in prices observed here, including in years when market prices were low. Fair Trade is an important differentiator for a producer organization but not the only one available, and the comparison drawn in this study is therefore between differentiated organizations rather than between a differentiated one and an undifferentiated one.

Table 3. Average effect of joining Fair Trade Certified (FT) vs. non-Fair Trade (non-FT) on coffee yield per hectare in Peru based on propensity score matching of samples using farm size, coffee type, and altitude as confounders. Note that both groups are in the same region and thus have similar climate characteristics. Values above zero represent a higher yield, and values below zero represent lower yields for FT farmers than non-FT farmers. Values marked * represent a significant difference between FT and non-FT at $p < 0.05$.

Year	Average Yield difference (kg/ha)	95% Confidence Interval	Lower confidence interval	Upper confidence interval	Number of matched samples
2019	401 *	±145	256	546	87
2020	360 *	±151	209	511	90
2021	34	± 98	-64	132	100
2022	27	±102	-75	129	101
2023	-11	± 78	-89	67	126
2024	-97 *	± 43	-140	-54	147
2025	16	± 20	-4	36	151

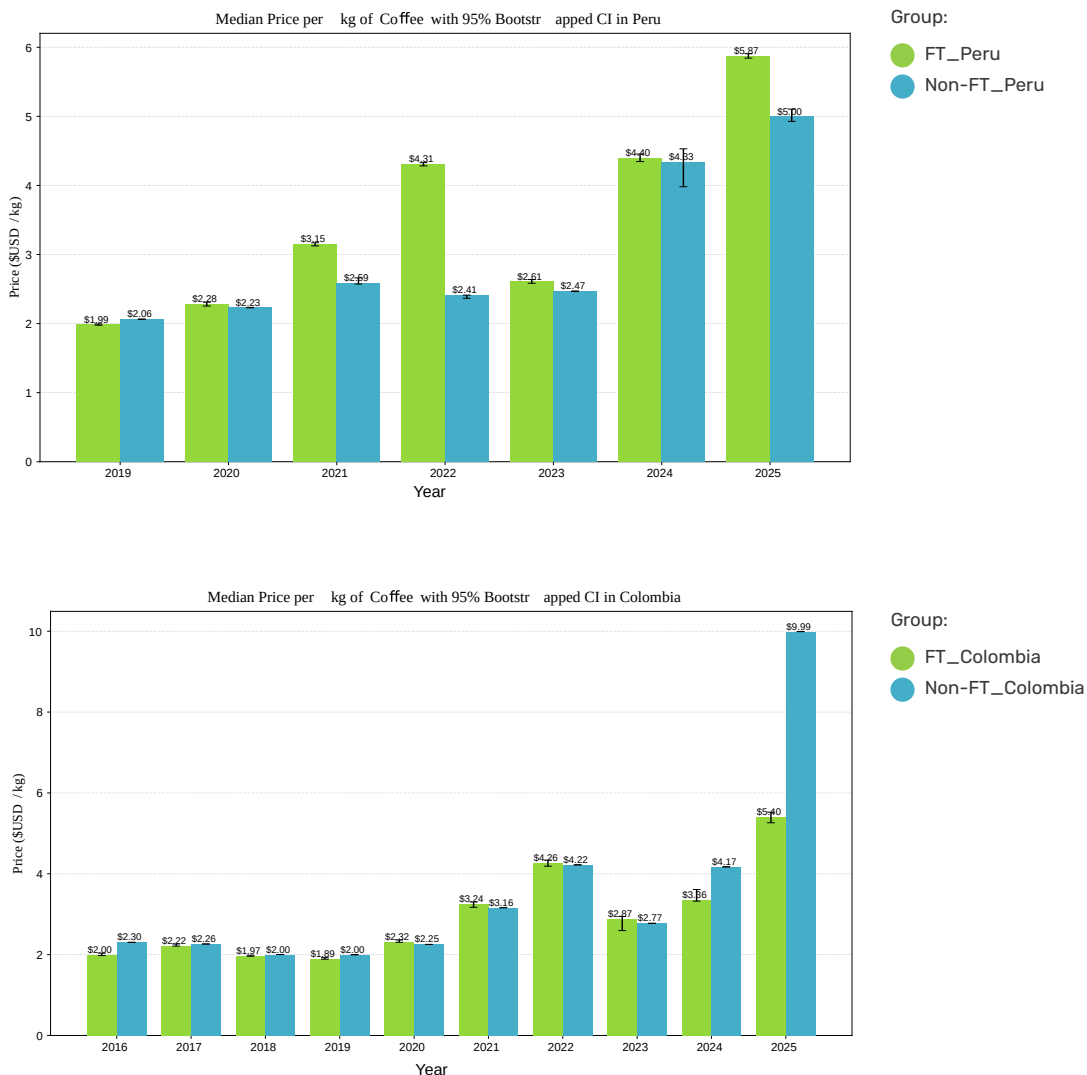


Figure 3. Median price per kg of coffee sold by Fair Trade Certified farmers compared to non-Fair Trade farmers in Peru (top) and Colombia (bottom). Error bars represent the 95% bootstrapped confidence interval.

Table 4. Mann-Whitney U mean rank comparisons of price per kg of coffee sold between Fair Trade (FT) and non-Fair Trade (non-FT) farmers in Peru and Colombia (2016–2025). Asterisks (*) denote significant stochastic dominance at $p < 0.05$. The number of samples for the mean rank analysis ranged from 294 – 492 and 77 – 175 for FT and non-FT, respectively in Peru and 18 – 30 and 20 – 21 for FT and non-FT, respectively in Colombia.

Group	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peru										
FT	–	–	–	180	205*	261*	271*	312*	326	359*
Non-FT	–	–	–	218*	153	52	41	157	318	114
Colombia										
FT	13	20	17	12	30*	28*	27	22	12	12
Non-FT	36*	29*	29*	32*	11	17	25	18	34*	34*

Table 5. Average effect of joining Fair Trade Certified (FT) vs. non-Fair Trade (non-FT) on income per kg of coffee sold in Peru based on propensity score matching of samples using farm size, coffee type, altitude, and proximity to transportation infrastructure as confounders. Note that both groups are in the same region and thus have similar climate characteristics. Values above zero represent a higher income, and values below zero represent lower income for FT farmers than non-FT farmers. Values marked * represent a significant difference between FT and non-FT at $p < 0.05$.

Year	Average Yield difference (\$USD/kg)	95% Confidence Interval	Lower confidence interval	Upper confidence interval	Number of matched samples
2019	-0.14 *	±0.09	-0.23	-0.05	44
2020	-0.13 *	±0.07	-0.2	-0.07	38
2021	0.54 *	±0.10	0.44	0.65	51
2022	1.87 *	±0.06	1.81	1.93	4
2023	0.26 *	±0.03	0.23	0.3	73
2024	0.39 *	±0.09	0.3	0.49	93
2025	1.39 *	±0.10	1.29	1.49	102

3.2.3. Effects of Fair Trade participation on coffee quality and supply continuity

Both Fair Trade and non-Fair Trade groups studied in Peru and Colombia produce Specialty Coffee, which is considered top-tier coffee, with median quality ratings consistently at or above 82 points on the Specialty Coffee Association's (SCA) 100-point scale, against a specialty threshold of 80 points.

Quality ratings were reported by each participating organization as a single annual score covering the coffee it received so they describe the organizations rather than distinguishing between farmers. In Peru the median rating was 82 points for the Fair Trade groups and 83 for the non-Fair Trade group, unchanged across the period; in Colombia it was 83 points for the Fair Trade group and 86 for the non-Fair Trade group. All five organizations sit above the specialty threshold throughout.

Coffee supply continuity is described here as the annual volume each organization purchased from its members, relative to that years' total production. In Peru, the two Fair Trade cooperatives together purchased between 1.7 and 2.1 million kg in eight of the ten years, with two shortfalls: 1.26 million kg in 2022 and 1.15 million kg in 2024, or 72% and 66% of their period average.

Volumes returned to 1.88 million kg in 2025. Expressed as a share of what their members grew, the two Fair Trade cooperatives bought 93% to 99% of member production in eight of the ten years, falling to 63% in 2022 and 60% in 2024 (Figure 4). The non-certified Peruvian group shows a different pattern: it did not fall short in any year but grew throughout, from 32,000 kg in 2019 to 342,000 kg in 2025, and from 11% to 52% of its members' production over the same period, reflecting its progression from local sales to its first export in 2025.

In Colombia, the certified groups purchased between 36,000 and 55,000 kg from 2016 to 2020, then fell to between 21,000 and 27,000 kg from 2021 to 2024, recovering to 31,000 kg in 2025 without returning to pre-2021 levels. As a share of member production the certified association bought 33% to 73%, against a reported 50% for the non-Fair Trade certified association in every year (Figure 4). The non-certified association was also the steadiest of the four organizations by volume, purchasing between 26,000 and 34,000 kg in every year of the period.

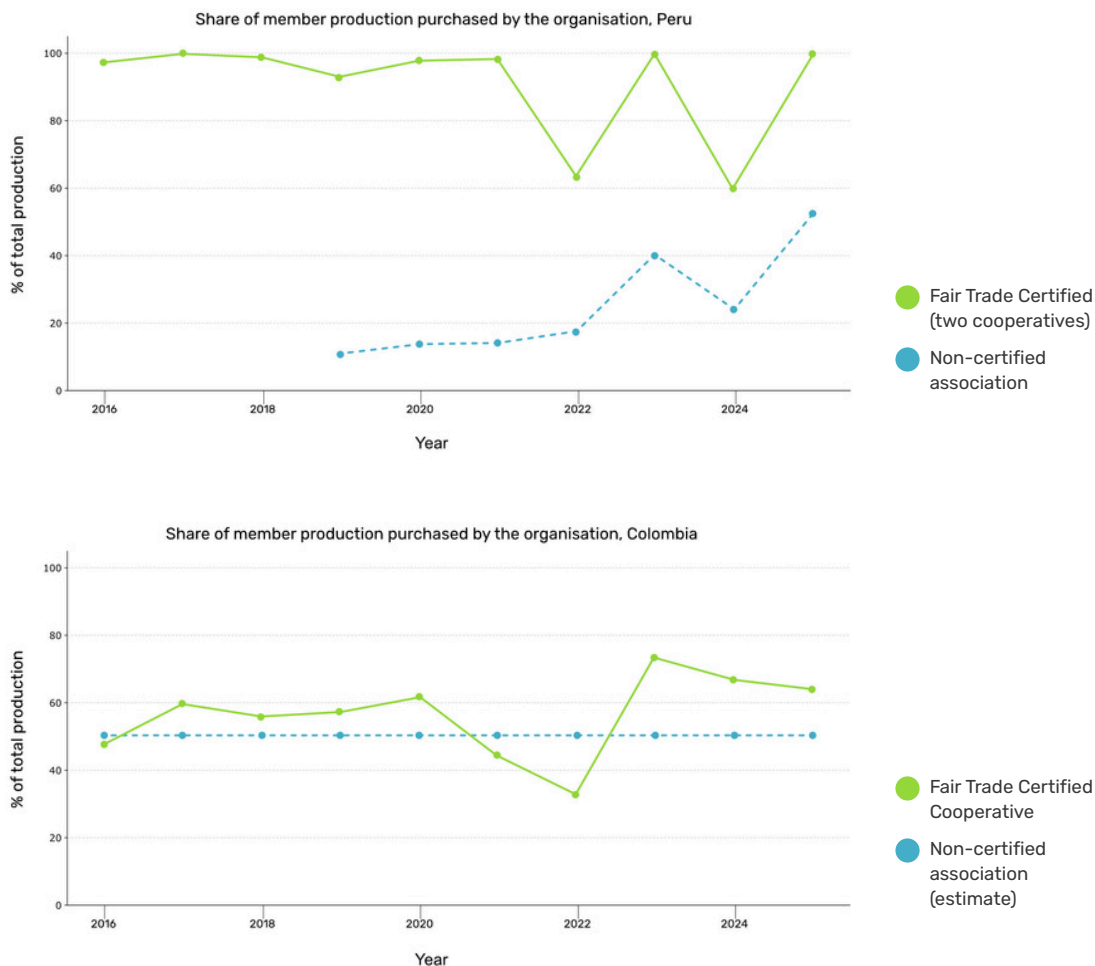


Figure 4. Share of member production purchased by each participating organization, Peru (top) and Colombia (bottom). The non-Fair Trade Colombian association reported a fixed share for every year; its series is shown as an estimate.

3.3. Study Adaptations and Limitations

The 2026 study builds on the 2022 research and was designed with the understanding that constraints on resources, time, and data availability would limit the scope for statistically representative sampling. Rather than aiming for broad representation, the study sought to expand the evidence base on differences between Fair Trade and non-Fair Trade coffee producer organizations and contribute to a growing understanding of producer resilience.

To improve data quality and collection efficiency, production indicators and selected producer characteristics were consolidated into a single reporting template. The study focused on information that organizations could reasonably access through existing records, reducing reporting burden and survey fatigue. Based on feedback from Fair Trade USA Producer Services Advisors and participating organizations, indicators were also refined to distinguish between total coffee production and volumes sold through cooperatives, allowing for a clearer assessment of productivity, commercialization, and earnings, including those derived from Fair Trade sales.

Participation was voluntary, and the final sample reflected organizations that were both interested and able to provide data within the study timeframe. In some cases, adjustments were required to maintain comparability. For example, in Colombia, the participating non-Fair Trade organization represented a smaller producer base than the certified comparison group. Delays in receiving complete data from

the certified organization led to a targeted sample of certified producers whose characteristics were broadly comparable to those of the non-Fair Trade certified group.

These considerations should be taken into account when interpreting the findings. While the results are not intended to be representative of all Fair Trade or non-Fair Trade coffee producers, they provide valuable insights into producer resilience and organizational performance under evolving market and climate conditions and help inform future research and data collection efforts.



4. Conclusion

This study investigated the contribution of participation in a Fair Trade Certified organization to coffee producer resilience in Peru and Colombia, examining production volumes, prices, revenue, quality, and supply continuity across Fair Trade certified and non-Fair Trade certified smallholder farmers, the majority of whom operate farms between 1 and 2 hectares.

On production, Fair Trade producers in Peru achieved significantly higher yields per hectare in 2019 and 2020, after which the two groups converged, and the difference reversed in 2024. On quality, all five participating organizations reported scores above the specialty threshold throughout the period. On supply continuity, measured as the share of member production each organization purchased, the certified cooperatives performed better than their non-Fair Trade counterparts.

On price, the Peruvian Fair Trade group often received higher amounts per kilogram than their non-Fair Trade counterparts, with Fair Trade Certified producers ahead in five of the seven years studied and by 17% in 2025, a pattern that persists among producers matched on farm size, altitude, and road access. In Colombia, where a country-level reference price applies, producer prices were similar between the two groups throughout, and non-certified prices were at or above certified prices in seven of the ten years. The price advantage of certification, where it appears, is therefore real but modest and inconsistent

from year to year. This does not mean Fair Trade delivers no price advantage elsewhere: both comparison organizations here pursue differentiated commercial strategies of their own, which the earlier Fair Trade USA research did not encounter to the same degree.

Where the groups differ consistently is in the proportion of the harvest that moves through the organization. The Peruvian certified cooperatives purchased between 93% and 99% of their members' production in eight of the ten years, against 11% to 52% for the non-Fair Trade certified cooperative. This is the clearest and most durable difference the quantitative data shows.

The qualitative evidence points in the same direction and explains what producers themselves value. Certified cooperatives described certification as the source of buyer referrals and commercial visibility, and identified the premium as the means of funding subsidized organic fertilizer, technical assistance, education and housing support for their members. In Colombia, where the national reference price leaves little room for a price advantage, the certified association described Fair Trade's contribution as operating almost entirely through non-price channels: technical assistance, infrastructure, social programs, and demonstrated transparency with buyers. Its representatives noted that longer-standing producers continue to sell to the organization even when

private buyers offer more, attributing this to those services rather than to price. The clearest indication comes from the non-certified Peruvian cooperative, which is actively pursuing Fair Trade certification and gave market access, not price, as its reason.

Resilience at the organizational level depends on the organization continuing to trade, which in turn depends on its members continuing to sell through it. Retention is least demanding when market prices are low, and producers have few alternative outlets; it is tested when prices rise, and informal buyers are able to outbid the organization, a dynamic both certified Peruvian cooperatives described in the interviews. The certified organizations sustained retention under those conditions, purchasing 99% of member production in 2025, the highest-price year in the series, and remaining well above the non-certified

cooperative in every year studied. Retention did fall in two high-price years, to 63% in 2022 and 60% in 2024; however, in no year did the certified cooperatives lose the majority of their members' harvest, and the non-certified cooperative did not approach their level at any point.

Taken together, these findings suggest that Fair Trade's contribution in this sample operates mainly through the commercial and organizational relationship rather than through the price paid. Certified cooperatives retained a far larger share of their members' harvest, was identified by participating organizations as a market access mechanism, and returned value to producers through services their members named and sought. Fair Trade is, on this evidence, more than the price.



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Appendix I

Questions used for the focus group (qualitative) interviews. The interviews were conducted in Spanish, and English questions are translated versions for this report.

Evolution of the producer/farmer base (2016-2025)	
1	<i>Looking back from 2016 to today, how has your coffee volume and sales evolved?</i> Possible areas participants may touch on naturally: • Number of producers • Production area or volume • Organizational changes
Drivers of Production Changes	
2	<i>When you have experienced changes — especially declines — in production or members or sales, what have been the main causes?</i> (Allow climate, migration, security, market forces to emerge organically.)
High market prices	
3	<i>How do high market prices and local buyers influence the cooperative/producer organization and individual producers?</i> Optional follow-up: • Competition from intermediaries or new producer groups • Side-selling • Combos or other “bad practices”
Market Volatility & Planning	
4	<i>How has increasing market price volatility affected your planning, decision-making, and overall stability for your organization?</i> Probe into: • Risk exposure, • Difficulty forecasting, • Financial stress
Contracts & Negotiating Power	
5	<i>How have your (Fairtrade and conventional) contract volumes changed in recent years, and how do you negotiate and secure sales with buyers?</i>

External Risks	
6	<i>What external risks have most affected your stability in recent years?</i> Participants may raise: • Climate change • Security or local instability • Organized crime • Input costs
Role of Fairtrade in Stability – FT certified ONLY	
7	<i>In your experience, how does selling Fairtrade coffee influence income stability and production stability — during both low-price and high-price periods?</i> Follow naturally with: Are there areas where Fairtrade could better support stability?
8	<i>“How does interest in Fairtrade coffee differ during periods of low prices compared to periods of high prices?”</i> Probe into: • Buyer commitment during downturns • Producer interest in Fairtrade under different price conditions • Shifts in Fairtrade volumes sold
Closing	
9	<i>“Is there anything we have not discussed that you feel is important for understanding price and production stability?”</i> Thank participants and explain next steps in the research.

Appendix II

Quantitative data format was filled into Excel and filled out by the producer organizations staff, into key topics of:

- Participant information,
- Finances 2016 –2025,
- Annual Production costs (if available)
- Commercial investments,
- Buyers (FT and non-FT terms)

All information was filled in original language of Spanish and translated to English during data analysis and a guiding glossary tab was provided in addition to description for each field, to ensure optimal coherence in interpretations and data fill out by participations. Only English version shown below for consistent language representation in this report. All questions were kept identical except for removal of wordings referring to Fair Trade sales specifically for non-Fair Trade Producer organizations.

Figure A1: Participant information

Name	Member number	Gender	Age of primary farmer	Educational level (all the main factors)	Number of generations that continue with the coffee production	Number of children that continue with the coffee production	Level of measurement of the coffee production	Harvest index (1-5)	Number of workers	Family support	Number of family members who support	Smallholder	Region	Country
Name of the producer or organization/association	Member number (unique number of the producer/organization or level of official identification number (country + card) code)	Male, woman or other	Age in years only	Indicate the highest level of education completed among the following: Primary education, Secondary education, Higher education, other	Indicate the number of generations that continue with the coffee production (e.g., from the current generation to the family that has continued in coffee farming for example, since "D" coffee production has passed down from a parent to children or the children are currently working the coffee farm)	Indicate the number of children that continue with the coffee production (e.g., from the current generation to the family that has continued in coffee farming for example, since "D" coffee production has passed down from a parent to children or the children are currently working the coffee farm)	Indicate the level of measurement of the coffee production (e.g., in reported hectares, coffee)	Indicate the harvest index (1-5) (1 = no harvest, 2 = low harvest, 3 = medium harvest, 4 = high harvest, 5 = very high harvest)	Indicate the number of workers (including family members who help out but are not paid)	Indicate the family support (e.g., "Yes" if the producer has family support, "No" if not)	Indicate the number of family members who support (e.g., "Yes" if the producer has family support, "No" if not)	Indicate the smallholder status (e.g., "Yes" if the producer is a smallholder, "No" if not)	Indicate the region (e.g., "Yes" if the producer is in the region, "No" if not)	Indicate the country (e.g., "Yes" if the producer is in the country, "No" if not)

Figure A2: Finances 2016–2025

Name	Member number	Gender	Age of primary farmer	Educational level (all the main factors)	Number of generations that continue with the coffee production	Number of children that continue with the coffee production	Level of measurement of the coffee production	Harvest index (1-5)	Number of workers	Family support	Number of family members who support	Smallholder	Region	Country
Name of the producer or organization/association	Member number (unique number of the producer/organization or level of official identification number (country + card) code)	Male, woman or other	Age in years only	Indicate the highest level of education completed among the following: Primary education, Secondary education, Higher education, other	Indicate the number of generations that continue with the coffee production (e.g., from the current generation to the family that has continued in coffee farming for example, since "D" coffee production has passed down from a parent to children or the children are currently working the coffee farm)	Indicate the number of children that continue with the coffee production (e.g., from the current generation to the family that has continued in coffee farming for example, since "D" coffee production has passed down from a parent to children or the children are currently working the coffee farm)	Indicate the level of measurement of the coffee production (e.g., in reported hectares, coffee)	Indicate the harvest index (1-5) (1 = no harvest, 2 = low harvest, 3 = medium harvest, 4 = high harvest, 5 = very high harvest)	Indicate the number of workers (including family members who help out but are not paid)	Indicate the family support (e.g., "Yes" if the producer has family support, "No" if not)	Indicate the number of family members who support (e.g., "Yes" if the producer has family support, "No" if not)	Indicate the smallholder status (e.g., "Yes" if the producer is a smallholder, "No" if not)	Indicate the region (e.g., "Yes" if the producer is in the region, "No" if not)	Indicate the country (e.g., "Yes" if the producer is in the country, "No" if not)

Figure A3: Annual Production costs (if available)

Year	Annual production cost per hectare	Currency
	Total average production costs per producer for the entire coffee season per hectare, taking into account all costs relevant to production. See glossary	
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		

Figure A4: Commercial investments

ONLY projects relevant for improved production and hence earnings.						
Project name/description	Investment category	Total Costs	Currency	Project Motive	Source of project funding	Year
Only projects or investments with the following objectives: Improving sustainability or regenerative production, increasing yield and productivity, and improving the quality and/or price of coffee or reducing production costs. Exclude projects that belong to other categories, such as social, educational, health, etc.	Describe the main investment category in a short sentence, for example: Improving sustainability or regenerative production.	Total amount in local currency that was invested in the project.	Enter the local currency.	Briefly describe the reason for the project, for example, replanting new coffee trees to replace those lost to coffee rust.	Describe the main source of funding for the project in question. See Glossary	Year or years in which the project was carried out, taking into account the entire project cycle from start to finish.

Figure A5: Buyers (FT and non-FT terms)

Buyer or Account Name	Coffee Destination	Annual Volume Sold	Unit of Measurement	Coffee Grade	Annual money paid	Currency	Year	% sold on FT Terms
Full name of the buyer/roaster/exporter/direct importer.	Country or continent where the coffee will be sold.	Total volume of coffee sold to that buyer throughout the year.	Unit of measurement used when selling coffee to buyers as it appears in sales contracts in pounds, kilograms, or other units.	Average degree of processing at which most of the coffee was sold to the corresponding buyer.	Total amount paid from the buyer for the entire sale.	Currency used at the time of sale of the coffee to the buyer.	Year of the total sale, if the season and purchase span two years, enter both, for example 2024–2025.	total percentage sold to the buyer under Fair Trade conditions.

Table A1. Yearly number of Fair Trade Certified (FT) and non-Fair Trade (non-FT) coffee farmers in Peru and Colombia from which data were obtained for the study.

Group	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Peru										
FT	–	–	–	381	396	445	457	485	528	564
Non-FT	–	–	–	172	174	174	174	174	175	193
Colombia										
FT	28	28	29	30	30	31	31	31	31	31
Non-FT	21	21	21	21	21	21	21	21	21	21

Appendix III

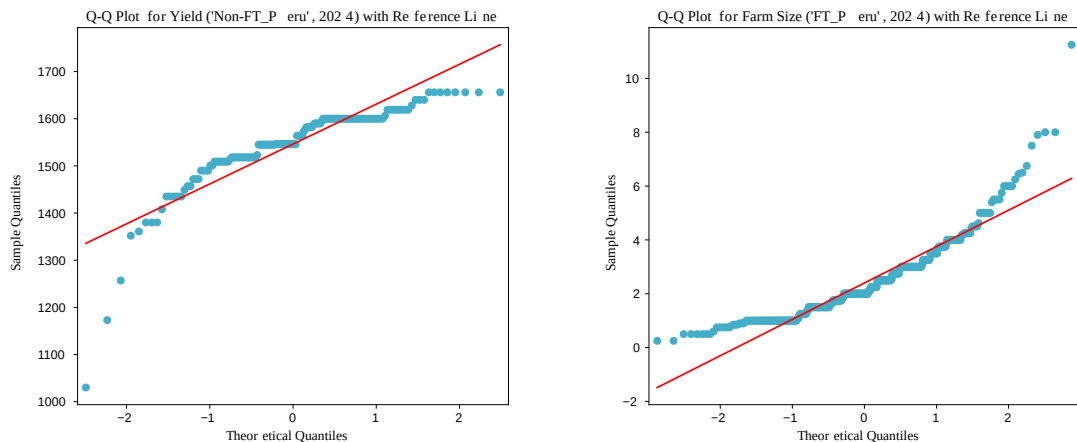


Figure A6. Example Q-Q plots for the distribution of coffee farm size (left) and yield (right) in Peru, showing that the datasets do not follow a normal distribution (i.e., data points deviate significantly from the reference lines).



About Fair Trade USA™

Fair Trade USA, a tax-exempt 501(c)(3) nonprofit organization, is the leading certifier of Fair Trade products in North America. Offering award-winning, rigorous, and globally recognized sustainable sourcing certification programs that improve livelihoods, protect the environment, and build resilient, transparent supply chains, its trusted Fair Trade Certified™ label on a product signifies that it was made according to stringent Fair Trade standards. Fair Trade USA is building an innovative model of responsible business, conscious consumerism, and shared value to eliminate poverty and enable sustainable development for farmers, workers, their families, and communities around the world.



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