FINAL RESEARCH REPORT

Fairtrade certification and producer resilience in times of crises

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SCIO ATHENA INFONOMICS
Data Science for Development

Foreword

This inception report was prepared by Scio Network GmbH & Co KG and Athena Infonomics LLC, commissioned by Fairtrade International e.V. on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and with support from the Swiss State Secretariat for Economic Affairs (SECO).

Please note that the views expressed in this report are that of the authors and do not necessarily reflect the opinions of Fairtrade, BMZ, or SECO. Further, any errors or omissions are the sole responsibility of the researchers.

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Abbreviations

BMZ	Bundesministerium für wirtschaftliche Entwicklung und Zusammenarbeit
CLAC	The Latin American and Caribbean Network of Fairtrade Small Producers and Workers
CP	Contract Production
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
FT	Fairtrade
FTA	Fairtrade Africa
GAP	Good Agriculture Practices
GIZ	Gesellschaft für Internationale Zusammenarbeit GmbH
HLO	Hired Labour Organization
KII	Key Informant Interviews
MEL	Monitoring, Evaluation and Learning
NAPP	The Fairtrade Network of Asian and Pacific Producers
OLS	Ordinary Least Squares
PO	Producer Organization
PSM	Propensity Score Matching
PPE	Personal Protective Equipment
SAFA	Sustainability Assessment of Food and Agricultural Systems
SPO	Small Producer Organization
ToC	Theory of Change

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Executive Summary

Producers are increasingly faced with three concurring crises: (1) COVID-19, (2) climate change, and (3) inflation - causing higher production and living costs - while pressures prevail on product prices. In this multi-crisis context, resilience is vital to achieving sustainable livelihoods.

This research study examined whether Fairtrade (FT) certification contributes to the resilience of **Producer Organizations (POs)** members and workers using the COVID-19 pandemic as a case study. The research team employed an ex-post-mixed-method rigorous impact evaluation, meaning quantitative and qualitative data using an internal benchmarking or a counterfactual approach, drawing on three levels of data:

1. literature review of 44 studies
2. two global surveys on Fairtrade certified POs from the 'COVID-19 Fairtrade Survey' (N=446) and the 'Resilience Survey' (N=162)
3. three case studies on the resilience of workers/members in POs during COVID-19 for which we surveyed 304 households (half FT certified), conducted 26 interviews with PO management, and conducted 17 Focus Group Discussions with a total of 99 participants and 12 learning and validation workshops at
    - three Small Producer Organizations in Indonesia producing coffee (two FT, one non-FT)
    - seven Small Producer Organizations in Peru producing bananas (three FT, four non-FT)
    - three Hired Labour Organizations in Kenya producing flowers (two FT, one non-FT)

The data were analysed using descriptive and inferential statistics, i.e., multivariate regression analysis[2], CART analysis[3], and Propensity Score Matching[4] to account for observable differences between the treatment and comparison groups (e.g., age, education, household size).

Measurement of the Impact of COVID-19 and Resilience

Measuring the impact of COVID-19, the research team first built a COVID-19 impact index which measures the effect of COVID-19 on the lives and livelihoods of members/workers of Fairtrade POs (global survey) and the impact of COVID-19 on households and their communities (case studies). Secondly, based on the four **SAFA[5] dimensions of resilience** (see below), the research team also constructed a resilience index for Fairtrade producers (global survey) and households and their

[2] A statistical method that allows examining the relationship between a single dependent variable and several independent variables. The research team used a logit and an OLS model.
[3] CART (Classification and Regression Trees) model is a machine learning technique used to construct prediction models, first introduced by Breiman et al. (1984). It can help determine the relative importance of different variables within a data set.
[4] Propensity Score Matching is a statistical matching technique that attempts to estimate the effect of a treatment (e.g., Fairtrade certification) by accounting for the covariates that predict receiving the treatment.
[5] Sustainability Assessment of Food and Agriculture systems (SAFA) is a holistic framework for assessing sustainability along food and agriculture value chains.

communities (case studies). Finally, for ease of interpretation, the obtained individual COVID-19 and SAFA Resilience scores were divided by the maximum attainable points to get percentages.

1. Good Governance (i.e., organizational development through enhanced accountability and transparency, such as participatory decision-making on investments)
2. Economic Resilience (i.e., relationship with buyers, access to credits, the price received (Fairtrade Minimum Price and Premium))
3. Environmental Integrity (Fairtrade standards prescribing biodiversity, such as the use of Good Agriculture Practices)
4. Social Wellbeing (i.e., no discrimination, gender equality, no child and forced labour, workers' rights, living income, food and nutrition security, education, capacity building, etc.)

Impact of COVID-19

Fairtrade certification is, on average, associated with a lower impact of COVID-19 on the members and workers of Producer Organizations.

Insights from the Global level

According to representative insights from the pooled COVID-19 and resilience surveys, most Fairtrade POs (63%) were heavily impacted by COVID-19. Small Producer Organizations (SPOs) were more affected by COVID-19 than Hired Labour Organizations (HLOs) (64% compared to 52%). PO members/workers from Africa reported being more impacted by COVID-19 compared to producers from the Asia Pacific and Latin America. POs producing tea (77%), sugar (69%), cocoa (65%), and coffee (64%) were most impacted by COVID-19, compared to flower POs (52%). Macro-level data confirms that countries producing flowers had a lower average number of COVID-19 infections and causalities per million population than countries producing other products.

Insights from the Case Studies

Comparing similar households (that were of the same size, with farmers of the same gender, education level, and age) which produce the same commodity in the same country, we found that **Fairtrade certification lowered the average COVID-19 score by 13%.** Furthermore, amongst households most affected by COVID-19, Fairtrade was also associated with a higher likelihood of receiving support from the PO, i.e., training and loans (but not cash grants and food support). However, young women (regardless of certification status) were more affected by COVID-19 by nearly 15%.

Coffee SPOs in Indonesia: Globally, Indonesia experienced one of the highest COVID-19 infections and casualties per million[6] (after Peru). Most coffee farmers in Indonesia were primarily affected by lower coffee prices, sales, and rising food costs due to COVID-19. This squeezed the household

[6] The cumulative confirmed number of COVID-19 cases per million population is 21,903.98 in Indonesia, 5899.82 in Kenya, and 107,233.32 in Peru (Source: https://ourworldindata.org/coronavirus/. Accessed 20/05/2022)

budget, increasing pressure on women who had to care for the household with reduced resources. Coffee is one of the most affected Fairtrade commodities globally. However, relative to households at non-Fairtrade certified coffee POs in Indonesia, households at Fairtrade certified POs had a higher resilience score and a higher likelihood of receiving either food or cash grants from their PO, resulting in a lower COVID-19 impact.

Flower HLOs in Kenya: Amongst the case studies, Kenya experienced the lowest number of COVID-19 infections and casualties per million. Most workers on flower farms suffered from temporary unpaid leave and rising food prices due to COVID-19. This led to a decrease in the household budget and food rationing, especially among women and single-income households. Whilst workers at the non-Fairtrade certified flower farm were temporarily laid off; the Fairtrade certified HLOs could avoid letting staff go. Workers on Fairtrade flower farms also reported a lower COVID-19 impact, scored highest on resilience, and reported a better economic buffer through the Fairtrade premium relative to non-Fairtrade certified flower farm workers. Workers on the non-Fairtrade flower farm experienced the highest impact of COVID-19 among the case studies. Most workers at the Fairtrade farms received food or cash grants.

Flower SPOs in Peru: Globally, Peru experienced one of the highest numbers of COVID-19 infections and casualties per million. Most banana farmers in Peru were affected by higher fertiliser prices, lower demand, and higher healthcare costs due to COVID-19. Women managing the lower household budget suffered especially. Banana farmers in Peru (regardless of certification) scored lowest on resilience. Qualitative insights suggest that the Peruvian banana sector was already struggling due to a race to the bottom price, which was further aggravated by the pandemic. However, Fairtrade producers reported being more heavily affected by COVID-19 than those of non-Fairtrade producers. In fact, Fairtrade farmers in Peru are the most impacted by COVID-19 among the case studies. Most households at the Fairtrade POs received support (through food, training, and loans), unlike those at non-Fairtrade POs.

The resilience of Producer Organizations during COVID-19

On average, **Fairtrade certification positively impacted the resilience of members and workers of Producer Organizations during COVID-19.**

Insights from the Case Studies

Comparing similar households (that were of the same size, with farmers of the same gender, education level, and age) which produce the same commodity in the same country, we found that **Fairtrade certification increased the average resilience score by 10%.** However, the results differ across the four SAFA dimensions. Not only did **Fairtrade certification** have a **different effect on the four dimensions of resilience,** but **some SAFA dimensions lowered the negative impact of COVID-19** on the members/workers of POs to a greater extent than others.

Insights from the Global level

Fairtrade POs reached, on average, 12.4 points out of a maximum of 20 points on the resilience score.

Put differently; they reached 62% on the resilience index. Fairtrade POs from Africa (64%) had a slightly higher average resilience compared to those from Latin America (59%) and Asia-Pacific (49%). Furthermore, cocoa and flower POs had the highest resilience relative to those producing other commodities.

Good Governance

Literature review: Whilst fewer studies examined the effect of Fairtrade certification on Good Governance (45%), this SAFA dimension had the highest share of positive findings (90%); concurring that Fairtrade certification led to more robust, better managed, and more democratic SPOs, and improved members/workers' participation in decision-making in both SPOs and HLOs. However, some SPOs still lack information on Fairtrade principles, standards, and prices. In addition, whilst Fairtrade leads to higher participation of women, their representation in leadership positions remains limited.

Global level: Fairtrade POs, on average, reached the second-highest score on Good Governance (65%). Two-thirds of Fairtrade certified POs had a strategic and/or business plan and developed sales plans and cash projections annually. They were able to influence the policies and regulations within the Fairtrade system. However, a greater Good Governance score did not affect the COVID-19 impact on POs' members/workers.

Case studies: On average, all households (regardless of certification) scored highest on Good Governance. Comparing similar households (that were of the same size, with farmers of the same gender, education level, and age) which produced the same commodity in the same country, we found that Fairtrade certification did not increase the Good Governance score but was associated with a very slight negative effect (-0.3%). This could be because half of the non-Fairtrade certified POs had alternative certifications such as Global GAP, CAFÉ Practice, or Organic certification. On the other hand, we found that Good Governance had no significant effect on lowering the impact of COVID-19 on members and workers.

Environmental Integrity

Literature review: Few studies analysed the effect of Fairtrade on Environmental Integrity (39%). Whilst 82% found positive results, 29% detected neutral results. As investments in socio-economic projects are often prioritised, Fairtrade premium investments in environmental projects remained low. As such, studies found that Fairtrade certification alone had no substantial impact on promoting sustainable agricultural practices. However, combining Fairtrade and organic certification often had a positive impact on the environment, enabled in particular by the Fairtrade Premium (as they are then more likely used for environmental projects)[7].

[7] Since the Fairtrade Premium allows for Small Producer Organizations to train their members on practices such as biological pesticides and disease controls.

Global level: Compared to other SAFA dimensions, Fairtrade POs attained the lowest points (56%) on Environmental Integrity. Most POs had environmental management (86%) and waste management practices (73%). However, a greater Environmental Integrity score did not influence the COVID-19 impact on Producer Organizations' members/workers.
Case studies: Comparing similar households (that were of the same size, with farmers of the same gender, education level, and age) which produced the same commodity in the same country, we found that Fairtrade certification increased the Environmental Integrity score by 3%. Yet, a higher Environmental Integrity score was not associated with a lower impact of COVID-19 on members and workers (but seemed to have the opposite association amongst the case studies).

Economic Resilience

Literature review: Most studies analysed the effect of Fairtrade certification on Economic Resilience (73%). Whilst 88% found positive results, 32% detected neutral results on the relationship between Fairtrade certification and Economic Resilience. Studies found that Fairtrade certification increased prices and incomes for POs across several countries and crops. However, the evidence is more substantial for SPOs than HLOs, as it is strongly context dependent. Fairtrade certification also provided stability to farmers through the Fairtrade Minimum Price and the Premium. Yet, demand for Fairtrade produce may be insufficient, so farmers sometimes must sell their Fairtrade produce on conventional markets.
Global level: Fairtrade POs attained 57% of the total Economic Resilience points. Most POs claimed that under Fairtrade terms, their trading relationships were better (90%), they obtained higher prices (85%), and they could better negotiate prices and other contractual conditions with buyers (77%). Most POs reported moderate financial sustainability (78%), yet, only a few (16%) received credit from Fairtrade buyers. Lastly, about half of the POs (56%) supported their members' income diversification/food security. Whilst a greater Economic Resilience score did not seem to influence the COVID-19 impact on members/workers, various aspects of the Economic Resilience index did, such as the financial standing of the PO, access to credit, the price received, and volume purchased by the PO, and measures on income diversification (and food and nutrition security[8]).
Case studies: Comparing similar households (that are of the same size, with farmers of the same gender, education level, and age) which produce the same commodity in the same country, we found that Fairtrade increases the average Economic Resilience score of households by 7%. Similar to the global level, Economic resilience had no significant effect on COVID-19, yet specific aspects of Economic resilience, such as savings, loans, and insurance, did.

[8] Unfortunately, the survey question had clubbed measures on food and nutrition security and income diversification. "Did your Producer Organization take any action to support income diversification and/or food security among members in the last calendar year?" We would recommend splitting these two aspects in future studies, as income diversification belongs to Economic Resilience and food and nutrition security falls under Social Wellbeing.

Social Wellbeing

Literature review: Amongst the reviewed 44 studies, the second highest share (59%) looked into the relationship between Fairtrade certification and Social Wellbeing. As results varied considerably based on how Social Wellbeing was measured, it is, perhaps unsurprisingly, the SAFA dimension with the least conclusive results. Whilst many studies found positive results (77%), a considerable share of studies found no impact (38%). Generally, studies found that Fairtrade certification had a) mixed impact on gender equity depending on the countries and the crops, b) led to improvements in the quality of life and the standard of living of Fairtrade members across several countries and crops, c) positively affected labour rights and health, and d) food and nutrition security.

Global level: Fairtrade producers scored highest on Social Wellbeing (83%). Almost all POs consulted with members/workers on their needs and the use of the Fairtrade premium. About half of the POs contribute to the local community's health needs or provide health insurance to workers. However, a greater Social Wellbeing score did not seem to influence the impact of COVID-19 on members/workers. Yet, one aspect, activities supporting food and nutrition security (and income diversification[8]), did have a significant effect.

Case studies: Comparing similar households (that were of the same size, with farmers of the same gender, education level, and age) which produced the same commodity in the same country, we found that Fairtrade certification increased the average Social Wellbeing score of households by 21%. Social Wellbeing (which in this case was primarily driven by indicators for food and nutrition security) also mattered most during COVID-19. On average, households with a higher Social Wellbeing score were 23.1% less impacted by COVID-19.

Factors influencing the resilience of global Fairtrade Producer Organizations

Fairtrade certification contributes to the resilience of POs by providing targeted immediate relief support, a safety net to price fluctuations via the Fairtrade minimum price, credit/loan support from Fairtrade buyers, capacity-building support via producer networks, and better participatory decision-making via requirements under the Fairtrade standards.

- **Fairtrade COVID-19 support**: Around 66% of Fairtrade POs in our sample received targeted immediate relief support. Producers that received Fairtrade COVID-19 support were, on average, 19% less likely to report a high impact of COVID-19 on the lives of their members/workers. This indicates the positive effects of relief support to producers and the added value of being Fairtrade certified in receiving such support to help mitigate the impact of sudden external shocks and stresses (such as COVID-19).
- **Product prices mattered even more**: The safety net provided by Fairtrade certification - the Fairtrade minimum price helped POs attain a higher price for products during the pandemic. POs that received a higher price than last year were 34% less likely to report a high impact of COVID-19 on their members/workers. Higher product prices thus considerably contribute to building the resilience of POs and their members/workers.
- **Financial sustainability reduced COVID-19's impact**: POs reporting high financial

sustainability[9] were 35% less likely to report a high impact of COVID-19 compared to those that reported low financial sustainability.

- **Access to finance helps build resilience**: Access to credit/loans helped producers mitigate the impact of COVID-19 on their members/workers. POs receiving a credit/loan from Fairtrade buyers were 24% less likely to report a high impact. This also signifies the critical role of Fairtrade certification in building long-term relations and solidarity of buyers with their in-origin producers in an emergency.
- **Targeted self-initiatives by producers contributed too**: Proactive self-initiatives by producers, e.g., as part of participatory/committee decisions on using the Fairtrade premiums, contributed to mitigating external shocks and stresses. POs that took additional measures[10] to mitigate the effects of COVID-19 were, on average, 12% less likely to be highly impacted by COVID-19. Likewise, POs that took steps to support income diversification/food security were 18% less likely to report a high impact of COVID-19.

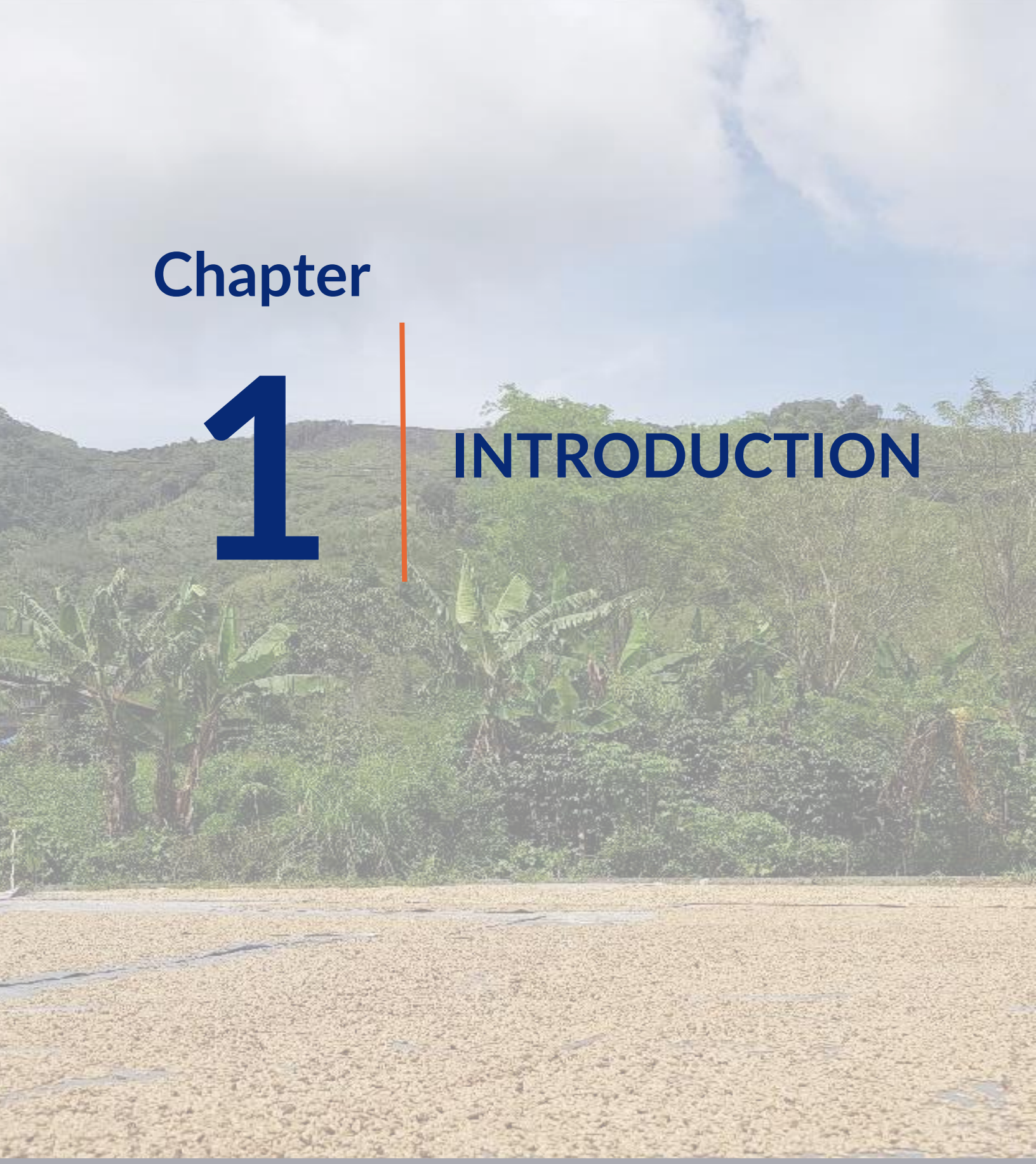
Recommendations for building resilience

It is recommended that Fairtrade should (further):

- seek to further strengthen Good Governance and Environmental Integrity standards of Fairtrade certification
- expand opportunities for producers to sell Fairtrade produce at a higher price with efforts such as building even stronger relationships between POs and buyers, enabling access to markets for producers, and strengthening sustainable farming systems
- provide capacity building for POs on sound financial management
- encourage loans for Fairtrade POs through Fairtrade buyers and/or partners in times of external stresses and shocks
- support building the capacities of women, promote women's representation in governance structures (e.g., board participation), and further enable direct access to Fairtrade interventions for women to reduce the impact of external shocks and stresses on women
- encourage POs to undertake income diversification and food security measures through capacity building, training, and technical support. These measures should primarily be targeted at youth and women
- focus on helping producers to reduce the cost of sustainable production without affecting yields through targeted training and measures
- strengthen the social dialogue and social protection of workers to build the resilience of HLOs

[9] Financial sustainability entails that POs can meet all their needs and financial obligations and are able to survive and fund activities during an event of financial instability.
[10] Additional measures include: the distribution of Personal Protective Equipment (masks and gloves), conducting awareness of skill-building activities, distributing food products, providing material for growing food, and distributing low-cost loans.

Chapter 1 INTRODUCTION



Picture 1: Drying coffee at a Fairtrade certified coffee farm in Indonesia

1. Introduction

Producers worldwide are increasingly faced with concurring crises. Those most impacting producers globally at present are (1) COVID-19, (2) climate change, and (3) inflation. The latter causes higher production and living costs, whilst the pressure prevails on product prices. Since January 2020, the global COVID-19 pandemic has heavily affected smallholder farmers, especially in the global South (INTRACEN, 2020). COVID-19 has exacerbated the precarious livelihood of smallholder farmers that face many challenges, such as volatile markets and prices, ageing agricultural labour, little to no social protection, climate change vulnerability, and low access to adaptive technologies. The pandemic has also disrupted global supply chains, hampering access to farm inputs and local transportation from farms to markets (FAO, 2020).

Against this background, Fairtrade International called for research to investigate the impact of the Fairtrade certification system on smallholder farmers' resilience to shock, such as the COVID-19 pandemic. This work is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Swiss State Secretariat for Economic Affairs (SECO). Some stylised facts about Fairtrade Certification are provided in Box 1.

Box 1: Fairtrade Certification in numbers

Over 1.8 million farmers and workers are in 1,822 Fairtrade certified **Producer Organizations (POs)** across 72 countries.[11] Of the certified POs:

- 1,478 (81%) are **Small Producer Organizations (SPOs**), 321 (18%) are **Hired Labour Organizations (HLOs),** and 23 (1%) are Contract Production (CP).
- 795,023 (42%) of farmers and workers were in Coffee, 378,753 (20%) in Tea, 415,971 (22%) in Cocoa, 67,199 (4%) in Flowers and Plants, 37,075 (2%) in Cane Sugar, 43,282 (2%) in Seed cotton, 34,973 (2%) in Bananas, 118,105 (6%) in other products.
- Women make up 15% of SPOs and 40% of HLOs
- Of all POs, 906 (50%) are in Latin America and the Caribbean, 634 (35%) are in Africa and the Middle East, and 282 (15%) are in Asia and the Pacific.

The overall aim of this research assignment was to assess whether being Fairtrade certified contributes to the resilience of Fairtrade members. Using the COVID-19 pandemic as a case study, this research project aimed to understand, document, and learn about the impact of the

[11] Figures are based on the year 2019.

pandemic on Fairtrade certified POs and their affiliated members (farmers and hired labour); and their coping mechanisms, enabled by Fairtrade's interventions.

Additionally, this research aimed to understand the impact of Fairtrade COVID-19 support provided to selected Fairtrade POs and their affiliated members. Box 2 provides an overview of the COVID-19 support that Fairtrade provided.

Box 2: Overview of Fairtrade COVID-19 support

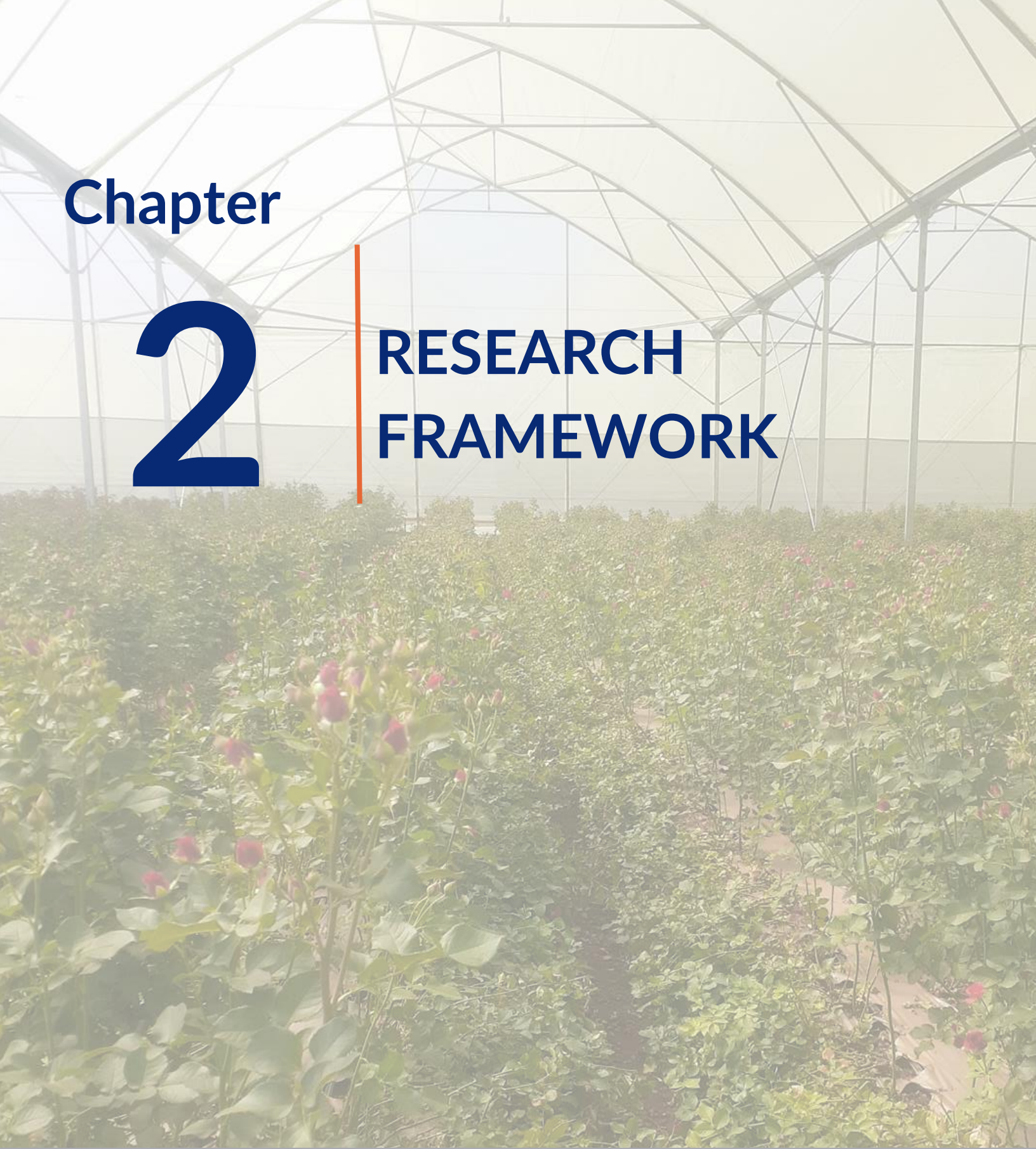
Fairtrade International aims to provide fair trade terms for farmers, protect workers' rights, and provide support to build thriving and sustainable livelihoods. In line with these objectives and to mitigate the impacts of COVID-19 on the farm and worker communities, in March 2020, Fairtrade International launched the "Fairtrade Producer Relief Fund" and "Fairtrade Producer Resilience Fund".[12] The aim was to meet the immediate needs of the farmer groups, workers, and their communities by supporting activities in health, food security, business continuity, and economic recovery and resilience, ultimately establishing a foundation for long-term recovery.

Overall, Fairtrade International secured funding from internal sources and external partners for €15 million (including support from bilateral donors such as BMZ/GIZ, SECO, FCDO, crowdfunding, and support from institutions such as Inter American Foundation, Incofin, and commercial partners, among others). This funding was allocated to POs through the two Funds. It was disbursed through Fairtrade's Producer Networks – the Network of Asia Pacific Producers (NAPP), Fairtrade Africa (FTA), and the Latin American and Caribbean Network of Fairtrade Small Producers and Workers (CLAC) in the three regions of Asia & the Pacific, Africa & the Middle East, and Latin America & Caribbean states.

In the following, we outline the structure of this research report. Having introduced the background of this study, chapter two presents the research framework, including the research questions and methodology. Chapter three offers the findings from the literature review. In the subsequent chapters, we then describe the analysis of the resilience of Fairtrade certified POs during COVID-19 using a global survey (chapter four) and the resilience of members/workers during COVID-19 using three case studies (chapter five). Chapter five presents the learnings from this study. We then conclude our research in chapter six and list our recommendations.

[12] The economic recovery and resilience interventions focus on 1) income diversification and food security through crop diversification and development of additional income streams for smallholder farmers; 2) market access diversification through adaptation to local market conditions, e-commerce, etc.; and 3) improved productivity and climate resilience through Good Agricultural Practices.

Chapter 2 RESEARCH FRAMEWORK



Picture 2: Orchard at a Fairtrade certified flower farm in Kenya

2. Research framework

2.1. Research questions

This research aimed to answer the following research question and set of sub-questions:
How does being Fairtrade certified contribute to Fairtrade Producer Organizations' resilience of its members?

1. What key benefits do Fairtrade members/workers derive from being Fairtrade certified?
1.1. How has that enabled them to remain resilient during the COVID-19 pandemic?
2. What is the impact of the COVID-19 pandemic on Fairtrade certified POs?
2.1. Are there age-related and gendered differences?
3. How have the Fairtrade Producer Networks supported Fairtrade POs in overcoming the COVID-19 pandemic?
4. What COVID-19 support did producers/hired labour receive from Fairtrade certified POs?
4.1. How has this support enabled producers to remain resilient? What would have happened in the absence of this support?
5. To what extent is the support provided by traders and buyers to POs a result of the value of Fairtrade supply chains and the long-term commitment of Fairtrade-certified sourcing relationships?
6. How have additional resources generated by Fairtrade for COVID-19 relief and economic recovery affected the ability of POs to tackle future shocks and stresses?

2.2. Framework for measuring resilience

This research builds on existing studies that suggest a positive effect of Fairtrade certification on resilience, e.g., through rural development, poverty reduction, and employment indicators in the global South (e.g., Mauthofer et al., 2022; Mauthofer et al.,2018; Mauthofer et al., 2013; Cramer et al., 2014; Nelson et al. 2016; Nelson and Pound, 2009).

To evaluate the resilience of Fairtrade-certified POs to shocks and stresses, it is necessary first to define what resilience means. Following the primary definition from the Food and Agriculture Organization of the United Nations (FAO), we define the resilience of POs as the *"ability to anticipate, prepare for, respond and adapt to incremental change and sudden disruptions to survive and prosper"*. Our resilience measurement follows FAO's Sustainability Assessment of Food and Agriculture

systems (SAFA) guidelines and Fairtrade's Theory of Change.[13] Please refer to Annexure 1 for a detailed description of SAFA indicators, themes, and sub-themes. Box 3 presents SAFA's four main dimensions.

Box 3: The SAFA dimensions of resilience

1. **Good Governance** (i.e., organizational development through enhanced accountability and transparency, such as participatory decision-making on investments)
2. **Economic Resilience** (i.e., relationship with buyers, access to credits, the price received (Fairtrade Minimum Price, Fairtrade premium)
3. **Environmental Integrity** (Fairtrade standards prescribing biodiversity, such as the use of Good Agriculture Practices)
4. **Social Wellbeing** (i.e., participation, no discrimination, gender equality, no child & forced labour, workers' rights, living income, food and nutrition security, education & capacity building, etc.)

2.3. Research hypothesis

Testing the relationship between Fairtrade certification and resilience, this research study investigated the following hypotheses:

H_0: *Being Fairtrade certified does not affect POs' resilience to shocks and stresses (such as the COVID-19 pandemic).*
H_1: *Fairtrade-certified POs are more resilient to shocks and stresses (such as the COVID-19 pandemic) due to the benefits accrued from Fairtrade certification, e.g.*

- *Good Governance:* Fairtrade standards promote inclusive and transparent decision-making, e.g., strong democratic governance and decision-making structures, advanced organizational development levels, etc.
- *Environmental Integrity:* Fairtrade standards prescribe environmentally, socially, and economically sustainable production practices, such as Good Agriculture Practices (GAP).
- *Economic Resilience:* Fairtrade Premium funds enable investment in members' and communities' priorities and urgent needs. Secured commercial relations provide better terms of trade – e.g., long-term sourcing commitments and mitigation of unfair trading practices such as "cut and run".
- *Social Wellbeing:* Fairtrade standards (as described above) lead to social and economic safety nets, which entail better access to healthy and nutritious food, education, and health.
- *Fairtrade Support:* Technical support from Fairtrade Producer Networks includes rapid and relevant/accessible prevention awareness messaging – e.g., IEC materials,

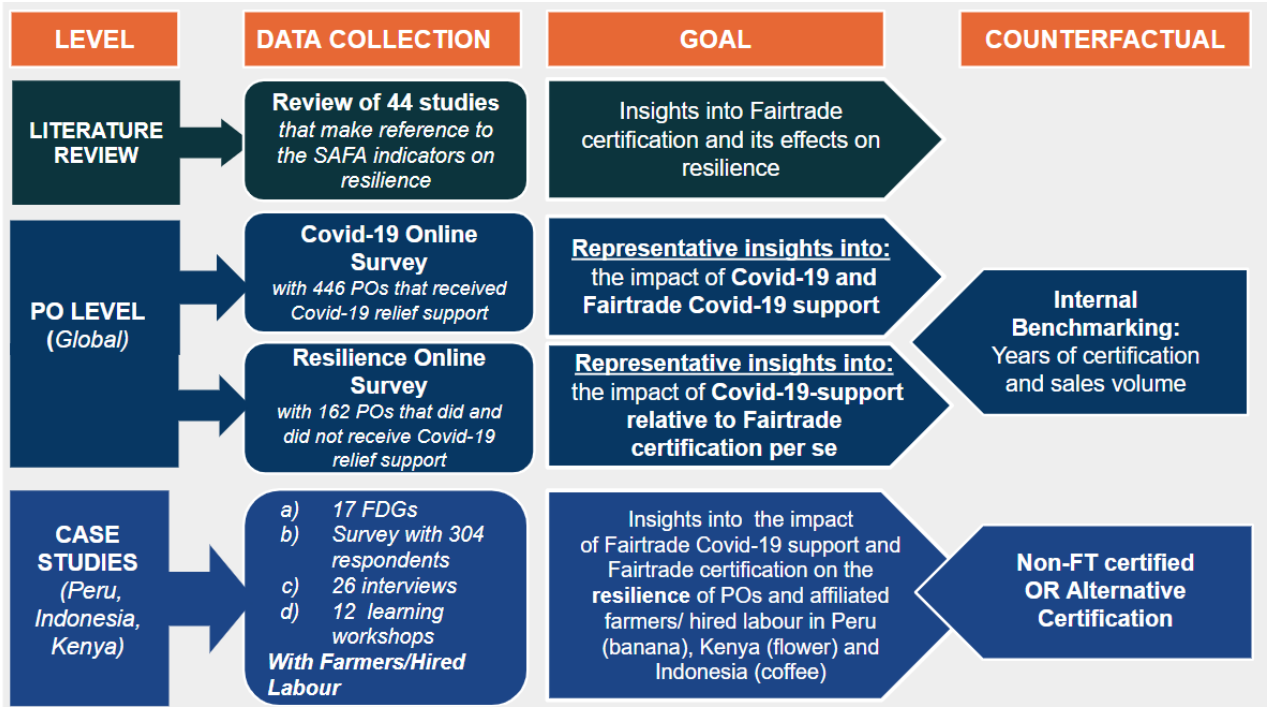
[13] Available at https://files.fairtrade.net/publications/2016_FairtradeTheoryOfChange.pdf

WhatsApp messages, videos, radio programmes, etc. Additional resources from Fairtrade and Partner Organizations, including through Fairtrade's relief and economic recovery funds and other donor-funded projects.

2.4. Research methodology

To analyse the effects of Fairtrade certification on resilience, we opted for an ex-post-mixed-method rigorous impact evaluation (RIE)[14], meaning we collected quantitative and qualitative data using a counterfactual approach. Primary and secondary data were collected on three different research levels (see figure 1), including a) a literature review, b) a global survey, and c) case studies.

Figure 1: Overview of the three-tiered research approach



By using quantitative and qualitative methods, this research methodology allows us to investigate the relationship between Fairtrade certification and the resilience of POs to external shocks and stresses (such as COVID-19) from different angles, diving deep into various aspects of the impact of COVID-19 on POs Fairtrade COVID-19 support, and the SAFA dimensions. The collected data were analysed and triangulated using content and narrative analysis, descriptive and inferential

[14] Rigorous Impact Evaluations introduce the inclusion of an ideally randomly selected counterfactual (e.g., non-Fairtrade farmers) to test how Fairtrade farmers would have fared in the absence of it.

statistics, i.e., multivariate regression analysis[15], Classification and Regression Trees (CART) analysis[16], and Propensity Score Matching[17]. The data analysis was carried out in Stata16.

2.4.1. Level 1: Approach for the literature review

Whilst we reviewed many more studies, a total of 44 (of which ten rigorous impact evaluations) met the requirements and were included in the literature review to better understand the effects of Fairtrade certification and resilience.[18] These studies were identified based on the following criteria:

- Studies investigating the impact of Fairtrade[19], either rigorous impact assessments or case studies that focus on Africa, Latin America, Asia, and critical Fairtrade crops, including banana, cocoa, coffee, tea, flowers, cotton, and orange juice.
- Studies analysing the impact of Fairtrade certification on one or several of the four SAFA dimensions of resilience.

A 'semi-systematic approach' was applied (Wong et al., 2013) to inform the literature review, which is structured in line with the four main SAFA dimensions of resilience and findings by organizational type,[20] products, and countries. All studies and their methodologies are listed in **Annexure 2.**

2.4.2. Level 2: Approach for the global survey(s)

Research on this level involved two data collection processes. Firstly, we added a few questions on resilience to the online **'Fairtrade COVID-19 Survey'.** The survey was rolled out in July 2021 by Fairtrade International and was filled out by 446 POs that had received COVID-19 support. Secondly, we conducted the online **'PO Resilience Survey'**. This online survey was conducted from 5th January to 14th February 2022 on the KOBO toolbox and shared with 440 POs with the support of MEL Managers from CLAC, FTA, and NAPP. We only sampled POs for which Fairtrace 2020 data[21] were available to ensure we have the relevant Fairtrade sales and premium data. Ensuring enough statistical power, we required a minimum sample of 120 POs based on sample power

[15] A statistical method that allows examining the relationship between a single dependent variable and several independent variables. The research team used a logit and an OLS model.
[16] CART (Classification and Regression Trees) model is a machine learning technique used to construct prediction models, first introduced by Breiman et al. (1984). It can help determine the relative importance of different variables within a data set.
[17] PSM propensity score matching is a statistical matching technique that attempts to estimate the effect of a treatment (e.g., Fairtrade certification) by accounting for the covariates that predict receiving the treatment.
[18] A distinction is made between (1) rigorous impact evaluations and (2) studies that are more qualitative, including learning and policy briefs. The former can generate verifiable (quantitative) evidence on the causal effect of Fairtrade interventions, while the latter can provide qualitative insights into the mechanisms of causality. All rigorous studies were quasi-experiments that mostly used a mixture of quantitative and qualitative methods. The non-rigorous studies mostly drew on review/desk research and qualitative data (such as Focus group discussions, interviews etc.). Besides the documents recommended by Fairtrade International, such as learning briefs and project policy briefs recommended by Fairtrade International, grey literature was excluded to maintain academic rigour.
[19] The certification system and not the concept, as the latter would go beyond the scope of this research.
[20] Namely, Small Producer Organization (SPO), Contract Producer System (CPS) and Hired Labour (HL). This distinction is important as the different Fairtrade certified production systems are held accountable according to different standards, leading to varying impacts for affiliated members and their wider communities.
[21] Fairtrace is a data source within the Fairtrade system that captures the data on *Fairtrade sales* and the *premium* of Fairtrade Producer Organizations. FLOCERT manages this data source.

calculations.[22] 162 POs filled out the resilience survey. Besides targeted questions on the resilience of POs (based on the SAFA indicators), we also included questions from the Fairtrade COVID-19 survey to ensure the two surveys are compatible. In addition, we aimed to gain differentiated insights by identifying an internal counterfactual (Klier et al., 2012; Mauthofer et al., 2018). As such, we adopted a two-arm design that differentiates between a) Fairtrade certified POs that had not received COVID-19 support (Arm 1), and b) Fairtrade certified POs that had received COVID-19 support (Arm 2).[23] This distinction between COVID-19 support and standard Fairtrade certification was essential for singling out how Fairtrade support - in addition to COVID-19-specific support - has uniquely and jointly contributed to the resilience of POs.

2.4.3. Level 3: Approach for the case studies

We selected three case studies based on a discussion with Fairtrade International and a set of agreed-upon criteria[24] to gain insights into the effects of COVID-19 and the resilience of POs across different producer networks (CLAC, NAPP, FTA), commodities, and PO types (SPOs, and HLOs). In total, we sampled 13 POs, of which seven were Fairtrade-certified, and six were not Fairtrade-certified (some had alternative certifications, as shown in Chapter five).

1. **Three Flower HLOs in Kenya**: two Fairtrade and one non-Fairtrade
2. **Three Coffee SPOs in Indonesia:** two Fairtrade and one non-Fairtrade
3. **Seven[25] Banana SPOs in Peru:** three Fairtrade and four non-Fairtrade

The data collection was conducted between November 2021 and February 2022 with support from local researchers. We conducted 26 interviews (at least two per PO) with the general manager, the finance manager, and, where available, a gender representative. On the latter, we observed that **a gender representative was available at every Fairtrade PO but not at every non-Fairtrade PO**. One-quarter of the interviewed PO-management was female. Furthermore, in each country, we surveyed at least 100 workers/members, cumulating in a total survey sample of 304 workers/members (50% Fairtrade and 50% non-Fairtrade), of which 27% of the respondents were female, and 24% youth (aged 18 to 26 years). The total sample size was based on power calculations to ensure we have

[22] Power calculations assume 80% power, 0.05 significance level, 30% effect size and ICC = 0.5. We acknowledge that an expected effect size of 30% is ambitious. Also, the internal "counterfactual" is very close to the treatment group, as both comply with Fairtrade standards. This might also potentially reduce the effect size. Having said that, we deem descriptive insights across the population of POs more important than the effect size for this research study.
[23] Initially, we planned to also include newly certified POs (6 months or less); however, not enough POs filled out the survey.
[24] Amongst other criteria, selected Fairtrade POs should be certified for at least four years, sell at least 50% under Fairtrade terms, and receive Fairtrade COVID-19 support.
[25] A higher number of POs in Peru was sampled for several reasons: 1) The data collection was disrupted by COVID-19, specifically Omicron, which meant that two POs that we had already included in part of the data collection were temporarily closed. We, therefore, had to find alternative POs. 2) Identifying suitable non-Fairtrade banana POs in Peru was much more difficult. As they are small in nature, with less than 30 producers in each PO, we had to sample more POs to reach the required sample size.

enough statistical power to assess the impact of Fairtrade certification on resilience.[26] Additionally, at each PO, we conducted at least one Focus Group Discussion (FGD) with women and youths (ideally separately) and, in the case of HLOs, with the labour welfare committee. We conducted 17 FGDs with a total of 99 farmers/workers (51% female). Lastly, we conducted 12 Learning and Validation workshops (one per PO[27]) with a total of 53 participants (43% female). Please see Annexure 4 for a complete sample overview.

Picture 3: Map of Case Studies

2.5. Limitations

Regarding the literature review (level 1) and a general comparison of results on resilience, it should be noted that very few studies investigating the impact of Fairtrade on resilience being measured by the four SAFA dimensions (Good Governance, Environmental Integrity, Economic Resilience, and Social Wellbeing) were found at the time of this research. Instead, studies often investigated only one aspect of a dimension of resilience (e.g., income, which falls under economic resilience) rather than all four and used different indicators and questions for measurement. This makes it difficult to compare findings on resilience and calls for a streamlining of how it is measured.

[26] The sample size calculated for treatment and comparison groups based on power analysis was 135 each (270 in total) at 80% power, 0.05 significance level, and 20% effect size. Assuming a 10% non-response rate, the total sample size per group was increased to 150 respondents. We estimate a different effect size for Level 3 relative to Level 2 (20% vs 30%) as we have the possibility of including a decent enough sample (overall 300) and would be able to conveniently detect a 25% change.
[27] Except for the non-Fairtrade certified POs in Indonesia, which was no longer reachable due to COVID-19.

Concerning the global surveys (level 2), it should be noted that whilst we tried to maximise the sample size by combining the two global surveys where possible, the resilience survey, which is the basis of our analysis, is still relatively small with a sample of 162 POs. This limits the identification of representative patterns, e.g., by regions. For instance, due to low response from POs within NAPP (n=6), the findings are more representative of the POs from Africa and Latin America and less for producers from the Asia Pacific. Furthermore, comparing interviews with PO-level management in Indonesia, Kenya, and Peru and the responses from farmers and workers, we found that the PO-management often reported more positively on the effect of COVID-19 than their members/workers. This implies that the global PO-level findings need to be taken with some caution.

With a view to the case studies (level 3), it should be noted that the data collection in Indonesia, Kenya, and Peru took place during the ongoing COVID-19 pandemic. Whilst in-person data collection, with safety and distance measures, was possible in Kenya and Indonesia, the data collection in Peru was heavily affected by COVID-19. Among our case studies, Peru experienced the highest number of COVID-19 cases and deaths per million[28]. Most interviews with PO management in Peru were conducted online. During our on-site visits in Peru in January 2022, two POs with which we had started the data collection suddenly closed due to many of their staff falling ill. We thus had to find last-minute alternatives to continue the data collection. In general, fewer people attended the FDGs and learning and validation workshops in Peru compared to the other countries due to fear of COVID-19. Furthermore, respondents in Peru were less forthcoming in their responses due to fear that their answers may negatively affect receiving Governmental and other support.

Lastly, employing an ex-post quasi-experimental design rather than a full-experimental one, this study may still suffer from selection bias or confounding factors that can upward or downward bias the results[29]. Therefore, the quantitative and qualitative findings are triangulated for validation wherever possible.

[28] The cumulative confirmed number of COVID-19 cases per million of the population is 107, 233.32 in Peru, 21,903.98 in Indonesia and 5,899.82 in Kenya. Source: https://ourworldindata.org/coronavirus/ (Accessed 20/05/2022).

[29] To our knowledge, all RIEs studying the impact of Fairtrade certification to date have opted for a quasi-experimental approach. This is due to the difficulty of identifying a suitable counterfactual, which means most Fairtrade impact studies may suffer from selection bias (to a varying degree) (e.g., Darko, Lynch and Smith, 2017, Nelson and Pound, 2009, etc.), which can lead to an under-or overestimation of the real impact that Fairtrade has on POs and their affiliated farm households and workers. The same methodological constraints limit this study.

Chapter 3 Literature Review

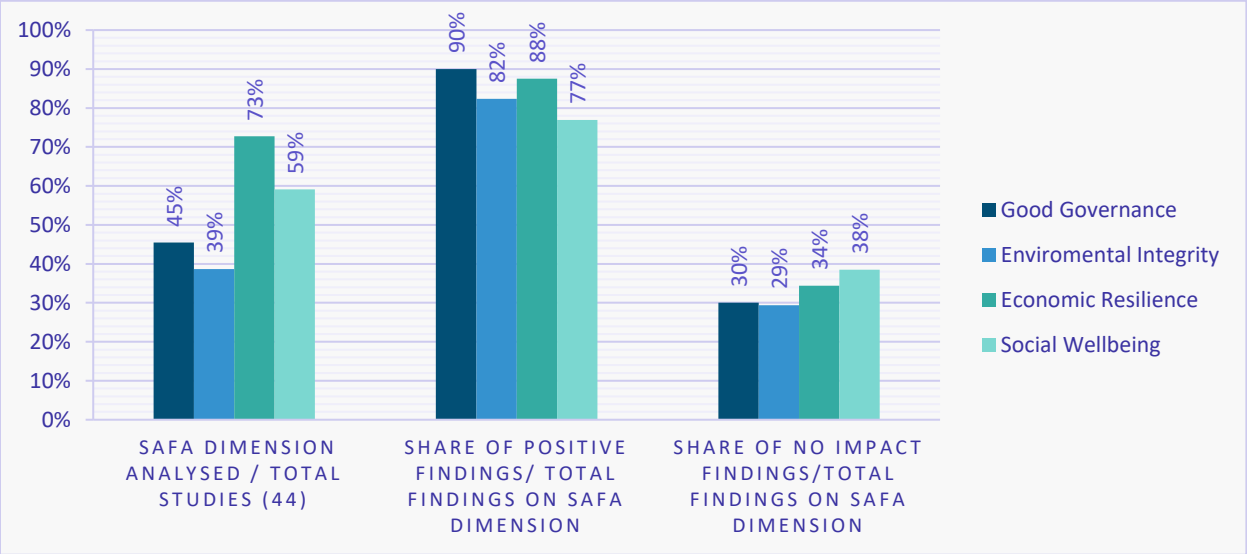
Picture 4: Banana plantation of a Fairtrade certified Producer Organization in Peru

3. Literature review: The impact of Fairtrade Certification on resilience

This literature review systematically recaps the findings of 44 studies (of which Fairtrade commissioned 29) that analysed the effects of Fairtrade certification on (aspects of) resilience by SAFA dimensions. Please note that most studies do not explicitly mention resilience; rather, the research team allocated the studies according to SAFA components (e.g., a study investigating the effects of Fairtrade on income would fall under Economic Resilience). Since studies can indicate findings on several SAFA components, which can also have different themes and sub-themes (see Annexure 1), studies can simultaneously report positive and no-effect findings on a single dimension of resilience.

Amongst the 44 reviewed studies, 84% find positive effects between Fairtrade certification and resilience, whilst 33% find no effect. However, results vary broadly by SAFA dimension, context, country, commodity, and type of PO. Most frequently, studies analyse aspects of Economic Resilience (73%), whilst the least number of studies analyse aspects of Fairtrade certification and Environmental Integrity (39%) and Good Governance (45%). Whilst fewer studies examine the effect of Fairtrade certification on Good Governance, this SAFA component has the highest share of positive findings (90%), followed by Economic Resilience (88%). The most ambiguous SAFA dimension is Social Wellbeing which points to positive results (77%) but also has the highest share of no-impact findings (38%). Throughout the review, we also noted that more positive findings are recalled in SPOs than in HLOs.

Figure 2: Overview of findings from the 44 studies reviewed



Please note: As the same study can find positive and no effects, the share does not add up to 100%.

3.1. Good Governance

Box 4: Summary of the literature review on Fairtrade and Good Governance

A total of **20 studies** (five of which are rigorous impact studies) analysed **Good Governance** (Accountability and Participation). **Eighteen studies** found a **positive** effect and **six** found no impact between Fairtrade and aspects of Good Governance (some found both) [30].

- Fairtrade certification led to more robust, better managed, and more democratic SPOs across several countries.
- Some SPOs still lacked information on Fairtrade principles, standards, and prices
- Fairtrade certification improved members'/workers' participation in decision-making in both SPOs and HLOs.
- Fairtrade certification led to higher participation of women in farmer organizations; however, their representation in leadership positions remained limited.

Accountability: Fairtrade certification led to more robust, better managed, and more democratic SPOs (Boating, Torné and Chhagan, 2021; Jodrell and Kaoukji, 2021; Nelson et al., 2016, Darko et al., 2017). Improvements in organizational strength and a partial increase in access to external resources were found amongst SPOs in the orange sector in Brazil (Schiesari and Grüninger, 2014), the coffee sector in Nicaragua (Macdonald, 2007), Mexico, Indonesia, Tanzania, and to a lesser extent in Peru (Nelson et al. 2016). The latter study also found improvements in the level of democracy of Fairtrade SPOs in Mexico and Tanzania and organizational infrastructure in Tanzania. Another study found a positive impact on democratic structures and increased membership amongst SPOs in the tea sector in Malawi (Pound and Phiri, 2011). Lastly, amongst Fairtrade-certified cotton SPOs in Mali, Senegal, and Cameroon and CPS in India, Fairtrade improved organizational management and transparency (Nelson and Smith, 2011)[31]. On the other hand, Mauthofer et al. (2018) found that Fairtrade coffee farmers in Peru do not always feel well informed about prices and payment procedures, despite improvements in information sharing and approval of decisions in the general assembly. Some farmers still lack decision-making power on how the Fairtrade Premium is used (Foundjem, 2017). Furthermore, several older studies indicated that farmers have incomplete knowledge of the principles and standards of Fairtrade, especially among POs in India's cotton sector, Ghana's cocoa sector, and Nicaragua's coffee sector (Foundjem et al., 2016; Nelson and Smith, 2011; Valkila and Nygren, 2010).

Participation: Fairtrade certification was associated with improved involvement in SPOs and HLOs. Mauthofer et al. (2018, 2022) found across several countries and crops that Fairtrade

[30] Please note that within the same study, a positive and a negative association between Fairtrade and aspects of Good Governance can be analysed.
[31] In the areas of skills development, improved regularity of meetings, and greater transparency of financial transactions.

certified POs allow for greater decision-making on using the Fairtrade Premium amongst their members and workers. Other studies also found this in a wide range of countries and crops (Foundjem et al., 2016; Klier and Possinger, 2012; Pound and Phiri, 2011). For instance, Lyall (2014) found that Fairtrade certification in Ecuador's flower sector triggered the development of new reforms,[32] enabling greater worker participation in their communities and families. As part of the learning briefs on the project "Building Resilience in Flower Supply Chains", the Fairtrade Foundation (2021a) also indicated that the project benefits stakeholder dialogue, grievance procedures, and conflict resolution.[33] Since the start of the pandemic, the worker representative structure provided by Fairtrade has been useful. Workers can challenge their employers when witnessing unfair treatment (Fairtrade Foundation, 2021b). Despite one study pointing to opposite findings (Foundjem et al., 2017), Fairtrade SPOs appear to have higher participation and better representation of women in leadership (Gallagher et al., 2021; Gallagher et al., 2020; Jodrell and Kaoukji; 2021). However, female participation in leadership remains relatively low (CLAC and Fairtrade, 2021b), and not all female members in Fairtrade POs can articulate their voices (Mauthofer et al., 2018).

3.2. Environmental Integrity

Box 5: Summary of the literature review on Fairtrade and Environmental Integrity

In total, **17 studies** (four rigorous impact studies) analysed aspects of **Environmental Integrity** (i.e., Environment, Atmosphere, Water and Land, Biodiversity and Materials and Energy). **Fourteen studies** reported a **positive** impact, and **five** found **no effect** (with some finding both).

- Fairtrade certification alone does not substantially promote sustainable agricultural practices. This is because Fairtrade Premium investments in environmental projects remain relatively low, as POs tend to prioritise investments in socio-economic projects. However, more SPOs than HLOs use the Premium for environmental projects.
- The combination of Fairtrade and organic certification positively impacts the environment. This is mainly thanks to stricter organic certification standards regulating the use of chemicals and fertilisers and the Fairtrade Premium.[34] Also, in some cases, Fairtrade certification is associated with a reduced application of chemical pesticides.

Environment: SPOs and HLOs across many countries and crops recorded a positive environmental impact from the Fairtrade and organic certification (Klier and Possinger, 2012; Mauthofer et al., 2018, Darko et al., 2017). For the banana sector, Groot Ruiz et al. (2019) found that Fairtrade

[32] Including initiatives aimed at easing the domestic workload; "access to housing and productive loans, helping workers invest in their communities; and the development of skills and capacities to encourage participation in local leadership." Lyall (2014)
[33] This is because of: 'health packages, gardens, gender training, alternative income generation, farm diversification and the communication campaign provisions.' (Fairtrade Foundation, 2021a).
[34] Since the Fairtrade Premium allows for SPOs to train their members in practices such as biological pesticides and disease controls.

production had lower environmental external costs[35] compared to the conventional banana sector. This is caused by the differences in yields, water consumption, and fertiliser application. However, as a part of their literature map, Jodrell and Kaoukji (2021) found that Fairtrade certification's ability to improve environmental protection and climate change adaptation has inconsistent results. SPOs and HLOs seem to prioritise investing the Premium money in improving socio-economic aspects over environmental ones[36] (Linne et al. 2019). Additionally, smallholders do not consistently rate Fairtrade highly for promoting sustainable agriculture across different countries and sectors (Mook and Overdevest, 2017).[37] Elder et al. (2013) found that Fairtrade standards do not strongly affect agricultural practices[38] in the Rwandan coffee sector besides practising agroforestry and applying manure. She claims that agrarian practices are influenced by context rather than by Fairtrade certification.

Atmosphere (Climate): The top seven Fairtrade products (bananas, cocoa, coffee, cotton, flowers, sugar, and tea) are highly vulnerable to climate change. As part of their literature review and hotspot analysis, Feurer et al. (2021) found that Fairtrade production regions seem to be less affected by climate change indicators (consecutive dry days, warm spell duration index, extreme rainfall events) compared to non-Fairtrade production regions for the same crops.[39] Nelson et al. (2016) found that Fairtrade certification has "positive effects on environmental sustainability and resilience to climate change". Fairtrade currently offers climate change mitigation and adaptation projects and Fairtrade Carbon Credits to offset emissions. [40]However, as part of their review of 50 Fairtrade documents, Feurer et al. (2021) also found that few reports explicitly mention farmers' awareness of Fairtrade's climate and environmental interventions.

Water and Land: Within the banana sector, Fairtrade is attempting to decrease the use of agrochemicals on banana farms (Ostertag et al., 2014). The Productivity Improvement Programme (PIP) was launched in Latin American countries to increase productivity while tackling water contamination. As a result, **a 12% reduction in the water footprint could be observed on Fairtrade-certified banana plantations in Colombia** (CLAC and Fairtrade, 2021a). In addition, the Fairtrade Premium can help POs invest in climate adaptation measures[41] (Borsky and Sparta, 2017). These climate adaptation measures can help improve land resilience. The Fairtrade affiliation has also helped reduce the usage of pesticides on orange farms in Brazil (Schiesari and Grüninger, 2014)

[35] Environmental impacts covered include climate change, land occupation, water depletion, waste, and land, water and air pollution.
[36] Using about 5.4% and 1.4% of the Premium, respectively.
[37] This finding was especially corroborated in the coffee sector in Tanzania (Pyk and Abu Hatab, 2018).
[38] Such as reforestation, post-harvest infrastructures that are more resilient to natural disasters and climate change, innovative agricultural technologies (more advanced irrigation systems), and disease-resistant and drought-tolerant varieties.
[39] Through the Premium rather than through sale prices (Foundjem et al., 2017).
[40] For instance, in the areas of education services, support for local health, and local infrastructure benefitting the wider community.
[41] Such as reforestation, post-harvest infrastructures that are more resilient to natural disasters and climate change, innovative agricultural technologies (more advanced irrigation systems), and disease-resistant and drought-tolerant varieties.

and flower farms in Kenya, compared to farms that are not Fairtrade certified (Linne et al., 2019). Lastly, PIP banana farms recorded a **23% increase in production, with 20% less synthetic fertiliser usage than in the traditional Fairtrade banana production system** (CLAC and Fairtrade (2021a).

Biodiversity: Despite some exceptions (Linne et al., (2019)[42], various studies point to a positive association between voluntary sustainability standards, such as Fairtrade certification, and biodiversity (Klier and Possinger, 2012). Klier and Possinger (2012) found that Fairtrade certification ensures adherence to environmental standards, while the regulations of state institutions do not always do so. Mauthofer et al. (2018) found that environmentally friendly land practices and organic certification positively affect biodiversity. They result in less chemical contamination, conserve GMO-free cotton varieties and increase insect life. Further reasons for a positive effect on biodiversity are that organic certification restricts farmers from using agrochemicals. The Fairtrade Premium allows SPOs to train their members in biological pesticides and disease controls. Additionally, Fairtrade contributes to the restoration of biodiversity on orange plantations (Schiesari and Grüninger, 2014). Compared to conventional ones, Fairtrade flower farms seem to invest more in activities that can safeguard biodiversity, such as beehives/beekeeping and fishponds (Linne et al., 2019).

Materials and Energy: Several studies (Mauthofer et al., 2018: Linne et al., 2019) that the Fairtrade Premium allows for investments into environmentally friendly practices such as composting, gas cooking, and reducing firewood; and organic certification sets stricter regulations on the use of chemicals and fertilisers.

3.3. Economic Resilience

Box 6: Summary of the literature review on Fairtrade and Economic Resilience

A total of **32 studies** (eight of which are rigorous impact studies) analysed the impact of Fairtrade on **Economic Resilience** (Prices and Vulnerability, Income, Investment, and Product Quality and Information). In total, **28 studies** found a **positive impact,** and **11 found no impact** (with some studies finding both for different aspects of Economic Resilience).

- Fairtrade certification led to higher prices and incomes for many POs across several countries and crops. However, the evidence is more substantial for SPOs than HLOs and strongly context dependent.
- Fairtrade certification provided stability to farmers through the Fairtrade minimum price and the premium.
- The demand for Fairtrade certified produce remained low, so farmers sometimes had to

[42] The paper found no effects in the banana sector in Panama and tea sector in India but did, however, found a positive association between biodiversity and Fairtrade in the banana sector in Peru.

sell their Fairtrade produce on the mainstream market.
- Fairtrade certification improved the investment capacity of SPOs and access to services and markets.

Prices and Vulnerability: Whilst a few studies point to no detectable effects (e.g., Jena et al., 2012; for coffee in Ethiopia), many studies indicate that Fairtrade certification leads to higher prices realised by producers in the cotton sector in Mali, Senegal, and Cameroon and the coffee sector in Peru, Tanzania, and Mexico (Bacon, 2005; Nelson et al. 2016; Nelson and Smith, 2011). Some studies (Nelson et al., 2016; Fayet and Vermeulen, 2012, Darko et al., 2017) underline the importance of the Fairtrade Minimum Price, which protects against significant market fluctuations. While SPOs benefit through the Fairtrade Minimum Price and Premium, demand for Fairtrade is relatively low compared to supply. This makes it challenging to sell produce on Fairtrade terms, often forcing SPOs to sell their certified produce to traditional markets (Boating, Torné and Chhagan, 2021; Omidvar and Giannakas, 2015; Valkila and Nygren, 2010).

Further adding to this, Valkila and Nygren (2010) found that the supply of Fairtrade coffee exceeds the global demand. In Nicaragua, cooperatives could sell only 30–60% of their coffee through Fairtrade channels. Jena et al. (2012) found that as the cooperatives are not financially strong enough to procure the entire amount of coffee from their farmers, farmers have low confidence in their cooperatives. Additionally, farmers have lost bargaining power with their former traders. In contrast, Mook and Overdevest (2020) found that despite many producers facing insufficient market demand to sell on Fairtrade terms, producers still see an advantage, as buyers request certification for better marketing and higher quality insurance. Rusman (2018) found that Fairtrade positively impacted higher cocoa yields thanks to the training and cheaper fertilisers and pesticides offered by the SPO.

Income: Jodrell and Kaoukji (2021) found that Fairtrade certification generally improves revenues, but this mainly depends on sales. Also, the effect is more significant for SPOs than for HLOs. Findings generally differ by commodity and country. Fairtrade certification positively affected income in the orange sector in Brazil (Schiesari and Grüninger, 2014), the banana sector in the Dominican Republic (Van Rijn et al., 2016) and Peru (Mauthofer et al., 2018), the cocoa sector in Cote d'Ivoire[43] (Foundjem et al., 2017), the coffee sector in Nicaragua (Macdonald, 2007), and the tea sector in India (Mauthofer et al., 2018). However, only 28% of Hired Labour on Fairtrade-certified flower farms in Kenya reported that their wages "lasted the entire month" (Taylor et al., 2021). To address such challenges, Fairtrade has developed the Fairtrade Living Income Strategy to close income gaps by moving beyond the Minimum Price and the Premium (Fairtrade

[43] Through the Premium rather than through sale prices (Foundjem et al., 2017).

International, 2021). Van Rijn et al. (2016) found that Fairtrade certification contributes to increased wages for hired labour in the Ghanaian banana sector. Using Propensity Score Matching, Jena et al., 2012 found no income difference between Fairtrade and non-Fairtrade certified coffee POs in Ethiopia. Some studies also point to adverse income effects. Cramer et al. (2014) stressed that for both HLOs and SPOs in Ethiopia and Uganda, workers in Fairtrade certified POs earn less than equivalent workers without Fairtrade certification. The lower wages are, however, partly caused by implementing improved standards that will benefit rural workers. On the other hand, Bayer et al. (2021) found that banana workers in Latin America earn a higher income than cocoa farmers in West Africa through Fairtrade. This difference in income can be attributed to two factors; first, banana workers in Latin America are permanently employed on Fairtrade-certified farms (while cocoa farmers in West Africa are mainly share-croppers), and second, they work more and are compensated for their extra work.

Investment: In general, there is evidence that Fairtrade can improve the investment capacity of Fairtrade certified POs that offer loans (often partially financed by Fairtrade Premium) to their members and workers in the cocoa, flowers, coffee, and banana sectors (Klier and Possinger, 2012; Valkila and Nygren, 2010) and globally (Darko et al., 2017). However, for the global banana sector, Smith (2010) found that the Fairtrade Premium has been used mainly for supplementing incomes rather than for investments. The latter, according to Smith, 2010 has a higher potential for sustained impact. In contrast, Mauthofer et al. (2018) stressed that more investments (due to the Fairtrade Premium) had been made within Fairtrade-certified organizations into (social) infrastructure[44] (Darko et al., 2017), improving the expenditure patterns of producers[45] and social welfare. Nelson and Smith (2011) found that surplus income from cotton is used for small investments in income-generating activities. However, the evidence of sustainable development was less often found for farmers with small cotton areas and/or low yields. In Ethiopia, Fairtrade-certified cooperatives provided better credit access to their members than non-Fairtrade-certified cooperatives. However, the proportion of members that receive the service of access to credit remains generally low (Jena et al., 2012). Additionally, for Nicaraguan cooperatives, Fairtrade organizations seem unable to provide favourable loans (Valkila and Nygren, 2010). While Fairtrade workers generally have good access to credit and financial services, many workers on Fairtrade-certified flower farms in Kenya do not meet all their monthly expenses, with some frequently taking out loans (Mauthofer et al. 2018).

Product Quality and Information: Nelson and Smith (2011) found improvements in product quality in the Fairtrade cotton sector in Mali, Senegal, and Cameroon. In addition, Boating et al. (2021)

[44] For instance, in the areas of education services, support for local health, and local infrastructure benefitting the wider community.
[45] For instance, providing cheaper inputs, improving economies of scale, and improving efficiency.

found that by providing training through the West Africa Cocoa Programme, Fairtrade impacted the economic resilience of the SPOs by promoting the confidence of financial partners and organizations with whom they work. Lastly, studies have shown that Fairtrade certification can increase access to services and markets (Foundjem, 2017, Borsky and Spata, 2017, Smith, 2010).

3.4. Social Wellbeing

Box 7: Summary of the literature review on Fairtrade and Social Wellbeing

A total of **26 studies** (six of which are rigorous impact studies) referred to the impact of Fairtrade on aspects of **Social Wellbeing** (Fair-Trading Practices and Decent livelihoods, labour rights and equity). In total, **20** studies found a **positive** impact of Fairtrade on Social Wellbeing, and **ten** found no **effect** (some found both depending on the aspect).

- Fairtrade certification positively affected labour rights and health, although more remains to be done.
- Fairtrade certification improved the quality of life, the standard of living, and the empowerment of Fairtrade members across several countries and crops; however, some minor contextual differences remain.
- Fairtrade certification had mixed impacts on gender equity depending on countries and crops.

Fair Trading Practices & Decent Livelihoods: Producers rated Fairtrade's social justice aspects, such as women empowerment and reduction of child labour, as nearly equally important as economic benefits (Mook and Overdevest, 2017). An improvement in the quality of life, the standard of living, and empowerment of Fairtrade members are primarily thanks to an improved economic situation, access to health services, provision of loans, education, better food security, and housing quality. These findings were detected for tea HLOs in Malawi (Pound and Phiri, 2011), flowers in Ecuador (Lyall, 2014), oranges in Brazil (Schiesari & Grüninger, 2014), bananas in Colombia (Ostertag et al., 2014, Bayer et al. 2021) and bananas in Peru and the Dominican Republic. In addition, studies also showed that Fairtrade could help finance children's education for workers (flowers in Ecuador and Kenya) and SPOs for various crops and countries (Lyall, 2014; Schiesari & Grüninger, Loconto et al., 2019). Yet, some contextual differences remain; whilst workers on Fairtrade banana plantations in the Dominican Republic score higher on more than half of social indicators, the same was not found for Colombian workers on Fairtrade-certified banana farms (Rijn et al., 2016).

Labour Rights: Fairtrade appears to positively impact labour standards and decent work conditions (Darko et al., 2019), increasing job satisfaction. This is true to a higher degree in SPOs than in HLOs (Jodrell and Kaoukji (2021). Boating et al. (2021) found that Fairtrade standards resulted in heightened awareness of human rights issues, gender equality, and child and forced labour prevention, indicating improvements over time. Also, Fairtrade supported the "enforcement of labour laws and safety regulations and reduced the risks of non-compliances thanks to the

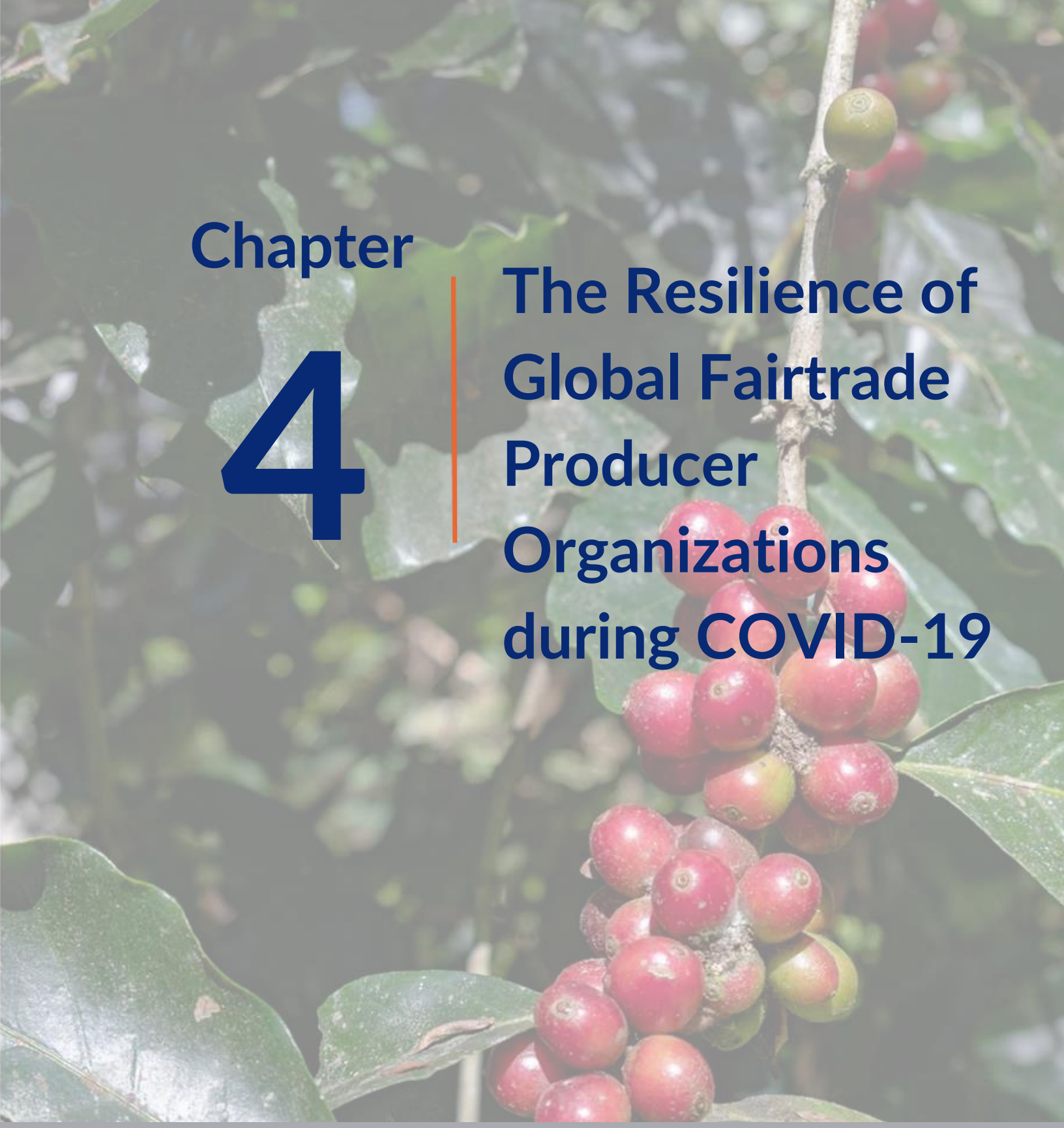
implementation of a strong internal control system" in the orange sector in Brazil (Schiesari and Grüninger, 2014) and the Latin America banana sector (Bayer et al. 2021). For hired labour in the flower sector in Kenya, the tea sector in India, and the banana sector in Colombia, positive changes were reported in farmers' working conditions and social wellbeing [46] (Mauthofer et al., 2018, Klier and Possinger, 2012, Ostertag et al., 2014). Additionally, in the Kenyan flower sector and the Peruvian banana sector, 'permanent contracts' allow workers to plan for the future (Klier and Possinger, 2012). On the other hand, compliance with child labour regulations seems to remain a challenge in the cocoa, cotton (Klier and Possinger, 2012), and coffee sectors (Valkila et al., 2010). The latter also found that working conditions on Nicaraguan coffee farms were not significantly enhanced by Fairtrade certification. Yet, contextual differences remain. For instance, banana workers in Latin America, compared to cocoa workers, benefitted from better protection of worker's rights, including access to Personal Protective Equipment (PPE) and labour-saving equipment[47], training on safety measures, and access to hygiene facilities (Bayer et al. 2021).

Equity: During the COVID-19 crisis, gender inequality gaps widened, which led to increased domestic violence toward women (Fairtrade Foundation, 2021a; International Labour Organization, 2021). Organising training and awareness campaigns with a gender focus is 'highly crucial for building resilience' as women suffered the most during the crisis (Fairtrade et al., 2021b). For instance, in the Kenyan flower sector, household income was reduced for workers[48], and women took unpaid leave to take care of their children while schools were closed during the pandemic. As a result of Fairtrade certification, women earn higher incomes, have improved their status, and enhanced their ability to influence decisions at the PO level (Gallagher et al., 2020). Regarding gender equality in the Ghanaian cocoa sector, female participation in cooperative management positions is still low due to a lack of confidence and experience with business deadlines (Foundjem-Tita et al., 2016). At the same time, SPOs are "raising gender awareness to motivate girls in their respective communities to apply for positions of responsibility and identify cases of gender-based violence" (Boating et al., 2021). For the hired labour sector in Kenya, female farmers found it much easier to set up a Gender Committee in their PO (Klier and Possinger, 2012). However, Smith (2013) found generally mixed results on gender equality during a review of 30 studies. In some cases, where higher burdens of work and less control over household decision-making occurred, gender inequality was deepened rather than challenged by Fairtrade. Also, no apparent changes in gender equality were reported in the Tanzanian, Peruvian, and Indonesian coffee sectors (Nelson et al., 2016). Lastly, women remain a significant minority and have restrictions on opportunities and income in the global banana (Smith, 2010; Klier et al., 2012) and the Indian tea sector (Klier and Possinger, 2012).

[46] Including more stable payment, allowance of leave/sick days, higher salaries, legal and social benefits, and job stability.
[47] "This included protective boots, gloves, and a nose/gas mask when spraying."
[48] Women make up about half of the workforce.

Human Health and Safety: Jodrell and Kaoukji (2021) found that Fairtrade improves workers' social wellbeing through health and safety measures. For instance, banana SPOs in Ghana used the Fairtrade Premium to improve the member's health situation (Van Rijn et al., 2016). Fairtrade can also improve health and safety indirectly through investment in infrastructure that makes it easier to get to the hospital (amongst coffee cooperatives in Peru) and through better access to improved health insurance (amongst cotton POs in India and flower POs in Kenya) (Klier and Possinger, 2012). Additionally, positive health benefits from the reduced use of pesticides were detected in the cotton sector in Mali (Nelson and Smith, 2011). In other cases, the premium is not necessarily invested in health services (Klier and Possinger, 2012). For example, Jena et al. (2012) found no regular transport to health services at three Fairtrade coffee cooperatives out of four in Ethiopia, adversely affecting pregnant women in need of emergency health services. Lastly, Groot Ruiz et al. (2019) found lower social external costs[49] in the Fairtrade banana sector compared to the conventional one, in part caused by higher wages and social security.

[49] Social impacts covered in the study include labour issues such as underpayment, health and safety, overtime, social security, underage work, harassment, and forced labour.



Chapter 4

The Resilience of Global Fairtrade Producer Organizations during COVID-19

Picture 5: Coffee cherries at a Fairtrade certified cooperative in Indonesia

4. The Resilience of global Fairtrade Producer Organizations during COVID-19

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This chapter analyses the resilience of Fairtrade certified POs using the global survey data that the management staff of Fairtrade POs filled out. We first present descriptive statistics on the impact of COVID-19 on the POs and their overall resilience based on the four SAFA components. We then validate our findings using regression analysis, uncovering the most influential factors that enabled the resilience of global Fairtrade POs during the COVID-19 pandemic.

4.1. The impact of COVID-19 on Fairtrade Producer Organizations' members/ workers

Box 8: Summary of findings on the impact of COVID-19 on Fairtrade POs' members/ workers

Most POs (63%) have been highly impacted by COVID-19. SPOs were more affected than HLOs. POs from Africa are more affected than those from Latin America and the Asia Pacific. The most impacted commodities by COVID-19 are tea, sugar, cocoa, and coffee.

For the overall analysis of the impact of COVID-19 on POs, we merged the data from the COVID-19 and the resilience surveys. In both cases, PO management had filled out the survey. Combining the two surveys, we obtain **a sample of 523 Fairtrade POs[50], which is representative of the total population of 1,822 global Fairtrade certified** POs based on a 95% confidence interval, 5% margin of error, and 50% response distribution. It is noteworthy that 66% of POs received COVID-19 support from Fairtrade.

To measure the impact of COVID-19 on Fairtrade members/workers, we asked PO management to rate which of the following aspects most affected the lives of their members/ workers due to COVID-19 on a scale of one (1) to six (6) (where one = strongly affected, three = moderately affected, and six = not or very little affected):

a) Loss of Income due to loss of sales, disruptions in the supply chain, and/or change in price
b) Loss of income due to lower production
c) Loss of income due to loss of employment
d) Sickness/death in the community due to COVID-19
e) Loss of /change in social relationships

Based on the above five indicators, we built a **COVID-19 Impact Score** which ranges from a

[50] Data from a total of 608 POs are obtained when merging the two surveys. However, 61 POs had filled out both surveys, rendering us with a sample of 547. Additionally, 24 POs in the COVID-19 survey did not submit the information needed to build the COVID-19 Impact Score. The total merged sample thus contains only 523 POs (608-61)-24 = 523).

minimum of 5 points (strongly affected by COVID-19) to a maximum of 30 points (not or very little affected by COVID-19). **It is to be noted that a lower score implies a higher impact of COVID-19.** The overall average 'COVID-19 Impact Score' was 18.2, with the median at 18. The average COVID-19 score was more or less similar across the three producer networks (CLAC, FTA, NAPP) but slightly higher for HLOs than SPOs.

Table 1: Global COVID-19 score

	Joint Surveys		Resilience Survey	
Category	Mean	N	Mean	N
COVID-19 Score (5-30)	18.18	523	19.76	160
Producer Organization Type				
Small Producer Organizations	17.92	425	19.66	127
Hired Labour Organizations	19.65	66	19.96	30
Producer Network				
CLAC (Latin America & Caribbean)	18.39	152	20.83	49
FTA (Africa)	18.04	294	19.46	105
NAPP (Asia Pacific)	18.29	77	16.16	6

We constructed a binary outcome variable based on the 'COVID-19 Impact Score' to ease understanding. The variable would take the value of zero (0) if the PO were not or only moderately impacted by COVID-19 (impact score between 21-30) and the value of one (1) if the POs' members/workers were high to very highly impacted (impact score between 5-20).[51] As this variable allows a more straightforward interpretation, we use it for the descriptive analysis.

Impact of COVID-19 by type of Producer Organization, region, and commodity

As illustrated in Figure 3, about two-thirds of POs (63%) have been highly to very highly impacted by COVID-19, with the remainder experiencing no to moderate impact (37%). When analysed by the type of PO, **SPOs seem to have been affected more by COVID-19 (64%) than HLOs (52%).** Comparing the impact of COVID-19 on producer networks (Figure 4), we find that PO **members/workers from Africa were more impacted by COVID-19** compared to those from Latin America and the Asia Pacific.

[51] The split of the COVID-19 Impact Score into a binary variable – 0 (score of 21-30) and 1 (score of 5-20) was done based on the robustness check with Ordinary Least Squares (OLS) regression (please refer to Annexure 3).

Figure 3: Impact of COVID-19 by the type of Fairtrade Producer Organization - Joint Surveys

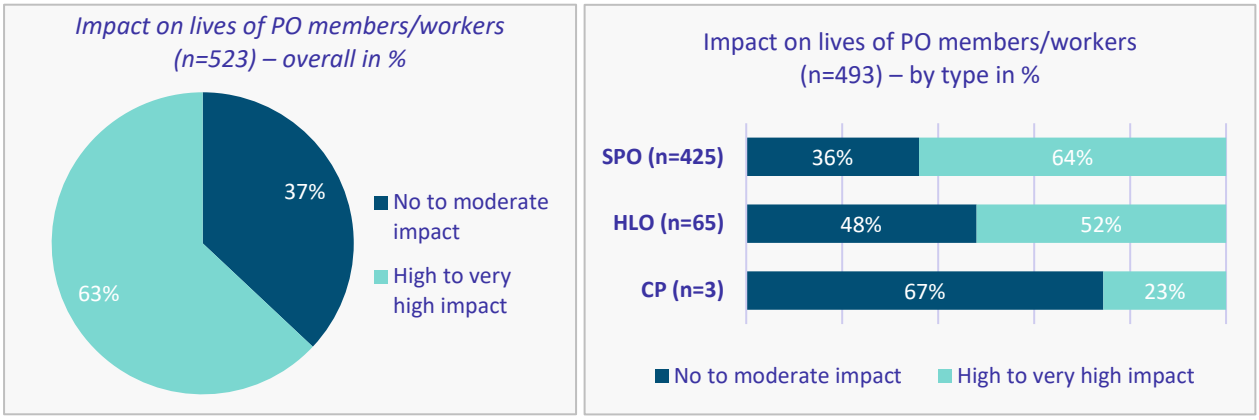
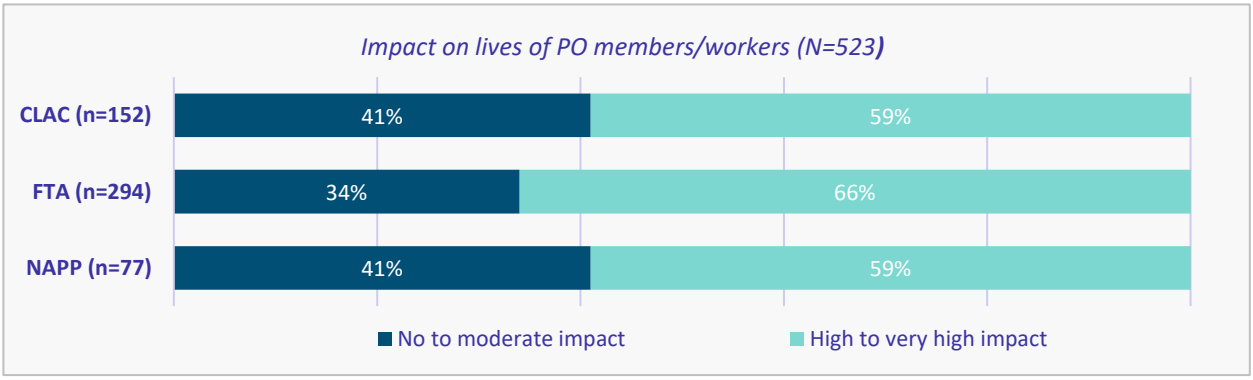


Figure 4: Impact of COVID-19 by producer network (region) – Joint Surveys



In addition to a differential impact of COVID-19 on POs by the producer network (region) and type, we also find significant differences by commodities. For example, Fairtrade POs, which produce tea, sugar, cocoa, and coffee, report the highest impact of COVID-19 on their members and workers (Figure 5).

On the other hand, banana-producing Fairtrade POs appear to have a lower impact from COVID-19. However, only 14 Fairtrade-certified banana POs responded to the survey, which means this finding should be taken with some caution. In fact, countries producing bananas experienced a higher average number of COVID-19 infections and casualties per million population than other products (Table 2), indicating that the resilience survey may underestimate the actual impact. Flower POs find themselves in the middle. About half experienced a high effect of COVID-19 on their members and workers. Table 2 confirms this, which shows that the countries which produce flowers had a lower average number of COVID-19 infections and casualties per million population compared to countries producing other products.

Figure 5: Impact of COVID-19 on Fairtrade commodities – Joint Surveys

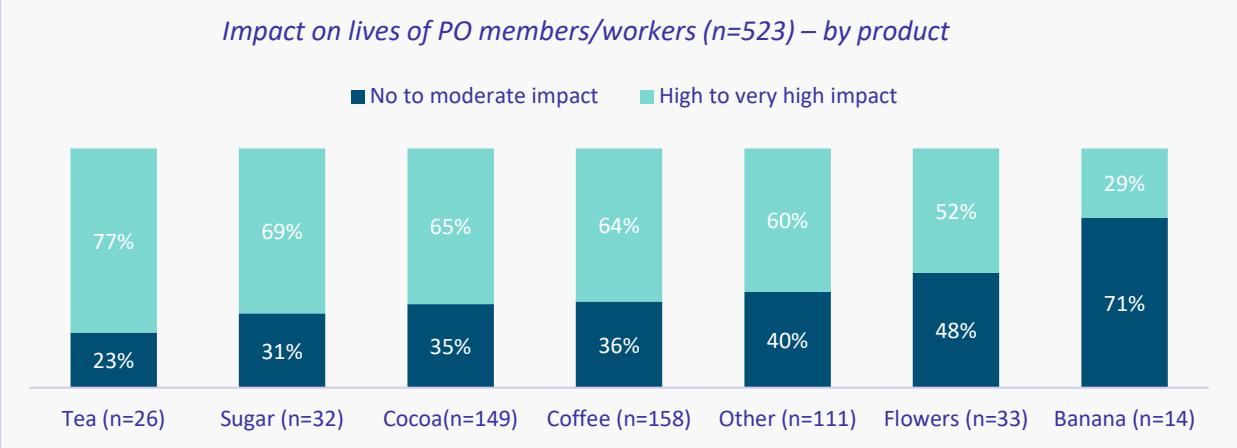


Table 2: COVID-19 cases and deaths per million in producer countries

Product	Region	Countries producing the product	The average number of cases per 1 M population	The average number of cases per 1 M population
Banana	CLAC (Latin America)	Colombia, Dominican Republic, Ecuador, Nicaragua, Peru	54,944	1,902
	FTA (Africa)	Ivory Coast		
Cocoa	CLAC (Latin America)	Colombia, Dominican Republic, Ecuador, Honduras, Nicaragua, Peru	31,803	1,001
	FTA (Africa)	Ghana, Ivory Coast, Madagascar, Sao Tome and Principe, Sierra Leone, Togo, Uganda		
Coffee	CLAC (Latin America)	Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Peru	48,857	1,096
	FTA (Africa)	Congo, Eswatini, Ethiopia, Ivory Coast, Kenya, Rwanda, Tanzania, Uganda		
	NAPP (Asia Pacific)	India, Indonesia, Vietnam		
Flowers	FTA (Africa)	Ethiopia, Kenya, Morocco, Uganda, Zimbabwe	15,196	298
	NAPP (Asia Pacific)	Sri Lanka		
Sugar	CLAC (Latin America)	Colombia, Costa Rica, Ecuador, El Salvador, Paraguay	56,912	1,087
	FTA (Africa)	Malawi, Mauritius, Zambia		
	NAPP (Asia Pacific)	India, Philippines, Thailand		
Tea	FTA (Africa)	Kenya, Malawi, Mozambique, Rwanda, South Africa, Uganda	18,634	383
	NAPP (Asia Pacific)	Bangladesh, India, Sri Lanka		

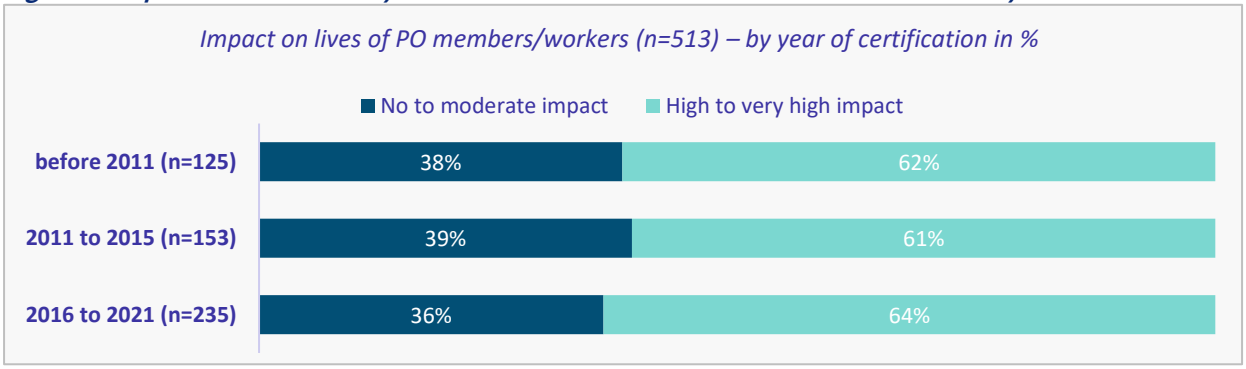
Source: https://www.worldometers.info/coronavirus/

Impact of COVID-19 by the length of Fairtrade certification

Interestingly, we do not find any significant differences in the impact of COVID-19 on POs by the year of Fairtrade certification. This implies that **the length of Fairtrade certification did not influence how heavily POs' members/workers were affected by COVID-19.** As can be observed

in the subsequent sections, other factors, such as higher sales under Fairtrade terms and higher prices for commodities, protected members/workers much more against COVID-19 than the length of certification.

Figure 6: Impact of COVID-19 by the duration of Fairtrade certification – Joint Surveys



4.2. The Resilience of Fairtrade Producer Organizations

Having understood the impact of COVID-19 on Fairtrade certified POs globally, we next analyse which other factors influenced the resilience of POs against shocks and stresses, such as COVID-19 (these questions were not part of the COVID-19 survey but only the resilience survey). As such, we measure the resilience of POs and their members/workers based on the SAFA dimensions: Good Governance, Economic Resilience, Environmental Integrity, and Social Wellbeing.

Box 9: Summary of findings on the resilience of Fairtrade POs

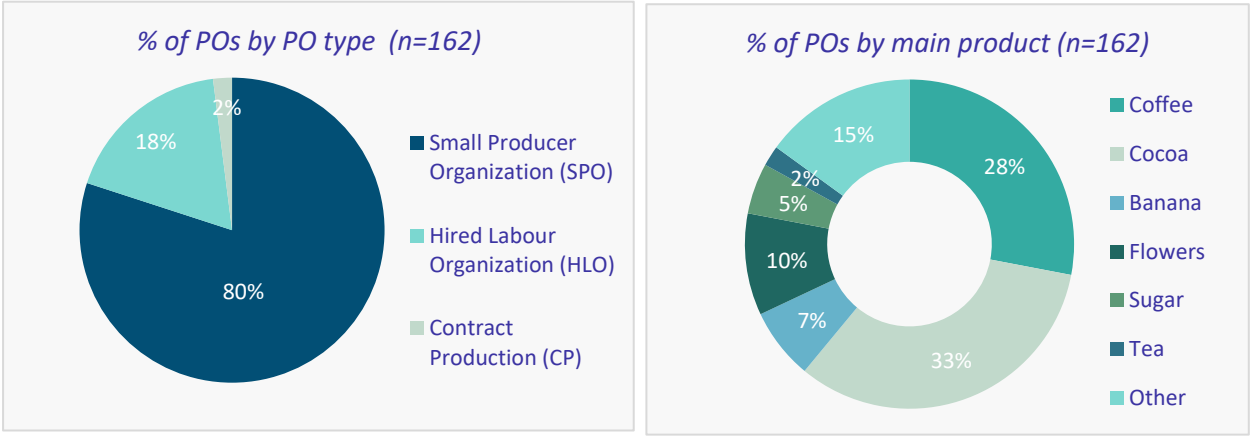
- **Resilience**: Fairtrade POs attained 62% of the maximum resilience score. On average, they scored highest on Social Wellbeing (83%), followed by Good Governance (65%), Economic Resilience (57%), and Environmental Integrity (56%).
- Producers from Africa (64%) had a slightly higher average resilience than those from Latin America (59%) and the Asia Pacific (49%). Cocoa and flower POs had the highest average resilience compared to other producers.
- **Resilience vs COVID-19 impact**: COVID-19 affected most members and workers.
- Some aspects of resilience lowered the impact, e.g., the financial standing of the PO, access to credit, the price received, volume purchased (Economic Resilience), and measures on income diversification and food security (the latter belongs to Social Wellbeing).[52]

For the following sections, we only analyse data from the "resilience survey," where specific questions on resilience were asked. First, it is essential to note that the sample size of the

[52] Unfortunately, the survey question had clubbed measures on food and nutrition security and income diversification. "Did your Producer Organization take any action to support income diversification and/or food security among members in the last calendar year?" We would recommend splitting these two aspects in future studies, as income diversification belongs to Economic Resilience and food and nutrition security falls under Social Wellbeing.

resilience survey is smaller than that of the joint sample (n=162 vs n=523). As such, it is only representative of the total population of 1,822 Fairtrade certified POs at a 7.35% margin of error (and 95% confidence interval). **As such, it is essential to understand the composition of the resilience survey.** A table showing the obtained data can be found in Annexure 3. The 162 PO managers who filled out the survey were mainly members of FTA (Africa) (65%) and CLAC (Latin America) (31%). Only 4% are members of NAPP (Asia-Pacific).[53] As shown in Figure 7, about 80% of the POs that responded to the resilience survey are SPOs, followed by HLOs, (18%) and CP (2%)[54]. This is a pattern generally seen within the Fairtrade system.[55] About two-thirds of the responding POs are active in Fairtrade's leading sectors: coffee (28%), cocoa (33%), flowers (10%), banana (7%), sugar (5%), and tea (2%). We join the remaining products into 'other products' (15%).

Figure 7: Participating Producer Organizations in the resilience survey by type and product



Secondly, as evident from Table 1, the COVID-19 score is 1.6 points higher for the pool of POs responding to the resilience survey. This implies that **POs in the resilience survey were slightly less affected by COVID-19 than the pool of representative Fairtrade POs.** Based on the previously defined binary variable, created from the 'COVID-19 impact score', we find that about half of the POs (47%) that responded to the resilience survey were high to very highly impacted by COVID-19. Furthermore, it is essential that, unlike in the representative sample, we did not find that SPOs were more heavily affected in the resilience survey (Figure 8). It is noteworthy that we found a higher impact for NAPP POs in the resilience survey. Yet, since the number of POs from NAPP (n=6) is low, this finding has to be taken with some caution (see Figure 9).

[53] Despite several efforts by the research team and NAPP MEL manager, a higher sample size for POs in the NAPP region could not be attained. The findings from the resilience survey are, therefore, not representative of the NAPP region.
[54] We, therefore, cannot make any claims on CPs in our analysis.
[55] https://files.fairtrade.net/publications/2021-Fairtrade-monitoring-report-overview-12th-Ed.pdf

Figure 8: Impact of COVID-19 by type of Producer Organization – Resilience Survey

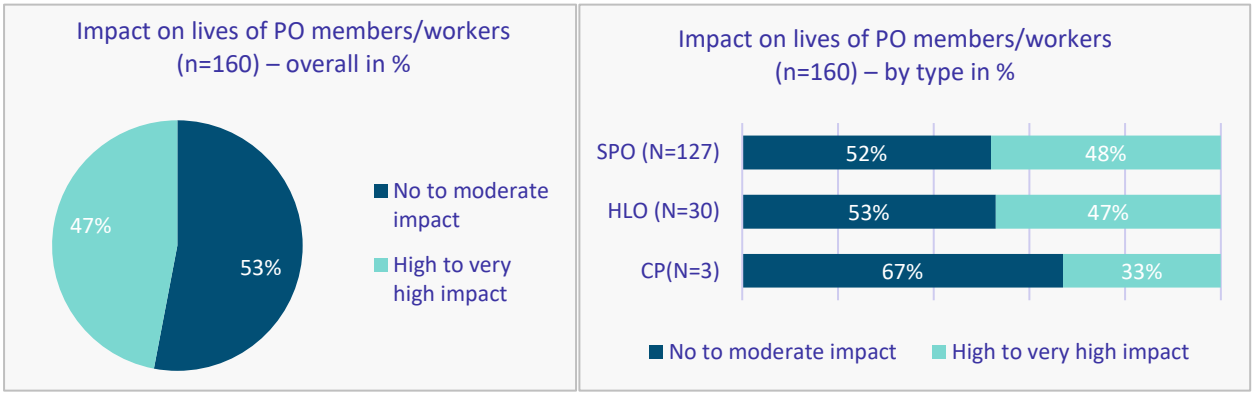
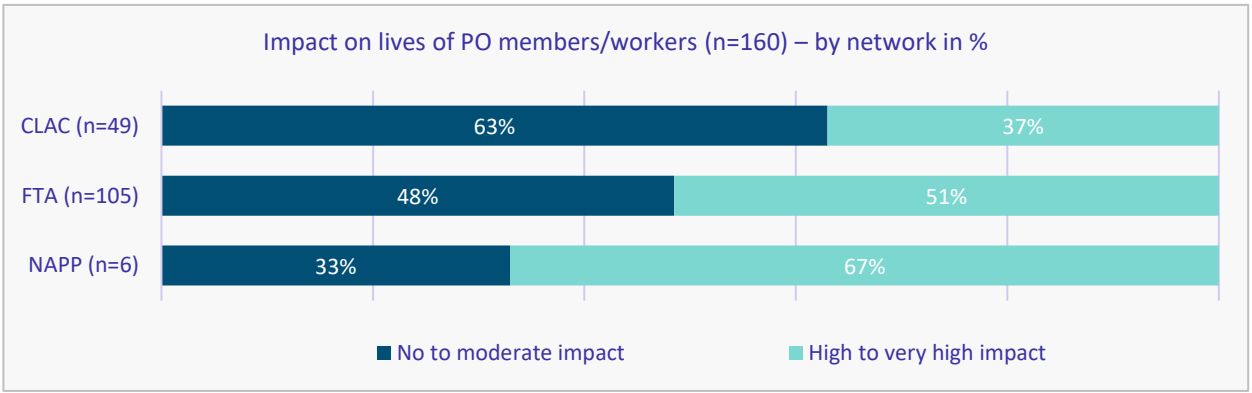


Figure 9: Impact of COVID-19 by producer network (region) – Resilience Survey



4.2.1. Overall Resilience of Fairtrade Producer Organizations

To assess the resilience of global Fairtrade producers during COVID-19, we developed a resilience score based on the four SAFA components; Good Governance (4 questions), Economic Resilience (6 questions), Environmental Integrity (7 questions), and Social Wellbeing (3 questions). Each question is weighted equally and is assigned a potential score of zero to one. The higher the score, the more resilient the PO. The maximum attainable points are 20, whilst the minimum is 0. For ease of interpretation, we present the resilience score(s) as a percentage of the maximum possible points (Figure 10). The questions pertaining to the overall resilience index and detailed scores are in Annexure 3. Box 11 provides a brief overview.

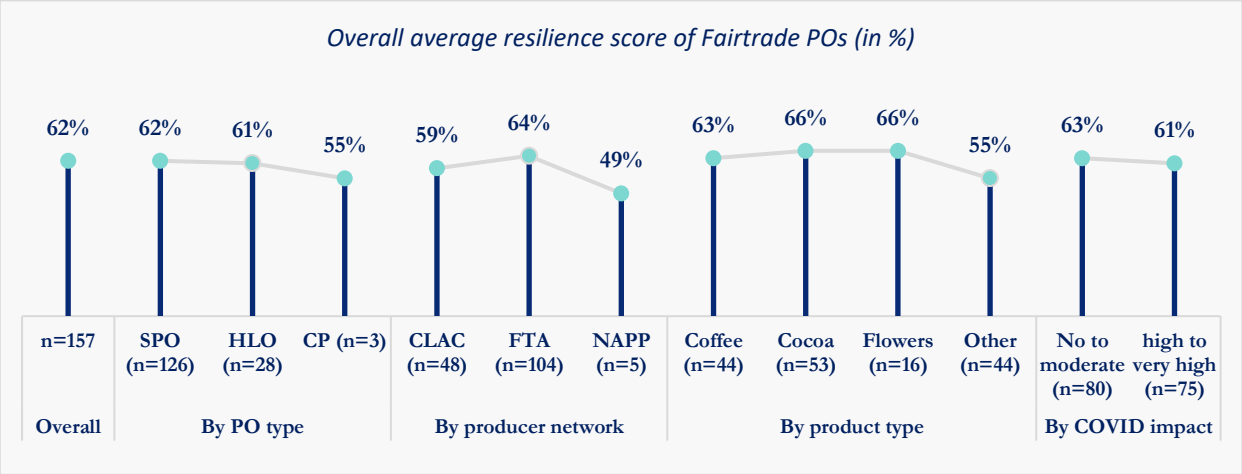
Box 10: Overview of Resilience questions (global level)

Good Governance (4 questions): (i) POs have a strategic and/or business plan, (ii) develop sales plans, and cash projections annually, (iii) can influence policies and regulations within the Fairtrade system, and (iv) can influence government policies.
Environmental Integrity (7 questions): – POs have environmental management/protection in the areas of (i) waste management, (ii) water management, (iii) reduction of deforestation, (iv) promotion of agroforestry, (v) biodiversity, (vi) organic production, and (vii) other.
Economic Resilience (6 questions): The way POs (i) rate their trading relationships, (ii) perceive Fairtrade as supporting higher prices, (iii) rate their ability to negotiate prices and contractual conditions, (iv) assess their financial sustainability, (v) whether they received credit from

Fairtrade buyers, and (vi) whether they took action to support income diversification/food security.
Social Wellbeing (3 questions): – (i) POs consult members/workers on their needs, (ii) on the use of Fairtrade premium, and (iii) and contribute to the health needs of members/workers/community.

Fairtrade POs attained, on average, 62% on the resilience index. In terms of SAFA components, Fairtrade POs score highest in Social Wellbeing (average score of 83%). This is followed by Good Governance (65%), Economic Resilience (57%), and Environmental Integrity (56%).

Figure 10: Average resilience score (global level)



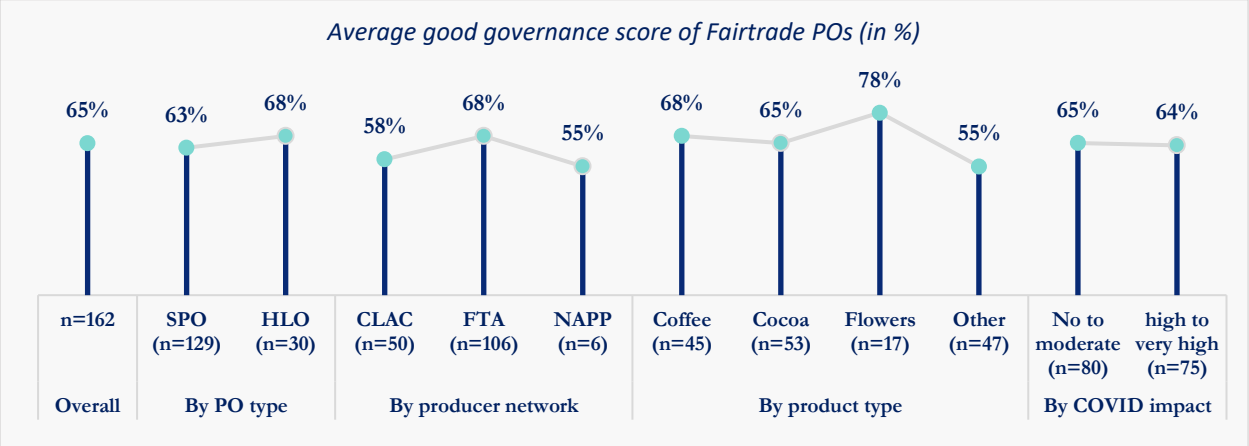
We do not find a statistically significant association between the overall resilience score and the PO type. Yet, we do see a **statistically significant difference in the average resilience score by producer network and product**. **Producers from the FTA region (64%) have a slightly higher average resilience score** compared to CLAC (59%) and NAPP (49%) (although this assertion is less certain in the case of NAPP because of low response numbers). Furthermore, for the product types, we only considered products that had more than ten responses in the resilience survey. We grouped the product categories with less than ten responses (banana, sugar, tea) into 'other' category. As a result, **Cocoa and flower PO have the highest resilience** compared to those producing coffee and 'other' products. Lastly, POs that were high to very highly impacted by COVID-19 had a slightly lower average resilience score (61%) compared to those that experienced no to moderate impact (63%). This difference is, however, not statistically significant. This shows that **COVID-19 affected the lives of most members and workers of Fairtrade certified POs regardless of their resilience (as measured by SAFA components).**

In the following, we investigate the individual SAFA dimensions and their effect on the resilience of POs members/workers during COVID-19.

4.2.2. Good Governance of Fairtrade Producer Organizations during COVID-19

Good Governance is intricately linked to organizational development aspects, such as a (1) strategic/business plan, (2) sales plans and cash projections, (3) risk management tools, and (4) the ability to influence policies and regulations. On average global Fairtrade POs attained 65% on the Good Governance score (out of four points in total). We do not find a statistically significant association between the average Good Governance score by PO type and producer network. However, we find a statistically significant difference in the average Good Governance score by **product type**. **Flower producers (78%) have the highest average Good Governance score** compared to other products. This could be because most flower POs are HLOs, which generally have better governance structures than SPOs.

Figure 11: Average Good Governance score (global level)



COVID-19 and Good Governance

Comparing the average Good Governance score with the impact of COVID-19, we do not find any statistically significant difference· i.e., **a greater Good Governance score does not seem to influence the status of COVID-19 impact on PO members/workers.**

Good Governance decomposed

We present the results of Good Governance indicators from the resilience survey in Figures 12-15. About three-fourths of POs (78%) reported having a strategic/business plan, which is the highest for HLOs (90%). **Having a strategic and/or business plan is correlated, although not significantly, with a lower impact of COVID-19 on members and workers**. 45% of all with a strategic and/or business plan reported a very high impact of the pandemic, relative to 55% of those that did not have a strategic/business plan.

Figure 12: Fairtrade Producer Organizations with a strategic and/or business plan by type

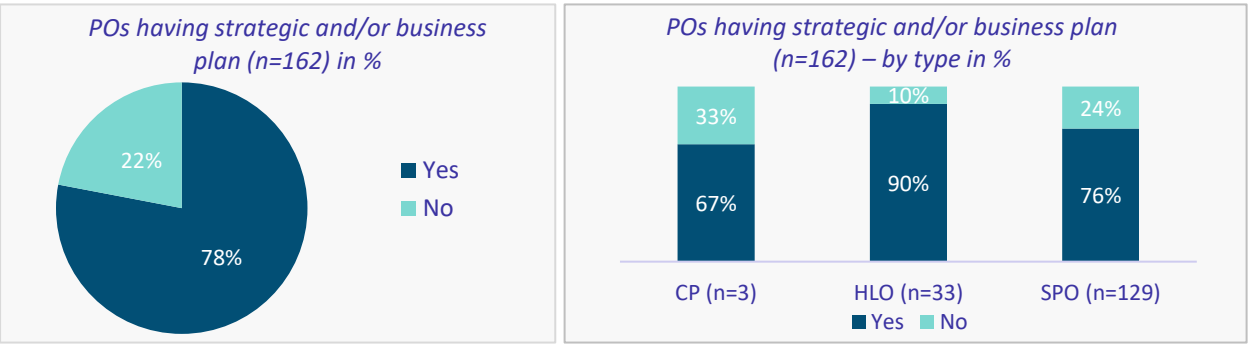
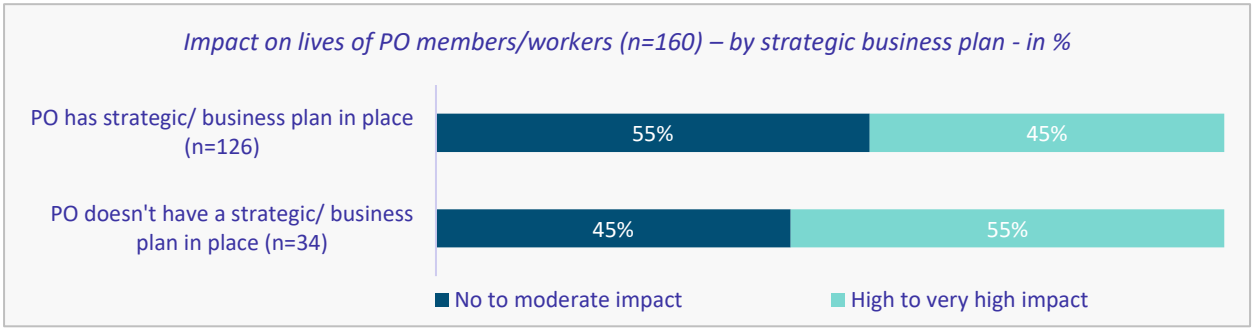


Figure 13: COVID-19 and Producer Organizations with a strategic and/or business plan



As shown in Figure 14, more than three-fourths of POs (81%) reported that they developed **sales plans and cash projections annually,** which is highest for HLOs (93%) and CPs (100%) compared to SPOs (78%). Furthermore, only 6% reported not using any risk management tools (Figure 15). Most POs used a risk assessment template (56%) and/or a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis (55%), followed by a root cause analysis (22%), risk register (22%), and a probability and impact matrix (14%).

Figure 14: Fairtrade Producer Organizations with sales plans/cash projections by type

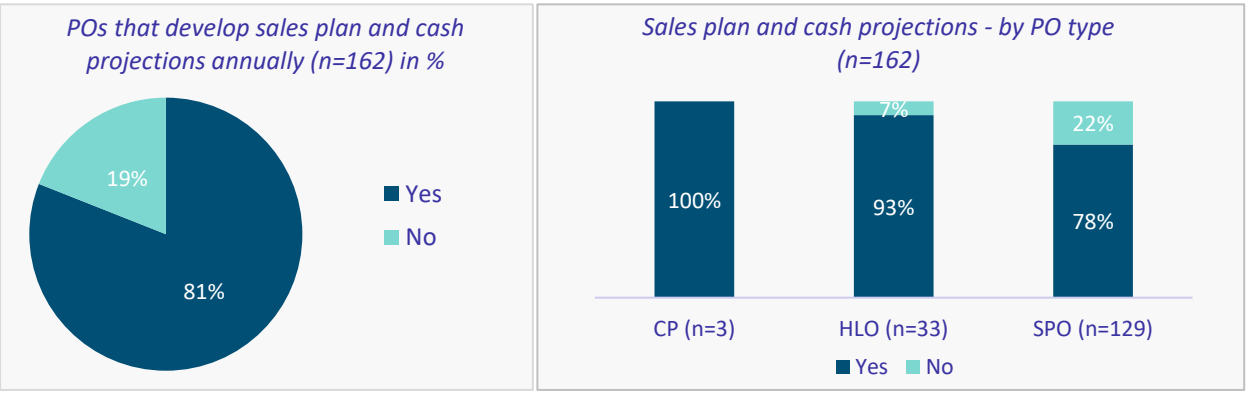
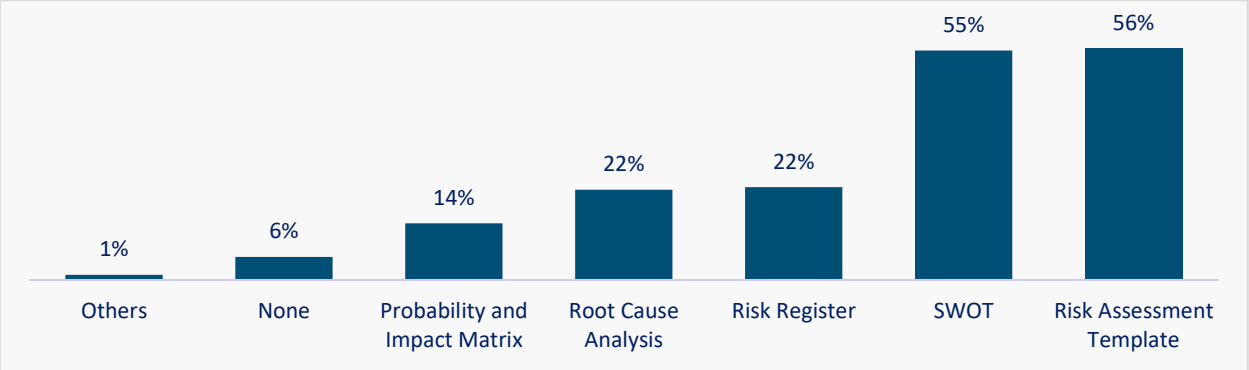
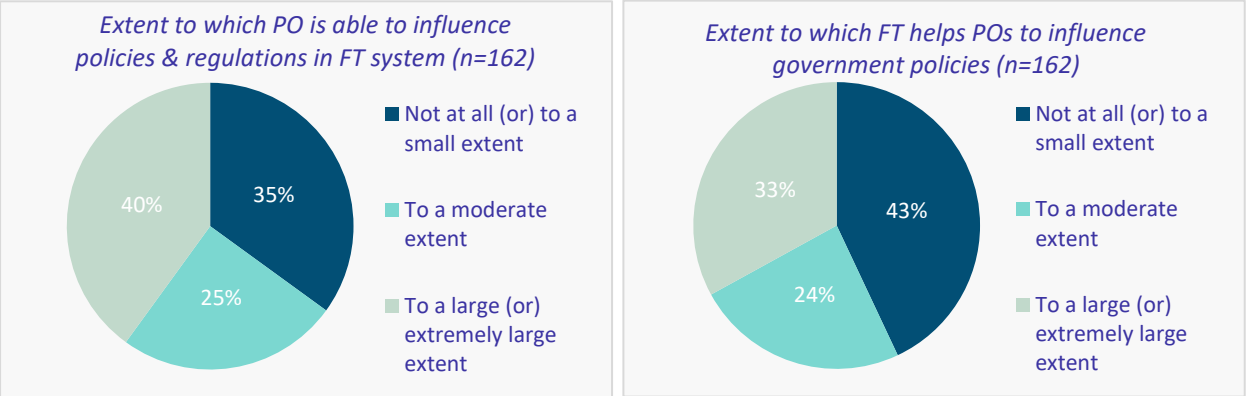


Figure 15: Types of risk management tools used by Producer Organizations



Almost two-thirds of the surveyed POs said they could **influence policies and regulations within the Fairtrade system**, either to a moderate extent (25%) or to a large/extremely large extent (40%). Similarly, slightly more than half of the POs say that Fairtrade supports them in influencing government policies, whilst around 43% do not agree with this statement. We do not find any statistically significant correlation between POs' ability to influence policies and regulations and the impact of COVID-19. This shows that **macro indicators such as influencing policies and regulations do not directly contribute to the resilience building of POs.**

Figure 16: The extent to which Producer Organizations can influence policies and regulations

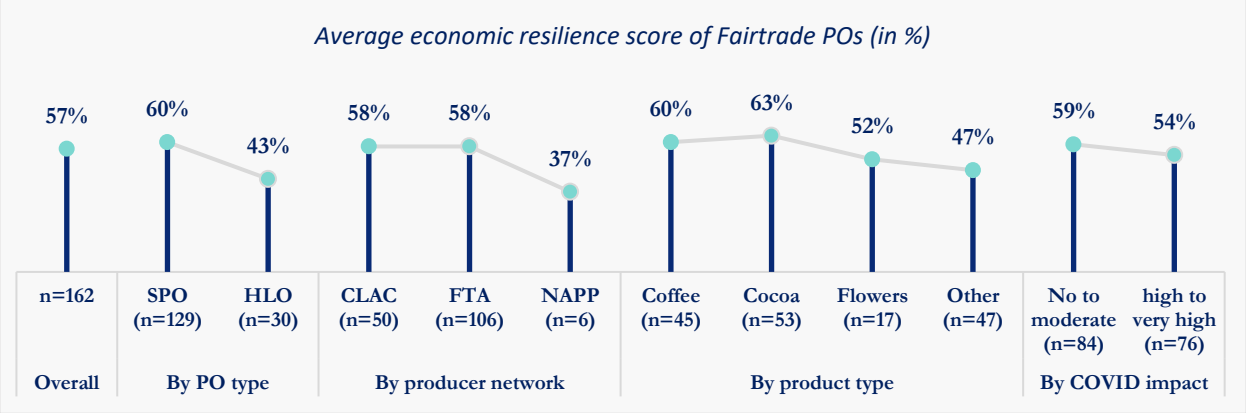


4.2.3. Economic Resilience of Fairtrade Producer Organizations during COVID-19

Economic Resilience of POs is related to (1) the trading relationships with buyers, (2) the ability to negotiate better prices, (3) higher prices from Fairtrade certification, (4) financial sustainability, (5) access to credit/loans, and (6) income diversification. On average, Fairtrade POs attained 57% on the Economic Resilience index. **We find a statistically significant association between the average Economic Resilience score by PO type, producer network, and product type**. SPOs (60%) had a higher Economic Resilience score than HLOs (43%). Producers from CLAC and FTA regions had a similar average Economic Resilience score (58% each). However, the corresponding score for producers from the NAPP region was on the lower side (37%). However, the results for NAPP

should be taken with some ca due to low response numbers (n=5). When analysed by product, **cocoa producers (63%) have a higher average Economic Resilience score** than other products.

Figure 17: Average Economic Resilience score (Global level)



COVID-19 and Economic Resilience

Comparing the average Economic Resilience score with the impact of COVID-19, we do not find any significant correlation (although the result is near the 10% significance level: p-value = 0.11). However, as described further in this section, **various components of Economic Resilience, such as the financial standing of the PO, access to credit, the price received and volume purchased by the PO, as well as measures on income diversification and access to** credit, had a significant effect on the impact of COVID-19 on members/workers.

Economic Resilience decomposed

As the literature review section (Section 3.3) points out, many studies indicate that Fairtrade certification increased producers' prices (Bacon, 2005; Nelson et al., 2016; Nelson and Smith, 2011). Higher prices, in turn, improve the producers' income levels. Increasing the strength of producer groups and their bargaining power through capacity building, organizational development, and marketing support is the most critical of the Fairtrade approach, according to OPM/IIED (2000). In the resilience survey, we explored the **trading relationships of POs**, their perception of and ability to negotiate Fairtrade prices.

Table 3: Economic Resilience of Producer Organizations

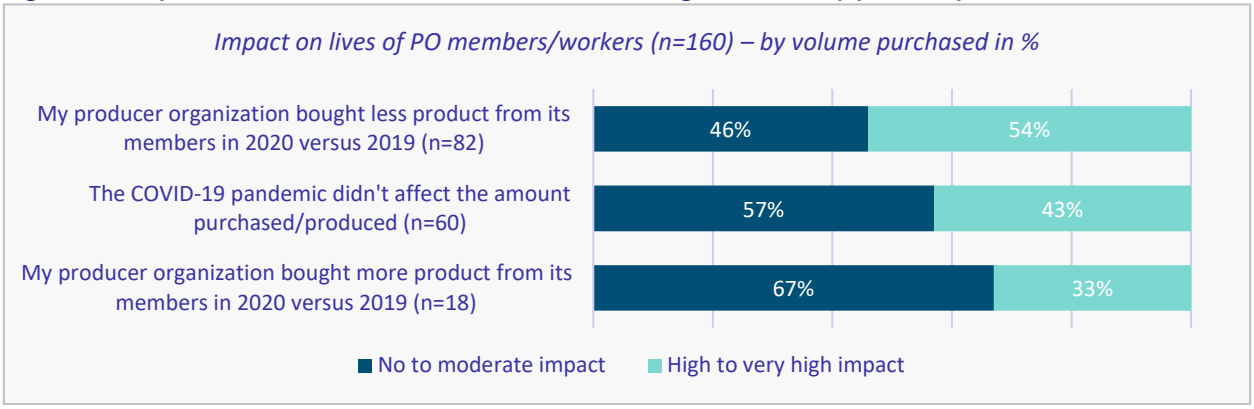
Measure (N=162)	Not at all (or) to a small extent	To a moderate extent	To a large (or) extremely large extent
Trading relationships for sales on Fairtrade terms are better than conventional sales	11%	22%	67%
Fairtrade helps POs achieve higher prices	15%	23%	62%
POs can better negotiate prices with buyers in Fairtrade vs conventional sales	23%	27%	50%

Table 3 and Figures 18-20 illustrate the results. About 90% of PO managers reported that trading relationships for sales under Fairtrade terms are better than conventional sales. Similarly, about

85% of the PO managers responded that Fairtrade helps them realise higher prices: to a moderate or to a large/extremely large extent. Furthermore, about three-quarters (77%) reported that they can better negotiate prices and other contractual conditions with buyers under Fairtrade terms than in the case of conventional sales.

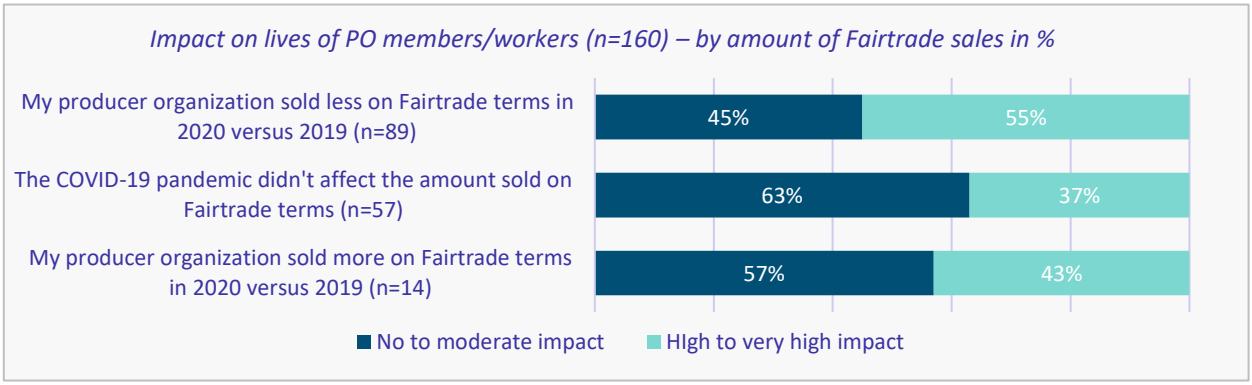
Volume sold under Fairtrade terms: In their review, Jodrell and Kaoukji (2021) found that Fairtrade certification generally improved incomes, but this mainly depended on sales. In this context, we explored the impact of COVID-19 on the lives of members/workers by the volume the PO purchased from their members under Fairtrade terms in 2020 relative to 2019.

Figure 18: Impact of COVID-19 on Fairtrade Producer Organizations by product purchased



We find that **a low amount of product purchased by the PO is correlated with a higher effect of COVID-19 on members/workers.** As shown in Figure 18, about 54% of POs that bought less from members experienced a high to very high impact of COVID-19 compared to 33% of those POs that purchased more**.** However, this difference is not statistically significant (p=0.211). We also find that those **POs that sold the same or higher amount under Fairtrade terms than the previous year were less affected by COVID-19.**

Figure 19: Impact of COVID-19 by Fairtrade sales

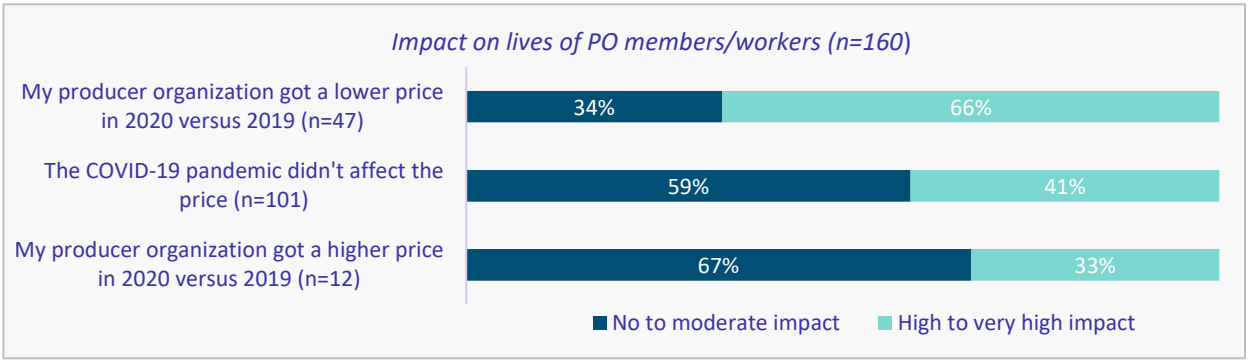


As shown in Figure 19, about 55% of POs that sold less under Fairtrade terms in 2020 vs 2019 experienced a high to very high impact of COVID-19 compared to 43% of POs that sold more

under Fairtrade terms. This difference is statistically significant at a 10% level (p=0.093), i.e., the 90% confidence level. This also indicates **the added value of Fairtrade certification. POs receive a minimum guaranteed price and a premium when they sell under Fairtrade terms, which contributes to building their resilience.**

Price received: We analyse the relationship between the price POs received for their products and the impact of COVID-19. **We find a substantial and statistically significant (p=0.009)[56] correlation between the price received and the impact of COVID-19.** To exemplify, only 33% of those POs which received a higher price in 2020 relative to 2019 reported a high to very high impact of COVID-19 compared to 66% of those which received a lower price. This finding shows that **attaining higher product prices contributes to the resilience of PO members/workers against sudden external shocks and stresses such as COVID-19**.

Figure 20: Impact of COVID-19 by the price received

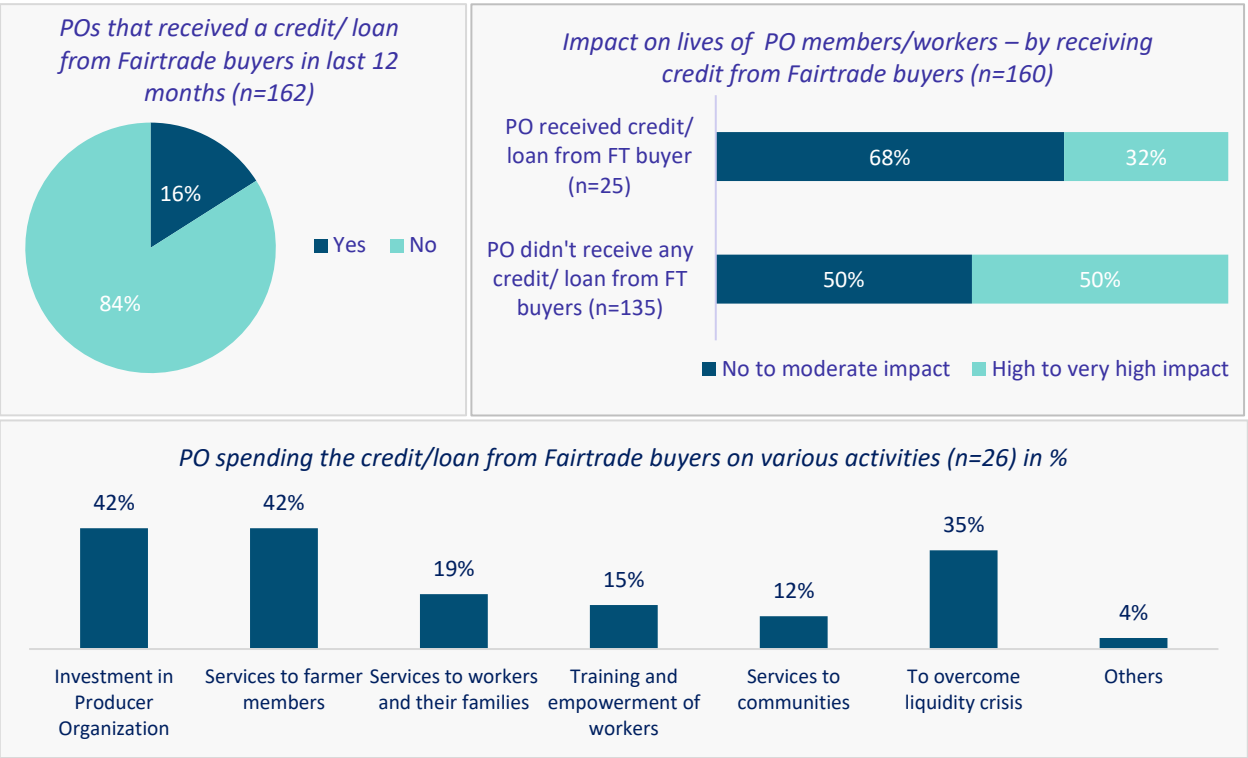


Access to credit: Evidence suggests that Fairtrade producers enjoy greater credit access than their non-Fairtrade counterparts. Such access to credit stems from pre-financing by the buyer, credit schemes run by the PO (at advantageous interest rates), or traditional credit sources, which regard Fairtrade farmers as having a better credit rating thanks to stable incomes and long-term contracts (Valerie and Barry, 2009).

As shown in Figure 21, of the 162 surveyed POs, only 26 (16%) received a credit/loan from Fairtrade buyers in the last 12 months. They primarily used the credit/loan for investments, services to farmer members/workers, and overcoming a liquidity crisis. Therefore, **access to finance seemed to reduce the impact of COVID-19.** Only 32% of POs that received a credit/loan from Fairtrade buyers experienced a high to very high impact compared to 50% of those that did not receive any credit/loan. This signifies that **access to finance in the form of credit/loan can contribute to producers' resilience to sudden external shocks and stresses**.

[56] As the p-value of the Chi-square test is less than 0.05, this result is statistically significant at the 1% level.

Figure 21: Credit from Fairtrade buyers and the impact of COVID-19



During the qualitative interviews, PO management shared that they had low sales during the pandemic and needed capital to keep operations running. The timely credit from Fairtrade buyers helped them to keep their PO running without halting activities.

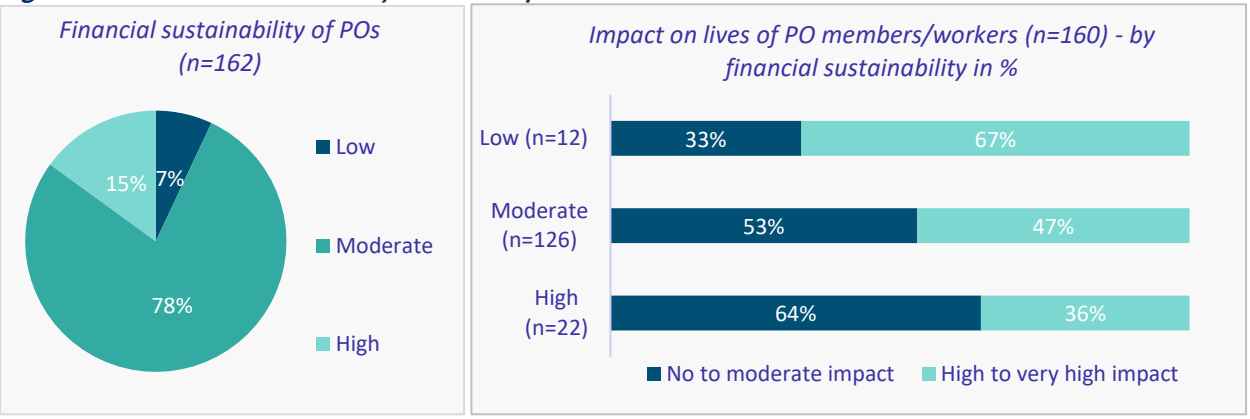
> *"We received a bank loan to fund the organization's investment. During COVID-19, there were no sales, and we had to get more capital for running the operations, like paying the staff members' salaries and investing in the flower farms. The loan aided the smooth running of the organization." (Manager, Fairtrade Flower HLO, Kenya)*

Financial Sustainability: Next, we look at the financial sustainability[57] of POs (Figure 22). We find a **negative and significant correlation between self-assessed high financial sustainability and the impact of COVID-19**. Most POs rated their financial sustainability as moderate (78%), and only 7% rated it low. Yet, only 36% of POs that rated their financial sustainability as high experienced a high impact of COVID-19, compared to 67% of those that rated their financial sustainability as low. This is probably because **POs with higher financial sustainability can meet their immediate needs during an event of emergency and fund activities that help mitigate the impact** of sudden

[57] Financial sustainability entails that POs can meet all their needs and financial obligations and are able to survive and fund activities during an event of financial instability.

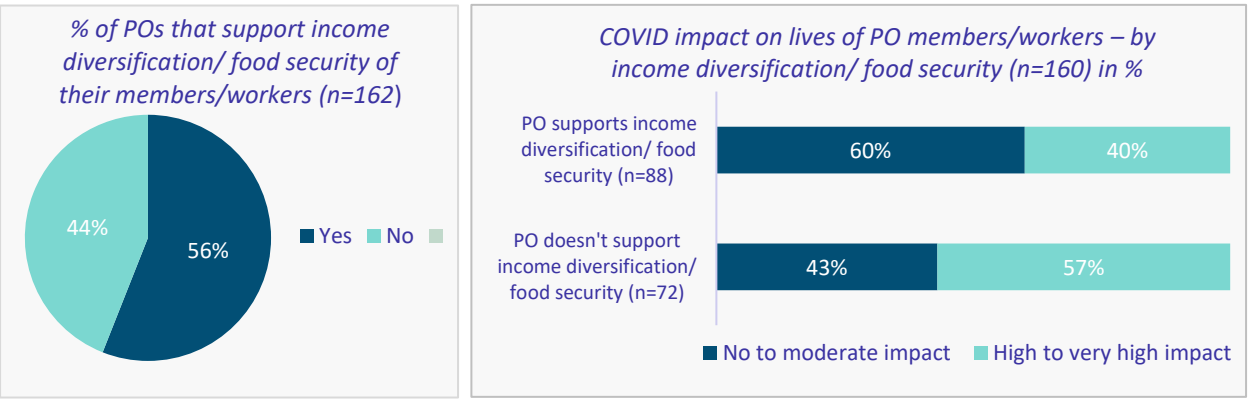
external shocks and stresses. Further, **higher products prices contribute to better financial stability,** signifying the importance of enabling POs to sell at a higher price.

Figure 22: Financial sustainability and the impact of COVID-19



Income Diversification and Food security Measures: Lastly, we assess how income diversification and food security measures (the latter belongs to Social Wellbeing, but the survey, unfortunately, asked for both simultaneously) matter for the impact of COVID-19 (Figure 23). Many (56%) Fairtrade **POs supported their members' income diversification and/or food security** in the past 12 months. This seems to l**ower the impact of COVID-19 on the lives of their members/workers**.

Figure 23: Income diversification/ food security and the impact of COVID-19



Only 40% of POs that supported income diversification/food security experienced a high to very high impact, compared to 57% of those that did not. This difference is statistically significant (p=0.03)[58], indicating that **income diversification and investments in food security make POs significantly more resilient to external shocks such as COVID-19**.

[58] As the p-value of the Chi-square test is less than 0.05, this result is statistically significant at the 1% level.

Box 11: Insights from Producer Organizations on improving productivity and food security

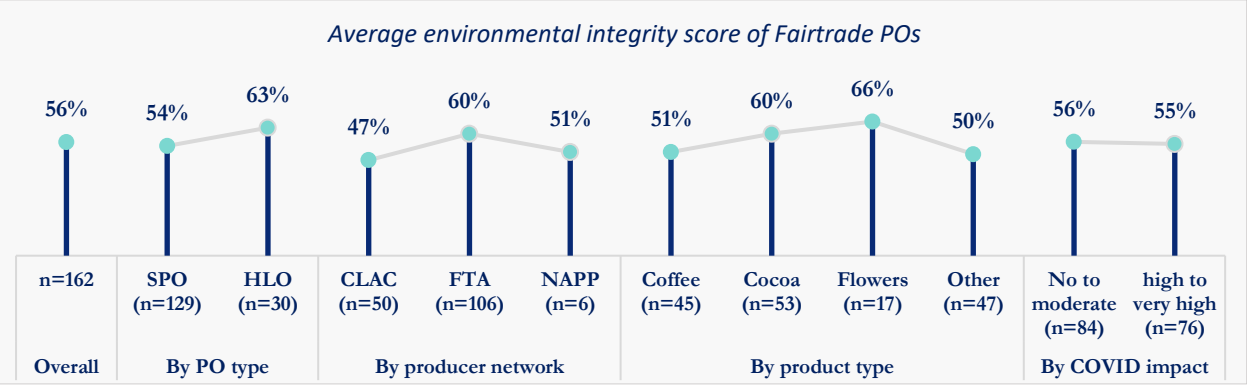
Interviews with PO management in Kenya (flowers) and Indonesia (coffee) highlighted their efforts in supporting productivity improvement and food security of members/workers. Generally, POs provided their members with high-quality seeds and training on best practices to help increase productivity and product quality.

- *"To improve productivity, our organization procures seedlings, evaluates prospects of new seedlings, and performs pruning management. We use the Fairtrade Premium to finance the investment to improve production." (Manager, Fairtrade Coffee SPO, Indonesia)*
- *Our cooperative provides training on pruning, weeding, composting, and providing agro input to members." (Manager, Fairtrade Coffee SPO, Indonesia)*
- *"First, we had to increase pest control measures to ensure the quality of flowers. We invented harvesting nets to reduce the number of damaged flowers. By doing so, we were increased the productivity and quality of flowers." (Manager, Fairtrade Flower HLO, Kenya)*

4.2.4. Environmental Integrity of Fairtrade Producer Organizations during COVID-19

Environmental Integrity is related to factors such as (1) having environmental management/protection plans and (2) following Good Agricultural Practices (GAP). The overall average Environmental Integrity score of the surveyed Fairtrade POs is 56%. We find a **statistically significant association** between Environmental Integrity score by PO type, producer network, and product type. HLOs (63%) have a higher Environmental Integrity score than SPOs (54%).

Figure 24: Average Environmental Integrity score (Global level)



Flower producers (66%) have the highest average Environmental Integrity score compared to other products. This might be because most flower producers are HLOs. Lastly, producers from Africa (FTA) have a higher average Environmental Integrity score (60%) than producers from Latin America (CLAC) and Asia (NAPP) (51%).

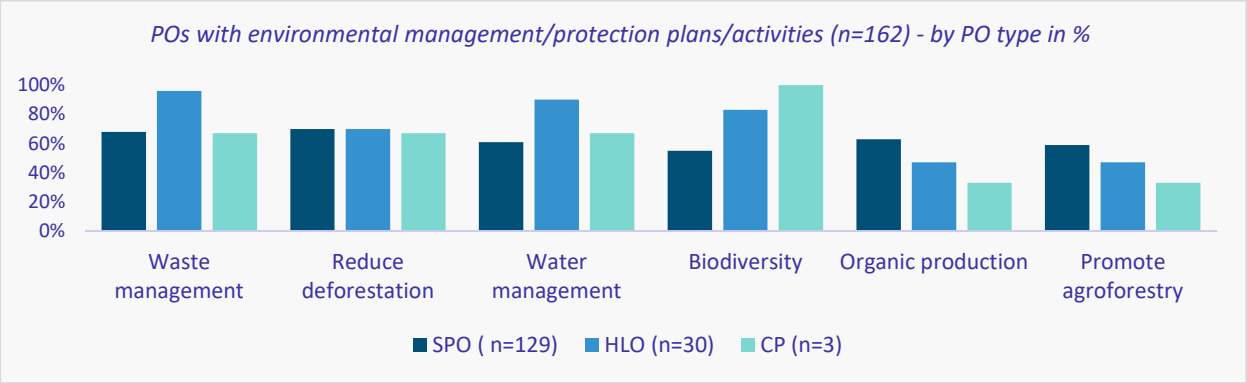
COVID-19 and Environmental Integrity

Comparing the average Environmental Integrity score with the impact of COVID-19, we **do not find any statistically significant difference, i.e., a higher Environmental Integrity score does not seem to influence the COVID-19 impact on PO members/workers**.

Environmental Integrity decomposed

In their review of the impact of Fairtrade on GAP, Valerie and Barry (2009) found that most Fairtrade certified organizations commonly carry out sound environmental practices. However, a generalisation across different commodities and contexts was impossible without more systematic evidence. Elder et al. (2013) stated that Fairtrade standards do not strongly affect agricultural practices[59] in the Rwandan coffee sector other than practising agroforestry and applying manure; context instead of Fairtrade certification influenced environmental practices. We present Environmental Integrity indicators from the resilience survey in Figures 25-26.

Figure 25: Environmental management/protection plans

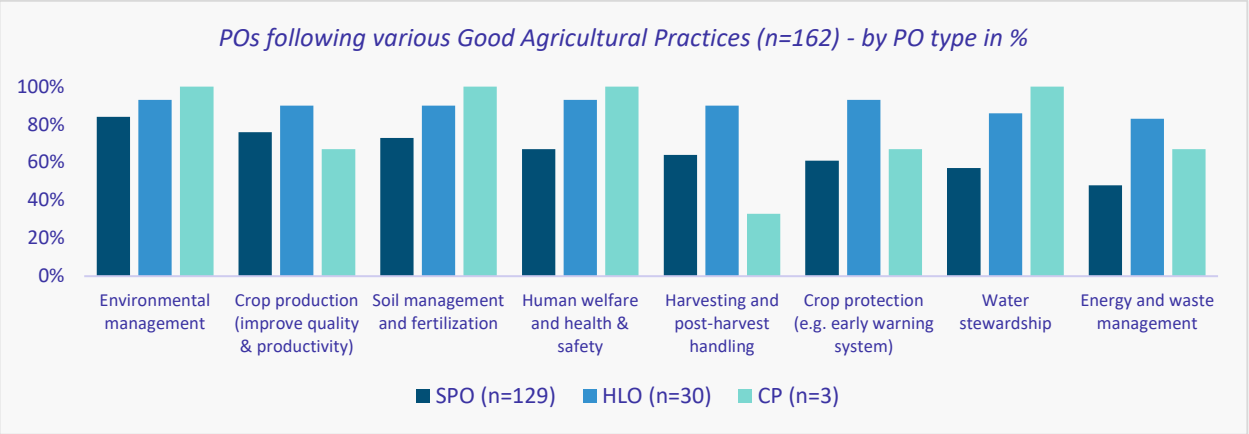


In the resilience survey, Fairtrade POs mainly reported environmental management activities around waste management (73%), deforestation reduction (70%), water management (67%), biodiversity conservation (61%), organic production (59%), and agroforestry promotion (56%). HLOs implement more waste management (96%) and water management (90%) practices than SPOs and CPs. On the other hand, SPOs promote more organic production (63%) and agroforestry (59%) compared to HLOs and CPs. However, **we do not find any significant differences in the impact of COVID-19 on POs by environmental management practices**.

When asked about GAP, Fairtrade POs mainly reported undertaking activities on environmental management (86%), crop production[60] (78%), soil management and fertilisation (77%), human welfare, health and safety measures (72%), harvesting and post-harvest handling (68%), crop protection[61] (67%), water stewardship (64%), and energy and waste management (55%). More HLOs seemed to follow GAP compared to SPOs. **Yet, we do not find any significant differences in the impact of COVID-19 on POs by GAP.**

[59] Including the use of pesticides, chemical fertilisers, spray pumps, masks, grass, agroforestry, mulch and manure.
[60] Practices to improve general quality and productivity.
[61] GMO, early warning, integrated pest management, pesticides, and other hazardous chemicals etc.

Figure 26: Good Agricultural Practices



Box 12: Insights from Producer Organization on environmental management practices

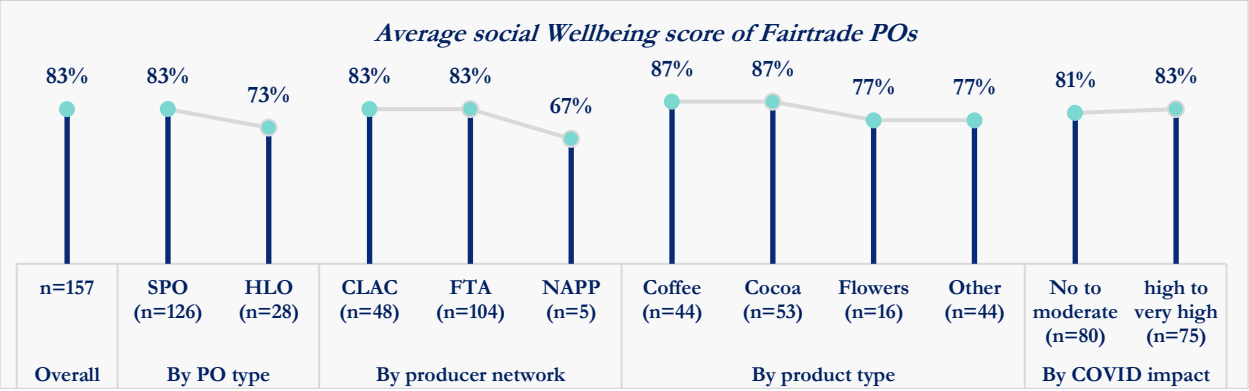
Interviews with PO-level management in Kenya (flowers) and Indonesia (coffee) highlight the environmental management activities they undertake, i.e., to prevent soil erosion, reduce waste (recycling), and improve water management.

- *"For soil erosion, we provide farmers with seedlings, and for the community where members live, we distributed wastebasket and help contribute to the river dam project." (Management staff, Fairtrade Coffee SPO, Indonesia)*
- *"The main thing is waste management. As an organization, we produce a lot of organic and inorganic waste. We have measures to ensure that waste is taken care of. We compost organic waste to avoid environmental pollution, and for inorganic waste, we use a recycler who collects the waste." (Manager, Fairtrade Flower HLO, Kenya)*
- *"First, we have the waste management system to ensure that the wastes are well disposed of. We have a tree nursery that helps us sell tree seedlings at a lower cost to the community surrounding the organization. We also liaise with Corporate Social Response to give out trees and plant trees in the neighbouring schools." (Manager, Fairtrade Flower HLO, Kenya)*
- *"There is a quality management system which covers all the farm operations and how they should be done. Drip irrigation regulates the amount of water used at the farm, and a hydroponic system enables the recovery of water that is not used. With this system, water that has not been used is taken back for reuse. This ensures no wastage of fertiliser and maximises productivity." (Manager, Fairtrade Flower HLO, Kenya)*

4.2.5. Social Wellbeing of Fairtrade Producer Organizations during COVID-19

Social Wellbeing is related to POs consulting with their members and communities on (1) their needs and (2) the use of the Fairtrade Premium, and (3) POs' contributing to the health of local communities and providing health services and private health insurance to their workers (for HLOs). On average, Fairtrade-certified POs attained 83% on the Social Wellbeing index. While we do not find a statistically significant association between the average Social Wellbeing score and produce network region, we do find a **statistically significant difference in the average Social Wellbeing score by PO type and product type**. SPOs (83%) had a higher Social Wellbeing score than HLOs (73%), and **coffee and cocoa producers scored higher on Social Wellbeing (87% each)** than those producing other products.

Figure 27: Average Social Wellbeing score (global level)



Social Wellbeing and COVID-19

Comparing the average Social Wellbeing score with the impact of COVID-19, **we do not find any statistically significant difference, i.e., a greater Social Wellbeing score does not seem to influence the status of COVID-19 impact on PO members/workers**. However, we acknowledge that measuring the Social Wellbeing of Fairtrade POs is challenging given the wide variety of impacts Fairtrade could have on the lives of PO members/workers and the local community. **Hence, these results based on a limited set of Social Wellbeing indicators included in the resilience survey must be interpreted cautiously.**

Social Wellbeing decomposed

In their review, Molenaar et al. (2016) found that the Fairtrade Premium enabled SPOs to invest more in community projects that improve the producers' livelihoods. The Fairtrade standard and producer support also contributed to democratic decision-making on using the Fairtrade premium, reducing the probability of fund mismanagement, and increasing the likelihood of the premium being used to meet genuine needs. Mauthofer et al. (2018) also found that, across several countries and crops, Fairtrade-certified POs have greater decision-making on the use of the premium amongst their members and workers.

In the resilience survey, almost all POs (97%) reported consulting with members/workers and communities on their needs. Similarly, most POs (95%) said their management consulted with the members/workers on the use of the premium (via the Fairtrade Premium Committee). Furthermore, about half of POs (51%) contributed to the local community's health needs, and all surveyed HLOs reported that they provide their workers with health services. However, only half of the HLOs (47%) provided offered health insurance last year. A higher share of those POs that

consulted their members had been affected by COVID-19, yet these results are inconclusive due to a small sample size.[62] [63]

Table 4: Contribution to Social Wellbeing by Producer Organizations

Measure	Yes	No
% of POs consult with members and communities on their needs (n=162)	97%	3%
% of POs consult with members/workers on the use of the Fairtrade Premium (n=157)	95%	5%
% of POs contribute to the health needs of the local community (N=162)	51%	49%
% of HLOs provide general workers with healthcare services in the last 12 months (n=30)	100%	0%
% of HLOs provide general workers with private health insurance in the last 12 months (n=30)	47%	53%

Box 13: Insights from PO management on Social Wellbeing activities

Interviews with PO management in Kenya (flowers), Peru (banana), and Indonesia (coffee) highlight the Social Wellbeing activities that Fairtrade POs undertake, i.e., on the process of engaging members/workers in decision-making, how they evaluate the needs of their members, and activities they conduct for the members/workers and the local community.

- *"Everything is done democratically in the general assembly. A proposal is made and disclosed to members, which is discussed during the general assembly, and then members vote. If the proposal wins, it is executed" (Manager, Fairtrade Banana SPO, Peru)*
- *"Our cooperative conducts a survey with the members to evaluate their needs to support them. Based on the survey results, we draft a work plan to progressively help the members in need so that they feel that we are helping them" (Manager, Fairtrade Banana SPO, Peru)*
- *The cooperative members usually have meetings/hearing sessions with delegates assigned to their village area. They propose ideas and aspirations in these meetings. Delegates will later present their group's aspirations in a meeting between delegates and the management. Through this system, members through their delegates can decline management's proposal by simple majority voting mechanism." (Manager, Fairtrade Coffee SPO, Indonesia)*
- *"We have piped clean water to the community and allow those who don't have access to water to fetch from our compound." (Manager, Fairtrade Flower HLO, Kenya)*
- *"We offer management training to empower youths and graduates so that they can handle the tasks when employed. Under Fairtrade, we also provide capacity building through the Fairtrade premium by assisting staff to pay a certain amount of money for their children and staff members. We also offer internships for graduates." (Manager, FT Flower HLO, Kenya)*
- *"The workers and community are asked to make proposals on the projects/programmes they need. These are evaluated based on pre-set parameters, i.e., number of proponents/beneficiaries, cost, sustainability, etc. A risk assessment is undertaken before presenting it to the General Assembly of workers." (Manager, Fairtrade Flower HLO, Kenya)*
- *"The company nurse and the human resource regularly organise training in health and safety for new and old workers. They move to every section of the farm to train the staff members weekly. During the pandemic, these trainings were also conducted thorough sensitisation about COVID-19." (Manager, Fairtrade Flower HLO, Kenya)*

[62] As the majority of POs reported they consult their members and communities on their needs; we cannot compare the impact of COVID-19 between those who consult (N=155) and do not consult (N=5) members on their needs.
[63] As the majority of POs reported they consult their members on Fairtrade premium use; we cannot compare the impact of COVID-19 between those who consult (N=147) and do not consult (N=13) members on Fairtrade premium use.

4.3. Additional factors: Global Fairtrade COVID-19 support and activities

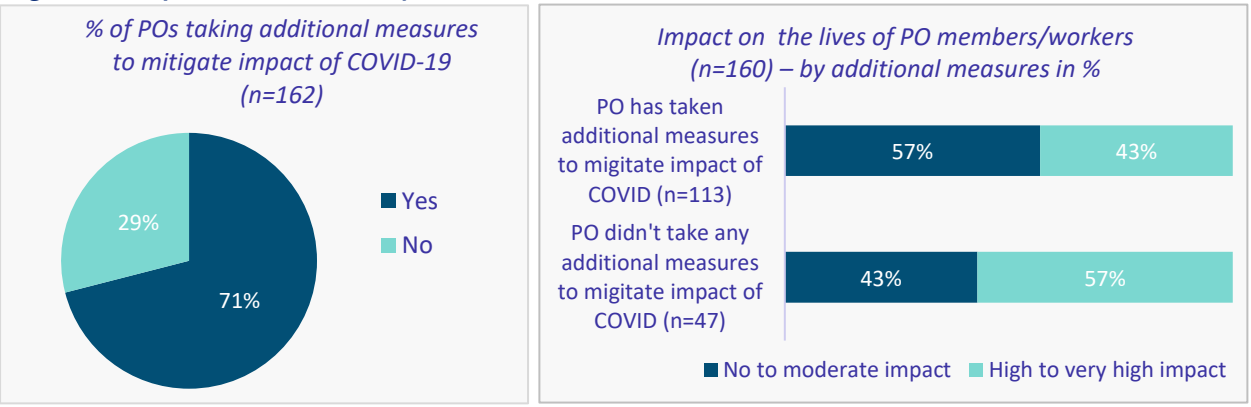
In the following, we analyse factors other than resilience that could have impacted the effect of COVID-19 on PO members and workers, such as targeted support by Fairtrade and activities by the POs themselves.

Box 14: Summary of findings on other support factors

Fairtrade COVID-19 support and additional measures[64] by the PO to mitigate the effects of the pandemic are correlated with a lower impact of COVID-19 on the lives of members/workers.

About 71% of POs reported taking additional measures to mitigate the impact of COVID-19. A majority of them (84%) distributed PPE (masks and gloves), conducted awareness or skill-building activities (73%), distributed food products or materials for growing food to their members and workers (46%), took child protection measures (20%), engaged youth (19%), took gender-specific measures (16%), distributed low-cost loans (15%), and disbursed cash grants to members/workers (11%). We find that **taking additional measures significantly correlates with a lower impact of COVID-19 on POs**. About 43% of POs that took any additional measures to mitigate the effects of COVID-19 experienced a high to very high impact of COVID-19 compared to 57% of those that did not take any additional measures. This shows that **targeted self-initiatives by POs to support their members/workers contribute to building their resilience**.

Figure 28: Impact of COVID-19 by additional measures



To mitigate the impact of COVID-19 on producers and workers of certified POs, Fairtrade launched the "Fairtrade Producer Relief Fund" and "Fairtrade Producer Resilience Fund" in March

[64] Additional measures include the distribution of PPE (masks and gloves), conducting awareness or skill-building activities, distributing food products, providing material for growing food, and distributing low-cost loans.

2020. About 60% of the 162 surveyed Fairtrade POs received such support, specifically financial support (40%), material support (31%), and training or guided support[65] (14%). **We find a negative and statistically significant correlation between COVID-19 support and the impact of COVID-19 on POs members/workers, meaning the support has helped them mitigate the effects of the pandemic.** As shown in Figure 30, about 39% of POs that received any COVID-19 support from Fairtrade experienced a high to very high impact of COVID-19 compared to 60% of those that did not receive any COVID-19 support from Fairtrade. This difference is statistically significant (p=0.009)[66], indicating **the critical role of immediate relief support to help mitigate the impact of sudden external shocks and stresses such as COVID-19.**

Figure 29: Fairtrade COVID-19 support

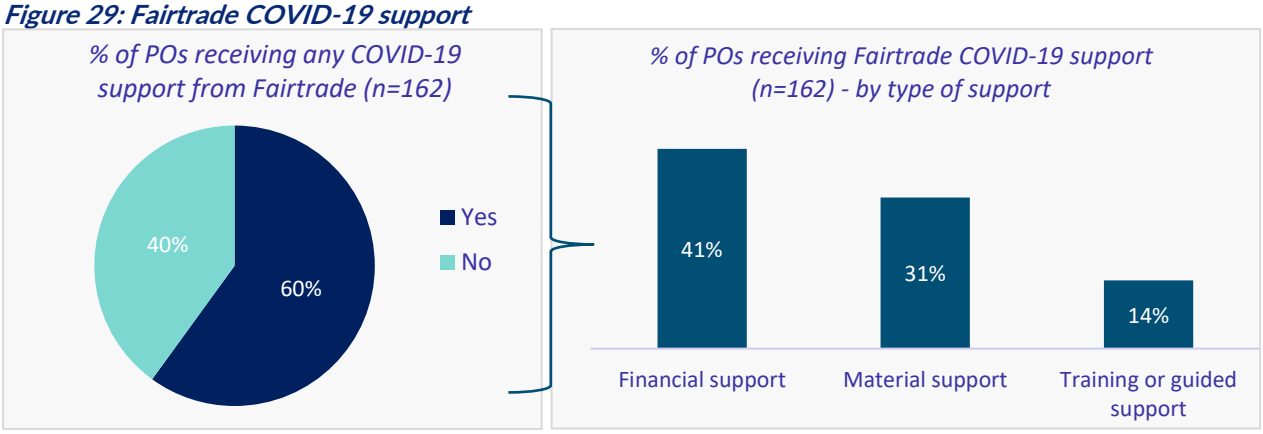
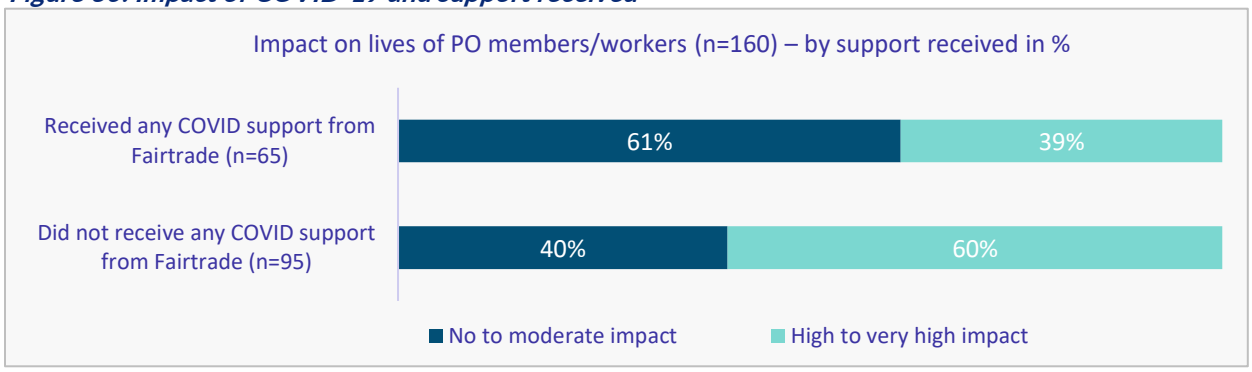


Figure 30: Impact of COVID-19 and support received



Box 15: Insights from Producer Organization management on COVID-19 support

Interviews with PO management in Kenya (flowers), Peru (banana), and Indonesia (coffee) indicated the importance of Fairtrade COVID-19 support to their resilience. This came out most strongly in interviews in Kenya. Overall, the management reported Fairtrade COVID-19 support

[65] Guided support includes any guided activities or training on topics including preventing COVID-19, gender, child rights, income diversification, and market access.
[66] As the p-value of the Chi-square test is less than 0.05, this result is statistically significant at the 1% confidence level.

to be very helpful in meeting their POs' immediate needs, such as providing food aid to members, supporting certification costs, paying workers' salaries, and providing PPE (masks and sanitisers members/workers during the pandemic. They also acknowledge that the relief support from Fairtrade helped mitigate the impact of the pandemic.

- *"Our organization received COVID-19 Relief Support from Fairtrade, which was used to provide services to workers and their families. We bought masks, sanitisers, and paid workers. Some funds are set aside to be used for those other purposes." (Manager, Fairtrade Flower HLO, Kenya)*
- *"The Fairtrade relief support helped the organization to address the immediate needs of the workers. The workers needed masks and sanitiser to reduce the effect of the disease." (Manager, Fairtrade Flower HLO, Kenya)*
- *"The biggest challenge for the organization was managing the operations amidst the risk of staff contracting the virus and risk of the closure of the business. From early March to mid of April 2020, flights were halted, leading to a collapse in sales, which was another big challenge as we had no cash flow. Yet still, we had to retain staff and maintain the live crops." (Manager, Fairtrade Flower HLO, Kenya)*
- *"Fairtrade chipped in during the pandemic when the production was low, allowing us to use the Fairtrade premium and relief support to pay workers' salaries. Through the same funds, we gave out masks and sanitisers. This additional relief support helped us address the pandemic's immediate shocks and stresses." (Manager, Fairtrade Flower HLO, Kenya)*
- *"Our cooperative received three different funds from Fairtrade – first was to implement biosafety, the second was a food fund to help with increased food cost during the pandemic, and the third was fifty per cent subsidy in the Fairtrade certification cost. All these were a great help during the hard times of pandemic." (Manager, Fairtrade Banana SPO, Peru)*
- *"The Fairtrade COVID-19 support was beneficial. During the early pandemic, access to food items was difficult. With Fairtrade COVID-19 support, we supplied food aid to members. This allowed us to focus our attention on other issues such as contracting, expansion, etc." (Manager, Coffee SPO, Indonesia)*

4.4. The Resilience of Fairtrade Producer Organizations: Regression Analysis

Box 16: Summary of findings on the resilience of Fairtrade Producer Organizations

Individual Factor supporting the Resilience of POs during COVID-19

- Fairtrade COVID-19 support contributed to building the resilience of POs. Those that received some form of Fairtrade COVID-19 support were 19.2% less likely to be impacted by COVID-19 compared to those POs that did not receive any Fairtrade COVID-19 support.
- Financial aspects (e.g., the price received for a product, financial sustainability, and access to credit) combined with non-financial support (Fairtrade COVID-19 support and additional measures by POs to mitigate risks, activities to support income diversification/food security) enhanced the resilience of POs

Combined Factors supporting the Resilience of Producer Organizations during COVID-19

- The price received for the product is the most critical factor in determining the resilience of POs. Other factors included credit received, income diversification/food

security, relief support, and additional measures[67] by POs to mitigate the impact of sudden shocks and stresses

We use two types of statistical models to determine the factors that most influence the resilience of Fairtrade POs against external shocks and stresses (using COVID-19 as a case study). **First, we use multiple regression analysis, i.e., a logit model[68]** on the binary COVID-19 impact variable. All the estimated coefficients, predictive margins, and corresponding p-values can be found in ***Annexure 3***. We controlled various covariates such as PO type, producer network, product type, the CEO's age and education, years of Fairtrade certification, and relevant macro-level factors (COVID-19 cases and deaths per million population in the countries producing the product). [69] The findings[70] from the logit model indicate that:

a) **Fairtrade COVID-19 support helped:** Producers that received Fairtrade COVID-19 support were 19% less likely to report a high impact of COVID-19 on the lives of their members/workers. This indicates the positive effects of relief support to producers and the value added of being Fairtrade-certified in receiving such support to help mitigate the impact of sudden external shocks and stresses (such as COVID-19).
b) **Product prices mattered**: POs that received a higher price than last year were 34% less likely to report a high impact of COVID-19 on their members/workers. Higher product prices thus considerably contribute to building the resilience of POs and their members/workers.
c) **Additional measures by the PO also helped:** POs that took additional measures[71] to mitigate the impact of COVID-19 were 12% less likely to report that their members/workers were highly impacted by COVID-19.
d) **Access to finance helped**: Access to credit/loans helped producers to mitigate the impact of COVID-19 on their members/workers. POs receiving a credit/loan from Fairtrade buyers were 24% less likely to report a high impact. This also signifies the critical role of Fairtrade certification in building long-term relations and solidarity of buyers with their in-origin producers in an emergency.

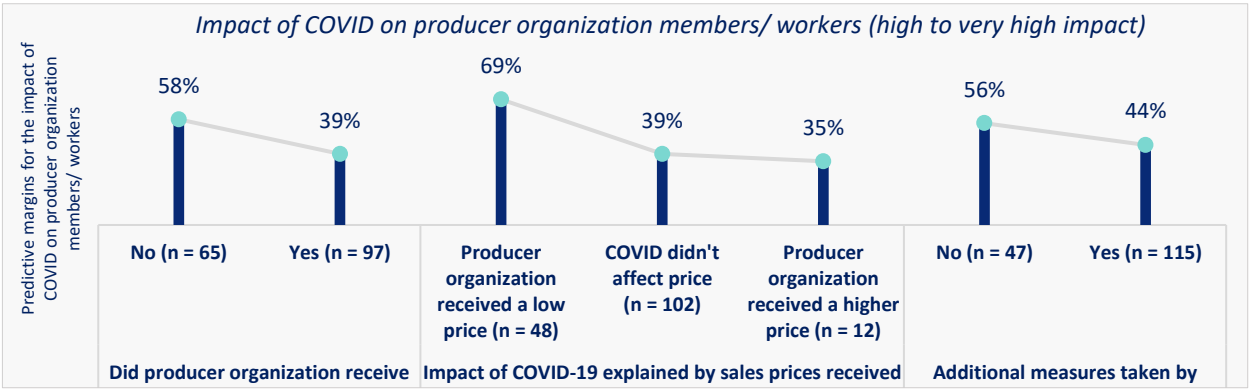
[67] Additional measures include the distribution of PPE (masks and gloves), conducting awareness or skill-building activities, distributing food products, providing material for growing food, and distributing low-cost-loans.
[68] The research team cross-validated the results by running an OLS regression (please refer to Annexure 3). We observe that the results of the OLS model are similar, confirming the robustness of the results.
[69] The research team also included other factors such as the year of the first certification, age and education levels of the CEO of the PO, per cent of women in the PO, per cent of females on the board, the PO is having strategic/business plan, Fairtrade premium and sales (Fairtrace 2020 data). However, none of these factors was found to have a clear trend or explanatory power and hence did not reflect in the regression model.
[70] The research team calculated predictive margins for the factors that influence the resilience of POs towards the impact of COVID-19, holding all other explanatory variables at means.
[71] Distributing PPE, conducting awareness or skill-building activities, distributing food products, distributing materials for growing food, taking child protection measures, engaging youth, taking gender-specific measures, distributing low-cost loans, and distributing cash grants to members/workers.

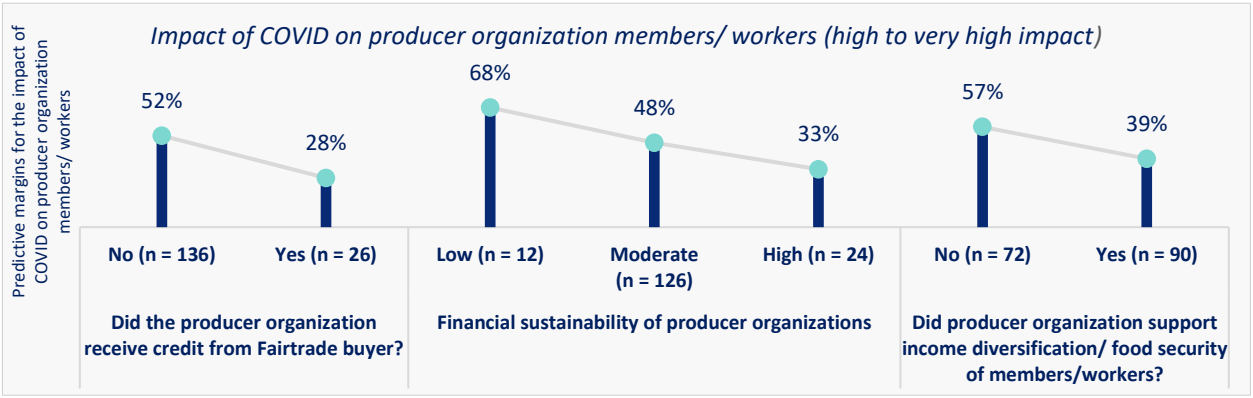
e) **Financial sustainability reduced the impact of external shocks**: POs with high financial sustainability[72] were 35% less likely to report a high impact of COVID-19 on their members/workers compared to POs with low financial sustainability.

f) **Income diversification/food security contributed to resilience**: POs supporting income diversification/food security reduced the impact of COVID-19 on members by 18%.

The visual representations of the most influential factors are presented in Figure 31. Higher percentages indicate a higher impact of COVID-19, whilst lower percentages indicate a lower impact.

Figure 31. A & B: Factors influencing the resilience of Producer Organizations to the impact of COVID-19





"COVID-19 taught a lesson, and we would be more prepared for a future crisis. We are also talking to workers to prepare for future eventualities by encouraging them to spare some funds from their earnings and save them for such times." (Manager, Fairtrade Flower HLO, Kenya)

[72] POs can meet all their needs and financial obligations and are able to survive and fund activities during an event of financial instability.

Second, we use the **Classification and Regression Trees (CART) model,** a machine learning technique used to construct prediction models, first introduced by Breiman et al. (1984)[73], to explore the intersections of determinants of resilience levels of Fairtrade POs, we use the same COVID-19 binary dependent variable in the CART model and the independent variables which showed the most significance.[74] The model identifies the following as the resilience enablers and resilience disablers:

Resilience enablers:

- The model identifies the price received for the product as the **primary factor** influencing the impact of COVID-19 on PO members/workers. This signifies that enabling Fairtrade producers to receive a higher price for their product significantly contributes to building the resilience of their members/workers.
- POs that received higher prices than the previous year and that adopted income diversification/food security measures were less likely to report a high impact of COVID-19 (only 30% of them reported that their members/workers were affected heavily)
- When POs received a lower price than the previous year but received credit support from Fairtrade buyers, they were less likely to be impacted by COVID-19 (all POs reported no or only moderate impact)

Resilience disablers:

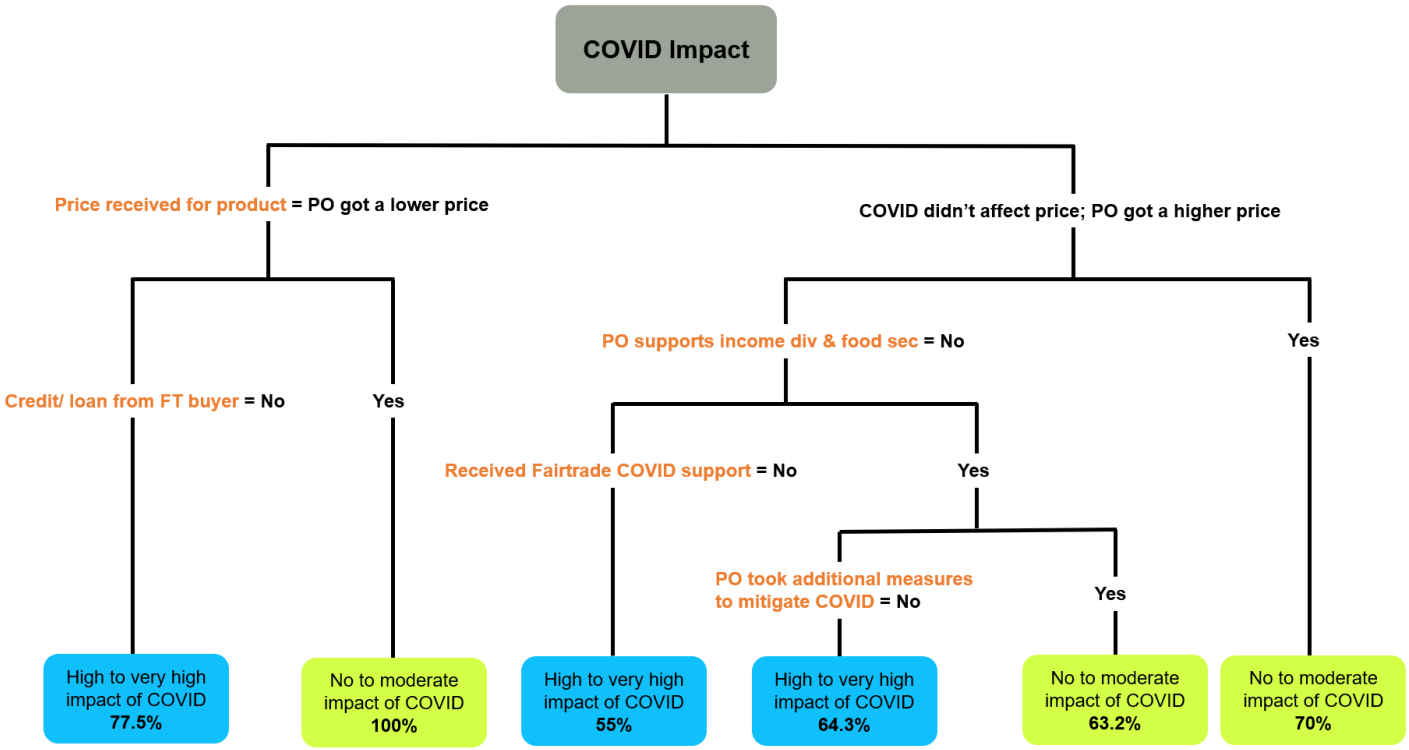
- POs which did not take initiatives, such as additional COVID-19 mitigating measures or efforts to support income diversification/food security mostly (in 64.3% of cases) reported a heavy impact on the lives of their members/workers, even if they received a higher price for their product and Fairtrade COVID-19 support.
- POs which did not receive a better price and did not receive any credit/loan support were highly likely to be impacted due to COVID-19 (77.5% of them experienced a high to a very high impact of COVID-19)

Figure 32 shows the impact pathways determined by the CART model on the factors that help build the resilience of Fairtrade POs to external shocks and stresses like the COVID-19 pandemic. The green box indicates a lower impact of COVID-19 on POs, and the blue box indicates a higher effect of COVID-19.

[73] CART is a non-parametric statistical approach that uses the recursive partitioning technique to split a sample population into sub-groups based on predefined criteria. CART creates mutually exclusive sub-groups based on combinations of demographics within the sample and the proportion of individuals in a particular sub-group who are likely to engage in the behaviour/practice represented by the (categorical or continuous) dependent variable (Lemon et al., 2003). The models were developed using RStudio (version 4.1.2).

[74] (1) Status of receiving Fairtrade COVID-19 support (Yes/ No), (2) Change in price received per unit of product in 2020 vs 2019 (PO got a lower price, COVID-19 did not affect price, PO got a higher price), (3) PO took any additional measures to mitigate the impact of COVID-19 (Yes/ No), (4) Financial sustainability of the PO (low/ moderate/ high), (5) PO received credit/ loan from the Fairtrade buyers in the last 12 months (Yes/ No), (6) PO supported income diversification and/or food security of their members in the last 12 months (Yes/ No).

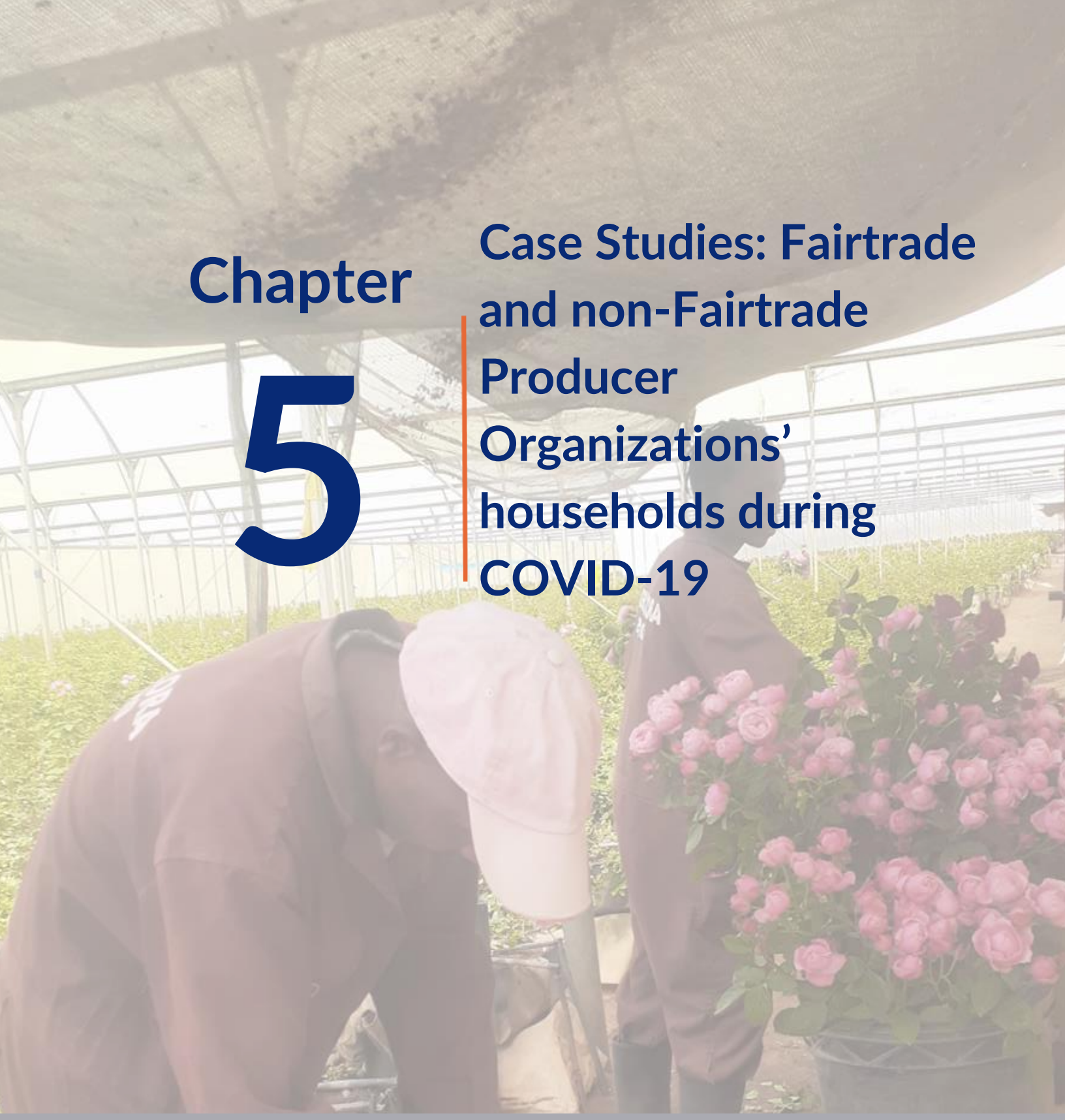
Figure 32: Determinants of resilience amongst Fairtrade Producer Organizations



Note: *The green box indicates a lower impact of COVID-19, and the blue box indicates a higher impact of COVID-19.*

Chapter 5

Case Studies: Fairtrade and non-Fairtrade Producer Organizations' households during COVID-19



Picture 6: Workers at the Fairtrade certified flower farm in Kenya

5. Households in Fairtrade & non-Fairtrade Producer Organizations during COVID-19

In this chapter, we draw on the **case study data.** After presenting an overview of the data, we first present key insights on each separate case study: **(1) Banana SPOs in Peru, (2) Coffee SPOs in Indonesia, and (3) Flower HLOs in Kenya**. We then dive deeper into the overall findings on resilience during COVID-19 using a COVID-19 index and a resilience index. Lastly, we validate our results from descriptive analysis using multiple regression analysis.

Box 17: Summary of findings from the case studies

- **Flower HLOs in Kenya**: Amongst the case studies, Kenya experienced the lowest numbers of COVID-19 infections and casualties. Most workers on flower farms suffered from temporary unpaid leave and rising food prices. This led to a decrease in the household budget and food rationing, especially among women and single-income households. However, workers on Fairtrade flower farms reported a lower COVID-19 impact, scored highest on resilience, and reported a better economic buffer through the Fairtrade premium relative to non-Fairtrade flower farm workers.
- **Coffee SPOs in Indonesia:** Indonesia experienced one of the highest numbers of COVID-19 infections and casualties. Most coffee farmers were primarily affected by lower coffee prices, sales, and rising food costs due to COVID-19. This squeezed the household budget and especially affected women who cared for the household with reduced resources. Coffee is one of the most affected Fairtrade commodities globally. However, relative to non-Fairtrade-certified coffee households, Fairtrade-certified ones had a higher resilience score, a higher likelihood of receiving either food or cash grants from their PO, and a lower COVID-19 impact.
- **Banana SPOS in Peru:** Peru experienced the highest number of COVID-19 infections and casualties among the case studies. Most banana farmers were affected by higher fertiliser prices, lower demand, and higher healthcare costs due to COVID-19. Women managing the lower household budget suffered especially. Banana farmers in Peru (regardless of certification) scored lowest on resilience among the case studies. Qualitative insights suggest the Peruvian banana sector had already been struggling, which was further aggravated by the pandemic. Yet, households at Fairtrade POs, rather than non-Fairtrade POs, reported being more heavily affected by COVID-19.

5.1. Comparative case study data

The data collection in Peru, Indonesia, and Kenya took place between November 2021 and February 2022. We conducted a survey with a total of 304 farmers/workers (27% female), 26 interviews with PO management (38% female), 17 Focus Group discussions with 99 farmers/workers (51% female), and 12 Learning and Validation workshop with 53 participants (43% female). An overview of the collected data can be found in **Annexure 4**.

We first test whether the sample obtained for Fairtrade-certified farmers (n=154) and non-Fairtrade-certified farmers (n=150) is comparable along a set of socio-demographic indicators. We further distinguish between SPOs, which usually consist of an association of smallholder farmers, and HLOs, which employ farm workers, as we expect the profile of respondents to be different.

Socio-demographic profile of households

The sample consists of 81 women (27%) and 222 men (73%), with nearly equal proportions amongst Fairtrade and non-Fairtrade households. Most of the respondents are the household head (72%) and take significant household decisions (on planting, household spending, etc.) together with another household member (52%) or solely by themselves (46%). 11% of the household heads are female. The average respondent is 41 years of age. The youngest respondent is 22 years old, and the oldest respondent is 78 years old. Most respondents are well educated, with only 4% not receiving any education, whilst the majority (47%) have completed secondary or at least primary education (36%). Many respondents are also married (76%). The median household size is four (4) members (including the respondent). Table 5 provides an overview of the above-described statistics by Fairtrade certification status and PO type.

To better understand any potential differences between the groups, we ran a two-sample t-test. **We find hardly any statistically significant differences between Fairtrade and non-Fairtrade-certified respondents** or those belonging to SPOs relative to HLOs **regarding decision-making within the household.**[75] However, we find **statistically significant differences** between Fairtrade and non-Fairtrade in terms of the **age of respondents, years of education, and household size.**[76] Respondents at Fairtrade-certified POs are, on average, younger (38 years vs 45 years), have nearly one additional year of education, and have a slightly larger household. Also, there is a statistically significant difference between the gender share amongst SPOs and HLOs (albeit only significantly different from zero at the 10% level) and the years of education received.

Table 5: Socio-demographic profile

Category	Mean	Standard Deviation	N	P – Value (T-Test)
Age				
HLO	45.62	17.47	201	0.00
SPO	33.13	9.19	102	
Fairtrade	38.13	16.72	153	0.00
Non-FT	44.76	15.18	150	

[75] Whilst there is no difference between Fairtrade and non-Fairtrade gender shares, we do, however, find a higher share of women in HLOs (37%) relative to SPOs (21%) which is statistically different from zero at the 1% level.
[76] We also find that the number of dependents in the households (aged 18 years or less and 51 years or more, which are not working) is higher amongst HLOs relative to SPOs (Mean: 1.923 vs 2.363; p-value:0.0151) and higher for Fairtrade vs non-Fairtrade households (Mean: 2.277 vs 1.888; p-value: 0.0254).

Gender				
HLO	0.37	0.49	102	0.00
SPO	0.21	0.41	201	
Fairtrade	0.26	0.44	154	0.79
Non-FT	0.27	0.45	150	
Education (in years)				
HLO	12.2	3.3	101	0.00
SPO	10.2	3.6	194	
Fairtrade	11.2	3.6	149	0.2
Non-FT	10.6	3.6	146	
Household Size				
HLO	4.03	1.72	102	0.71
SPO	3.96	1.41	195	
Fairtrade	4.35	1.53	149	0.00
Non-FT	3.62	1.43	148	

Please note: If the p-value is below the threshold of significance p < 0.05, we can reject the null hypothesis. This means there is less than a 5% probability that the two means are identical (zero difference).

Occupation, hours worked, and income

We also compared the economic profile. Most respondents (75%) only have one occupation (e.g., working as hired labourer on a flower farm or as a banana/coffee producer). One quarter also had a secondary occupation.[77] Respondents employed by an HLO work on average 45 hours per week. On the other hand, members of an SPO only work 33 hours per week on average but work longer hours during planting and harvest seasons. Therefore, unsurprisingly, more respondents belonging to an SPO have a second occupation compared to HLO workers (33% vs 11%). Whilst apparent differences exist between HLOs and SPOs; we do not find any statistically significant differences between Fairtrade-certified and non-Fairtrade-certified respondents in terms of hours worked. We do, however, find differences in different measurements relating to income. The mean (median) annual household income is EUR 2,405 (EUR 1,625)[78], indicating the economic vulnerability that most households find themselves in. To put this into context, we consider the global poverty line of USD 1.90 (EUR 1.81[79]) per person per day. Dividing the annual household income by the number of people in the household and 365 days, we find that **the mean (median) daily income per person in the household is EUR 1.93 (EUR 1.27); thus, very close to the poverty line of EUR 1.81.** The mean (median) daily income per person in the different countries is EUR 2.8 (EUR 2.2) in Indonesia, EUR 1.03 (EUR 0.78) in Kenya, and EUR 2.69 (EUR 1.91) in Peru.

[77] This can also include household work (10%), but in most cases refers to self-employment (42%), seasonal work (14%) and part-time employment (9%).
[78] Data was collected in the local currency and then converted into EUR.
[79] At the time of writing this report, one EUR equals 1.05 USD.

Table 6: Economic profile of households

Category	Mean	STD	N	P – Value (t-test)
Monthly hours worked for primary occupation (PO)				
HLO	45.04	7.31	102	0.00
SPO	33.53	9.91	184	
Fairtrade	37.7	10.82	143	0.92
Non-FT	37.57	10.42	143	
Annual household income in EUR				
HLO	1148.54	78.27	100	0.00
SPO	3548.84	3558.97	110	
Fairtrade	2752.7	1973.54	108	0.07
Non-FT	2038.57	3516.21	102	

Please note: If the p-value is below the threshold of significance p < 0.05, we can reject the null hypothesis. This means there is less than a 5% probability that the two means are identical (zero difference).

As can be gauged from Table 6, SPO members earn, on average, a three times higher annual household income than HLO workers. This difference is also statistically significant at the 99% confidence level. Furthermore, we find that households belonging to a Fairtrade-certified PO (irrespective of SPO or HLO) earn nearly 30% more than households at a non-Fairtrade-certified PO. The mean (median) annual household income for Fairtrade households is EUR 2,753 (EUR 2,000), and that of non-Fairtrade households is EUR 2,038 (EUR 1,322). Whilst the difference is statistically significant, it is only at the 10% level, thus only at a 90% confidence interval**. Broken down to the global poverty threshold, we also do not find a statistically significant difference between Fairtrade and non-Fairtrade certification.** The mean (median) daily income per person in the household is EUR 1.99 (EUR 1.39) for Fairtrade households and EUR 1.86 (EUR 1.15) for non-Fairtrade households.

Based on the differences mentioned above between our treatment and comparison groups (Fairtrade and non-Fairtrade respondents), we use **Propensity Score Matching (PSM)** in Chapter 5.4 to mitigate potential selection bias stemming from non-randomisation.[80] Using PSM, we map respondents along a set of pseudo baseline covariates (that would likely have been the same before the pandemic), such as the type of PO, commodity, age, gender, household size, and education. Furthermore, as part of our econometric analysis, we consider the type of PO and income as explanatory variables to assess which factors drive resilience. **It should be noted, though, that this study, using an ex-post rigorous impact evaluation design, cannot make any**

[80] When randomisation is not possible, preferred quasi-experimental methods for reducing selection bias are (i) a Difference-in-Difference approach (which necessitates collecting at least baseline and endline data), which was not possible for this assignment (ii) a Regression discontinuity design (which is not suitable here as there is no clear cut off/threshold for assigning the intervention to our knowledge), (iii) an Instrumental Variable (IV) (we did not find a good IV that withheld all statistical tests), and/or (iv) propensity score analysis.

claims about causality on Fairtrade certification and the income of households. This is because the income level was likely different before the pandemic started. In fact, 75% of respondents stated that this was the case, with most having lower income levels now.

5.2. Insights from three countries (commodities)

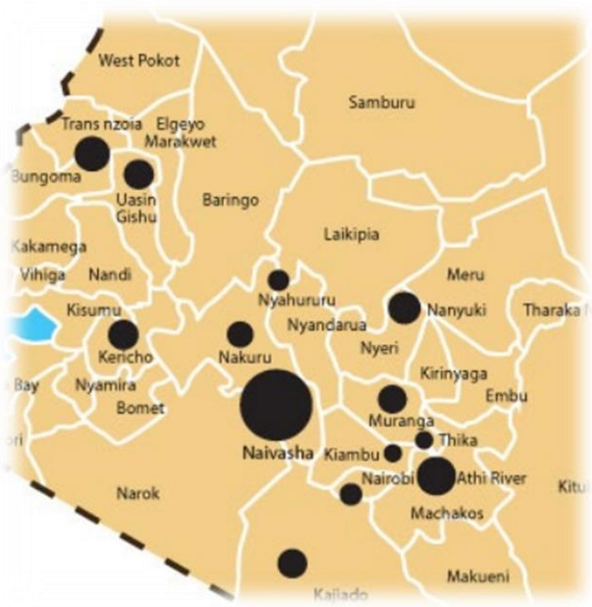
The following section provides insights from the different country (commodity) case studies. Each of the three case studies –**flower HLOs in Kenya, coffee SPOs in Indonesia, and banana SPOs in Peru** - were based on a survey with at least 100 farmers/workers, six FGDs, and six interviews with PO management. Whilst this sample is substantial enough to derive case-specific insights, **only the pooled sample (N=304) has sufficient statistical power to estimate the impact of Fairtrade certification on the outcome variables of interest (resilience and the effect of COVID-19).** As such, we provide insights into the resilience and impact of COVID-19 on the sampled households in Chapter 5.3/4.

5.2.1. Case study 1: Flower Hired Labour Organizations in Kenya

Compared to other countries in the case studies, Kenya was not heavily affected by COVID-19 in terms of the registered number of cases and deaths. However, the flower market was. Union Fleurs, the international flower trade association, estimated that the EU cut flower market lost EUR 1 billion (£900 million or US$ 1.2 billion) in the first six weeks of lockdown.[81] The ripple effect was especially felt in flower-growing countries such as Kenya. Cut flowers have become Kenya's second largest export after tea, contributing to around 1% of the country's GDP. The flower sector is also one of the country's largest sources of employment, with over 100,000 people working directly in the flower industry and an estimated two million indirectly. In addition, Kenya is critical as a source of roses – the country supplies one-third of all roses sold in the EU.[82] At the time of writing, there are 74 Fairtrade flower farms, of which 46 are based in Kenya (mostly in Naivasha (see Picture 7)).

As part of this study, we collected data on three flower farms. All three POs are part of the Kenyan Flower Council, whilst two of these organizations also acquired Fairtrade certification in 2005 and 2007.[83] All three flower farms employ between 1,000- 1,500 workers (hired labour) to cultivate and harvest flowers, which are mainly roses.[84]

[81] https://www.bbc.com/future/bespoke/made-on-earth/how-the-covid-19-pandemic-hit-the-cut-flower-chain.html
[82] https://www.bbc.com/future/bespoke/made-on-earth/the-new-roots-of-the-flower-trade/
[83] https://kenyaflowercouncil.org/
[84] As some POs but not all agreed to have their names published; we keep their names confidential.



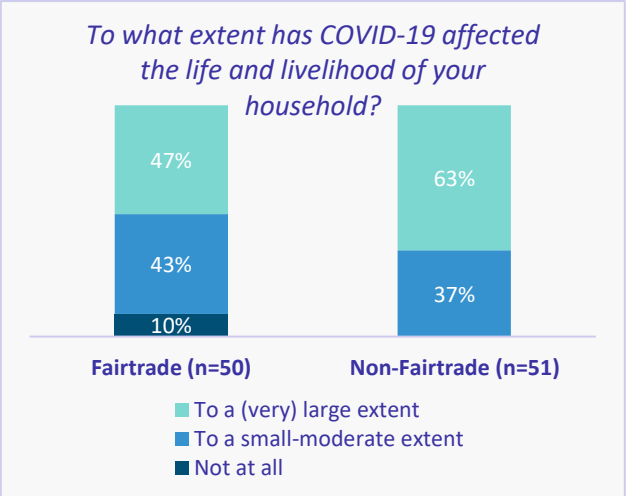
*Picture 7: Kenyan Flower Sector. **Source: Azizi**, (2019).*

Hired labour on flower farms is the primary source of income for all surveyed workers, although less so for Fairtrade workers. About 70% of flower workers on Fairtrade-certified farms obtain their entire household income from wage labour (of which 100% from a Fairtrade cooperative), relative to 86.7% of the workers from the non-Fairtrade flower farm. Non-Fairtrade workers derive most of the remaining household income (approx. 13%) from growing and selling other crops, such as kitchen garden crops. **Fairtrade workers' household income**, on the other hand, **is more diversified,** and they derive the remaining 30% of their household income from remittances (international and domestic), salaried employment, and self-employment, such as a roadside or market stand, handicrafts, poultry, and livestock, as well as kitchen garden crops. **The annual household income between the two groups is, however, comparable**. Workers on the Fairtrade flower farms report a mean (median) income of EUR 1,189 (EUR 1,008), and those on the non-Fairtrade flower farm report a mean (median) income of EUR 1,107 (EUR 1,152).

During the field visits, all farmers expressed being heavily affected by the COVID-19 pandemic. Women and youths especially lamented the restriction of not being able to visit family and friends or attend school/university in the cities. Furthermore, many workers voiced concerns over the closure of schools and the resulting youth idleness, including teenage pregnancies, early marriages, and drug abuse. Most workers also felt pressure on their income as the cost of living, such as food expenses, went up. Women primarily in charge of the food preparation were the ones who acutely felt the pressure. At the same time, workers earned less. All three flower farms were affected by lower sales, which entailed some form of unpaid leave for almost all workers. Due to squeezed household income, this often-entailed food rationing among women and single-led households. In the words of one female worker, *"I did not have enough savings, so my family and I had to eat less."* Some workers, especially at the non-Fairtrade farm, also mentioned difficulties paying for their rented accommodation due to loss in income.

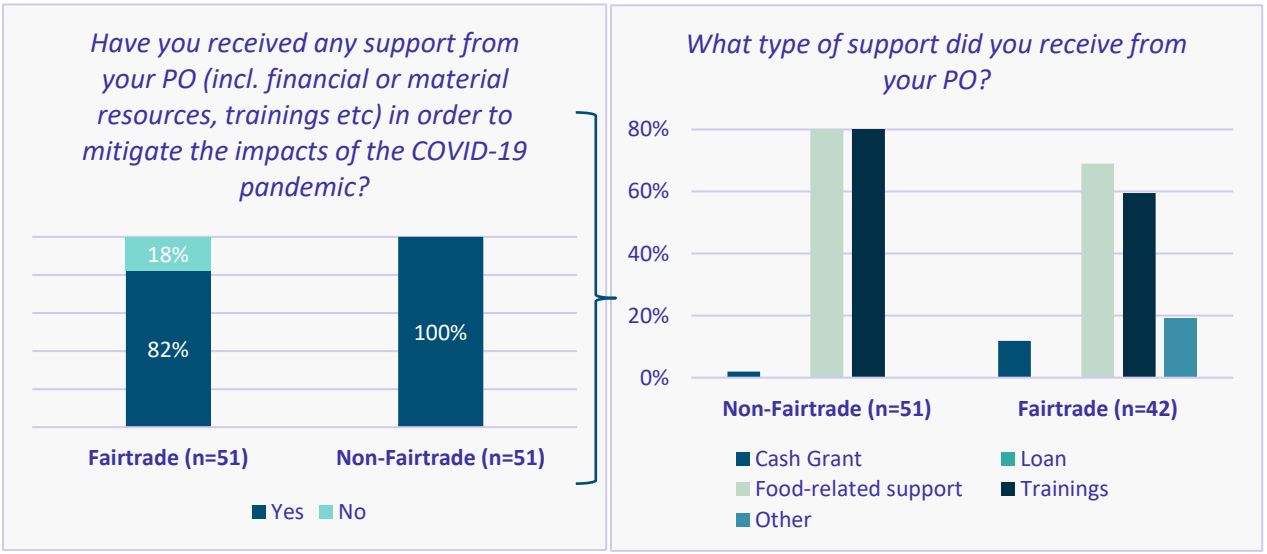
Overall, workers at the Fairtrade-certified flower HLOs fared better during the COVID-19 crisis. Most (63%) workers at the non-Fairtrade-certified flower farms experienced a large or extremely large effect of COVID-19 on the lives and livelihood of their households relative to 47% of workers at the Fairtrade-certified POs. This is at least partially because the **Fairtrade flower farms were able to avoid lay-offs and provided a loan deduction break. The Fairtrade premium also helped the PO to build an economic buffer (e.g., to pay out salaries).** At the non-Fairtrade HLO, a total of 67 temporary staff were laid off during the height of the pandemic; however, most returned to work.

Figure 33: COVID-19 & Kenyan flower HLOs



As we will see in section 5.4, PO support was provided to those who most needed it (i.e., more affected by COVID-19). As such, 100% of workers at the non-Fairtrade PO received support compared to 82% of workers at the Fairtrade flower farm. Both groups majorly received food-related support and training (non-Fairtrade workers more so than Fairtrade ones), whilst **Fairtrade workers also received cash grants and 'other' support such as salary top-ups from Fairtrade.**

Figure 34: COVID-19 support received by flower HLOs in Kenya

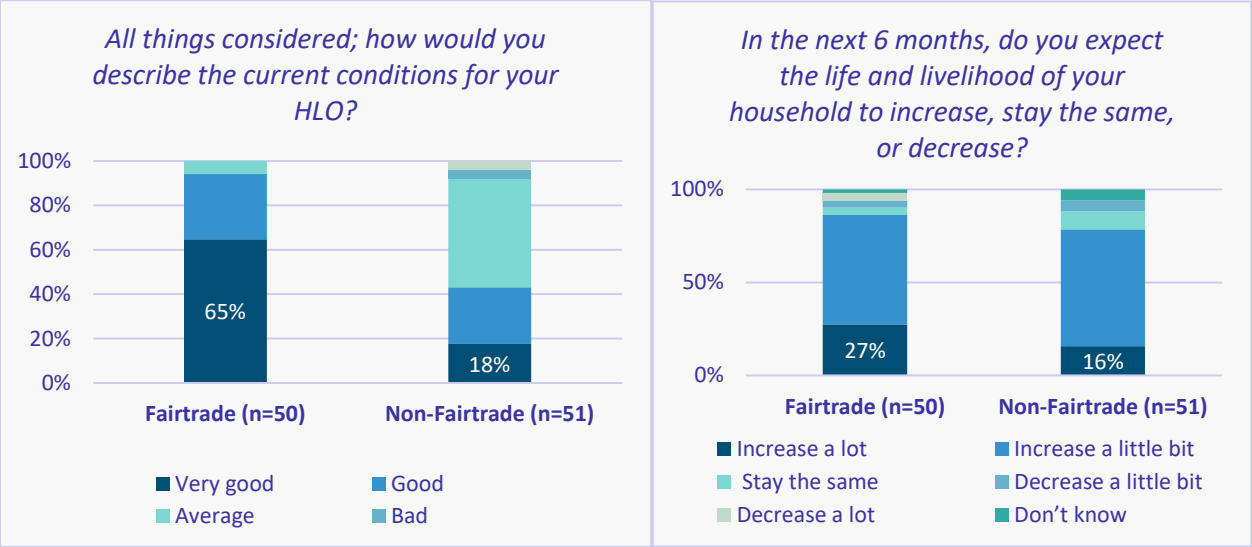


Fairtrade-certified and non-certified workers think the support helped them greatly (65%, respectively). For instance, workers on one of the Fairtrade flower farms appreciated that the HLO *"protected and supported the workers from COVID-19 by implementing protective measures, sharing*

general information with staff and providing updated information on the disease, including prevention and control and monitoring systems" (Focus Groups Discussion).

Many more Fairtrade workers (65%) believed that their flower farm is doing very well relative to workers at the non-Fairtrade-certified flower farm (18%). Interviews with the PO management indicated this is thanks to, at least partially, the strong relationship with Fairtrade buyers, which gives workers confidence in the future. All three flower farms made a net profit in the last year. At the Fairtrade flower farms, the net profit was used to finance the operations, reinvest in the business, and pay bonuses to the staff. The latter has also increased workers' confidence in the businesses' standing and future. About 27% of workers at the Fairtrade-certified flower farms (27%) believe that their livelihood will increase a lot in the next six months, relative to only 16% of workers at the non-Fairtrade-certified farm.

Figure 35: Outlook for flower HLOs in Kenya

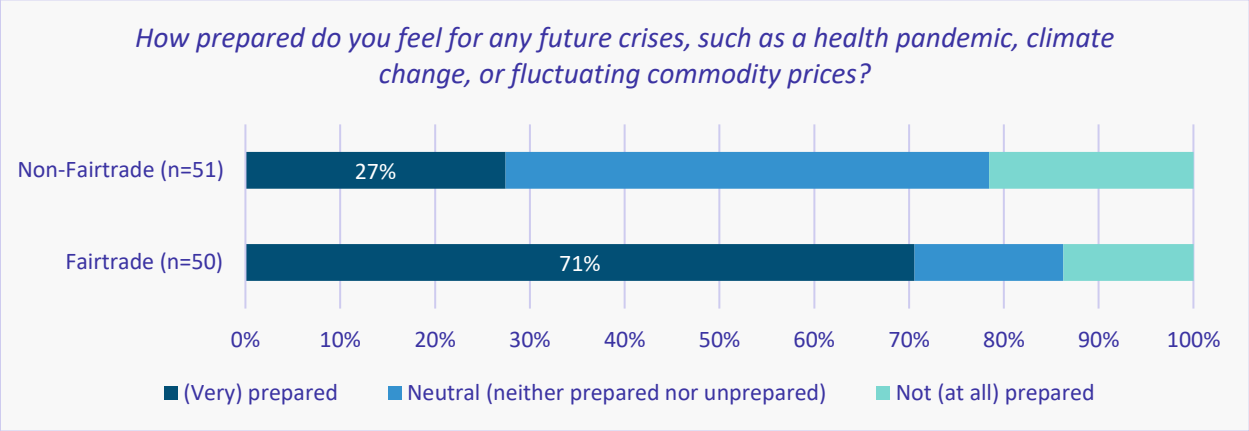


Most workers at the Fairtrade-certified farms (71%) highlighted that they are now well-prepared for any pandemic. This is especially the case thanks to the training that highlighted the importance of savings and prioritised spending. PO management emphasised the importance of Fairtrade COVID-19 support, and that similar support should also be provided during a future crisis. **In contrast, only 27% of workers at the non-Fairtrade flower farm feel prepared for a future crisis.**

Learning from the pandemic, workers felt it would be necessary to empower more workers to start their businesses, diversify, increase their sources of income, and support their families. Likewise, more workers should be encouraged to undertake short courses, i.e., life skills, driving, and other business courses. Workers also noted that the PO should support those who have small areas of kitchen gardens so that workers can have reliable access to food for themselves and their families and boost their income. Suggestions were also put forward during both FGDs to tackle challenges

related to financial insecurity, food insecurity and future preparedness, such as a salary increase, assistance to start community income-generating projects, assistance with school fees, a farm-employee housing scheme, and/or assistant to buy plots to build sustainable housing, and water supply/irrigation systems for community vegetable gardens. Lastly, workers suggested that the PO should form a Sacco where they can save and take loans.

Figure 36: Future crises preparedness of Kenyan flower workers



Picture 8: Workers picking flowers in Kenya

5.2.2. Case study 2: Coffee Small Producer Organizations in Indonesia

Indonesia is one of the world's leading coffee producers and exporters, grown mainly by smallholder farmers. It has many known coffee regions, amongst which Sumatra, Java, and Sulawesi are the most well-known. Sumatra is the third largest island in Indonesia and the biggest coffee producer in Indonesia. The island produces two famous and high-quality coffees - Mandheling and Gayo (in Aceh). These types of coffee have their harvest season from November to April. The smallholders in Gayo Highland of Aceh have been growing coffee since the beginning of the 20th century during the Dutch colonial period. The combination of elevation and soil provides an excellent coffee-growing environment for farmers as well as sustainability programmes.

Picture 10: Sumatra's coffee-growing region.
Source: stocktongraham.com/sumatra-coffee

As part of this study, we collected data on three smallholder cooperatives in Central Aceh and Bener Meriah Regencies on the island of Sumatra.[85] Two of these POs acquired Fairtrade certification in 2009 and 2011, respectively. Furthermore, the non-Fairtrade-certified SPO was in the process of acquiring (non-organic) CAFÉ practice certification during the data collection. As further background information, it should also be noted that globally, Indonesia experienced one of the highest numbers of COVID-19 infections and casualties and the second highest amongst the case studies.[86]

[85] As some POs but not all agreed to have their names published; we keep their names confidential.
[86] The cumulative confirmed number of COVID-19 cases per million of the population is 107,233.32 in Peru, 21,903.98 in Indonesia and 5,899.82 in Kenya. Source: https://ourworldindata.org/coronavirus/ (Accessed 20/05/2022).

Picture 11: Fairtrade certified coffee cooperative in Indonesia

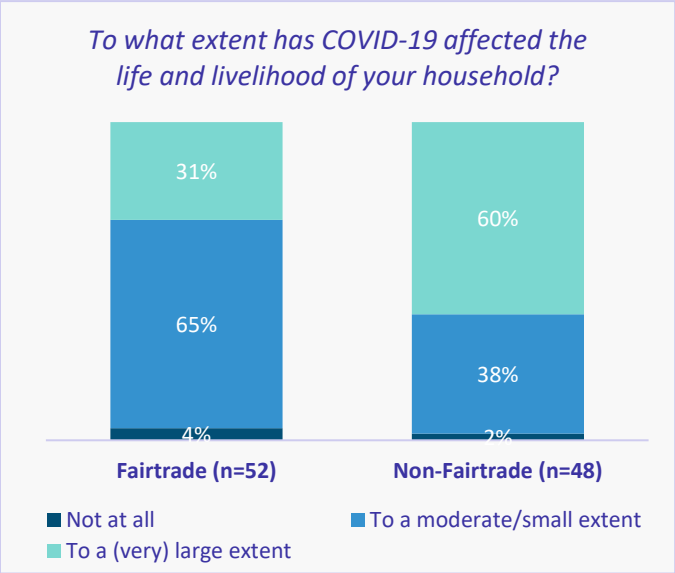
Although the share is slightly higher for Fairtrade farmers, both groups derive their primary household income from selling coffee, about 79.4% and 75.4%, respectively. With a median land size of one (1) hectare, the average plot size is also nearly identical between both coffee producer groups. **However, the household income of households at Fairtrade-certified coffee POs in Indonesia is considerably larger.** The mean (median) annual income for Fairtrade households is EUR 4,167 (EUR 3,250), whilst the mean (median) income of non-Fairtrade households is EUR 2,530 (EUR 2,015).[87] Farmers belonging to Fairtrade-certified POs sell a greater share (96.5%) of their coffee under Fairtrade terms.[88] Furthermore, more non-Fairtrade (65%) than Fairtrade farmers (35%) supplement their income with a secondary occupation (besides coffee farming). Regarding social safety nets, we also note that household members of Fairtrade-certified POs are more likely to set aside savings (69% vs 60%) and have health insurance (75% vs 36%).

During the field visits, all farmers (irrespective of certification) expressed that they were affected by the COVID-19 pandemic. Whilst women play a crucial role in cultivating coffee, processing, and marketing; it is often the household's men who are regarded as the "main coffee farmer". As such, most women discussed the effect of COVID-19 on their squeezed household budget due to the increasing costs of household goods. *"Panic and logistical disruption have contributed to a price hike for staple food items: rice, sugar, cooking oil, eggs"* and have made *"managing the household finances*

[87] The difference is statistically significant at the 95% confidence level.
[88] When Fairtrade POs do not meet their production targets, they generally source the produce from non-Fairtrade farmers. However, the produce sourced from non-Fairtrade farmers (if at all) is sold to non-Fairtrade buyers. As such, we found that 30% of farmers at the non-Fairtrade cooperative said that their coffee was sold to "Fairtrade".

a concern" (Female farmer). In addition, youth in all POs felt frustration over online school, whilst some of those about to attend university had to delay their studies or even change their career path. At the same time, social restrictions on meeting for prayer primarily affected all communities, gender, and ages, as religious activities play an essential role in their daily lives. As a result of COVID-19, the PO management and most farmers mentioned a loss in income due to decreased coffee prices, lower sales, and some loss in production. However, each PO felt the effects resulting from COVID-19 differently. For instance, one Fairtrade PO mentioned that a lower price of coffee had been (partially) offset by a 30-50% increase in productivity, as farmers had more time to dedicate to growing coffee. Another Fairtrade PO had mentioned that "*the main concern of members is not on low yield, but rather that the SPO does not always purchase their coffee."*

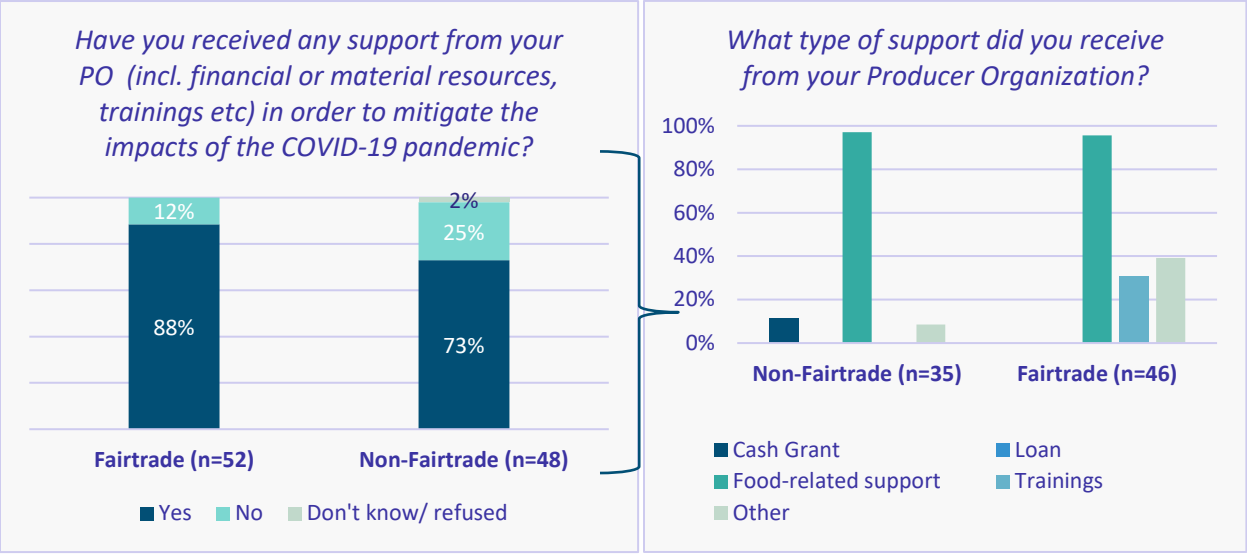
Figure 37: COVID-19 and Indonesian coffee SPOs



Overall, members of the Fairtrade-certified coffee POs fared better during the COVID-19 crisis. 60% of non-Fairtrade farmers experienced a large or extremely large effect of COVID-19 on the lives and livelihood of their households relative to 31% of farmers at Fairtrade-certified POs. **Farmers at Fairtrade coffee cooperatives were also more likely to get support from their PO:** 88% of Fairtrade-coffee farmers, relative to 73% of non-Fairtrade coffee farmers received support from their SPO during COVID-19. Both mostly received food support. Yet, many Fairtrade farmers also received training (30%) and other support[89] (39%), whilst some non-Fairtrade farmers received cash grants (11%). The support received from their respective PO had been perceived as very helpful by all farmers, especially the provision of staples during the food scarcity crises and decreasing income levels. However, 85% of Fairtrade farmers and 65% of non-Fairtrade farmers were doubtful whether these measures protected their households from COVID-19 (which should be noted was not the intention of the support). *"The Government provided financial aid to our communities, and we received cooking oils and eggs from the cooperative. The support did not sustain us throughout the pandemic. But we are grateful nonetheless" (Male Coffee Farmer, Non-Fairtrade PO).*

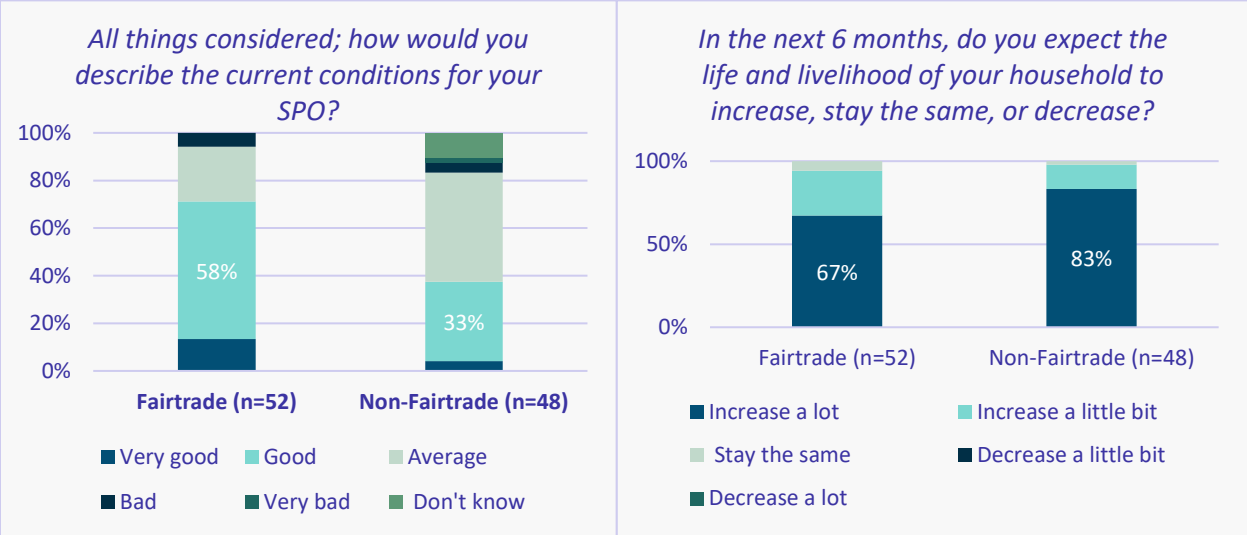
[89] Other support mainly constitutes material support such as tarpaulins, chainsaws, boots, and specific food support.

Figure 38: COVID-19 support received by SPOs in Indonesia



Only 33% of non-Fairtrade-certified coffee farmers thought their SPO's current conditions were good relative to 58% of farmers at the two Fairtrade-certified cooperatives. This is primarily due to insufficient coffee sales. To use the words of the treasurer: *"Our cooperative is making a loss because we don't have certified coffee."* However, since the non-Fairtrade cooperative was in the process of obtaining CAFÉ certification, more non-Fairtrade-certified coffee farmers (83%) than certified ones (67%) believe that in the next six months, their livelihood would increase a lot.

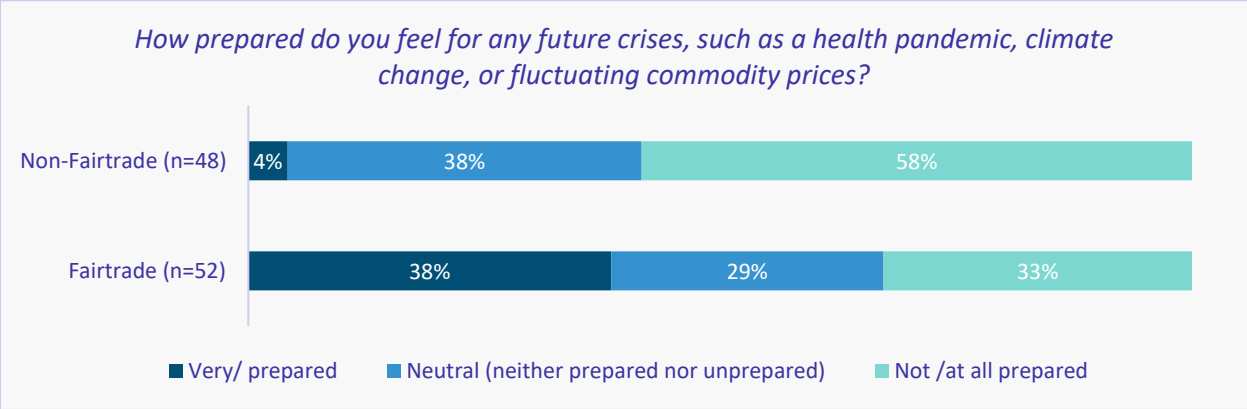
Figure 39: Outlook for coffee SPOs in Indonesia



Learning from the pandemic, *"many farmers have learned the bitter lessons from the COVID-19 pandemic and feel more prepared for future shocks by aspiring to be more economically resilient through income diversification programs.* (Manager, Fairtrade PO). Yet, a more significant share of Fairtrade-

certified coffee farmers felt prepared for future crises (38%) than non-Fairtrade coffee farmers (4%). The consensus amongst non-Fairtrade farmers was that - *"As farmers, we cannot do much to prepare for future pandemic-like situations. We can only think of other commodities, e.g., chilli, to grow to diversify our income."* - producers at the Fairtrade-certified cooperatives gave more concrete recommendations. One recommendation Fairtrade SPOs gave was to train farmers more strongly in GAP. *"In the future, we need to make sure our productivity level is high to absorb shocks from decreasing coffee prices. These include GAP training, provision of organic fertiliser compost"* (Male farmer, Fairtrade). The management of the Fairtrade-certified cooperative strongly believed they would not have felt the same shock in income as in 2020, where prices and yields are low, had GAP been implemented. Also, seeing that procurement prices have changed but contract prices have not, the Fairtrade coffee SPOs in Indonesia wished for support in renegotiating contracts.

Figure 40: Future crises preparedness of coffee farmers in Indonesia



5.2.3. Case study 3: Banana Small Producer Organizations in Peru

In recent decades, Peru has increasingly focused on growing and exporting organically grown bananas (Maxwell, 2021). Peru's exports of organically grown bananas account for around 3% of the global organic banana production (FAO, 2017). It is estimated that the organic banana sector in Peru involves approximately 6,000 farmers organised in several dozen associations.[90] Since the country started converting from conventional to organic in the late 1990s, more than 60% (around 16,500 hectares) have become concentrated in the Chira Valley in Piura. The tropical climate of the Sullana Province (where Piura is situated) makes it well-suited to banana production. However, it should be noted that Peru experienced the highest number of COVID-19-related infections and causalities among the case studies. The Piura region was especially hard-hit.

[90] https://www.bananalink.org.uk/partners/peru/

Picture 12: Piura Region in Peru. Source: ideassonline.org /public/pdf /ClusterBananoOrganicoPiura-ENG.pdf

As part of our study, we collected data on seven banana-producing cooperatives in Piura (see Picture 12), Peru. Certification is standard in the market. Three POs have acquired Fairtrade certification (since 2011), whilst all seven producers have organic certification (for the US and some also for the EU market), and all but one producer also acquired GLOBAL GAP certification. The Fairtrade-certified cooperatives consisted of 90 to 420 members each. However, the non-Fairtrade-certified cooperatives were smaller, with only 20 to 30 members.

Although the share is slightly higher for Fairtrade farmers than non-Fairtrade farmers, both groups derive their primary household income from selling bananas, about 92.5% and 84.7%, respectively. **However, the mean average annual income of non-Fairtrade banana farmers is higher.** The yearly mean (median) household income of Fairtrade banana farmers is EUR 3,779 (EUR 2,796) compared to a mean (median) household income of EUR 4,277 (EUR 3,000) amongst non-Fairtrade banana farmers. With a median land size of 0.5 hectares, the average plot size is nearly identical between both coffee producer groups.[91]

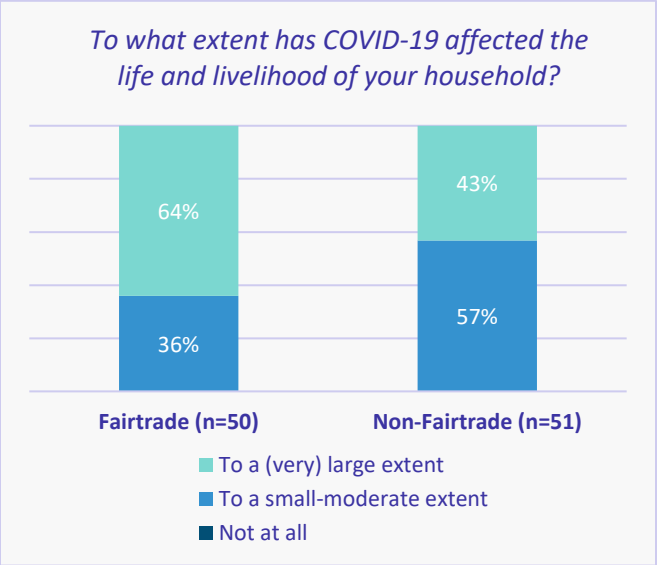
During the field visits, all farmers (irrespective of certification) expressed being heavily affected by the COVID-19 pandemic. Many farm households reported economic hardship due to lower production, rising fertiliser prices, and health costs. Higher farm input costs, which many farmers could not afford, also meant that **farm productivity went down.** *"The fertiliser price went up during the pandemic from 38 to 115 soles. At the same time, production went down because of the fear of being infected. Also, many workers got infected."* In addition, many farmers reported that family members had suffered or passed away from COVID-19, and the costs of hospitalisation and buying oxygen had created additional pressure on household income.

For youth on the farms, different effects were observed. Many young farmers had to carry a heavier burden as many older farmers stopped working due to health fears. Whilst *"some young banana farmers exist; the majority is over 50 years old"* (female farmer). For instance, one farmer stated that she had her son take care of the farm as she had diabetes and did not dare leave the house. Also, many youths from the city returned to study at home. This created an additional

[91] Neither the difference in the household income nor plot size is statistically different.

burden for women who had to teach them at home. At the same time, women had to cook for the family with less food. Many households report: *"We had to eat less."*

Figure 41: COVID-19 and banana SPOs in Peru

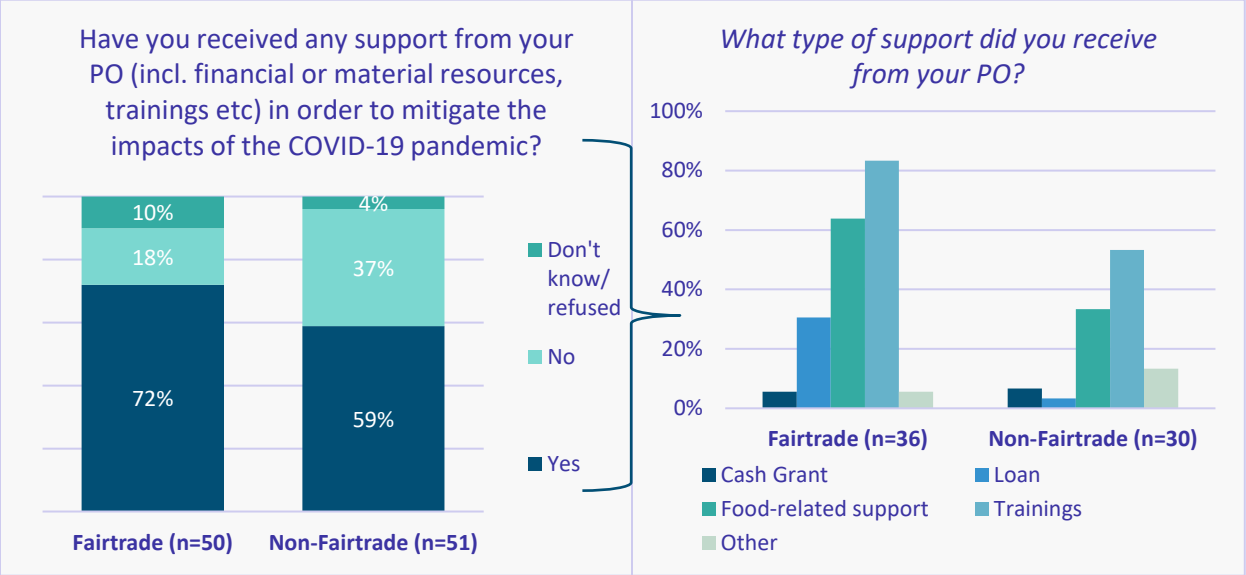


However, farmers at Fairtrade-certified banana farms (unlike in Kenya and Indonesia) and not non-Fairtrade-certified farmers were more affected by COVID-19. About 64% of members at Fairtrade-certified farms relative to 43% of non-Fairtrade-certified farms experienced a large or extremely large effect of COVID-19 on the lives and livelihood of their households relative to 43% of farmers at non-Fairtrade-certified POs.

As we will see in later sections, PO support was provided to those who most needed it (i.e., more affected by COVID-19). As such, **more farmers belonging to a Fairtrade cooperative received support** (72%) than non-certified ones (59%). In the FGDs, many farmers at the non-Fairtrade cooperatives mentioned, *"Since our cooperative does not have Fairtrade, it cannot help us much"*. Whilst 50% of farmers at the Fairtrade-certified cooperatives believed that the measures helped them protect against COVID-19, only 33% of non-Fairtrade farmers thought so.

Both groups (Fairtrade farmers more than non-Fairtrade ones) mostly received training (83% and 53%) and food-related support (64% and 33%). About 31% of Fairtrade farmers also received loans from their PO. Most Fairtrade farmers mentioned that loans and food support were essential. The loans were often used for school-related purchases since classes had moved online. *"We did not have enough money to buy my son a smartphone since he only had a conventional mobile and could not receive classes. So, he had to take out a loan."* One Fairtrade-certified cooperative had also bought a small oxygen tank to share with members when needed. *"The oxygen was very useful because it was scarce, and people were desperately looking for it. The management also implemented a system with a nurse, who would prescribe medicine when we were sick"* (Fairtrade farmer, male).

Figure 42: COVID-19 support received by banana SPOs in Peru[92]



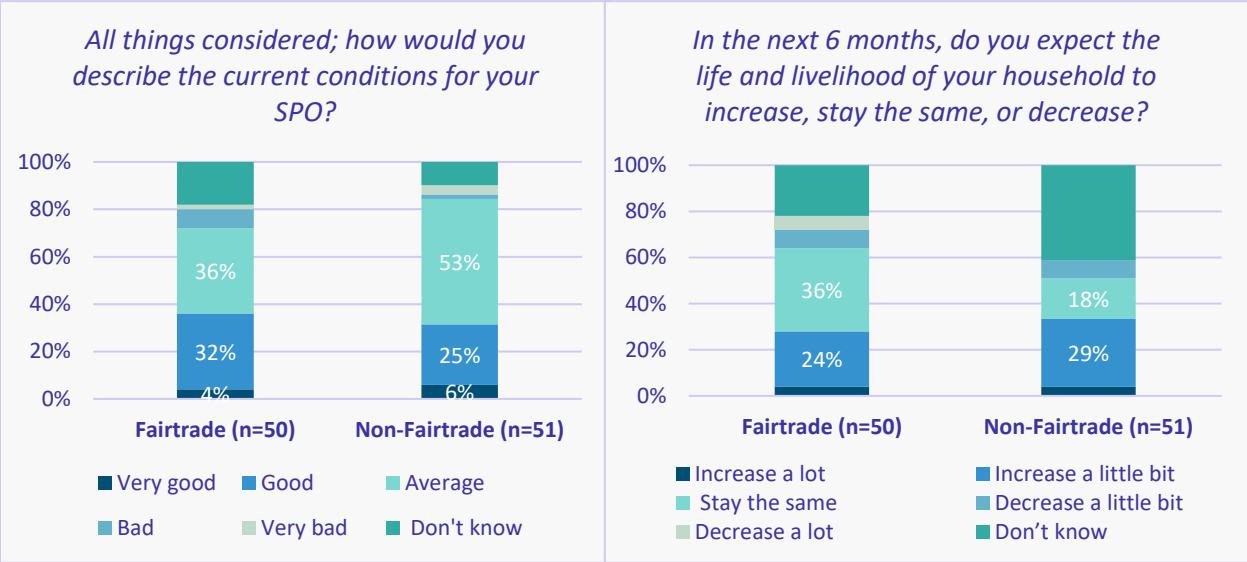
Besides COVID-19-related difficulties, the banana sector as a whole, particularly in Peru (and Ecuador), **has faced difficulties** with increasing farm production costs, packing, and exporting. A recent study investigating the banana sector in Peru (Mauthofer et al., 2022) confirmed that the global price pressure on bananas is severely felt by SPOs in Northern Peru, even by the strongest ones. Second, the detection of the Tropic Race 4 strain (TR4) in Peru, a disease that has been attacking banana plantations in different continents in recent years, has been a major concern.[93]

It is perhaps not surprising that most surveyed banana farmers seem to feel quite pessimistic about the standing of the PO and their economic outlook. **Only 4% of Fairtrade banana farmers and 6% of non-Fairtrade banana farmers think that the current conditions for their PO are 'very good' (although more Fairtrade farmers believe they are good).** All cooperatives, irrespective of certification, have grappled with losing clients in the market. For instance, one management staff at a Fairtrade cooperative mentioned that *"many cooperatives had lost clients due to the pandemic, and we were lucky because we still had three."* Whilst one Fairtrade-certified cooperative had lost its client, another was worried about the future as they only had one. *"Yes, we are the only cooperative in the area and have only one customer. Management should look for another customer because if this customer says he is no longer buying, we could only sell to the local market."* Based on the interviews

[92] A large share of "Don't know" or refused answers in Peruvian cooperatives is related to a lack of trust. Many believe that by giving up information they may no longer receive Government or other support.
[93] https://www.iica.int/en/press/news/alarm-bells-sound-peru-and-ecuador-amidst-banana-pandemic-experts-call-public-private

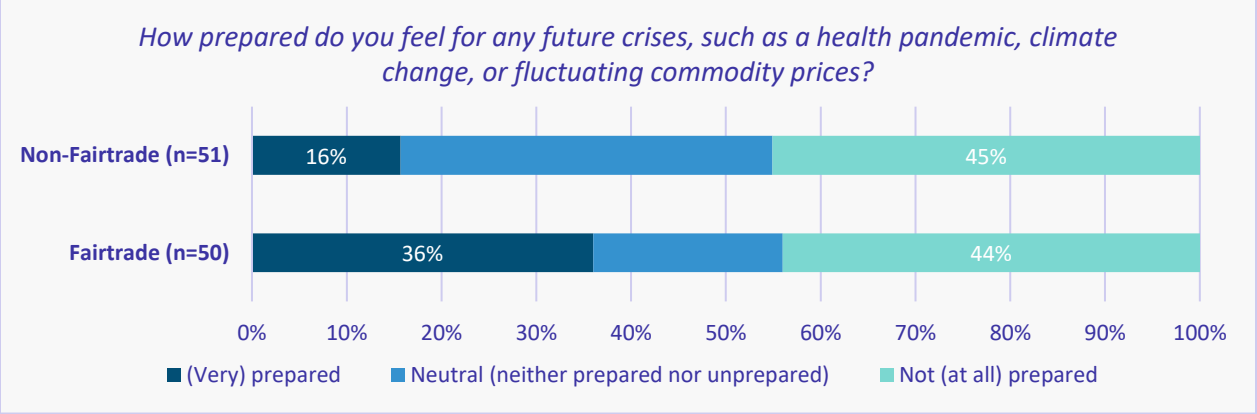
with management and the FGDs with farmers, we could not detect that Fairtrade-certified farmers were much better off than non-Fairtrade ones in the banana sector in Peru. This further corroborates the quantitative findings. **Slightly fewer Fairtrade than non-Fairtrade farmers also believed that in the next six months, the livelihood of their household would increase a little bit (with 24% and 29%, respectively).**

Figure 43: Outlook for banana SPOs in Peru



Learning from the pandemic, more Fairtrade banana farmers (36%) than non-Fairtrade banana farmers (16%) felt prepared for any eventual future crisis, such as another pandemic. This is primarily thanks to the support Fairtrade provided to the producers. It should be noted, though, that **in light of the difficulties the banana sector is grappling with, most surveyed banana farmers (regardless of certification) did not feel prepared for any future crisis.**

Figure 44:Future crises preparedness of banana farmers in Peru



To be better prepared, farmers and PO management suggested that the cooperative should have an economic contingency fund to help producers with advances and loans. Many farmers had taken out informal high-interest loans during the pandemic. As such, banana farmers, who often attended only primary education, wanted to learn more about household budgeting, savings and prioritised spending. Further, amongst the smaller cooperatives, farmers mentioned that the cooperative's management, union, and cohesion should be strengthened so that farmers have a united voice, which is currently often lacking: *"We are in a very remote area but still part of the cooperative. Yet, the board of directors is made up of people from Salitral (the next bigger city/town). Since we are so far away, we are not much consulted about cooperative issues. Also, since we are so few, we have little power"* (Fairtrade farmer). Non-Fairtrade farmers also think their PO could help them in the future by obtaining Fairtrade certification.

Picture 14: Banana farmers filling out surveys in Peru

5.3. The resilience of households during COVID-19

In the following, we further examine the resilience of households during COVID-19. For this, we use the entire pooled survey sample (N=304), which has sufficient statistical power (80%) to detect differences by Fairtrade certification status.

Box 18: Summary of Findings on the Resilience of Households

On average, households at Fairtrade-certified POs were less affected by COVID-19 than those at non-Fairtrade-certified POs. This is at least partially, because Fairtrade is, on average, associated with a higher likelihood of receiving support from the PO (e.g., food, awareness sessions, and loans) amongst those most affected by COVID-19. Furthermore, households at Fairtrade certified POs are, on average, more resilient than those at non-Fairtrade-certified ones. Specifically, Fairtrade strengthens their Social Wellbeing and Economic Resilience.

5.3.1. Measuring the resilience of households during COVID-19

To measure the resilience of households during COVID-19, we construed a Resilience Index that consists of 26 questions and is based on the four SAFA components of resilience (Good Governance (4), Environmental Integrity (4), Economic Resilience (8), and Social Wellbeing (10)). Each question is weighted equally and assigned a score of zero to one. The higher the score, the more resilient the household. The maximum attainable points are 26, whilst the minimum possible point is 0. For ease of understanding, we divide the attained score by the maximum attainable points to derive percentages.

Box 19 provides a brief overview of the questions. For a complete overview of the questions and weighting, please consult **Annexure 4.** The selected questions were chosen carefully to ensure that they apply to both Fairtrade and non-Fairtrade-certified POs, as well HLOs and SPOs. This is also the reason we have a different number of questions for the various SAFA dimensions. For instance, whilst we collected much more data on Environmental Integrity and Good Governance, not all questions applied to SPOs and HLO alike. At the same time, the questions selected for the index were chosen to avoid any potential bias towards or against Fairtrade certification and PO types. For instance, rather than including annual income (which, as was shown in Section 5.1., is higher for SPOs and Fairtrade certification, perhaps as a direct result of the Fairtrade minimum price and premium), we include the share of income that stems from the respective main activity (e.g., working as a hired flower farm worker or producing bananas, etc.), relative to the total household income. This is because other sources of household income (if any) are not directly linked to Fairtrade certification per se.

Box 19: Measuring the resilience of households during COVID-19

Good Governance: We ask four questions on (1) the transparency of PO management, (2) participation of members/workers in decision-making, and the opinions towards (3) women and (4) youth by the PO, such as *"Do you think that the management of your Producer Organization understands what your priorities are?"*, and *"Do you think women's opinions are taken as seriously as men's opinions by your Producer Organization?"*

Environmental Integrity: We ask four questions on good agriculture practices such as "In the last calendar year/ production cycle, which *of the following environmental, biodiversity and climate change practices did you implement [For SPO, ask for the household, and for HLO ask regarding implementation at the workplace]?"* – (1) energy and GHG emission reduction, (2) soil and water quality measures, (3) non-chemical pest management, and (4) waste management.

Economic Resilience: We ask eight questions on topics such as (1) income diversification, (2) farm/household budgeting, (3) financial literacy, (4) financial inclusion, (5) household insurance, (6) savings behaviour, (7) over-indebtedness, and (8) retirement planning. To exemplify one question: *"Do you keep a record of farm and household-related (only household related for HLO) income and expenditures? "*

Social Wellbeing: We ask ten questions, which consists of eight questions on food and nutrition security – e.g. *"In the past 12 months, did you have to skip a meal because there was not enough money or other resources to get food?"*, and two questions on the school attendance of children

and a potential gender bias in school attendance. *E.g., "Is it more important for boys or girls to go to school?"*

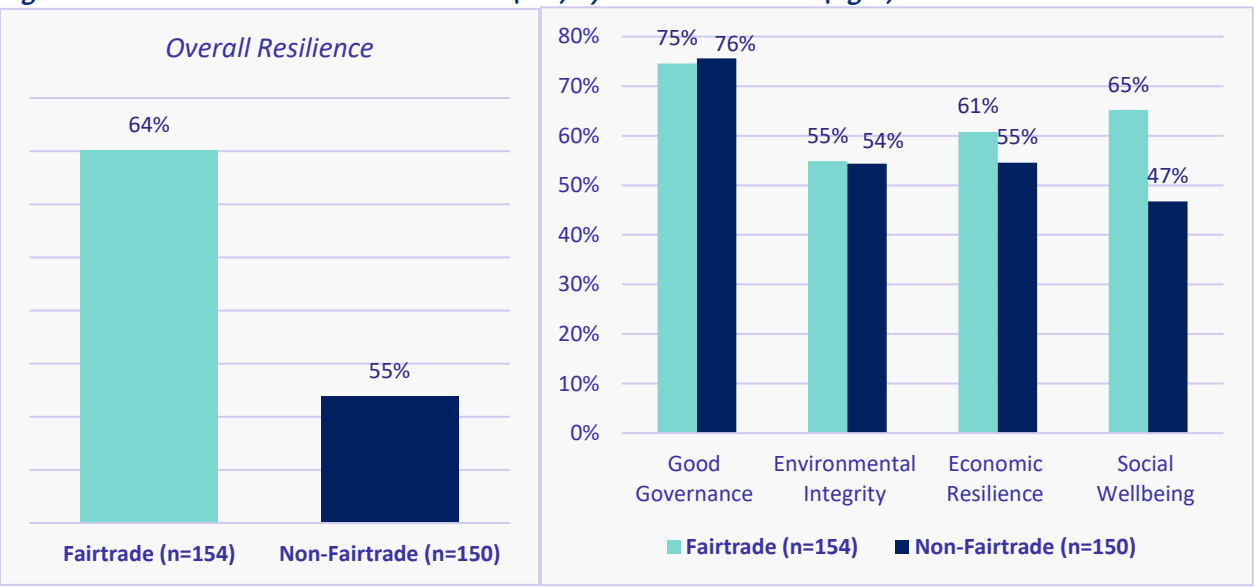
Overall resilience of households during COVID-19

The mean (median) resilience score is 15.5 (16) out of 26 possible points. In other words, households in our sample attained 60% of the potential resilience score. With 75% attained, **most farmers/workers score highest on Good Governance indicators,** achieving 3 out of 4 points. Regarding the other SAFA dimensions, we find that, on average, households attain 58% of the potential Economic Resilience score, 56% of the potential Social Wellbeing score, and 54% of the potential Environmental Integrity Score. **Environmental Integrity is thus the SAFA dimension all households score lowest on**, but only marginally.

Resilience and Fairtrade Certification

As illustrated in Figure 45, **households at Fairtrade-certified POS are, on average, more resilient than those at non-Fairtrade-certified POs,** attaining a 64% resilience (16.6 points out of 26) relative to 55% (14.2 points out of 26). As illustrated in Table 7, running a two-sample t-test, we find a statistically significant difference between the average resilience score of households belonging to Fairtrade and non-Fairtrade-certified producers.

Figure 45. A & B: Resilience of households (left) by SAFA dimensions (right)



Specifically, relative to no certification, Fairtrade is associated with a higher Social Wellbeing of households (47% vs 65%) and Economic Resilience of households (55% vs 61%). The difference in the average Social Wellbeing and Economic Resilience scores between Fairtrade and non-Fairtrade households is also statistically significant at the 95% confidence level. Among the 44 reviewed studies, Economic Resilience, together with Good Governance, is also the SAFA

component with the highest relative share of positive findings. At the global level, Fairtrade POs score relatively high in Social Wellbeing (average score of 83%), followed by Good Governance (65%), Economic Resilience (57%), and Environmental Integrity (56%).
However, the different measurements of the SAFA dimensions must be taken into account. **In our case, a higher Social Wellbeing score means that Fairtrade households mostly had better Food and Nutrition Security during the COVID-19 pandemic.** A recent study (Mauthofer et al., 2022) also found that Fairtrade cocoa farmers in Ghana were less exposed to food insecurity than independent farmers who do not belong to any Fairtrade-certified cooperative.

Secondly, a higher Economic Resilience Score amongst Fairtrade farmers relative to non-Fairtrade farmers stems mainly from a higher propensity to save (64% in comparison to 49%), to be financially included in the formal system through a bank or mobile money account (37% in comparison to 13%), a lower likelihood of being overindebted (38% in comparison to 50%), and a higher financial literacy (37% in comparison to 13%).
However, we do not find a significant difference between Fairtrade and non-Fairtrade households in terms of keeping a household or farm-related budget/record (46% in comparison to 41%) or having (any kind of) household insurance (85% in comparison to 82%). For instance, 76% of Fairtrade farmers have health insurance relative to 71% of non-Fairtrade farmers. Also, interestingly, fewer Fairtrade farmers have a plan for retirement than non-Fairtrade farmers (17% in comparison to 37%). More non-Fairtrade farmers have started to actively think about their retirement planning and setting aside money, whilst more Fairtrade farmers believe that people like them cannot retire or have not yet thought about it. Whilst the reason for this is unclear, it could be related to Fairtrade's social safety net.

Yet, **Fairtrade certification appears to have a neutral effect on Environmental Integrity and Good Governance.** As indicated in Table 7, there is no statistically significant difference between the average scores of Fairtrade and non-Fairtrade households regarding their Good Governance and Environmental Integrity scores amongst the three case studies. This may be entirely due to the different ways that Good Governance and Environmental Integrity can be measured. For instance, a recent study on resilience found that Fairtrade certification is associated with a positive effect on Good Governance, where "the duration of being certified and the level of effectively using Fairtrade mechanisms determine organizational strength" (Mauthofer et al. 2022. p. 62).

In terms of a neutral effect on Environmental Integrity, the literature review indicates that this may be because Fairtrade premium investments in environmental projects often remain low and are instead used for socio-economic projects[94]. Qualitative insights from the case studies further

[94] CODImpact data 2014-16.

suggest that this neutral effect may be because some Fairtrade POs only follow minimum requirements for Environmental practices to attain certification. This is especially the case in Piura, Peru, *"where producers are organic by default, and their investment in eco-friendly practices is very limited. Also, most of the work is done by labourers, with no incentive to implement environmental practices"* (Commercial Fairtrade Officer for Banana in Latin America and the Caribbean). On the global level, HLOs also scored higher on Good Governance (68% vs 63%) and Environmental Integrity (63% vs 54%) compared to SPOs.

Table 7: Two-sample T-test of resilience

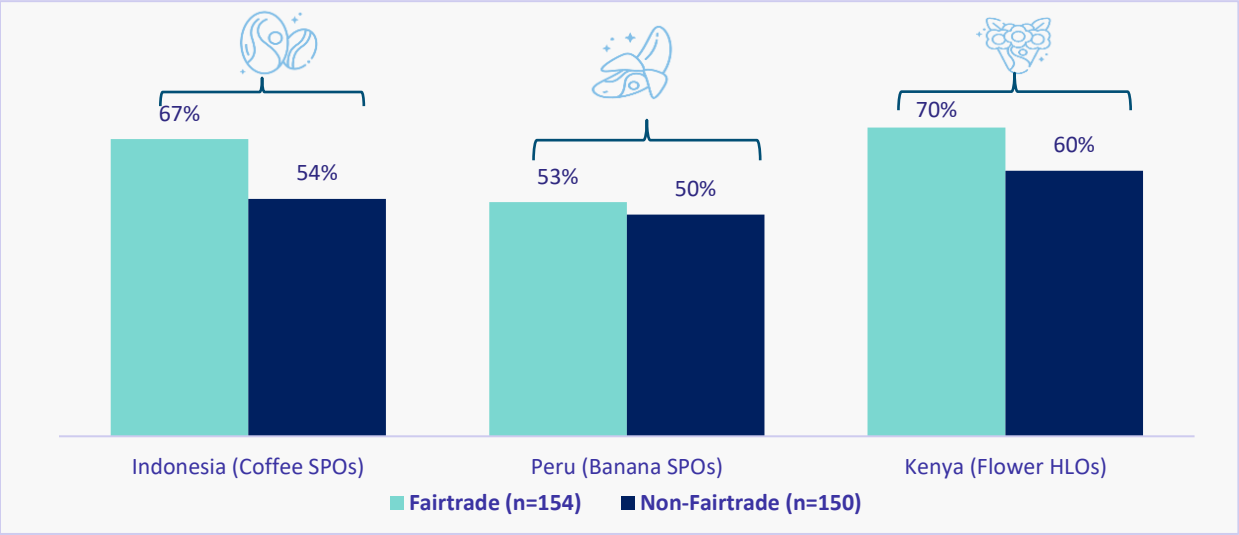
Category	Mean	STD	% of max, points	N	P - Value
Overall Resilience Score (0-26)					
HLO	17.08	2.92	66%	102	0.00
SPO	14.62	4.26	56%	200	
Fairtrade	16.65	4.38	64%	152	0.00
Non-Fairtrade	14.24	3.22	55%	150	
Good Governance Score (0-4)					
HLO	3.9	0.44	98%	103	0.00
SPO	2.54	1.33	64%	201	
Fairtrade	2.98	1.29	75%	154	0.789
Non-Fairtrade	3.02	1.29	76%	150	
Environmental Integrity Score (0-4)					
HLO	3.5	0.94	88%	103	0.00
SPO	1.51	1.41	38%	201	
Fairtrade	2.19	1.56	55%	154	0.906
Non-Fairtrade	2.17	1.6	54%	150	
Economic Resilience Score (0-8)					
HLO	5.15	0.11	64%	102	0.00
SPO	4.35	0.1	54%	200	
Fairtrade	4.86	1.34	61%	152	0.001
Non-Fairtrade	4.37	1.3	55%	150	
Social Wellbeing Score (0-10)					
HLO	4.43	2.74	44%	103	0.00
SPO	6.21	3.24	62%	201	
Fairtrade	6.52	3.14	65%	154	0.00
Non-Fairtrade	4.67	2.97	47%	150	

Please note: If the p-value is below the threshold of significance $p < 0.05$, then we can reject the null hypothesis. This means there is less than a 5% probability that the two means are identical (zero difference).

Resilience by country (commodity)

Fairtrade certification is associated with a higher resilience for all households studied, on average, but most significantly in Indonesia and Kenya. Figure 46 illustrates that Flower HLOs in Kenya are the most resilient among the three case studies, attaining 68% on average (17.8 out of 26 points), regardless of certification. On the other hand, Banana SPOs in Peru are the least resilient among the case studies, regardless of certification. On average, they attain 52% (13.4 out of 26 points). This finding is perhaps not surprising, seeing that Banana farmers in Peru are mostly remotely located subsistence farmers with low levels of education who operate in a weakened industry.

Figure 46: Resilience by country (commodity)



5.3.2. The impact of COVID-19 on households

To measure the effect of COVID-19 on farmers and workers, we construed a COVID-19 impact index. The maximum attainable point is 14, whilst the minimum attainable point is 0. The impact of COVID-19 is then measured as the percentage of the attained score relative to the total score. The higher the score, the more affected the household is by COVID-19. The index is based on nine questions (one question has five potential aspects). It uses the same questions for the global COVID-19 impact index and then adds further questions on the effects on households and their community. Box 20 provides a brief overview of the questions. For a complete overview and weighting, please consult **Annexure 4.**

Box 20: Measuring the impact of COVID-19 on households and their communities

The COVID-19 impact index consists of nine questions on the effect of COVID-19 on **households**' (1) livelihoods, (2) income, (3) expenses, and (4) which five aspects most affected them, e.g. Loss of Income due to loss of sales, disruptions in the supply chain and/or change in price, loss of income due to lower production, loss of income due to loss of employment, sickness/death in the community due to COVID-19, and loss of/change in social relationships. E.g., *"Was your Household's income different before the start of COVID-19 from your current household income?"* Furthermore, the index inquiries about the effect of COVID-19 on their **community**'s (5) livelihood, (6) gender discrimination, (7) child labour, (8) forced labour, and (9) alcohol and substance abuse in their community. E.g., *In your opinion, how has the situation in your community changed in relation to discrimination against women & girls/gender-based violence since the start of the COVID-19 pandemic?"*

The average COVID-19 Impact is 42% (5.9 points out of 14), meaning the pandemic had a moderate impact on the households in our sample. The highest score achieved within the sample was 13.5, and the lowest was 0 points.

On average, households (and their communities) at Fairtrade-certified POs were less affected by COVID-19 than those at non-Fairtrade-certified POs. Out of a possible high-impact score of 14 points, Fairtrade households attained an average score of 5.0 (36%) relative to non-Fairtrade-certified households, which attained an average impact score of 6.7 (48%). However, we note country (commodity)-wide differences. Fairtrade is associated with a lower COVID-19 score in Indonesia (-5%) and Kenya (-38%). Yet, in Peru, we find the opposite. Fairtrade-certified banana farmers scored, on average, 6.3 points out of 14 possible points (45%) on the COVID-19 impact index. Non-Fairtrade-certified farmers, on the other hand, scored on average 5.2 points (37%). As shown earlier, Peru has experienced one of the highest numbers of COVID-19 cases and deaths globally. This difference in means, based on a two-sample t-test, is statistically significant at the 1% level ($p<0.01$) for Peru and Kenya and at the 10% level ($p<0.1$) for Indonesia. **Lastly, we also found that the average COVID-19 impact score was higher for HLOs than SPOs. Yet, as we only draw on this from one country (Kenya), this is not representative of all HLOs. On the global level, we find that Fairtrade SPOs (64%) were impacted more by COVID-19 than HLOs (52%).**

Figure 47: Impact of COVID-19 on households and their communities

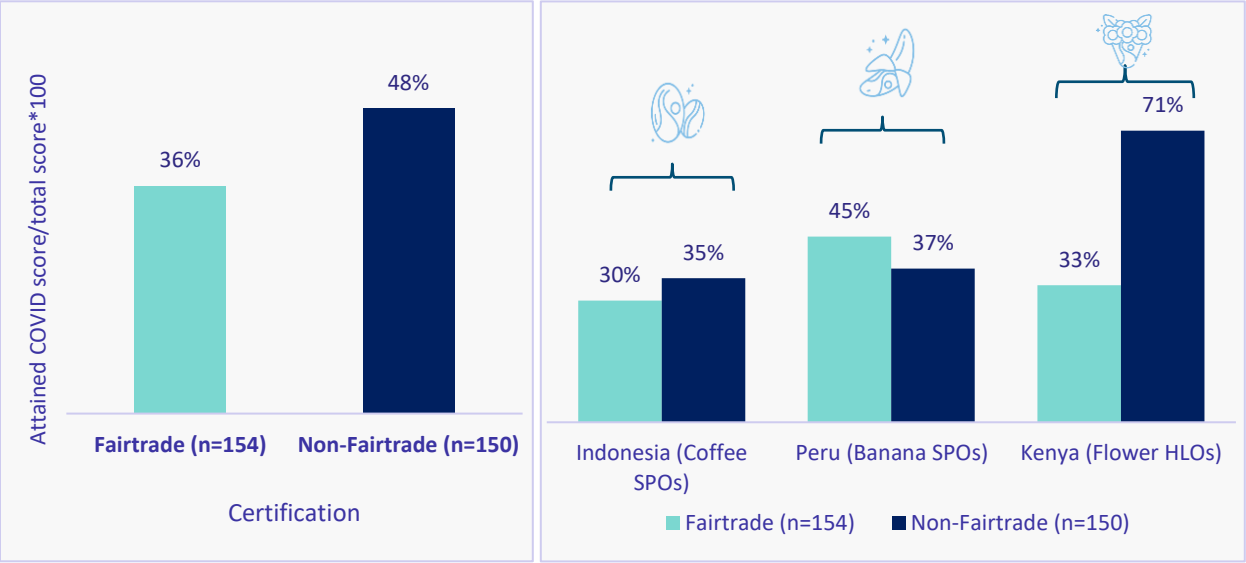


Table 8: Two-sample T-test on the COVID-19 impact score

Category	Mean	STD	% of max, points	N	P - Value
COVID-19 SCORE (0-14 points)					
HLO	7.29	2.74	52%	103	0.00
SPO	5.16	3.24	37%	201	
Fairtrade	5.04	3.14	36%	154	0.00
Non-Fairtrade	6.74	2.97	48%	150	

Please note: If the p-value is below the threshold of significance $p < 0.05$, we can reject the null hypothesis. This means there is less than a 5% probability that the two means are identical (zero difference).

5.4. Determinants of household resilience during COVID-19: Econometric analysis

As the univariate analysis in Chapter 5.3 did not take on board other socio-economic or regional characteristics that could influence the resilience of households during COVID-19, we further investigate this by employing a multivariate regression framework.

5.4.1. Factors influencing the resilience of households: Regression model

We conduct a multivariate regression that links households' observed drivers of resilience during COVID-19 to a set of covariates using an Ordinary Least Squares (OLS) model. To ensure a more meaningful interpretation of the coefficients, we normalise the resilience score (and its various dimensions) by dividing the individual score by the maximum possible score. For respondent ***i*** belonging to household ***HH*** in country C, the regression takes the following form:

$$Y_{i,HH,C} = \alpha_i + \mu_C + \beta \boldsymbol{X}_{i,HH,C} + \beta \boldsymbol{Z}_{HH,C} + \epsilon_{i,HH,C}$$

where $\boldsymbol{Y}$ is the respective score of the individual respondent, $\boldsymbol{\mu_D}$ are the PO ID fixed effects that absorb any variation at the local level, $\boldsymbol{X}$ is a vector of variables that capture the respondent's demographic and socio-economic characteristics such as gender, location, age, and education and $\boldsymbol{Z}$ represent characteristics of the household to which the respondent belongs and finally, **ε** is the random error term.

Fairtrade and overall resilience

Table 9 captures the results from the regression analysis on resilience, which underwent several robustness checks.[95] In column 1, we find that the coefficient on Fairtrade certification is positive and statistically significant with a point estimate equal to 0.061, implying that **Fairtrade-certified households display a 6.1% higher resilience than non-Fairtrade-certified households.** We further note that being a farmer at a banana cooperative in Peru is associated with a negative coefficient. The magnitude indicates that the Peruvian banana sector has a -13.4% lower resilience.

Education, gender, and age

The overall resilience score furthermore increases with education. Whilst having only primary education relative to secondary education is associated with a 4.8% lower resilience, having an undergraduate degree is associated with a 6.3% higher resilience. Both coefficients are statistically significant at the 1% and 5% confidence levels.

[95] We also ran a Tobit Model, which allows controlling for the lower and upper bounds present in an index, as well as a Probit model on achieving a high score (0=no, 1=yes). For both, we find similar results, which can be obtained upon request.

While we included females as a separate dummy variable (not shown in Table 9), we only observed significant findings when we interacted the female dummy variable with age. Relative to older men (55 years and older), women aged 43-55 years have a negative and statistically significant coefficient, implying they have a 9% lower resilience. In column 2, we also observe a negative and statistically significant association between being female and Good Governance for all age groups but those aged 55 years and older. This result is in line with the findings from the literature that women's participation in leadership roles within POs remains critical.

Fairtrade and resilience by SAFA dimension

In columns 2-5, we further observe that Fairtrade certification is positively associated with the overall resilience score; however, this is no longer the case once we break the score down into the individual resilience dimensions. In column 2, we find that the coefficient on Fairtrade certification is negative with a point estimate equal to 0.074, implying that Fairtrade-certified households display a **-7.4%** lower **Good Governance** score once other covariates such as location, household size, gender, and education are taken in consideration. However, the coefficient only displays a statistical significance at the 10% confidence level. Also, given that these results may be upward or downward biased by selected bias, we will further investigate the impact of Fairtrade certification in the next section, using PSM. In column 3, where we explore **Environmental Integrity**, we note that **the coefficient of Fairtrade is not statistically significant, meaning we do not find an association.** In column 4, we observe that Fairtrade is positively associated with **Economic Resilience,** increasing it by **3.9%.** Yet, the coefficient is only statistically significant at the 10% level. Lastly, in column 5, we observe that Fairtrade is positively and significantly associated with **Social Wellbeing**. The point estimate suggests a **16.3%** higher Social Wellbeing.

Fairtrade Certification and the effect of COVID-19

In columns 6-7, we confirm the descriptive findings that Fairtrade is negatively associated with a high COVID-19 impact score. We further note that females aged 18-26 are positively associated with a high COVID-19 score. The magnitude of the coefficients suggests that being female is associated with a 14.5% to 14.8% higher impact of COVID-19.

Resilience and the effect of COVID-19

Lastly, we note that resilience is negatively associated with a high COVID-19 score, the point estimate being 0.128 (12.8%). Yet, the coefficient is only statistically significant at the 10% level. From column 7, we can gauge that this is because the four different dimensions of resilience have a different association with COVID-19. The coefficients of Good Governance and Economic Resilience have no statistically significant relationship with the impact of COVID-19. Substituting components of the Economic Resilience score, setting aside savings, taking out a loan, and insurance have a statistically significant association with the impact of COVID-19 on households. The coefficient of Environmental Integrity is positive and statistically significant, which implies it does not lower the impact of COVID-19. Only Social Wellbeing is statistically significantly

associated with reducing the effects of COVID-19 on households. The magnitude of the coefficient suggests that a high **Social Wellbeing score lowers the effects of COVID-19 by -23.1%.**

Table 9: Regression outputs

VARIABLES	Resilience	GG	EI	ER	SW	COVID	COVID
Fairtrade (control: no Fairtrade)	**0.061*** (0.023)**	**-0.074* (0.038)**	**-0.018 (0.046)**	**0.039* (0.022)**	**0.163*** (0.036)**	**-0.094*** (0.022)**	**-0.064*** (0.029)**
Control: (Coffee SPOs in Indonesia)							
Flower HLOs in Kenya	0.004 (0.034)	0.370*** (0.066)	0.585*** (0.076)	0.069* (0.041)	-0.426*** (0.056)	0.263*** (0.038)	0.096* (0.059)
Banana SPOs in Peru	-0.134*** (0.039)	0.052 (0.069)	0.154** (0.076)	0.000 (0.037)	-0.432*** (0.059)	0.129*** (0.030)	0.304 (0.437)
Education (control: secondary)							
No formal education	-0.047 (0.050)	-0.102 (0.097)	0.015 (0.100)	-0.041 (0.054)	-0.054 (0.059)	0.074* (0.042)	0.064* (0.371)
Primary or elementary education	-0.048*** (0.018)	-0.069** (0.034)	-0.034 (0.042)	-0.040* (0.021)	-0.051* (0.030)	0.004 (0.023)	0.064 (0.292)
Professional and/or Technical Higher Education	-0.008 (0.030)	0.002 (0.042)	-0.047 (0.066)	-0.013 (0.035)	0.007 (0.064)	0.012 (0.038)	0.032 (0.049)
Undergraduate Degree	0.063** (0.027)	-0.033 (0.069)	0.095 (0.067)	0.053 (0.034)	0.096* (0.051)	-0.022 (0.037)	-0.038 (0.042)
Gender#Age Interaction (Control: Male > 55 years)							
Male# 18-26 years	-0.019 (0.031)	-0.150** (0.068)	-0.067 (0.094)	0.031 (0.039)	0.013 (0.055)	0.026 (0.042)	0.052 (0.051)
Male#27-42 years	-0.047 (0.029)	-0.118** (0.056)	-0.081 (0.063)	-0.023 (0.034)	-0.025 (0.052)	0.011 (0.033)	0.033 (0.043)
Male#43-55 years	-0.070** (0.028)	-0.072 (0.056)	-0.073 (0.058)	-0.048 (0.029)	-0.085* (0.045)	0.017 (0.028)	0.026 (0.037)
Female# 18-26 years	-0.035 (0.037)	-0.162** (0.072)	0.094 (0.115)	0.039 (0.046)	-0.095 (0.062)	0.145*** (0.051)	0.148** (0.060)
Female#27-42 years	-0.017 (0.034)	-0.120** (0.060)	-0.022 (0.072)	-0.050 (0.037)	0.052 (0.063)	0.035 (0.041)	0.073 (0.051)
Female#43-55 years	-0.090** (0.036)	-0.202** (0.079)	-0.057 (0.083)	-0.084** (0.041)	-0.063 (0.070)	0.035 (0.044)	0.057 (0.053)
Female > 55 years	-0.011 (0.047)	-0.305 (0.214)	0.246* (0.144)	-0.063 (0.065)	0.046 (0.051)	-0.031 (0.054)	-0.091* (0.053)
Resilience (overall)						-0.128* (0.067)	
Social Wellbeing							-0.231*** (0.055)
Economic Resilience							0.475 (0.089)
Environmental Integrity							0.169*** (0.048)
Good Governance							-0.024 (0.044)
Constant	0.666*** (0.045)	0.880*** (0.096)	0.382*** (0.112)	0.581*** (0.052)	0.763*** (0.069)	0.401*** (0.065)	0.588*** (0.089)
Observations	296	296	296	296	296	296	296
R-squared	0.326	0.434	0.484	0.214	0.510	0.366	0.486

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Other variables included are household size, household head, marital status, second job, and location.

Fairtrade COVID-19 support

The coefficients of a Heckman selection model, where we estimate the COVID-19 score in the first stage and the likelihood of receiving support from the PO through Fairtrade in the second

stage, are presented below. Fairtrade certification is positively and significantly associated with PO support, but only when we estimate the COVID-19 impact score as a first stage. This indicates that the PO, through Fairtrade's support, targeted the most vulnerable (affected by COVID-19). Decomposed, we find that Fairtrade certification is positively and statistically significantly associated with receiving a loan from the PO and training (although at the 10% confidence level) but has no statistically significant effect on receiving a cash grant of food support.

Table 10: Regression outputs on the Producer Organization's COVID-19 Support

Model	Heckman Selection (2nd Stage)				
VARIABLES	PO COVID-19 support	Cash Grant	Loan	Food support	Training
Fairtrade	0.527***	0.201	1.387***	0.297	0.313*
	(0.193)	(0.275)	(0.500)	(0.193)	(0.188)
Constant	0.789*	-2.645***	-4.312***	0.001	-0.911**
	(0.422)	(0.647)	(1.093)	(0.448)	(0.461)
Observations	296	297	217	297	297

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Other variables included are household size, age, gender, education, household head, marital status, second job, and location.

5.4.2. The impact of Fairtrade Certification: Propensity Score Matching

Having understood the factors driving households' resilience during COVID-19, we now aim to further investigate the impact of Fairtrade certification. As laid down in Chapter 5.1, our treatment (Fairtrade) and comparison (non-Fairtrade) groups are not drawn randomly and have statistically significant differences along a set of socio-economic characteristics. Therefore, **comparing treatment and comparison groups without taking these observable differences into account (as we did not in the previous section) could upward or downward bias the actual effect that Fairtrade certification had. To do this, we use Propensity Score Matching (PSM)** to attempt to isolate the impact of the treatment (Fairtrade certification) away from household characteristics that would have existed at baseline. PSM compares treated and comparison individuals who have similar 'propensities or likelihoods' for receiving the treatment, conditional on a set of covariates. Our baseline covariates used to generate propensity scores[96] are PO type, country, education, age, gender, and household size. For the post-matching of units in the treatment and comparison groups, we use different matching strategies: 1) Nearest Neighbour matching (with a random draw), 2) Nearest Neighbour matching (with equal weights), 3) and Kernel matching to ensure robustness. The results, including the Average Treatment Effect (ATT), are presented in Table 10.

[96] A Probit regression was run to generate propensity scores ranging from 0.1 – 1. Further, we ensured that the propensity score was balanced between treatment and comparison groups (the programme created 5 blocks (to ensure the mean propensity score was equal for treated and control groups within each block)) and the region of common support (to ensure the propensity score have a similar distribution ("balance") in the treated and control groups was 0.22 - 0.99). After matching, the program retained 148 observations from the treatment group and 78 observations from the comparison group.

Table 10: PSM results on resilience and the COVID-19 impact score

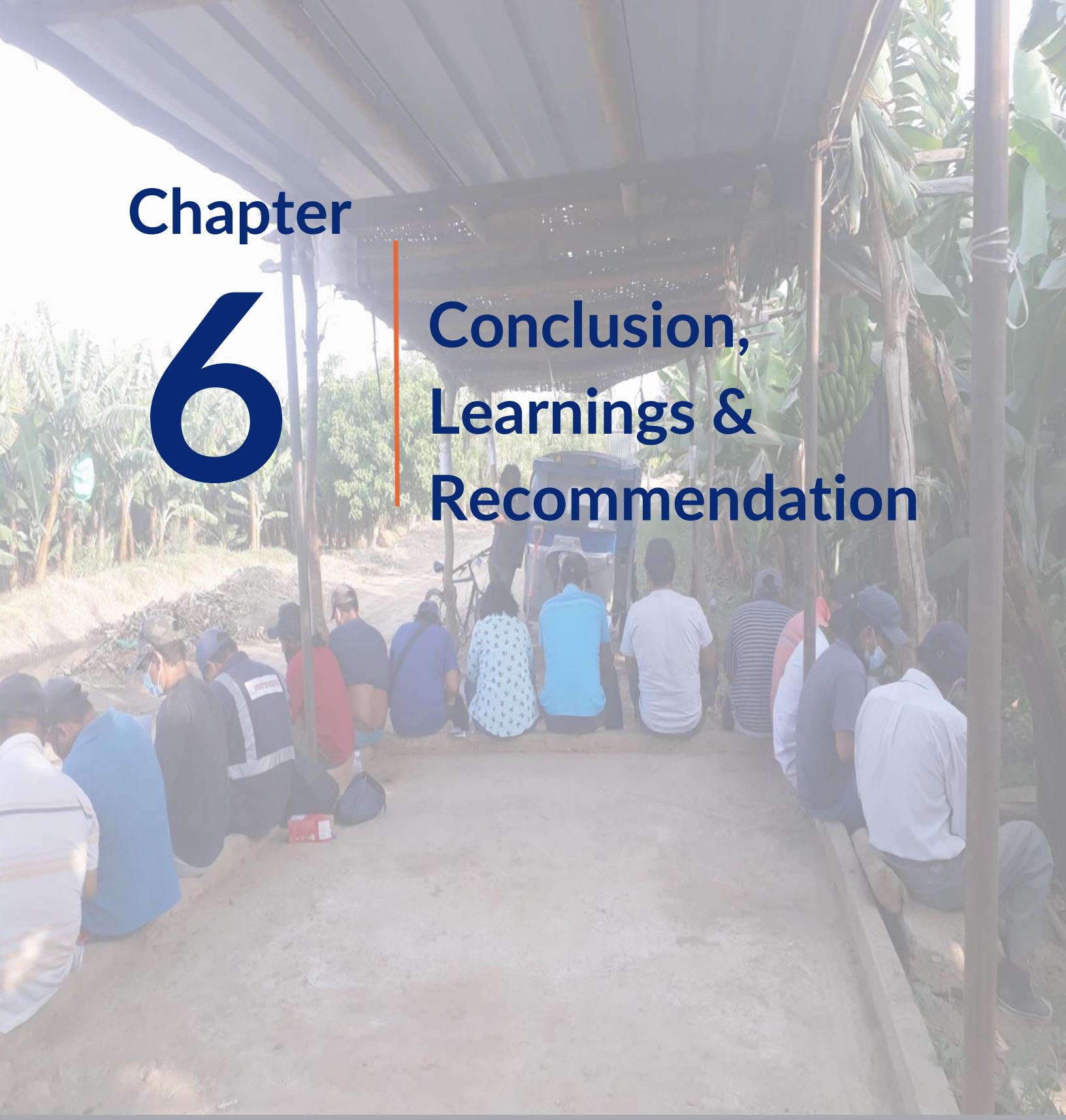
ATT estimation method	N# treatment	N# Comparison	ATT (in %)	Std. Err.	t
Overall Resilience (Attained Resilience Score/Max Score)					
Nearest Neighbour (random draw)	148	78	11.4%	0.023	4.91
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	10.4%	0.018	5.633
Good Governance (Attained GG Score/Max GG Score)					
Nearest Neighbour (random draw)	148	78	-3.8%	0.057	-0.664
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	-0.3%	0.041	-0.07
Environmental Integrity (Attained EI Score/Max EI Score)					
Nearest Neighbour (random draw)	148	78	5.7%	0.069	0.829
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	2.9%	0.053	0.546
Economic Resilience (Attained ER Score/Max ER Score)					
Nearest Neighbour (random draw)	148	78	8.3%	0.027	3.021
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	7.3%	0.021	3.475
Social Wellbeing (Attained SW Score/Max SW Score)					
Nearest Neighbour (random draw)	148	78	19.7%	0.051	3.86
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	20.5%	0.048	4.25
Covid-19 Impact (Attained COVID-19 Score/Max Score)					
Nearest Neighbour (random draw)	148	78	-10.4%	0.032	-3.221
Nearest Neighbour (equal weights)					
Kernel Matching method	148	144	-13.3%	0.024	-5.653

As the Kernel matching technique allows us to keep a higher sample of the comparison group, we take those results as our main findings. **We see a positive ATT between 2.7 and 2.96 points on the resilience score of households because of Fairtrade certification**. We recall that the higher the score (0-26), the higher the resilience. **This implies that Fairtrade certification raises households' resilience by around 10.4%.** In line with the results from the regression analysis, we find that Fairtrade certification has the highest impact on the **Social Wellbeing** of households (up to **20.5%),** followed by **Economic Resilience (7.3%).** Unlike in the OLS regression, we find a small but positive effect of Fairtrade certification on **Environmental Integrity (2.9%).** After PSM, we find that Fairtrade certification still has a negative (like in the OLS regression) albeit smaller effect on **Good Governance (-0.3%).**

Lastly, for the COVID-19 impact score, **we observe a negative ATT ranging from -1.5 to -1.8 points.** We recall that the higher the COVID-19 score (0-14), the higher the impact of the pandemic. Thus, **Fairtrade certification alone leads to a lower effect of COVID-19 by 10.4-13.3%.**

Chapter 6

Conclusion, Learnings & Recommendation



Picture 15: Banana farmers in Peru filling out a survey

6. Conclusion, learnings and recommendations

This research study aimed to assess whether being Fairtrade-certified contributes to the resilience of Fairtrade members, using the COVID-19 pandemic as a case study. We analysed the resilience of Fairtrade Producer Organizations (POs) based on the four **SAFA components: Good Governance, Economic Resilience, Environmental Integrity, and Social Wellbeing**. The analysis was based on a review of the pertinent literature, global survey data on Fairtrade-certified POs (filled out by the management), and case studies that entail survey data from households (members/workers) at Fairtrade and non-Fairtrade-certified POs.

Overall, we find that Fairtrade certification is, on average, associated with a lower impact of COVID-19 on the members and workers of POs. However, Small Producer Organizations (SPOs) were more affected by COVID-19 (64%) than Hired Labour Organizations (HLOs) (52%). PO members/workers from Africa reported being relatively more impacted by COVID-19 compared to producers from the Asia Pacific and Latin America. The most impacted commodities were tea (77%), sugar (69%), cocoa (65%), and coffee (64%). Flower producers report a more minor impact of COVID-19.
Within our case studies, we find that workers at non-Fairtrade-certified flower POs experienced the highest impact of COVID-19. However, the effect was considerably smaller for those at Fairtrade-certified HLOs. Likewise, we find that the impact of COVID-19 on members at Fairtrade-certified coffee POs was lower in Indonesia. Yet, we do not find this to be the case in Peru's banana sector, where members of the Fairtrade-certified POs experienced a higher impact. It should be noted that Peru had the highest number of COVID-19 infections and causalities among the case studies. Furthermore, Peru's banana sector was already struggling before the pandemic, which was further aggravated by COVID-19. This is also evident from members of POs in Peru (regardless of certification) having the lowest resilience score amongst the case studies.

On average, we find that Fairtrade certification positively impacted the resilience of members and workers of POs during COVID-19. However, we find significant differences in the different SAFA dimensions. Therefore, **not only did Fairtrade certification have a different effect on the four dimensions of resilience, but different dimensions also mattered more for lowering the negative impact of COVID-19 on the members/workers of POs.**

Social Wellbeing: How Social Wellbeing is measured matters a lot. This is shown in the literature review, where Social Wellbeing has both a high share of positive and no positive effects (e.g., mixed findings on gender empowerment). In the case studies, Fairtrade certification has the highest positive impact on the Social Wellbeing (measured mainly as food and nutrition security) of members and workers. Thus, it is unsurprising that globally Fairtrade-certified POs score highest

on Social Wellbeing (which on this level is more measured in terms of health). Regarding its effect on the impact of COVID-19, we find that Social Wellbeing, or rather food and nutrition security, is associated with lowering the adverse effects of COVID-19 on members and workers of POs at both the case studies and the global level.

Economic Resilience: Aspects of Economic Resilience, such as prices and income, are the dimensions most studied in the literature. Most find positive effects for Fairtrade certification, although these are mainly context dependent. Amongst our case studies, Fairtrade certification positively impacted the Economic Resilience of members and workers. Whilst it has no statistically significant association with the effects of COVID-19 in the case studies, we find that aspects of Economic Resilience, such as the households' access to loans and propensity to save and having insurance, lowered the impact of COVID-19. Similarly, whilst Economic Resilience as a whole did not reduce the effects of COVID-19 on the global level. Yet, some aspects did, such as the financial standing of the PO, access to credit the price received, and volume purchased by the PO.

Environmental Integrity: The smallest share of studies analyses the impact of Fairtrade certification on Environmental Integrity, but those find some positive effects. Yet, this is often for particular projects or in combination with organic certification. In addition, the premium investment in environmental projects remains generally low. As such, it is perhaps not surprising that out of all potential points, Fairtrade (but also non-Fairtrade POs) scored lowest on Environmental Integrity in the case studies and also global level. Amongst the case studies, we find that Fairtrade certification had a small impact on Environmental Integrity. Yet, neither at the global level nor amongst the case studies has Environmental Integrity led to a lower impact of COVID-19 on members and workers of POs.

Good Governance: Few studies also analyse the impact of Fairtrade certification on Good Governance, yet those find the highest share of positive findings. Unsurprisingly, Fairtrade POs achieved the highest score on Good Governance amongst the case studies and the global level. Yet, the impact of Fairtrade certification relative to no or alternative certification is neutral.

In general, our results indicate that Fairtrade's support to POs was instrumental, as were the self-initiatives that POs took for reducing the impact of COVID-19 on members and workers.

Table 11: Consolidated leanings by SAFA dimension

SAFA	Impact	Literature review	Resilience survey	Case studies
Social Wellbeing	Fairtrade	The most ambiguous SAFA dimension with many positive but also no impact findings. Fairtrade can lead to improvements in quality of life, such as food security, but findings on gender empowerment are mixed and highly context-dependent	Fairtrade-certified producers scored highest on Social Wellbeing	Fairtrade had a highly positive effect
	COVID-19		Activities supporting food and nutrition security (and income diversification) had a positive impact.	A high Social Wellbeing score is significantly associated with a lower impact of COVID-19 on households.
Economic Resilience	Fairtrade	The SAFA dimension is most studied in the literature and yields largely positive results. Fairtrade can lead to higher prices and incomes for producers, although the evidence is more substantial for SPOs than HLOs	Fairtrade-certified producers scored third highest on Economic Resilience	Fairtrade had a positive effect.
	COVID-19		No effect on the impact of COVID-19, although some individual factors had an effect, such as the PO's financial standing, access to credit, the price received for products.	No effect on the impact of COVID-19, although some individual factors had an effect (e.g., access to credit, savings, insurance)
Environmental Integrity	Fairtrade	Few studies analyse this SAFA dimension, and findings are mixed. As premium-related investments in environmental projects remain low, Fairtrade alone does not have a substantial impact on promoting sustainable agricultural practices but does, in combination with organic certification.	Fairtrade-certified producers scored lowest (by a margin) on Environmental Integrity	Fairtrade had a small but positive effect on Environmental Integrity.
	COVID-19		No effect on the impact of COVID-19	No (lowering) effect on the impact of COVID-19
Good Governance	Fairtrade	Few studies analyse aspects of Good Governance but those that do show highly positive findings. Fairtrade can lead to more robust, better managed, more democratic POs and participation by women. Yet, women in leadership remain underrepresented.	Fairtrade-certified producers attained the second-highest score on Good Governance.	Households scored highest on Good Governance, yet Fairtrade certification had a neutral effect. Already more well-organized POs seem more likely to obtain Fairtrade certification.
	COVID-19		No effect on the impact of COVID-19	• No effect on the impact of COVID-19

	Negative finding/no effect		Mixed finding/small effect		Positive finding/effect

Learnings

Measurement of Resilience: Few studies have so far studied the relationship between Fairtrade certification and resilience as measured by the SAFA dimensions (Mauthofer et al., 2022). Yet, given its wide array of themes and sub-themes, the measurement of resilience can vary largely even within the SAFA framework. This calls for a streamlining of the measurement of resilience to ensure that future results are comparable.

Resilience and COVID-19: COVID-19 impacted nearly all workers and farmers. Yet, resilience, especially Social Wellbeing and Economic Resilience, played a role in lowering the impact of COVID-19 on producers and workers.

Fairtrade and Resilience: Fairtrade positively affects Social Wellbeing and Economic Resilience but only has a minor impact on Environmental Integrity and no effect on Good Governance.

Fairtrade and COVID-19 impact: Whilst Fairtrade certification led to a lower impact of COVID-19 in Indonesia (coffee) and Kenya (flowers), it did not happen in Peru (banana), where the resilience of all farmers was lowest.

Women and Youth: Fairtrade seems to have a neutral effect on the resilience of young women during COVID-19, as both in Fairtrade and non-Fairtrade-certified POs, they were more affected by COVID-19 than elderly men.

Prices versus volume: The findings suggest that higher prices matter more than the volume sold. Whilst this is based on a small sample (n=162), it may provide some limited insights for the ongoing discussion on the trade-off between selling more and selling at a higher price.

Recommendations

It is recommended that Fairtrade should:

1. seek to further strengthen the Environmental Integrity standards of Fairtrade certification and help producers to further their Good Governance. For instance, Fairtrade should further provide capacity building for POs on sound financial management. Additionally, Fairtrade should continue focusing on supporting producers to reduce the cost of sustainable production without affecting yields, e.g. through training.
2. further strengthen workers' social dialogue and protection to build the resilience of HLOs.
3. expand opportunities for POs to sell Fairtrade products at a higher price with continued efforts to build even stronger relationships between POs and buyers, enabling access to markets for producers and strengthening sustainable farming systems.
4. encourage loans for POs through Fairtrade buyers and/or partners during external shocks.
5. further focus on building women's capacities and promoting their representation in governance structures (PO board).
6. enable direct access to Fairtrade interventions for women to reduce the impact of external shocks and stresses on them.
7. further encourage POs to undertake income diversification and food security measures through capacity building, training, and technical support. These measures should primarily be targeted at youth and women.

7. Bibliography

Adger, W. Neil, and Maureen Agnew. New indicators of vulnerability and adaptive capacity. Vol. 122. Norwich: Tyndall Centre for Climate Change Research, 2004.

Lyall, A., 2014. Assessing the impacts of fairtrade on worker-defined forms of empowerment on Ecuadorian flower plantations. Fairtrade International.

Azizi, S.A., 2019. The Kenyan floriculture export industry: Assessing local firms' capabilities in the floriculture global value chain.

Bacon, C., 2005. Confronting the Coffee Crisis: Can Fair Trade, Organic, and Specialty Coffees Reduce Small-Scale Farmer Vulnerability in Northern Nicaragua?. World Development, [online] 33(3), pp.497-511. Available at: <https://www.sciencedirect.com/science/article/pii/S0305750X04002062#!>

Bayer, C.N., de Buhr, E. and Bertrand, W.E. 2021 Contextual analysis of workers in Fairtrade-certified small-scale producer organizations

Bellassen, V., Antonioli, F., Bodini, A., Donati, M., Drut, M., Labarre, M.D.D., Hilal, M., Monier-Dilhan, S., Muller, P., Poméon, T. and Veneziani, M., 2019. Common Methods and Sustainability Indicators. In Sustainability of European Food Quality Schemes (pp. 23-45). Springer, Cham.

Boating, M., Torné, A. and Chhagan, A., 2021. West Africa Cocoa Programme Evaluation. [online] Available here. [Accessed 13 March 2022].

Borsky, S. and Spata, M., 2017. The Impact of Fair Trade on Smallholders' Capacity to Adapt to Climate Change. Sustainable Development, 26(4), pp.379-398.

Bozzola, M., Charles, S., Ferretti, T., Gerakari, E., Manson, H., Rosser, N. and von der Goltz, P., 2021. The coffee guide.

Braun, V. and Clarke, V., 2006. Using thematic analysis in psychology. Qualitative research in psychology, 3(2), pp.77-101.

Bray, J.G. and Neilson, J., 2017. Reviewing the impacts of coffee certification programmes on smallholder livelihoods. International Journal of Biodiversity Science, Ecosystem Services & Management, 13(1), pp.216-232.

Breiman L, Friedman J, Olshen R, Stone C. Classification and regression trees. Monterey, Calif., USA:Wadsworth. Inc; 1984.

Cardona, Omar. Indicators of disaster risk and risk management: Summary report. Inter-American Development Bank, 2005.

CLAC and Fairtrade (2021a), Assessment of the environmental effects of the Productivity Improvement Programme (PIP) on Fairtrade bananas.

CLAC and Fairtrade (2021b), Leadership School: seven years empowering women, Available here. Accessed 2022.

Clemens, M.A. and Demombynes, G., 2011. When does rigorous impact evaluation make a difference? The case of the Millennium Villages. Journal of Development Effectiveness, 3(3), pp.305-339.

Cutter, Susan L., Christopher G. Burton, and Christopher T. Emrich. "Disaster resilience indicators for benchmarking baseline conditions." Journal of homeland security and emergency management 7, no. 1 (2010).

Cutter, Susan L., Bryan J. Boruff, and W. Lynn Shirley. "Social vulnerability to environmental hazards." Social science quarterly 84, no. 2 (2003): 242-261.

Cramer, C., Johnston, D., Oya, C. and Sender, J., 2014. Fairtrade, employment and poverty reduction in Ethiopia and Uganda.

Darko, Emily, Lynch, Alainna and Smith, William. 2017. The impact of Fairtrade A review of research evidence 2009-2015. Overseas Development Institute.

de Groot Ruiz, A., Fobelets, V., Grosscurt, C., Galgani, P., Lord, R., Hardwicke, R., Tarin, M., Gautham, P., McNeil, D. and Aird, S., 2017. The external costs of banana production: A global study. Fairtrade International: Bonn, Germany, p.65.

Elder, S.D., Zerriffi, H. and Le Billon, P., 2013. Is Fairtrade certification greening agricultural practices? An analysis of Fairtrade environmental standards in Rwanda. Journal of Rural Studies, 32, pp.264-274.

Fairtrade Foundation. 2021a. Learning brief: Reflecting on lessons learnt from the gender workstream of building resilience in flower supply chains. Available here.

Fairtrade Foundation. 2021b. Learning brief: Using remote data collection for worker voice under the building resilience in flower supply chain project. Available here.

Fairtrade Foundation. 2021c. Learning brief: Market analysis for cocoa income diversification under the Cadbury Farmer Resilience Fund. Available here.

Fairtrade Foundation.2021d., Learning brief: key learnings from design and implementation of resilience fund for cocoa farmers during the COVID-19 pandemic. Available here.

FAO. 2014. SAFA Guidelines: sustainability assessment of food and agriculture systems. 3rd ed. (https://www.fao.org/3/i3957e/i3957e.pdf, Accessed:28.02.2022

Fairtrade Foundation, 2021. Facts and figures about Fairtrade - Fairtrade Foundation. [online] Available at: <https://www.fairtrade.org.uk/what-is-fairtrade/facts-and-figures-about-fairtrade/> [Accessed 20 November 2021].

Malek, Z., Verburg, P.H., Paitan, C.P., Feurer, M., Jurt, C., Fromm, I., Kuonen, L. and Marchesi, S., 2021. Fairtrade and climate change: Systematic review, hotspot analysis and survey.

Foundjem-Tita D, Degrande A, Donovan J, Stoian D, Kouame C. 2017. Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Farmers and Cooperatives in Côte d'Ivoire. Nairobi. World Agroforestry Centre.

Foundjem-Tita, D., Donovan, J. and Stoian, D., 2016. Baseline for assessing the impact of Fairtrade certification on cocoa farmers and cooperatives in Ghana. Nairobi. World Agroforestry Centre.

Freshplaza.com, 2021. The banana sector calls for shared costs responsibility and fair compensation. [online] Available at: <https://www.freshplaza.com/article/9367431/banana-sector-calls-for-shared-costs-responsibility-and-fair-compensation/> [Accessed 28 March 2022].

Gallagher, E.J., 2020, September. Mapping the gendered impact pathways of Fairtrade coffee: Case studies from Guatemala, Indonesia and Kenya. In Book of Abstracts (p. 16).

Gallagher E.J., Monterroso I., Sanjaya M., 2020. Women's access, equity and empowerment: Progress and uptake of the Fairtrade Gender Strategy 2016-2020. Fairtrade International.

Hermanson, J. H., Lucas L.M., Hung, N., Czachorska-Jones, B., Funes, M., & Holst, A. 2021. What Difference Do Cooperatives Make? Peru Country Study. U.S. Overseas Cooperative Development Council International Cooperative Research Group

International Labour Organization, 2021. Building Forward Fairer: Women's rights to work and at work at the core of the COVID-19 recovery. [online] Available here.

Jena, P., Chichaibelu, B., Stellmacher, T. and Grote, U., 2012. The impact of coffee certification on small-scale producers' livelihoods: a case study from the Jimma Zone, Ethiopia. Agricultural Economics, [online] 43(4), pp.429-440. Available at: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1574-0862.2012.00594.x?casa_token=oqRhBHgKqsEAAAAA%3Ap4M6wLtqT4JzArX33rhz_p3mpUBbO0Am08dQplTlj4Zs-hv0XRJ9lL_CwYqqBncxLWnBsmJpzxhJBA

Jodrell D., and Kaoukji D. 2021. Fairtrade evidence map: evidencing the Theory of Change, DBG

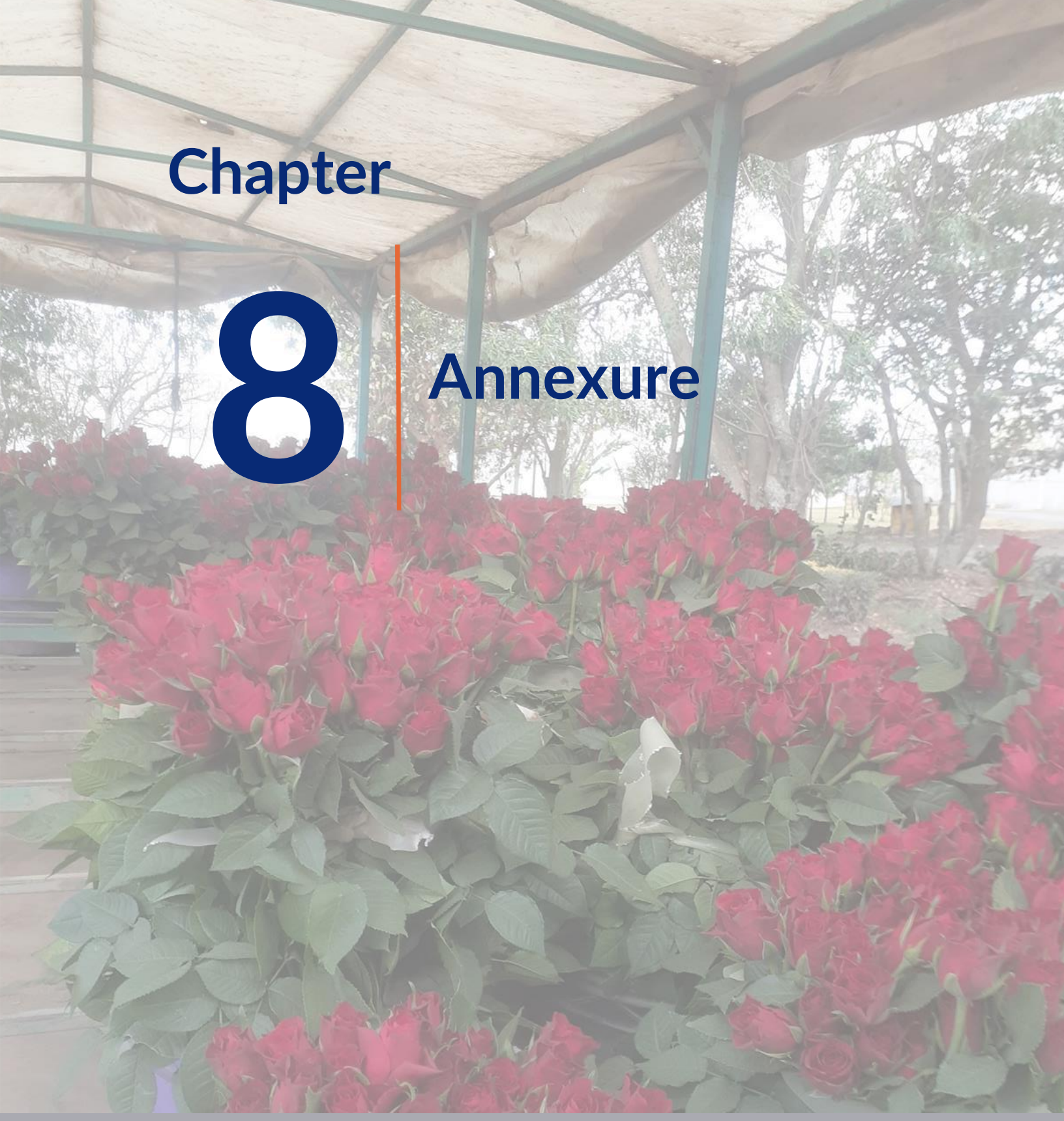
Klier, S. and Possinger, S., 2012. Assessing the impact of Fairtrade on poverty reduction through rural development. Center for Evaluation (CEval): Saarland University.

Komives, K., Arton, A., Baker, E., Kennedy, E., Longo, C., Newsom, D., Pfaff, A., Romero, C. 2018. How has our understanding of the conservation impacts of voluntary sustainability standards

changed since the 2012 publication of "Toward sustainability: The roles and limitations of certification?" Meridian Institute. Washington, DC.
Lemon SC, Roy J, Clark MA, Friedmann PD, Rakowski W. Classification and regression tree analysis in public health: methodological review and comparison with logistic regression. Annals of behavioral medicine. 2003; 26(3):172±81. https://doi.org/10.1207/S15324796ABM2603_02 PMID: 14644693
Linne K., Donga M.,Lottje C. 2019. Global report: Analysis of the producer level impact of Fairtrade on environmentally friendly production, biodiversity conservation and resilience and adaptation to climate change, FAKT-Consultant for Management, Training and Technologies GmbH.
Lyall, A. 2014., Assessing the Impacts of Fairtrade on Worker-Defined Forms of Empowerment on Ecuadorian Flower Plantations.
Macdonald, K. 2007. Globalising justice within coffee supply chains? Fair Trade, Starbucks and the transformation of supply chain governance, Third World Quarterly, 28:4, 793-812, DOI: 10.1080/01436590701336663
Mook A. and Overdevest C. 2020. Fairtrade credentialism: towards understanding certified producer organizations' perceptions of Fairtrade as a credential, Globalizations, 17:1, 110-125, DOI: 10.1080/14747731.2019.1638113
Mauthofer, T., Schneider, E., Väth, S.J., von Cölln, F. and Stadtwald, I., 2012. Assessing the impact of Fairtrade on poverty reduction through rural development. Commissioned by Fairtrade Germany, Max Havelaar Foundation, FAIRTRADE Austria and SECO, Switzerland.
Mauthofer, T., Schneider, E., Väth, S.J., von Cölln, F. and Stadtwald, I., 2018. Follow up study–assessing the impact of Fairtrade on poverty reduction through rural development. Commissioned by Fairtrade Germany, Max Havelaar Foundation, FAIRTRADE Austria and SECO, Switzerland.
Mauthofer, Tatjana and Santos, Millie. 2022. Assessing the Impact of Fairtrade on Poverty Reduction and Economic Resilience through Rural Development. https://www.fairtrade.net/library/assessing-the-impact-of-fairtrade-on-poverty-reduction-and-economic-resilience-through-rural-development
Maxwell, M. (2021). First organic banana cluster created in Peru. [Online]. Available at: http://www.fruitnet.com/eurofruit/article/183907/first-organic-banana-cluster-created-inperu (accessed 05/07/2021).
Maxwell, M., 2021. Latin American banana sector slams unfair cost burden. [online] Fruitnet.com. Available at: <http://www.fruitnet.com/eurofruit/article/186189/latam-banana-sector-calls-for-shared-responsibility> [Accessed 28 March 2022].
Meemken, E.M., Sellare, J., Kouame, C.N. and Qaim, M., 2019. Effects of Fairtrade on the livelihoods of poor rural workers. Nature Sustainability, 2(7), pp.635-642.
Mook, A. and Overdevest, C., 2017. Does Fairtrade Certification Meet Producers' Expectations Related to Participating in Mainstream Markets? An Analysis of Advertised Benefits and Perceived Impact. Sustainable Development, [online] 26(3), pp.269-280.
Mueller. 2019, Social impact of Fairtrade certification. Wageningen University
Nelson, V. and Pound, B., 2009. The last ten years: A comprehensive review of the literature on the impact of Fairtrade. Natural Resources Institute, 1(48).
Nelson and Smith. 2011, Fairtrade Cotton: Assessing Impact in Mali, Senegal, Cameroon and India, Natural Resource Institute, University of Greenwich.
Nelson, V., Haggar, J., Martin, A., Donovan, J., Borasino, E., Hasyim, W., Mhando, N., Senga, M., Mgumia, J., Quitanar-Guadarrama, E. and Kendar, Z. 2016. Fairtrade Coffee A study to assess the impact of Fairtrade for coffee smallholders and Producer Organisations in Indonesia, Mexico, Peru, and Tanzania.

Omidvar, V. and Giannakas, K., 2015. The effects of fair trade on coffee growers: a framework and analysis. Agricultural Economics, 46(S1), pp.29-39.
Ostertag C.,Sandoval O., Barona J., Mancilla C. 2014. An Evaluation of Fairtrade Impact on Smallholders and Workers in the Banana Sector in northern Colombia, Corporation for Rural Business Development (CODER).
Pelling, Mark, Andrew Maskrey, Pablo Ruiz, P. Hall, Pascal Peduzzi, Quoc-Hy Dao, Frédéric Mouton, Christian Herold, and Stéphane Kluser. 2004. "Reducing disaster risk: a challenge for development."
Pound B., Phiri A. 2011. Taking root: Fairtrade in Malawi, Natural Resources Institute, University of Greenwich.
Pyk, F, and Abu Hatab A. 2018. "Fairtrade and Sustainability: Motivations for Fairtrade Certification among Smallholder Coffee Growers in Tanzania" Sustainability 10, no. 5: 1551. https://doi.org/10.3390/su10051551
Raynolds, L.T. 2021 Gender equity, labor rights, and women's empowerment: lessons from Fairtrade certification in Ecuador flower plantations. Agric Hum Values 38, 657–675. https://doi.org/10.1007/s10460-020-10171-0
Rusman, A., de Adelhart Toorop, R., de Boer, J. and de Groot Ruiz, A., 2018. Cocoa Farmer Income The household income of cocoa farmers in Côte d'Ivoire and strategies for improvement. Amsterdam, True Price/Fairtrade.
Scialabba, N., 2013. SAFA Guidelines.Sustainability Assessment of Food And Agriculture Systems. Version 3.0.
Smith, S. 2010. Fairtrade bananas: A global assessment of impact, Institute of Development Studies, University of Sussex, UK.
Snyder, Hannah. 2019. "Literature review as a research methodology: An overview and guidelines." Journal of business research 104: 333-339.
Schiesari and Grüninger. 2014. Assessing the Benefits of Fairtrade Orange Juice for Brazilian Small Farmers, BSD Consulting.
Taylor et al. 2021. Recommendations for building fairer, more sustainable and resilient flower supply chains in East Africa, Available here.
Valkila, J., Nygren, A. 2010. Impacts of Fair Trade certification on coffee farmers, cooperatives, and laborers in Nicaragua. Agric Hum Values 27, 321–333 . https://doi.org/10.1007/s10460-009-9208-7
Vincent, Katharine. "Creating an index of social vulnerability to climate change for Africa." Tyndall Center for Climate Change Research. Working Paper 56, no. 41 (2004): 1-50.
Van Rijn, F. C., et al. 2016. Fairtrade certification in the banana hired labour sector. No. 2015-056. LEI Wageningen UR.

Chapter 8 Annexure

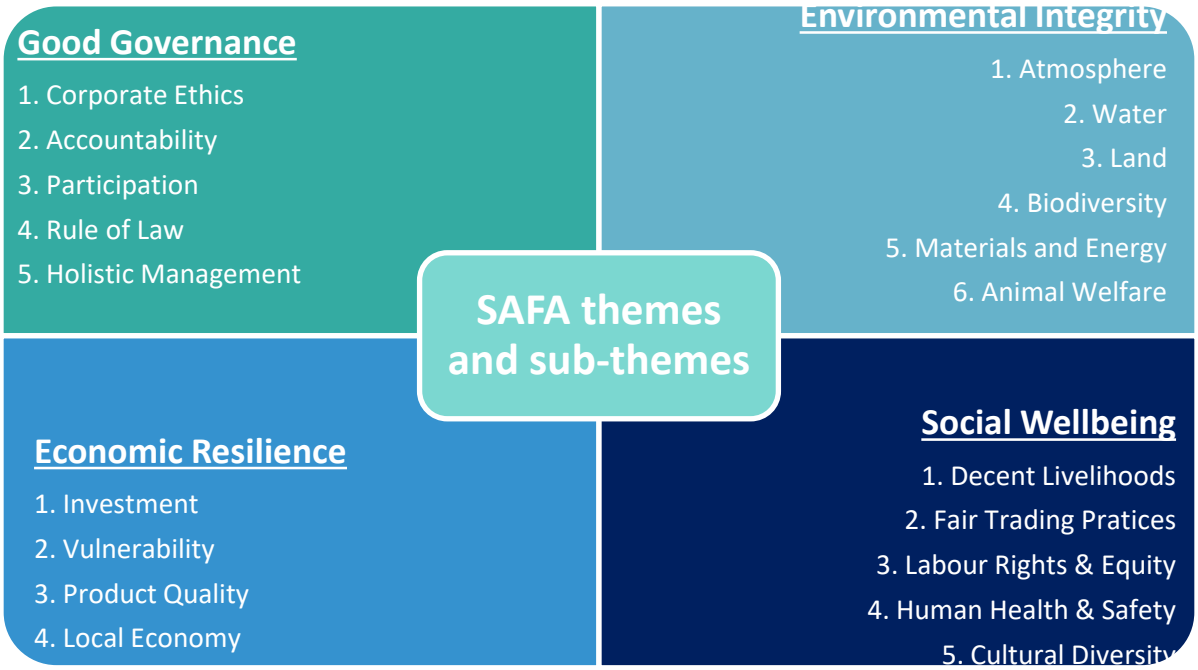


Picture 16: Fairtrade certified roses in Kenya

8. Annexure

8.1. Annexure 1: SAFA themes and sub-themes

The SAFA indicators were developed by the Food and Agriculture Organization of the United Nations (FAO) in 2013 to provide a framework for considering the sustainability of farming practices. Specifically, the SAFA indicators for food and agriculture systems have been used to refine and enrich Fairtrade's ToC indicators to derive a framework organised along four dimensions of sustainability (Scialabba, 2013). The total number of SAFA and Fairtrade's ToC indicators corresponds to over 300. The research team has reviewed these indicators through several rounds and has retained approximately 106 indicators for the scope of this research project.[97]



Good governance and an increased degree of efficiency are essential for Producer Organizations, as it allows for better access to international agencies and donors (Borsky and Spata, 2017). Good governance covers the themes of:

1. **Corporate ethics**. Sub-themes include Mission Statement and Due Diligence.
2. **Accountability**. Sub-themes include Holistic Audits, Responsibility, and Transparency.

[97]These were then used as a basis for the data collection instruments. The 106 indicators used for this research were provided in the inception report and can be obtained upon request.

3. **Participation**. Sub-themes include Stakeholder Dialogue, Grievance Procedures, and Conflict Resolution.
4. **Rule of Law**. Sub-themes include Legitimacy; Remedy, Restoration and Prevention; Civic Responsibility; and Resource Appropriation.
5. **Holistic Management.** Sub-themes include Sustainability Management and Full-Cost Accounting.

Environmental Integrity covers the themes of:

1. **Atmosphere**. Sub-themes include Greenhouse Gases and Air Quality.
2. **Water**. Sub-themes include Water Withdrawal and Water Quality.
3. **Land.** Sub-themes included are Soil Quality and Land Degradation.
4. **Biodiversity.** Sub-themes include Ecosystem and Species Diversity and Genetic Diversity
5. **Materials and Energy**. Sub-themes include Material and Energy Use, Waste Reduction and Disposal.
6. **Animal Welfare.** Sub-themes included are Health and Freedom from Stress.

Economic Resilience covers the themes of:

1. **Investment.** Sub-themes included are Internal Investment; Community Investment; Long ranging Investment; and Profitability.
2. **Vulnerability.** Sub-themes include Stability of Supply, Stability of Market, Liquidity, Risk Management, and Stability of Production.
3. **Product Quality and Information.** Sub-themes include Food Safety, Food Quality, and Products.
4. **Local Economy**. Sub-themes include Value Creation and Local Procurement.

Social Wellbeing covers the themes of:

1. **Decent Livelihood.** Sub-themes include the Right to Quality of Life, Capacity Development, and Rights to Fair Access to Land and Means of Production.
2. **Fair Trading Practices**. Sub-themes include Responsible Buyers and Suppliers' Freedom of Association and Right to Collective Bargaining.
3. **Labour Rights.** Sub-themes include Employment Relations; Forced Labour; Child Labour and Employees' Freedom of Association and Right to Bargaining.
4. **Equity.** Sub-themes include Non-discrimination, Gender Equality, and Support for Vulnerable People.
5. **Human Health and Safety**. Sub-themes include Workplace Safety and Health Provisions for Employees and Public Health.
6. **Cultural Diversity.** Sub-themes include Indigenous Knowledge and Food Sovereignty.

8.2. Annexure 2: Reviewed literature

Please note: "x" in the resilience section stands for negative impact and "x" stands for positive impact on the respective resilience indicator.

(Rigorous) Impact Evaluations of the impact of Fairtrade on Resilience

Title	Commissioned	Authors	Year	Region	Crop	Methods & Sample size	GG	EI	ER	SW
Assessing the Impact of Fairtrade on Poverty Reduction through Rural Development	TransFair Germany and Max Havelaar Foundation Switzerland	Ceval GmbH: Tatjana Mauthofer, Elisabeth Schneider, Dr. Susanne Johanna Väth, Friederike von Cölln	2012	India	Tea	*Ex-Post Quasi- experimental design* TG (FT certified group) vs CG (recently FT and non-FT certified), 128 interviews, 32 FGDs, 11 participating observations, 6 surveys (N= 3750) with farmers/ workers.		X	X	XX
				Peru	Banana		X	X	X	XX
				Ghana	Cocoa				X	X
				Peru	Coffee		X	X	X	X
				India	Cotton		X	X	X	XX
				Kenya	Flowers		X	X	X	X
Assessing the Impact of Fairtrade on Poverty Reduction through Rural Development (Follow-up study)	Fairtrade Germany, Max Havelaar Foundation Switzerland, Fairtrade Austria and SECO	Ceval GmbH: Tatjana Mauthofer, Elisabeth Schneider, Dr. Susanne Johanna Väth, Friederike von Cölln	2018	India	Tea	*Contribution analysis & comparative case study design:*. TG (FT certified group) vs 2 CG (non-FT certified), 89 FGD and 154 interviews	X		XX	X
				Peru	Banana		X		XX	X
				Ghana	Cocoa		X		X	
				Peru	Coffee		XX		X	
				India	Cotton		X		X	
				Kenya	Flowers		X	X	XX	X
A study to assess the impact of Fairtrade for coffee smallholders and Producer Organizations	Fairtrade International	University of Greenwich, World Agroforestry Centre: Nelson, V., Haggar, J., Martin, et al.	2016	Indonesia	Coffee	*Comparative case study* FGDs TG (FT certified) vs comparison group (non-FT certified), participatory gross margin analysis, survey, KII,	X	X	XX	X
				Mexico			X	X	X	
				Peru			X	X		X
				Tanzania			X	X	X	X
Baseline for assessing the impact of Fairtrade certification on cocoa farmers and cooperatives in Ghana	Fairtrade International, Fairtrade Africa	World Agroforestry Centre, Biodiversity International	2016	Ghana	Cocoa	*Comparative case study design* FGD TG (Cooperative Union) vs CT (non-Cooperative Union)	XX		X	
Fairtrade certification in the banana hired labour sector	Fairtrade	Wageningen University	2016	Ghana	Banana	*Counterfactual analysis, Qualitative semi-structured interviews, surveys, games* N=1118 wageworkers			X	X
				Colombia					X	X
				Dom.Republic						X
West Africa Cocoa Programme Evaluation	Fairtrade International	Afriqinsights	2021	Ghana	Cocoa	40 IDIs with stakeholders and 5 Fairtrade SPOs	X		X	X
				Cote D'Ivore			X		X	X
Fairtrade and Sustainability Motivations for Fairtrade Certification among Smallholder Coffee	n/a	Filippa Pyk and Assem Abu Hatab	2018	Coffee	Tanzania	Mix of quantitative and qualitative methods. Ordered Logit Model N=148 farmers		X	X	
The impact of coffee certification on small-scale producers' livelihoods: a case study from the Jimma Zone, Ethiopia	n/a	Pradyot Ranjan Jena, Bezawit Beyene Chichaibelu, Till Stellmacher, Ulrike Grote	2012	Jimma Zone, Ethiopia	Coffee	Structured interviews with 249 coffee smallholders FGDs with 48 smallholders from four cooperatives. Regression and PSM			XX	X

Where: RIE: Rigorous Impact Evaluation- TG = Treatment Group, and CG= Control Group; KII= Key Informant Interview, FDG = Focus Group Discussion, GG: Good Governance, ER: Economic Resilience, EI: Environmental Integrity and SW: Social Wellbeing, RE: Resilience

(Non-rigorous) Impact/ Case Studies that look at Resilience

Title	Commissioned	Implemented	Year	Region	Crop	Method & Sample	GG	EI	ER	SW
The impact of Fairtrade on smallholder's capacity to adapt to climate change	University of Graz, University of Southern Denmark	Stefan Borsky and Martina Spata	2017	n/a	n/a	Survey with 39 TG	X	X	X	
Fairtrade cotton: assessing impact in Mali, Senegal, Cameroon and India	Max Havelaar France, Fairtrade UK	University of Greenwich	2011	Mali	Cotton	Desk research In-depth interviews 4 FT certified POs (3 SPO and 1 CPS)	X	X	X	X
				Senegal			X		X	X
				Cameroon			X		X	X
				India			XX		X	X
Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Growers and Cooperatives in Côte d'Ivoire	Fairtrade Africa, Fairtrade International	World Agroforestry Centre and Biodiversity International	2017	Côte d'Ivoire	Cocoa	Survey with 5 newly certified Fairtrade Cooperatives (N= 522) and 100 non-Fairtrade households	XX		X	
Recommendations for building fairer, more sustainable and resilient flower supply chains in East Africa	Fairtrade, MM Flowers, Co-op, Coventry University, FNET, Marks & Spencer, Tesco, and Women Working Worldwide	Taylor et al.	2021	Kenya	Flowers	n/a			X	X
Learning brief: Reflecting on lessons learnt from the gender workstream of Building Resilience In Flower Supply Chains Project	Fairtrade International	n/a	2021	Kenya	Flowers	n/a	X			X
Learning brief: using remote data collection for worker voice under the Building Resilience In Flower Supply Chains Project	Fairtrade International	n/a	2021	Kenya	Flowers	n/a	X		X	X
Learning brief: key learnings from design and implementation of resilience fund for cocoa farmers during the COVID-19 pandemic	Fairtrade International	n/a	2021	Ghana	Cocoa	Markets and livelihood analysis			X	
Learning brief: Market analysis for cocoa income diversification under the Cadbury Farmer Resilience Fund	Fairtrade International	n/a	2021	Ghana	Cocoa	Markets and livelihood analysis			X	X
Fairtrade evidence map: evidencing the Theory of Change	Fairtrade International	DBG Consulting	2021	All	All	117 studies mapped of the 151 from the Fairtrade databases, and 34 unique studies	X	X	X	XX

Project helps women producers and workers in Dominican Republic	CLAC, Fairtrade	n/a	2021	Dominican Republic	Banana, Cocoa	Project brief	n/a	n/a	n/a	n/a
Leadership School: seven years empowering women	CLAC, Fairtrade	n/a	n/a	n/a	n/a	Project brief	X			
Assessment of the environmental effects of the Productivity Improvement Programme (PIP) on Fairtrade bananas	CLAC, Fairtrade	n/a	2021	Colombia	Bananas	6 Farms (3FT traditional, 3 FT with Productivity Improvement Programme (PIP))		X		
Fairtrade bananas: a global assessment of impact	Fairtrade Foundation	Institute of Development Studies	2010	Ecuador	Banana	Interviews with 107 small producers and 113 in focus groups (POs), interviews with 116 workers plus focus groups with Union/Workers Committees and Joint Bodies	X		XX	
				Dom.Republic			X		XX	
				Windward Islands			X		XX	
				Ghana			X		XX	
An Evaluation of Fairtrade Impact on Smallholders and Workers in the Banana Sector in northern Colombia	Max Havelaar	Corporation for Rural Business Development (CODER)	2014	Colombia	Banana	6 Fairtrade- certified cooperatives, interviews with 4 plantations (979, 16 FGDs, 125 other actors		X	X	X
Global report: Analysis of the producer level impact of Fairtrade on environmentally friendly production, biodiversity conservation and resilience and adaptation to climate change	Fairtrade International	FAKT – Consult for Management, Training and Technologies GmbH	2019	Kenya	Coffee	18 interviews with internal Fairtrade staff and 11 with external representatives,six case studies		XX		
				Kenya	Flowers			XX		
				India	Tea			X		
				India	Cotton			X		
				Costa Rica	Cocoa			X		
				Panama	Bananas			X		
Assessing the Impacts of Fairtrade on Worker-Defined Forms of Empowerment on Ecuadorian Flower Plantations	Fairtrade International and Max Havelaar-Foundation	Angus Lyall	2014	Ecuador	Flowers	3 plantations (91 workers (incl. 49 women) participated in nine workshops, 18 focus groups.	X		X	X
Taking root: Fairtrade in Malawi	Fairtrade Foundation	Natural Resources Institute, University of Greenwich,	2011	Malawi	Tea	*Literature review, meetings, workshops, FGDs, case studies, feedback meetings with national stakeholders and with the Fairtrade Foundation and TWIN/TWIN-Trading UK*	X	X	X	X
					Groundnut		X	X		
					Sugar		X	X		
Final report Fairtrade & climate change systematic review, hotspot analysis and survey	Fairtrade International	Bern University of Applied Sciences and Vrije	2021	Global	Banana	*Literature Review, a spatial hotspot analysis, expert*		X		
					Cocoa			X		
					Coffee			X		

		Universiteit Amsterdam			Cotton	*interviews* 1379 Fairtrade producer organizations		X		
					Flowers			X		
					Tea			X		
To assess the benefits Fairtrade certification for orange farmers in three selected Producer Organisations in Brazil	Max Havelaar Netherlands, Max Havelaar Switzerlands	BSD Consulting	2014	Brazil	Oranges	*Triangulation of information desk research, interviews and observation 3 cooperatives in Brazil.*	X	X	X	X
Fairtrade, Employment and Poverty Reduction in Ethiopia and Uganda	n/a	n/a	2014	Ethiopia	Flowers, Coffee	Approximately 750 individual respondents			X	
				Uganda	Coffee, tea				X	
Fairtrade credentialism: towards understanding certified producer organizations' perceptions of Fairtrade as a credential	n/a	Anne Mook & Christine Overdevest	2020	n/a	n/a	Survey of 23 quantitative and two open-ended text questions. N=287		X	X	X
Analysis of the Impact of Fairtrade on gender-related aspects on producers	n/a	Emily J. Gallagher, Iliana Monterroso, Made Sanjaya	2020	Guatemala, Indonesia and Kenya	Coffee	3 case studies (with the two SPOs each case study) with 30 households for each SPO (total of 180 households)	X			X
Gender equity, labor rights, and women's empowerment: lessons from Fairtrade certification in Ecuador flower plantations	n/a	Laura T. Raynolds	2020	Ecuador	Flowers	interviews with senior managers, elected worker representatives focus groups with 10–14 female workers and survey of 36 workers on four plantations, women (N = 72) men (N = 71)				X
Globalising justice within coffee supply chains? Fair Trade, Starbucks and the transformation of supply chain governance	n/a	Kate Macdonald	2007	Nicaragua	Coffee	Interviews with around 100 participants and FGD with workers, small producers from Nicaragua.KII with industry participants in the USA & UK.	X		X	
Supporting Smallholders to Access Sustainable Supply Chains: Lessons from the Indian Cotton Supply Chain	n/a	Laia Fayet and Walter J.V. Vermeulen	2012	India	Cotton	9 case studies			X	
Impacts of Fair Trade certification on coffee farmers, cooperatives, and laborers in Nicaragua	n/a	Joni Valkila and Anja Nygren	2010	Nicaragua	Coffee	Interviews with 110 coffee producers and 62 workers	X		XX	X
The effects of fair trade on coffee growers: a framework and analysis	University of Nebraska	Vahid Omidvar, Konstantinos Giannakas	2015	Generally	Coffee	Theory and framework analysis			X	
Assessing the gender impacts of Fairtrade	n/a	Sally Smith	2013	Generally	Generally	Meta-analysis of research studies, including ocase-studies				XX

Does Fairtrade Certification Meet Producers' Expectations Related to Participating in Mainstream Markets? An Analysis of Advertised Benefits and Perceived Impact	n/a	Anne Mook, Christine Overdevest	2017	Generally (46 countries represented)	Generally (34 different Fairtrade crops)	Importance–performance analysis (IPA), principal component analysis (PCA) and ordered logit regression analyses. N=287			X	X
Confronting the Coffee Crisis: Can Fair Trade, Organic, and Specialty Coffees Reduce Small-Scale Farmer Vulnerability in Northern Nicaragua?	n/a	Christopher Bacon	2005	Nicaragua	Coffee	228 farmers surveyed. 10 focus groups separated by sex.			X	
Workers in SPOs	Fairtrade	Bayer et. al	2021	Peru, Colombia, Dom. Republic	Banana	Survey with 10 SPOS (2 per country), 60 interviews with cocoa/banana workers, incl. hired labourers (30 per SPO), 87 KII			X	X
				Ghana, Cote d'Ivoire	Cocoa					
The impact of Fairtrade: A review of research evidence from 2009-2015	Fairtrade International	ODI	2017	Global	Various	**Literature review of** 578 articles	X	X	X	X
The external costs of banana production: A global study	Fairtrade International	True Price and Trucost	2019	Colombia, Peru, Dom. Republic, Ecuador	Banana	**Literature review,** 15 Fairtrade plantations, 97 small scale producer organization		X		X
Cocoa farmer income: The household income of cocoa farmers in Cote d'Ivoire and strategies for improvement	Fairtrade International	True Price, Committee on Sustainability Assessment, Geo Traceability	2018	Cote d'Ivoire	Cocoa	Survey with 23 cooperatives, 3235 Fairtrade smallholder farmers			X	
Is Fairtrade certification greening agricultural practices?	Elder et al.	University of British Colombia	2014	coffee	Rwanda	Semi-structured interviews, surveys with 175 small scale coffee farmers from either Fairtrade certified and non-Fairtrade certified cooperative or private coffee wash stations – non-cooperative affiliated		X		
Participatory analysis of the use and impact of the Fairtrade premium	Fairtrade Germany and fairtrade International	Université Paris-Est Marne-la-Vallée	2019	Banana	Ecuador	Multiple case design, Mixed method approach 385 SPOs				X
				Cocoa	Cote d'Ivoire					X
				Flowers	Kenya					X
				Banana	Peru					X
				Coffee/ cocoa	Peru					X

Where: RIE: Rigorous Impact Evaluation- TG = Treatment Group, and CG= Control Group; KII= Key Informant Interview, FDG = Focus Group Discussion, GG: Good Governance, ER: Economic Resilience, EI: Environmental Integrity and SW: Social Wellbeing, RE: Resilience
and SW: Social Well Being, RE: Resilience

8.3. Annexure 3: Additional information from the global Resilience Survey

Overview of the sampling for the global Producer Organization resilience survey

Sample	Arm1: Fairtrade certification	Arm2: Fairtrade + COVID-19 support	Sub-total
	Fairtrade POs which did NOT receive Fairtrade COVID-19 support	Fairtrade POs which received COVID-19 support from Fairtrade	
Required	60	60	120
Sampled POs	220	220	440
CLAC	110	75	185
FTA	110	75	185
NAPP	0	70	70
Attained	**65**	**97**	**162**
CLAC	18	32	50
FTA	47	59	106
NAPP	0	6	6

Note: No. POs from NAPP could be sampled for Arm 1 because all had received COVID-19, belonging to Arm 2.

Resilience of Producer Organizations and COVID-19 impact

List of questions included in Good Governance index score

	Questions	Options	Points
1	Does your PO have a strategic and/or business plan in place?	[1] Yes	1
		[2] No; [97] Don't know	0
2	Does your PO develop its sales plans and cash projections annually?	[1] Yes	1
		[2] No [97] Don't know	0
3	To what extent do you think that your PO is able to influence policies and regulations within the Fairtrade system?	[1] Not at all; [2] To a small extent, [97] Don't Know	0
		[3] To a moderate extent	0.5
		[4] To a large extent; [5] To an extremely large extent	1
4	To what extent do you think Fairtrade helps your PO to influence government policy?	[1] Not at all; [2] To a small extent, [97] Don't Know	0
		[3] To a moderate extent	0.5
		[4] To a large extent; [5] To an extremely large extent	1
TOTAL			0-4

List of questions included in Economic Resilience index score

	Questions	Options	Points
1	Do you think that trading relationships for sales on Fairtrade terms are better than for conventional sales?	[1] Not at all; [2] To a small extent, [97] Don't Know	0
		[3] To a moderate extent	0.5
		[4] To a large extent; [5] To an extremely large extent	1
2	Do you think that being Fairtrade-certified helps your PO to achieve higher prices?	[1] Not at all; [2] To a small extent, [97] Don't Know	0
		[3] To a moderate extent	0.5
		[4] To a large extent; [5] To an extremely large extent	1
3	Do you think that your PO can better negotiate price and other contractual conditions with buyers under Fairtrade terms compared to conventional sales?	[1] Not at all; [2] To a small extent, [97] Don't Know	0
		[3] To a moderate extent	0.5
		[4] To a large extent; [5] To an extremely large extent	1
4	How do you rate your POs' financial sustainability?	[1] Low	0
		[2] Moderate	0.5

		[3] High	1
5	Did your PO receive any credit or loans from Fairtrade buyers in the last 12 months	[1] Yes	1
		[2] No; [97] Don't know	0
6	Did your PO take any action to support income diversification and/or food security among members in the last 12 months?	[1] Yes	1
		[2] No; [97] Don't know	0
TOTAL			0-6

List of questions included in Environment Integrity index score

Questions		Sub-question	Options	Points
1	Does your PO have environmental management/ protection plans/ activities in place?	Waste management	[1] Yes	1
			[2] No	0
		Water management	[1] Yes	1
			[2] No	0
		Reduce deforestation	[1] Yes	1
			[2] No	0
		Promote agroforestry	[1] Yes	1
			[2] No	0
		Biodiversity	[1] Yes	1
			[2] No	0
		Organic Production	[1] Yes	1
			[2] No	0
		Other	[1] Yes	1
			[2] No	0
		TOTAL		0-7

List of questions included in the Social Wellbeing index score

Questions		Options	Points
1	Does your PO consult your farmers/ workers/ communities on their needs?	[1] Yes	1
		[2] No; [97] Don't know	0
2	Does your PO decide on your Fairtrade premium use based on consultations with your members/workers?	[1] Yes	1
		[2] No; [97] Don't know	0
3	Does your PO contribute to the health needs of your local community (other than your farmer members/ workers)?	[1] Yes	1
		[2] No; [97] Don't know	0
TOTAL			0-3

Overall average resilience score of Fairtrade Producer Organizations

Category	Mean	STD	N	P - Value
Overall Resilience Score (0-20)				
Mean	12.42	2.9	157	
By Producer Organization type				
SPO	12.49	3.0	126	
HLO	12.28	2.2	28	0.65
CP	11	3.9	3	
By Producer Network				

CLAC	11.78	3.3	48	0.012
FTA	12.85	2.6	104	
NAPP	9.8	2.7	5	
By Product				
Coffee	12.55	3.1	44	0.001
Cocoa	13.24	2.9	55	
Flowers	13.21	1.8	16	
Other	11.02	2.6	44	
By impact of COVID				
No to moderate impact	12.65	2.7	80	0.31
High to very high impact	12.18	3.0	75	

A & B: Average resilience score of Fairtrade Producer Organizations by SAFA components

	Average Environmental Integrity Score				Average Social Wellbeing Score			
	Mean	STD	N	P - Value	Mean	STD	N	P - Value
Overall mean	3.89	1.57	162		2.47	0.53	157	
By Producer Organization type								
SPO	3.78	1.56	129	0.05	2.53	0.51	126	0.004
HLO	4.4	1.49	30		2.21	0.56	28	
By Producer Network								
CLAC	3.34	1.70	50	0.007	2.45	0.54	48	0.124
FTA	4.16	1.42	106		2.5	0.53	104	
NAPP	3.66	1.96	6		2	0	5	
By Product								
Coffee	3.62	1.62	45	0.016	2.56	0.50	44	0.016
Cocoa	4.24	1.43	53		2.58	0.49	53	
Flowers	4.58	1.37	17		2.25	0.57	16	
Other	3.51	1.61	47		2.31	0.56	44	
By impact of COVID-19								
No to moderate impact	3.92	1.58	84	0.85	2.43	0.57	80	0.11
High to very high impact	3.89	1.57	76		2.49	0.50	75	

	Average Good Governance Score				Average Economic Resilience Score			
	Mean	STD	N	P - Value	Mean	STD	N	P - Value
Overall mean	2.56	1.05	162		3.41	1.3	162	
By Producer Organization type								
SPO	2.54	1.07	129	0.46	3.58	1.27	129	0.001
HLO	2.7	0.94	30		2.75	1.20	30	
By Producer Network								
CLAC	2.34	1.15	50	0.09	3.49	1.15	50	0.056
FTA	2.69	0.94	106		3.45	1.37	106	
NAPP	2.16	1.03	6		2.16	0.81	6	

By Product								
Coffee	2.7	1.00	45	0.009	3.63	1.2	45	0.001
Cocoa	2.61	1.09	53		3.80	1.3	53	
Flowers	3.11	0.82	17		3.14	1.2	17	
Other	2.19	1.04	47		2.87	1.2	47	
By impact of COVID								
No to moderate impact	2.58	1.07	80	0.85	3.55	1.32	84	0.11
High to very high impact	2.55	0.99	75		3.22	1.27	76	

Regression Analysis

The equation for the logit regression is provided below:

$$Y = \beta_0 + \beta_1 X_1 + \ldots\ldots + \beta_p X_p$$

Y = dependent variable with link function, $\log(\frac{p}{1-p})$
X_1 to X_p = p distinct independent or predictor variables
β_1 to β_p = estimated regression coefficients
β_0 = the value of Y when all independent variables (X_1 to X_p) are equal to zero

The predictive margin of the most influential factors determining resilience of Producer Organizations are presented below.

Output Table for the Logit Model

Variable	dy/dx	Std. Error	z-value	p-value	95% Confidence Interval	
Fairtrade_COVID_support						
No	0 (base)					
Yes	-0.192	0.077	-2.48	0.013	-0.344	-0.040
Impact of price received						
Got a lower price	0 (base)					
COVID didn't affect price	-0.302	0.073	-4.10	0.000	-0.447	-0.158
Got a higher price	-0.334	0.154	-2.16	0.031	-0.638	-0.031
Additional measures by PO						
No	0 (base)					
Yes	-0.115	0.084	-1.38	0.168	-0.280	0.048
Financial sustainability of PO						
Low	0 (base)					
Moderate	-0.198	0.133	-1.49	0.136	-0.460	0.062
High	-0.348	0.152	-2.28	0.023	-0.647	0.048
Credit/ loan from FT buyers						
No	0 (base)					
Yes	-0.236	0.085	-2.77	0.006	-0.404	-0.069
Income div/ food security						
No	0 (base)					
Yes	-0.178	0.080	-2.22	0.026	-0.335	-0.021
Producer Network						

CLAC	0 (base)					
FTA	0.020	0.129	0.16	0.875	-0.234	0.274
NAPP	0.552	0.094	5.85	0.000	0.367	0.737
Type of PO						
SPO	0 (base)					
HLO	0.291	0.145	2.00	0.046	0.005	0.576
CP	0.206	0.449	0.46	0.646	-0.674	1.087
Product Type						
Coffee	0 (base)					
Cocoa	0.129	0.103	1.25	0.211	-0.073	0.332
Banana	-0.179	0.181	-0.99	0.322	-0.534	0.175
Flowers	-0.114	0.178	-0.64	0.521	-0.465	0.235
Sugar	0.168	0.176	0.96	0.339	-0.177	0.514
Tea	-0.460	0.077	-5.92	0.000	-0.613	-0.308
Other	-0.078	0.136	-0.58	0.564	-0.345	0.188
Age of CEO						
	0.0004	0.003	0.13	0.899	-0.006	0.007
Education of CEO						
Primary or elementary	0 (base)					
Secondary	-0.151	0.124	-1.21	0.225	-0.396	0.093
Professional Higher education	-0.197	0.115	-1.71	0.088	-0.424	0.029
Undergraduate degree	-0.064	0.141	-0.46	0.648	-0.342	0.213
Postgraduate degree and higher	-0.206	0.124	-1.66	0.096	-0.449	0.036
Year of first Fairtrade certification						
Before 2011	0 (base)					
2011	-0.288	0.143	-2.02	0.043	-0.569	-0.008
2012	-0.017	0.161	-0.11	0.914	-0.334	0.299
2013	0.180	0.235	0.77	0.444	-0.281	0.643
2014	0.075	0.177	0.42	0.671	-0.272	0.423
2015	-0.138	0.143	-0.97	0.333	-0.419	0.142
2016	0.185	0.173	1.07	0.284	-0.154	0.525
2017	-0.086	0.160	-0.54	0.591	-0.399	0.227
2018	0.026	0.144	0.18	0.856	-0.257	0.309
2019	-0.368	0.108	-3.41	0.001	-0.580	-0.156
2020	-0.329	0.134	-2.46	0.014	-0.592	-0.066
Total COVID cases per 1 M						
	-1.1e-06	1.6e-06	-0.69	0.491	-4.3e-06	2.03e-06
Total deaths per 1 M						
	-2.2e-06	0.000	0.05	0.957	-0.000080	0.000084

Output table for OLS regression

Variable	Coef.	Std. Error	z-value	p-value	95% Confidence Interval	
Fairtrade_COVID_support						
No	0 (base)					
Yes	1.88	1.115	1.69	0.09	-0.320	4.097
Impact of price received						
Got a lower price	0 (base)					
COVID didn't affect price	3.85	1.110	3.47	0.001	1.656	6.052
Got a higher price	4.13	2.022	2.05	0.043	0.134	8.142
Additional measures by PO						
No	0 (base)					

Yes	0.534	1.151	0.46	0.643	-1.745	2.814
Financial sustainability of PO						
Low	0 (base)					
Moderate	1.901	1.989	0.96	0.341	-2.037	5.840
High	5.680	2.354	2.41	0.017	1.019	10.34
Credit/ loan from FT buyers						
No	0 (base)					
Yes	2.633	1.399	1.88	0.062	-0.137	5.404
Income div/ food security						
No	0 (base)					
Yes	1.241	1.108	1.12	0.265	-0.952	3.435
Producer Network						
CLAC	0 (base)					
FTA	-0.186	2.004	-0.09	0.926	-4.156	3.783
NAPP	-16.291	4.620	-3.53	0.001	-25.439	-7.142
Type of PO						
SPO	0 (base)					
HLO	-4.185	2.663	-1.57	0.119	-9.459	1.089
CP	-4.201	4.019	-1.05	0.298	-12.161	3.758
Product Type						
Coffee	0 (base)					
Cocoa	-0.960	1.578	-0.61	0.544	-4.086	2.166
Banana	2.492	2.958	0.84	0.401	-3.365	8.350
Flowers	0.088	3.05	0.03	0.977	-5.958	6.135
Sugar	0.648	2.841	0.23	0.820	-4.978	6.275
Tea	25.23	6.375	3.96	0.000	12.61	37.86
Other	2.04	1.945	1.05	0.295	-1.805	5.897
Age of CEO						
	-0.021	0.053	-0.41	0.683	-0.126	0.083
Education of CEO						
Primary or elementary	0 (base)					
Secondary	2.418	1.717	1.41	0.162	-0.981	5.819
Professional Higher education	2.917	1.634	1.78	0.077	-0.320	6.154
Undergraduate degree	2.356	1.847	1.28	0.205	-1.302	6.015
Postgraduate degree and higher	3.604	1.789	2.01	0.046	0.061	7.147
Year of first Fairtrade certification						
Before 2011	0 (base)					
2011	1.497	2.420	0.62	0.537	-3.295	6.289
2012	-1.246	2.144	-0.58	0.562	-5.492	3.000
2013	-1.660	4.477	-0.37	0.711	-10.52	7.205
2014	1.724	2.403	0.72	0.475	-3.035	6.484
2015	3.508	2.106	1.67	0.099	-0.663	7.679
2016	0.698	2.962	0.24	0.814	-5.168	6.564
2017	1.760	2.379	0.74	0.461	-2.951	6.471
2018	0.337	2.047	0.17	0.869	-3.716	4.392
2019	5.762	1.915	3.01	0.003	1.968	9.555
2020	3.945	2.362	1.67	0.098	-0.732	8.623
Total COVID cases per 1 M						
	0.000023	0.00002	0.98	0.329	-0.00002	0.00006
Total deaths per 1 M						

	-0.00018	0.00058	-0.31	0.758	-0.00134	0.00098
Cons	9.581	4.037	2.37	0.019	1.586	17.576

8.4. Annexure 4: Additional information from the case studies

Attained Sample for the Case Studies

Category		Peru (Bananas)	Kenya (Flowers)	Indonesia (Coffee)	TOTAL	
					N	%
Selected POs	FT	3	2	2	7	54%
	Non-FT	4	1	1	6	46%
	Sub-Total	**7**	**3**	**3**	**13**	**100%**
Survey with Farmers/ Workers	FT	51	51	52	164	**54%**
	Non-FT	50	52	48	140	46%
	Females	23	38	20	81	27%
	Males	78	64	80	222	73%
	Sub-total	**101**	**103**	**100**	**304**	100%
IDIs with the PO 1) General Manager 2) Finance Manager **3)** Gender Representative	FT	5	6	6	17	65%
	Non-FT	4	2	3	9	35%
	Female	3	4	3	10	38%
	Male	6	4	6	16	62%
	Sub-total	**9**	**8**	**9**	**26**	100%
Number of FDGs	**Sub-total**	**5**	**9**	**3**	**17**	**100%**
FGD 1: Youth & Women Participants **FDG 2: Labour Welfare & Gender Committee Participants**	FT	11	32	20	63	64%
	Non-FT	4	21	11	36	36%
	Female	4	30	16	50	51%
	Male	11	23	15	49	49%
	Sub-total	**15**	**53**	**31**	**99**	100%
Workshops	**Sub-total**	7	3	2	12	100%
Learning & Validation Workshop Participants	FT	6	21	6	33	62%
	Non-FT	8	12		20	38%
	Female	6	17		23	43%
	Male	8	16	6	30	57%
	Sub-total	**14**	**33**	**6**	**53**	100%

Good Governance Index

Questions		Options	Points
1	Do you think that the management of your producer organization understands what your priorities are?	(1) No, they have a terrible understanding of my priorities (2) No, they have a poor understanding of my priorities [97] Don't know [99] Refused	0
		(3) They have a moderate understanding of my priorities	0.5

		(4) Yes, they have a good understanding of my priorities (5) Yes, they have an excellent understanding of my priorities	1
2	Does your PO keep members informed about important decisions which are taken, and the reasons why?	[1] Yes	1
		[2] No [97] Don't know [99] Refused	0
3	Do you think women's opinions are taken as seriously as men's opinions by your producer organization?		
4	Do you think youth opinions are taken as seriously as the opinions of adults by your producer organization?		
TOTAL			0-4

Environmental Integrity Index

Questions		Options	Points
	In the last calendar year/ production cycle, which of the following environmental, biodiversity and climate change practices did your household implement? *For SPO ask for the household, and for HLO ask regarding implementation at the workplace*.		
1	Energy and GHG emission reduction (recording of energy consumption, energy-saving practices, alternative energy sources, etc.)	[1] No [97] Don't know	0
		[2] Respondent said yes, but not verified [3] Respondent said yes, verified through observation	1
2	Soil and water quality (soil fertility preservation, limit the risks of pollution, recycle crops and organic residues, etc.)		
3	Pest management (use of resistant varieties, use of biological agents for pest, disease and weed control, IPMs, etc.)		
4	Waste management (efficient use and disposal of tanks and containers, recycling organic and inorganic materials, securely storing fertilisers and pesticides, etc.)		
TOTAL			0-4

Economic Resilience Index

Questions	Options		Points
1	Please detail the sources of your household's income in the last 12 months (last calendar year) in percentage to your total household income.	PO-related activities (e.g., selling fairtrade coffee for Fairtrade certified coffee SPOs and selling non-fairtrade coffee for non-Fairtrade certified coffee SPOs) make up more than 71% of the household income	1
		PO-related activities make up less than 70% of the household income	0
2	Do you keep a record of farm and household related (only household related for HLO) income and expenditures?	[1] Yes, for farm only [2] Yes, for household only [3] Yes, for farm and household	1
		[4] No [97] Don't know [99] Refused	0
3	Do you or someone else in the household own a bank account or mobile money account that you can access?	[1] Yes, respondent only [2] Yes, someone in the household [3] Yes, respondent and someone else in the household	1
4	Do you or someone else in the household regularly set aside money for savings?	[4] No [97] Don't know [99] Refused	0
5	Do you or someone in your household currently struggle to pay back debt?		
6	Does your household have insurance?	[1] Life insurance [2] Crop insurance [3] Climate risk insurance (household, business, or crop/livestock) [4] Health insurance [5] Other insurance;	1
		[5] No insurance [97] Don't know	0

7	What best describes your current position towards retirement planning?	[1] Not thought about it as people like me cannot retire from work [2] I know I will retire one day but have not given it much thought [97] Don't know [99] Refused	0
		[3] I have started to actively think about old age financial security and have a definite course of action which I intend to follow [4] I have already started actively setting aside money for old age	1
8	1. Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? 2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? 3. Suppose you have some money. Is it safer to put your money into one business or investment, or to put your money into multiple businesses or investments?	All three Financial Literacy questions answered correctly	1
		Responded one or more Financial Literacy questions incorrectly or with Don't know	0
TOTAL			0-8

Social Wellbeing Index

Questions		Options	Points
1	You were worried you would not have enough food to eat because of a lack of money or other resources?	[1] Yes [97] Don't know [99] Refused to answer	0
		[2] No	1
2	You were unable to eat healthy and nutritious food because of a lack of money or other resources?		
3	You ate only a few kinds of foods because of a lack of money or other resources?		
4	You had to skip a meal because there was not enough money or other resources to get food?		
5	You ate less than you thought you should because of a lack of money or other resources?		
6	Your household ran out of food because of a lack of money or other resources?		
7	You were hungry but did not eat because there was not enough money or other resources for food?		
8	You went without eating for a whole day because of a lack of money or other resources?		
9	Did all children aged 6 to 16 attend school this school year (including school at distance/online)?	(1) There are no children aged 6 to 16 (3) At least one child aged 6 to 16 did not attend school this year	0
		(1) All children aged 6 to 16 attended school this year	1
10	Is it more important for boys to go to school or for girls to go to school? [Select one]?	(1) More important for boys (2) More important for girls [97] Don't know	0
		(3) Equally important	1
TOTAL			0-10

COVID-19 Impact Index

	Question	Options	Score

1	**To what extent has COVID-19 affected the life and livelihood of your household?**	[1] Not at all [2] To a small extent		0
		[3] To a moderate extent		0.5
		[4] To a large extent [5] To an extremely large extent		1
2	Which of the following aspects has most affected the lives of your household?	1) Loss of Income due to loss of sales, disruptions in the supply chain and/or change in price 2) Loss of income due to lower production 3) Loss of income due to loss of employment 4) Sickness/death in the community due to COVID-19 5) Loss of /change in social relationships 6) Other		
		Rate the impact; from 1-6; where 1= strongly affected, and 6= no or very little affected	Rating of 1-2 (for each aspect)	1
			Rating of 3-4 (for each aspect)	0.5
			Rating of 5-6 (for each aspect)	0
3	Was your Household's income different before the start of Covid-19 from your current household income?	[1] Yes, much higher [2] Higher [97] Do not know [99] Refused		1
		[3] The same [4] Lower [5] Much lower		0
4	Since the start of the Covid-19 pandemic, were there months when your expenses exceed your income?	[1] Yes, very often [2] Yes, sometimes [97] Don't know		1
		[3] Yes, but only few times		0.5
		[4] No, never		0
5	To what extent has COVID-19 affected the life and livelihood of other members in your PO?	[1] Not at all [2] To a small extent		0
		[3] To a moderate extent		0.5
		[4] To a large extent [5] To an extremely large extent		1
6	In your opinion, how has the situation in your community changed in relation to discrimination against women & girls/gender-based violence since the start of the COVID-19 pandemic?	[1] It has gotten much worse [2] or worse – women/girls are much more likely to suffer discrimination or violence than before		1
		[3] It hasn't changed at all [4] It has gotten better [5] or much better - women/girls are less likely to suffer discrimination or violence than before		0
7	In your opinion, how has the situation in your community changed in relation to child labour since the start of the COVID-19 pandemic?	[1] It has gotten much worse [2] or worse – children are much more likely to be forced to perform farm labour (that interferes with their schooling) than before		1
		[3] It hasn't changed at all [4] It has gotten better [5] or much better – children are less likely to be forced to perform farm labour (that interferes with their schooling) than before		0
8	In your opinion, how has the situation in your community changed in relation to forced labour since the start of the COVID-19 pandemic?	[1] It has gotten worse [2] or much worse – workers are much more likely to be forced to work or suffer from abuses of their working rights than before		1
		[3] It hasn't changed at all [4] It has gotten better [5] or much better– workers are less likely to be forced to work or suffer from abuses of their working rights than before [		0
9	In your opinion, how has the situation in your community changed in relation to alcohol/substance abuse since the start of the COVID-19 pandemic?	[1] It has gotten much worse [2] or worse – people are much more likely to abuse drugs or alcohol than before		1
		[3] It hasn't changed at all [4] It has gotten better [5] or much better– people are less likely to abuse drugs or alcohol than before		0
TOTAL				0-14