Cocoa Farmer Income

The household income of cocoa farmers in Côte d'Ivoire and strategies for improvement

September 2025

impactinstitute.com

Executive summary

Tracking changes in farmer incomes and progress toward a living income under updated market conditions

This study builds on previous studies conducted in 2018 and 2020 and offers a comprehensive view of farmer incomes over time. In addition to financial trends, the study integrates qualitative research to examine the broader impact of Fairtrade interventions. Qualitative insights from focus group discussions and in-depth interviews, provide information on productivity drivers, challenges in cocoa production, income drivers, and farmer satisfaction with participation in Fairtrade-certified Small-scale Producer Organizations (SPOs). The study aligns with the minimal approach of the Cocoa Household Income Study (CHIS) methodology, focusing on cocoa household income approaches.

Comparative study 2024 vs 2020

The comparative study highlights key changes in cocoa farming from 2020 to 2024. The most important observation is the improvement in income distribution, with a reduction in extreme poverty from **36% to 17%** and an increase in farmers' incomes closer to the living income. Underlying drivers show a decrease in overall cocoa production, an increase in yield per hectare and decrease in farm size and cocoa production area. The decline in cocoa production area are the result of improved and more accurate farm measurements. The more accurate farm size measurement can explain the higher yield values in times of overall production decline. The same or even less reported production on smaller cocoa plots results in higher yield figures per hectare, whilst in reality, productivity may not have increased, or even declined.

Sharecropper dynamics

For sharecroppers, the situation is challenging. Their average income is €953 per year, with 100% earning below the living income benchmark of €4,770 per year. The high costs associated with sharecropping agreements limits income gains for this group, underscoring the need for targeted strategies to improve sharecropper livelihoods alongside broader market-based interventions.

Price Scenario Analysis

Price Scenario *1* examines the impact of updated April 2024–March 2025 farm-gate prices on farmer incomes. Under this scenario, the farm-gate price increased by 74% and profit margins by 80%, while production costs rose by 67% due to higher transport, labour, and input costs, including the implicit costs associated with sharecropping out land. As a result, 13% of farmers in the sample now earn a living income, up from 7% under the previous baseline, while the share of farmers below the extreme poverty line has decreased further to 12%.

Price Scenario *2* further explores the impact of the updated April 2025 farm-gate price on farmer income distribution. The analysis shows that price improvements continue to reduce extreme poverty (7%) and increase the share of farmers earning above the living income benchmark (24%). However, 76% of the farmers still fall just below the living income despite higher prices, indicating that while market improvements drive progress, additional interventions are needed to enable all farmers to sustainably reach a living income.

About

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Introduction **Project partners**

Fairtrade International commissioned this study to further understand and improve the income of cocoa farmers. This project was conducted by Impact Institute and EMC, who have collaborated on the previous household income study. EMC carried out the data collection in Côte d'Ivoire, building on their prior experience in the region to ensure thorough and accurate insights into the realities of cocoa farming.

About Fairtrade International

Fairtrade International is the non-governmental organisation that commissioned this study on the cocoa farmer income. Fairtrade changes the way trade works through better prices, decent working conditions and fairer deals for farmers and workers in developing countries. A non-profit organisation representing more than 2 million farmers and workers, Fairtrade International owns the Fairtrade label, the most recognised ethical label and backed by rigorous social, economic and environmental standards and certification. Fairtrade International and its member organisations empower producers, partner with businesses, engage consumers and advocate for a fair and sustainable future.

About EMC

Etudes de Marché et Conseils (EMC) is an Ivorian organisation that is specialised in market research, opinion polls and socio-economic studies. EMC has a special focus on Francophone countries of West Africa, especially the 8 countries of the Economic Union of West African States. Data collection in Côte d'Ivoire was performed by EMC.

About Impact Institute

Impact Institute – a spin-off of True Price – is recognised as a global leader in impact measurement and valuation. One of Impact Institute's key focus areas is social and environmental impact in agrifood. Impact Institute has extensive experience with living income and financial opportunity assessments in agricultural supply chains.

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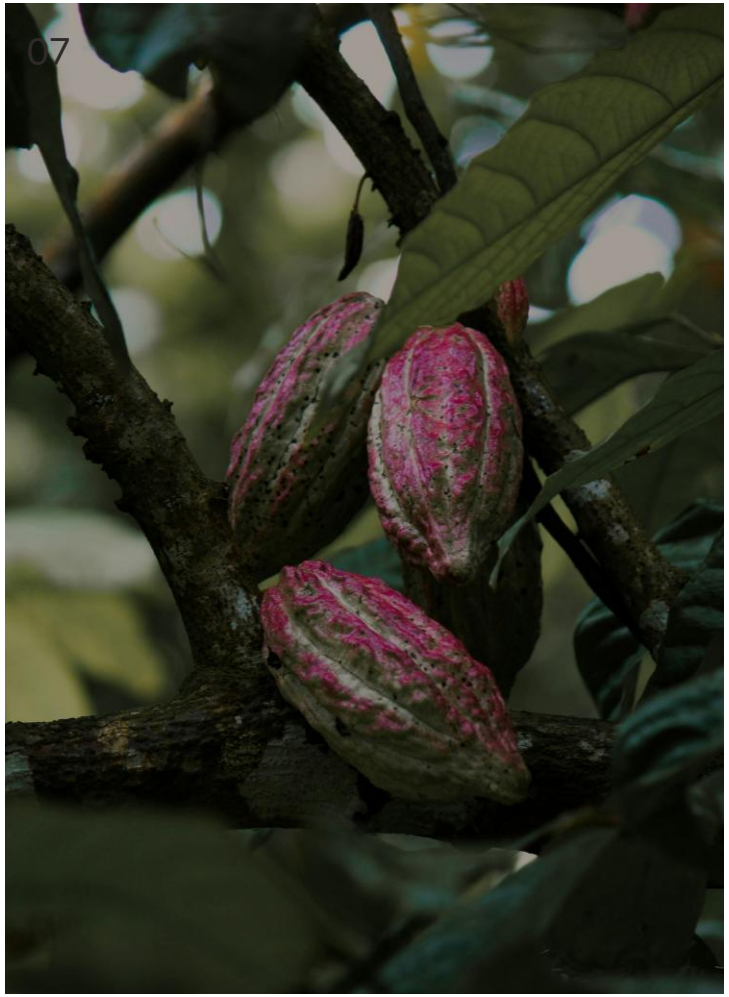


Introduction

01

Introduction

Assessing progress and challenges in achieving living incomes for cocoa farmers in Côte d'Ivoire

This report presents the findings of the 2024 Cocoa Farmer Income Study conducted in Côte d'Ivoire as part of Fairtrade International's ongoing commitment to enhancing the economic stability of cocoa farmers. Building on prior studies conducted in 2018 and 2020, this research aims to compare farmer incomes over time, incorporating both quantitative and qualitative methods. The study engaged with a comparable number of Fairtrade-certified SPOs as before, ensuring consistency in data collection and analysis.

A key focus of this report is the evaluation of Fairtrade's price mechanisms, including the mandatory Minimum Price and Fairtrade Premium and the voluntary Living Income Reference Price. Compared to the previous studies, the scope of this study is extended to include sharecropper farmers. Moreover, this year's study also incorporates qualitative insights to deepen the understanding of social and economic factors affecting household incomes.

The first objective of the current study is to assess the household income of Fairtrade-certified farmers and compare it to their situation in 2020, identifying any changes and drivers of these changes.

Secondly, using insights from qualitative data collection, this study further elaborates on the key factors contributing to farmer household income, specifically focused on the contribution of Fairtrade interventions. As West Africa has experienced a drop in cocoa production in the 2023/2024 harvests (International Cocoa Organisation (ICCO), 2024), this study aims to gather more in-depth insights into the barriers to improving cocoa productivity among Fairtrade-certified farmers.

This study seeks to align with the CHIS household income methodology, ensuring the findings contribute to broader industry efforts to uplift cocoa farming communities (see p.17). The results inform recommendations for refining future strategies aimed at narrowing the income gap and fostering economic resilience among cocoa farmers.

Research questions

1.	How has the income of farmers in Fairtrade-certified SPOs changed between 2020 and 2024 and what factors have influenced these changes?
2.	What are the key factors contributing to farmers' income within Fairtrade-certified SPOs, and to what extent do Fairtrade interventions (*e.g.*, Fairtrade pricing, capacity building) support improved income?
2.1	What are the primary barriers to improving cocoa productivity among Fairtrade-certified farmers?

Introduction Context of Fairtrade-certified cocoa farmers in Côte d'Ivoire

Fairtrade provides a safety net through its price mechanisms, but farmers still earn below living income

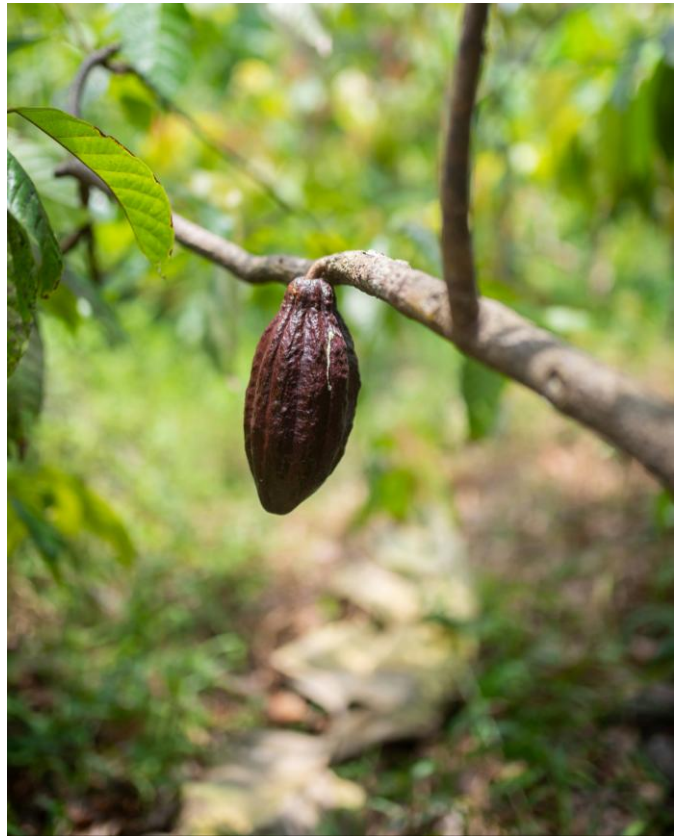
Cocoa farming in Côte d'Ivoire is central to the livelihoods of many rural households, as the country is the world's largest cocoa producer (ICCO, 2022). Farmers face significant challenges, including fluctuating market prices, limited income stability, and reliance on small-scale farming.

In Côte d'Ivoire, the government sets a minimum price for cocoa, ensuring a baseline income for farmers to protect them from price volatility in the global market. However, this price has often remained low, leaving many farmers struggling with poverty. Fairtrade-certified SPOs provide an additional layer of support by guaranteeing that farmers receive at least the Fairtrade Minimum Price for the cocoa they are able to sell under Fairtrade terms, which acts as a safety net if the market price drops below a sustainable level. Even with the benefits of Fairtrade pricing and bonuses, many cocoa farmers in Côte d'Ivoire still earn below a living income, a level that allows them to afford decent housing, nutritious food, education, healthcare, and other basic needs for their families.

The previous study conducted in 2020 showed that 88% of the farmers earn a household income below the living income. An improvement in average farmer household income was noted as the number of farmers who receive the Fairtrade Minimum Price increased.

While Fairtrade provides a crucial safety net through its Fairtrade Minimum Price, Fairtrade Premium and Living Income Reference Price, these measures alone often fall short due to the complex challenges within the industry. Factors such as high production costs, small farm sizes, low yields, and inflation erode farmers' potential earnings.

To address these challenges, Fairtrade integrates holistic approaches under its Living Income Strategy combined with the Living Income Reference Price, which is designed to create an enabling environment and provide tools that help certified smallholders progress towards earning a living income. This strategy incorporates sustainable pricing, increased sales on Fairtrade terms, support for sustainable agricultural practices to improve yields, and advocacy efforts to build an environment that empowers farmers.



Introduction **Fairtrade-certified cocoa value chain**

This study focuses on the Fairtrade certified cocoa value chain in Côte d'Ivoire

The cocoa value chain involves various stakeholders that this study aims to include:

The value chain starts with the **Fairtrade-certified smallholder farmers** that grow and harvest the cocoa beans. The farmers are members of Fairtrade-certified SPOs and adhere to the standards set by Fairtrade. Smallholder farmers can also engage in sharecropping agreements. **Sharecroppers** and sharecropping agreements are further explained on the next page.

Farmers, who are members of Fairtrade-certified SPOs interact with **Délégués des sections des SPOs** (section delegates), who act as focal points for the cooperative within farming communities. Delegates coordinate activities and relationships between the cooperative and its farmer members.

For instance, during premium payments, the delegate is responsible for maintaining the list of farmers, recording sales volumes, and submitting the lists for payment. Delegates also play a vital role in representing the farmers' perspectives, advocating for their needs, and addressing the challenges faced by farmers and their families.

Fairtrade-certified SPOs are SPOs of small-scale farmers who adhere to Fairtrade standards. These standards ensure fair minimum prices and fixed premiums, sustainable farming practices, and community support, promoting economic stability. Within the SPOs, the **cooperative board** oversees the strategic direction, governance, and policy decisions of the organization, ensuring that the SPO adheres to its mission and complies with Fairtrade standards. Meanwhile, **SPO managers** handle the administration and day-to-day operations, including implementing board decisions, managing financial transactions, and providing support to farmer members. Managers also facilitate compliance with Fairtrade standards by maintaining records, preparing for audits, and coordinating member training and development initiatives.

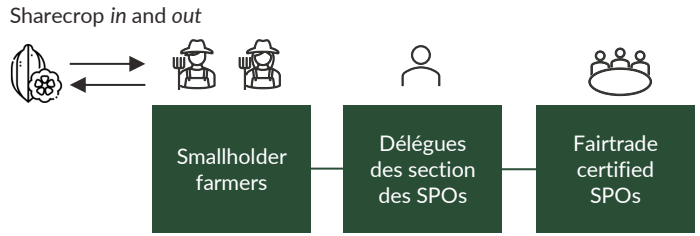


Figure 1: Location of study respondents

Introduction **Sharecropping arrangements**

Sharecropping arrangement are an important component to understand farmer household income and costs

For farmers in Côte d'Ivoire, sharecropping arrangements are quite common (van der Haar et al., 2024). In this study, we refer to the roles of landowners and those farming the land as follows:

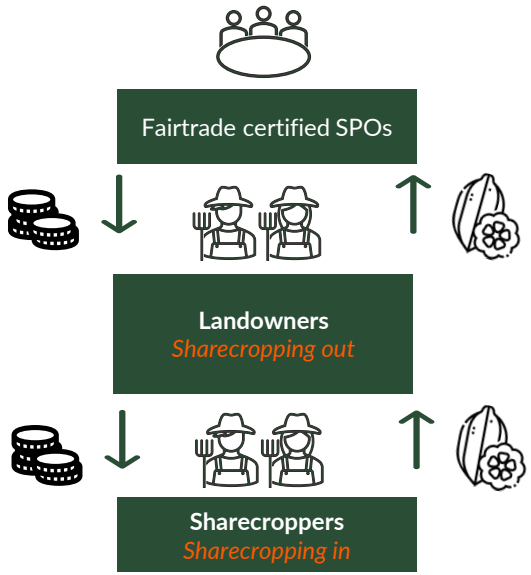
- ***Sharecropper out*** refers to a farmer household that owns land, but "*sharecrops out*" that land to another farmer household for cultivation under a sharecropping arrangement;
- ***Sharecropper in*** refers to a farmer household who cultivates land that belongs to a different farmer household, they "*sharecrop in*" under a sharecropping arrangement.

Landowners (*i.e.*, *sharecroppers out*) often *sharecrop out* (parts of) their land to *sharecroppers in*, wherein the yield produced on that land is received by the land-owning farmer, and a portion of the revenue generated from the yield is given to the *sharecroppers in* return. The landowners, bear either fully or partially the costs of the inputs and treatment of the farm. The previous household income studies commissioned by Fairtrade did not yet incorporate information on sharecropping agreements.

However, the yield of the *sharecroppers in* goes to the landowners and SPOs. This connection makes it essential for Fairtrade to gain a deeper understanding of the sharecroppers, the agricultural practices they implement and the income they earn through this agreement. By doing so, Fairtrade can ensure that the practices align with sustainability and ethical standards, ultimately enhancing the transparency and effectiveness of Fairtrade's impact throughout the entire value chain.

In December 2022, Fairtrade published a new Cocoa Standard containing additional requirements that support greater visibility of and benefits for sharecropper and caretaker farmers. The first of these requirements came into effect in January 2024, and subsequent requirements became active in July 2025. This current study will take a closer look at these sharecropping arrangements. By conducting separate analyses focused on these agreements, the study aims to provide a clearer picture of how sharecropping affects household income and production costs, thus offering insights that can better inform strategies and support for farmers in the cocoa sector.

Figure 2: Sharecrop agreement dynamics



Cost and revenue within a sharecropping agreement:
Sharecropping agreements can have varying arrangements on the share of revenue and cost for the landowner and sharecropper. The most common agreement consist of the following shares:

- Land cost paid by landowner related to sharecropping agreement: 1/3 of the revenue is paid by the landowner to the sharecropper as payment
- Input cost paid by landowner: 1/3 of the revenue is used by the landowner for input cost related to the management of the farm
- Profit: 1/3 of the revenue is kept by the landowner as profit

Methodology

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Methodology Approach

Six analysis are carried out to gain insights into farmer household income and income drivers

The current study consists of six separate analyses:

1) A comparative analysis is performed between farmer household income of a sample of farmers for the mid-crop and main harvests between 1st April 2023 to 31st March 2024 that belong to the same SPOs as the sample for the study in 2020.

2) An analysis is conducted on the entire sample of farmers to understand the current situation of the household income of farmers.

3) A separate analysis is performed for an isolated sample of *sharecroppers in* that have sharecropping arrangements with Fairtrade-certified farmers.

4) To understand the broader context behind the quantitative data, a qualitative analysis is performed based on focus group discussions with farmers and SPO managers and in-depth interviews with delegates.

	Research population	Objectives analysis
1 Comparative analysis	**Farmers 2023/2024**  *For the comparative analysis, a sub-selection of the sample of Fairtrade-certified farmers is taken, consisting of **262 farmers** who are part of the same SPOs included in the 2020 study.*	• Comparison between samples of harvests 2023/2024 with previous study on harvests 2019/2020. • Identification of income drivers that contribute to change in income between the studies.
2 Fairtrade price mechanism analysis	**Farmers 2023/2024**  *For the Fairtrade price mechanism analysis, the full sample of **704 Fairtrade-certified farmers** is selected, including farmers from SPOs that did not participate in the 2020 study.*	• Assessment of household income and living income gap based on harvests 2023/2024 for the full sample of farmers. • Identification of income drivers that contribute to farmer household income.
3 Analysis sharecroppers	**Farmers *Sharecropping in* 2023/2024**  *A separate sample of **43** sharecroppers in identified by Fairtrade-certified farmers.*	• Separate assessment of household income and living income gap based on harvests 2023/2024 for farmers with a *sharecropping in* arrangement. • Analysis of sharecropping agreement as income driver.
4 Qualitative analysis	 *Sample Fairtrade certified farmers for focus group discussions.*  *Delegates for in-depth interviews.*  *SPO managers for focus group discussions.*	• Qualitative insights on income trends and the effect of Fairtrade interventions and other external programs.

Methodology Approach

Six analysis are carried out to gain insights into farmer household income and income drivers

5) This analysis updates the key economic indicators, namely production costs, yields, for the existing sample of cocoa farmers in Côte d'Ivoire, using the recent data from the mid-crop and main harvests between 1st April 2024 to 31st March 2025. The main goal is to assess how recent changes in costs and productivity influence farmers' ability to achieve a living income under current market conditions.

6) A price sensitivity analysis is conducted to explore how variations in cocoa prices may impact farmer profitability and income levels. This analysis uses the latest price for April 2025 to simulate potential market fluctuations and evaluate the vulnerability or resilience of farmer livelihoods. The purpose is to understand how different price levels affect farmers' likelihood of reaching a living income, even when other conditions remain constant.

	Research population	Objectives analysis
5 Price scenario 1 *April 2024 - March 2025*	**Farmers 2023/2024**  *For the Price sensitivity analysis, the original sample of **704 Fairtrade-certified farmers** is selected, including farmers from SPOs that did not participate in the 2020 study.*	• Update of the key economic indicators, namely price, production costs and yields, for the existing sample, to reflect harvests 2024/2025. • The main goal is to assess the indicators' influence on farmers' ability to achieve a living income.
6 Price scenario 2 *April 2025*	**Farmers 2023/2024**  *For the Price scenario analysis, the full sample of **704 Fairtrade-certified farmers** is selected, including farmers from SPOs that did not participate in the 2020 study.*	• Simulation of new farm-gate price and its impact on farmer profitability and income levels. • Analysis on how price levels affect farmers' likelihood of reaching a living income, even when other conditions remain constant.

Methodology **Sampling strategy and data collection approach**

Quantitative and qualitative data was collected by EMC in July and August 2024

A purposive sampling strategy was employed for the quantitative data collection, selecting farmers from the same SPOs that were part of the 2020 study. EMC selected a number of villages per SPO through random sampling. Of those selected villages 4 male farmers and 1 female farmer were randomly selected. These farmers were contacted to take part in the interviews. This approach resulted in a sample of 704 Fairtrade certified farmers of which 143 *sharecrop out* their land to other farmer households who *sharecrop in*.

To select a sample of farmer households that *sharecrop in*, a convenient sample approach was taken in which the main farmers were asked to share contact information on their *sharecropper in* partners (if any). This resulted in a sample of which 43 who *sharecrop in* and work on the farm of landowners.

For the qualitative data collection sampling took place based on geographical location. Interviewees were selected in collaboration with EMC.

Quantitative data collection

704 **Cocoa farmers from Côte d'Ivoire**
Includes 143 farmers that sharecrop out

43 ***Sharecroppers in***
Sharecrop in agreement with Fairtrade farmers

Time period: July – August 2024

Data collection carried out by EMC

Individual farmer interviews
- 237 questions were administered through the previous 2020 study and CHIS minimum requirements methodology for survey design.
- Questions focused on harvests 2023/2024
  - Mid-crop harvest April-September 2023
  - Main harvest October 2023 – March 2024

Qualitative data collection

15 **Cocoa farmers from Côte d'Ivoire**

17 **SPO managers**

9 **Délégués des section des SPOs (Section delegates)**

Time period: August 2024

Data collection carried out by EMC

4 Focus Group Discussions with farmers and SPO managers
- Farmers: 19 questions focused on general information, income change drivers, Fairtrade interventions and external benefits. Respondents were identified via cooperation of section delegates.
- SPO managers: 17 questions focused on general information, income trends, Fairtrade interventions and external programs.

9 In-depth interviews with section delegates
- 25 questions focused on general information, income trends, productivity trends and Fairtrade interventions

Methodology The concept of living income

The living income benchmark is the income needed by a household to afford a decent standard of living

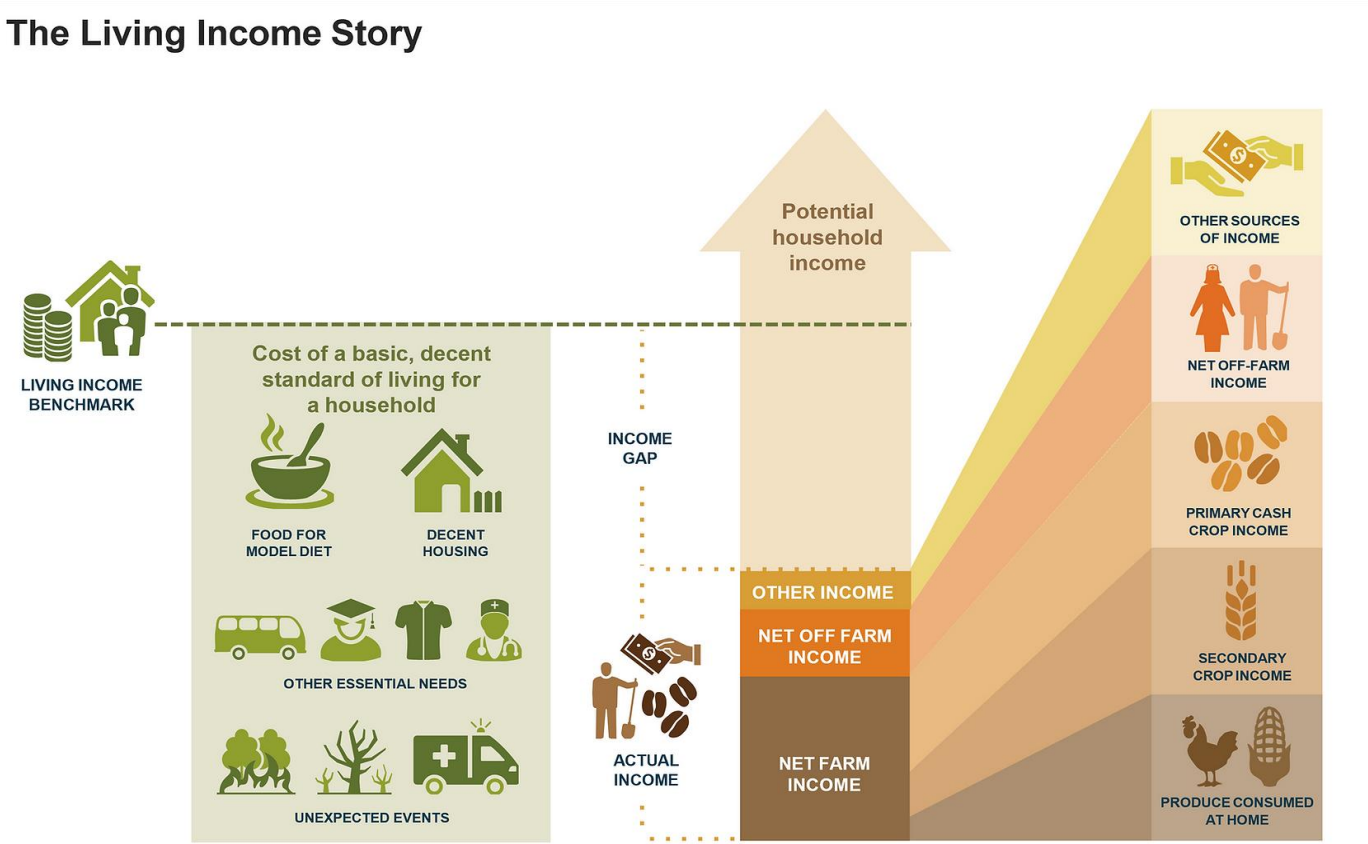
This study focuses on calculating farmer household income and identifying the **living income gap**. The living income gap is measured as the difference between the **living income benchmark** and the actual household income.

The living income benchmark accounts for the living income in a particular country or region that is needed by a household to afford a decent standard of living for all members of that household. Elements of a decent standard of living include food, housing, other essential needs and provision for unexpected events.

The total net household income, including net farm and off-farm income, should be equal to a living income.

The living income benchmark used in this study is detailed on the next page.

Figure 3: Components of living income (Living Income Community of Practice)



Methodology **Living income benchmark**

The living income benchmark is derived from an Anker & Anker study and adjusted for household size

The living income benchmark for Côte d'Ivoire used in this study is based on the living income benchmark derived from the **Anker & Anker** study in 2022 and an update made by Fairtrade for November 2023. For this study, a **linear approach** was applied to adjust the benchmark based on the median household size within the sample. The linear approach assumes each household member counts equally, regardless of age or household status, and adjusts the benchmark by dividing the reference family benchmark (based on a household of seven people) by seven and then multiplying by the total household size. This approach is conceptually simple, aligns with poverty line benchmarks reported in per-person terms, and ensures sufficient weighting for children in the household.

Using this linear adjustment, the living income benchmark for a family of seven is calculated as **CFA 4,381,996 per year**, equivalent to **€6,678 per year** in 2023. For the analyses in this study, the benchmark is further adjusted to align with the median household size of the respective sample.

In this living income assessment, the income of farmers is measured for the period from April 2023 to March 2024, covering the mid-crop and main harvests. The living income benchmark was updated based on values for November 2023 with the fixed exchange rate CFA/EUR.

Figure 4: Median household composition

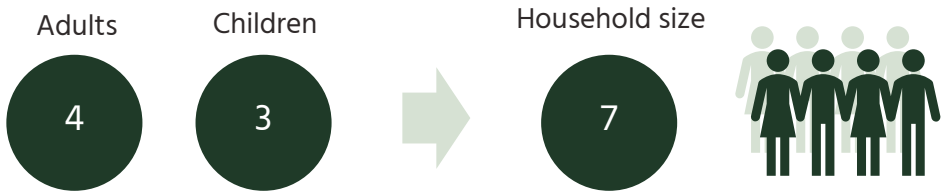


Table 1: Living income benchmark for household size of 7

	Unit	CFA	EUR
Living income study, Anker & Anker (June 2022) [1]			
Monthly living income per family	Per month	348,814	€ 532
Yearly living income per family	Per year	4,185,762	€ 6,379
Update Fairtrade (November 2023)			
Monthly living income per family	Per month	365,166	€ 557
Yearly Living income per family	Per year	4,381,996	€ 6,678

[1]Living Income Benchmark, Côte d'Ivoire Rural cocoa growing areas. June 2022 update, Anker and Anker (2022). Original study is based on a household size of 6 persons. Link to study.

Methodology Cocoa Household Income Study methodology

This study aligns with the study requirements as laid out in the CHIS methodology

The cocoa sector has been striving to ensure living incomes for cocoa farming households. However, progress at the sector level has been hindered by difficulties in data collection and sharing. To overcome these obstacles and guide policy and strategy development with a focus on large-scale impact, a collaborative approach is essential. To facilitate this, the CHIS cocoa household income study (CHIS) methodology has been developed. This methodology provides a harmonised methodology for collecting data to measure cocoa farmer household income and living income gaps.

The CHIS methodology builds on the work of the Living Income Community of Practice (LICoP) (de los Rios and Tyszler, 2020; Romo, 2022) and the expertise of its authors. This current study aligns with the CHIS minimum requirements for measuring household income and living income gaps while incorporating some of its recommended data points.

Specific adaptations made in this study compared to the previous studies include:

- Incorporating labour groups within the hired workforce (minimum requirements).
- Recognising sharecrop agreements as part of tenure arrangements and their inclusion across categories of cocoa production such as revenue, yield, and costs (recommended approach).
- Refining the definition of household members and size (minimum requirements).

Definitions of key terms and additional details can be found in the Annex.

Source: van der Haar, S., et al. (2024)

Methodology **Limitations of quantitative data collection**

Several limitations should be acknowledged when interpreting the findings

The quantitative data collection for this study involved surveying smallholder cocoa farmers. To support consistency in data collection, all enumerators received training aimed at aligning methods, clarifying key definitions, and reducing interviewer bias. However, despite this effort, differences in how individual enumerators or farmers interpreted specific questions may still have influenced the data. Moreover, data was collected through farmer recall, which introduces several limitations that should be acknowledged when interpreting the findings.

Farmer recall

The primary method of data collection relied on farmer recall. This introduces the risk of memory inaccuracies, particularly in estimating total yields, income, and costs. Farmers may unintentionally overestimate or underestimate figures, affecting data reliability.

High yield values

Many farmers reported cocoa yields that appear higher than national averages and higher than expected based on contextual knowledge of the region. While the exact cause of this discrepancy cannot be determined, it may be the result of overestimation, memory bias, or misunderstanding of the units or reference period. This limitation has important implications for the analysis of the living income gap, as yield directly affects income calculations and thus the assessment of whether farmers are earning a sufficient livelihood.

To assess the representativeness of the reported yield data, triangulation was conducted using secondary data sources, including the **Cost of Sustainable Production** dataset and yield estimates from the **Agri-Logic** dataset. These comparisons confirmed that the farmer-reported yield values were higher than expected benchmarks. However, in the absence of a direct explanation for this discrepancy and to maintain consistency with farmer-reported data, the original yield values were retained for the main analysis.

To address this limitation and understand its potential impact, an additional price scenario analysis was conducted using a lower, more conservative yield value that aligns more closely with other data estimates. This approach made it possible to assess how variations in yield assumptions affect the calculated living income gap and provides a potentially more accurate picture of farmer income levels under typical production conditions.

Sharecropper arrangements

This study includes data on cocoa production costs from sharecroppers, in line with the CHIS methodology. While this provides valuable insights, limited prior understanding of the different types of sharecropping arrangements and associated cost structures poses a constraint on the data quality and interpretation. Sharecropping agreements can vary widely in how responsibilities, inputs, and revenues are shared between landowners and sharecroppers, but these nuances were not always fully captured in the survey. As a result, there may be inconsistencies or gaps in how production costs and income shares were reported. This limitation should be considered when interpreting cost and income data for sharecropping households, as it may affect the accuracy of living income calculations and comparisons across farmer types.

Methodology Inclusion qualitative analysis

Qualitative data is collected to gain more insights on social and economic factors affecting household income

The previous Fairtrade income studies focused solely on quantitative data collection. To help deepen the understanding of factors affecting household income, the current study includes qualitative data. The scope for the qualitative research consists of four focus group discussions (FGDs) and nine in-depth interviews (IDIs).

Sampling and geographical distribution

For the geographical distribution of the FGDs and IDIs, two small-scale producer organisations (SPOs) were selected. The first SPO was the ECAM Coop located near Méagui which is in the Nawa Region department in the Bas-Sassandra District. The second SPO was the CEAA Coop located near Abengourou the seat of both the Comoé District and Indénié-Djuablin Regi

Two FGDs were conducted with SPO managers (one from ECAM and one from CEAA) and two FGDs with farmers (one from ECAM and one from CEAA). For the nine IDIs, it was decided that section delegates would provide the best insight, therefore five section delegates were chosen from ECAM and four from CEAA.

Approach

For the SPO managers, a formal invitation was issued, and for each FGD, all the 17 available managers, were briefed by the SPO President. For the farmers, the assistance of the section delegates was sought to select and invite 15 farmers to participate in the FGDs. In consultation with both Fairtrade and EMC, the questions and prompts to be used in the FGDs and IDIs were provided by Impact Institute.

Prior to entering the field, training was conducted at the PEFACI premises in Yamoussoukro, the central location of the country. Participants included one research executive (master of pedology), one research director, three mission supervisors, 12 interviewers, and one administrative assistant for logistics. The training focused on project objectives, conducting interviews, in-depth review of the questionnaire and respondent communication procedures. Once in the field, all FGDs and IDIs were recorded and transcribed. Audio files and transcripts were then shared with Impact Institute. Answers were grouped into themes surrounding the research topics. The findings of the qualitative analysis are included throughout the report to provide insights into various trends that are observed.

Key stakeholders

- *Fairtrade certified farmers for focus group discussions*
- *Section delegates for in-depth interview*
- *SPO managers for focus group discussions*

Selected SPOs

- *Nawa Region, ECAM Coop*
- *Indénié-Djuablin Region, CEAA Coop*

Key themes

- *Income drivers*
- *Productivity trends*
- *Fairtrade interventions*

Methodology **Price scenario 1 & 2**

The price scenarios focuses on understanding income dynamics through real farmgate prices and controlled price variations

Methodology

The price analyses aim to explore how variations in cocoa prices may impact farmer profitability and income levels. Prices and key cost indicators are updated to reflect 2024/2025 harvests with a two-step approach. First, a **desk review** of the latest literature, market bulletins, and sector reports was conducted to gather updated information on cocoa production costs, productivity, and price dynamics in Côte d'Ivoire. Second, a **targeted survey** was administered to Fairtrade experts and compared to Agri-Logic data on the latest harvests, focusing on identifying trends and shifts compared to the original study scope. This process allowed for the estimation of updated values for key variables, including yields, input costs, and revenues.

For the price scenario analysis 2, updated production-related indicators (including yields, costs, and input use) were held constant, as in scenario 1. The only variable adjusted in this analysis was the **farmgate price of cocoa**, which was updated according to the latest price set for April 2025.

Price Scenario 1

Objective: To assess how recent changes in costs and productivity influence farmers' ability to achieve a living income under current market conditions.

Price update

For price updates, the analysis incorporated actual farmgate prices declared for the two harvests: **1,500 CFA/kg** (2.29 €/kg) for the mid-crop harvest (April–September 2024) and **1,800 CFA/kg** (2.74 €/kg) for the main harvest (October 2024–March 2025).

Indicators update

Adjustment yield to more representative value (500 kg/ha) in line with Cost of Sustainable Production (COSP) data collection.

Datapoints updates based on primary and secondary data collection (see details p. 79 *Annex*).

Price Scenario 2

Objective: to understand how different price levels affect farmers' likelihood of reaching a living income, even when other conditions remain constant.

Price update

2,200.79 CFA/kg (3.35 €/kg) for main and mid-crop harvests

Indicators update

Same update as for Price Scenario 1.

Comparison Study

03

Comparison study **Descriptive statistics**

In comparison to the 2020 study, the most notable change is the total production of cocoa and farm size

The table on the right presents the average descriptive statistics for both the current sample of 2024 and the sample from the 2020 study. For the comparative analysis, a sub-selection of the sample of Fairtrade-certified farmers is taken, consisting of farmers who are part of SPOs that were included in the 2020 study.

A key change observed between 2020 and 2024 is the average production that has decreased from 2,743 kg to 1,952 kg. In contrast, average yield has slightly improved, rising from an average of 625 kg/ha in 2020 to 650 kg/ha in 2024. Median yield values show a larger increase in productivity with 515 kg/ha in 2020 to 595 kg/ha in 2024. This difference can be attributed to smaller farm sizes, with average cocoa area decreasing from 4.6 ha (median 3.6 ha) to 3.3 ha (median 3.0 ha).

An explanation for the decrease in farm size, most notably in cocoa production area, could be more accurate farm measurement. This could also explain the slight average yield increase (during times of production decline). In the 2024 study farmers confirmed no change in cocoa production area despite the average reported area reducing by 28%, suggesting that farmers in the previous 2020 study, believed their farms were bigger. This means farmers could be producing the same yields or lower yields in 2024, but accurate farm measurement since 2020, can verify that the production is from less land than previously reported by the farmer in 2020. The same or even less reported production on less cocoa area results in higher yield figures per hectare, whilst in reality, productivity may not have increased or even declined. More accurate farm measurement can also lead to increased motivation from farmers to invest in GAP, especially when the farm is smaller than previously perceived, due to the financial investment need being lower than previously anticipated.

The results also show a shift in Hired Full-Time Equivalents (FTE), decreasing from 0.92 to 0.12, which aligns with the local observations from the qualitative information collected on the scarcity of hired labour. This decrease might also be partly explained by a change in reporting, as it is possible that *sharecroppers in* were previously categorised as part of the hired labour force by farm owners but are now reported separately. Household FTE also dropped with a decrease from 4.38 to 2.86. The reduction in available household FTE can be partly attributed to the observed decline in household size.

Table 2: Development of average descriptive statistics

Indicator	Unit	2024	2020
Number of farmers	#	262	364
Percentage of farmers *sharecropping out their* land	%	32%	*Not measured*
Percentage of farmers entirely *sharecropping out* their land	%	25%	*Not measured*

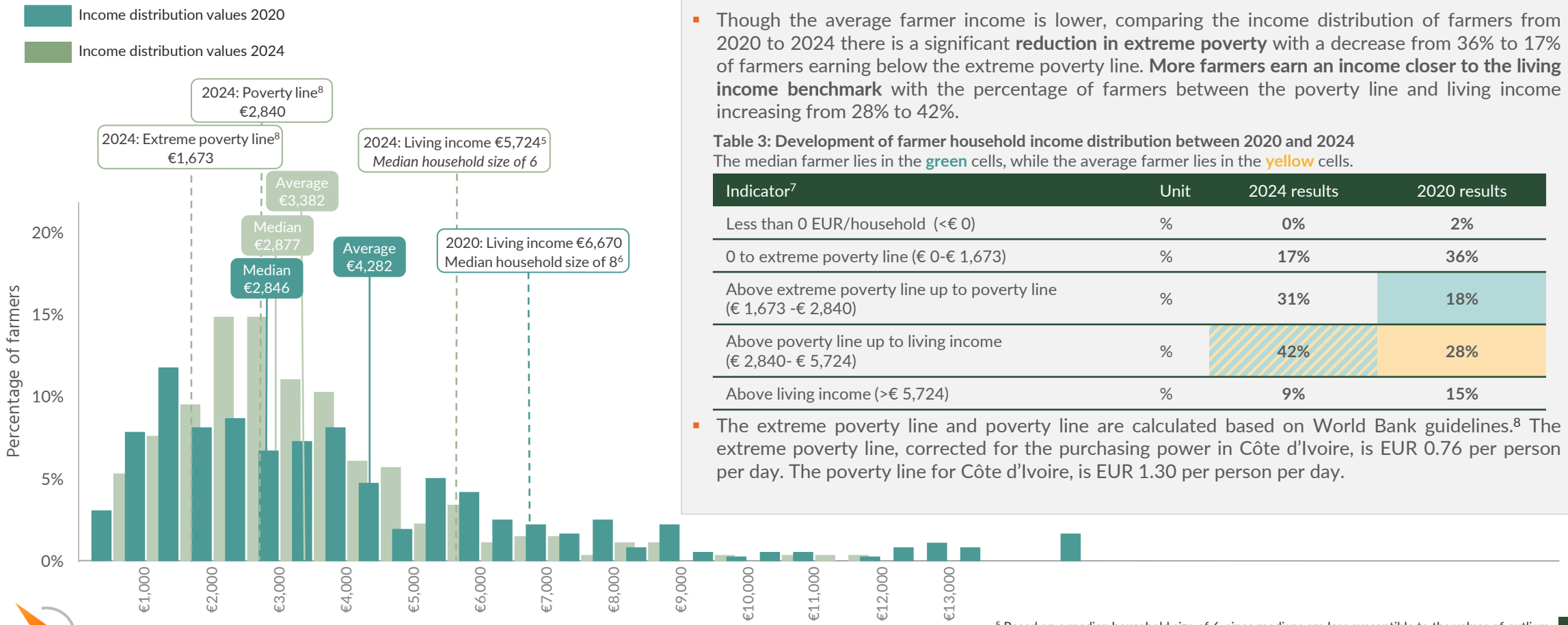
Indicator	Unit	Average 2024	Average 2020
Total farm area	ha	5.8	7.3
Area of cocoa production	ha	3.3	4.6
Amount of cocoa trees	#	3,277	7,732
Trees per hectare	#/ha	1,094	1,881
Percentage low productive trees (<5 or >25 years)[2]	%	52%	47%
Percentage of high productive trees (5-25 years)	%	48%	53%
Kilos of cocoa produced	Kg/year	1,952	2,743
Farm-gate price	EUR/kg	€ 1.45	€ 1.05
Profit per kilo cocoa	EUR/kg	€ 1.18	€ 0.90
Yield	kg/ha	650	625
Hired FTE[3]	#FTE	0.12	0.92
Household FTE	#FTE	2.86	4.38
Wages (of hired labour)[4]	EUR/FTE	€ 1,327	€ 701
Average household size	# people	7.8	9.5
Median household size	# people	6.0	8.0

[2]The category low productive trees is updated to include both trees that are younger than 5 years and trees that are older than 25 years.
[3] The calculation for 2020 and 2024 for hired and household FTE has been updated in alignment with an updated definition of FTE. See for a more detailed explanation in the Annex.
[4] Wages of hired labour have been updated for both 2020 and 2024 to only include farmer that have hired labour.

Comparison study **Distribution of household income**

Results show a significant decrease in extreme poverty

Figure 5: Distribution of farmer household income 2020 vs 2024 (EUR/year)



Key insights:

- Though the average farmer income is lower, comparing the income distribution of farmers from 2020 to 2024 there is a significant **reduction in extreme poverty** with a decrease from 36% to 17% of farmers earning below the extreme poverty line. **More farmers earn an income closer to the living income benchmark** with the percentage of farmers between the poverty line and living income increasing from 28% to 42%.

Table 3: Development of farmer household income distribution between 2020 and 2024
The median farmer lies in the **green** cells, while the average farmer lies in the **yellow** cells.

Indicator[7]	Unit	2024 results	2020 results
Less than 0 EUR/household (<€ 0)	%	**0%**	**2%**
0 to extreme poverty line (€ 0-€ 1,673)	%	**17%**	**36%**
Above extreme poverty line up to poverty line (€ 1,673 -€ 2,840)	%	**31%**	**18%**
Above poverty line up to living income (€ 2,840- € 5,724)	%	**42%**	**28%**
Above living income (>€ 5,724)	%	**9%**	**15%**

- The extreme poverty line and poverty line are calculated based on World Bank guidelines.[8] The extreme poverty line, corrected for the purchasing power in Côte d'Ivoire, is EUR 0.76 per person per day. The poverty line for Côte d'Ivoire, is EUR 1.30 per person per day.

[5] Based on a median household size of 6, since medians are less susceptible to the values of outliers
[6] For 2020, the living income is based on the benchmark set in 2020 with a median household size of 8.
[7] The ranges for the 2020 study related to the median household size of 8 can be found in the Annex.
[8] The most recent published PPP for private consumption for Côte d'Ivoire was published in 2023 with a value of 233.12 (LCU per International $)

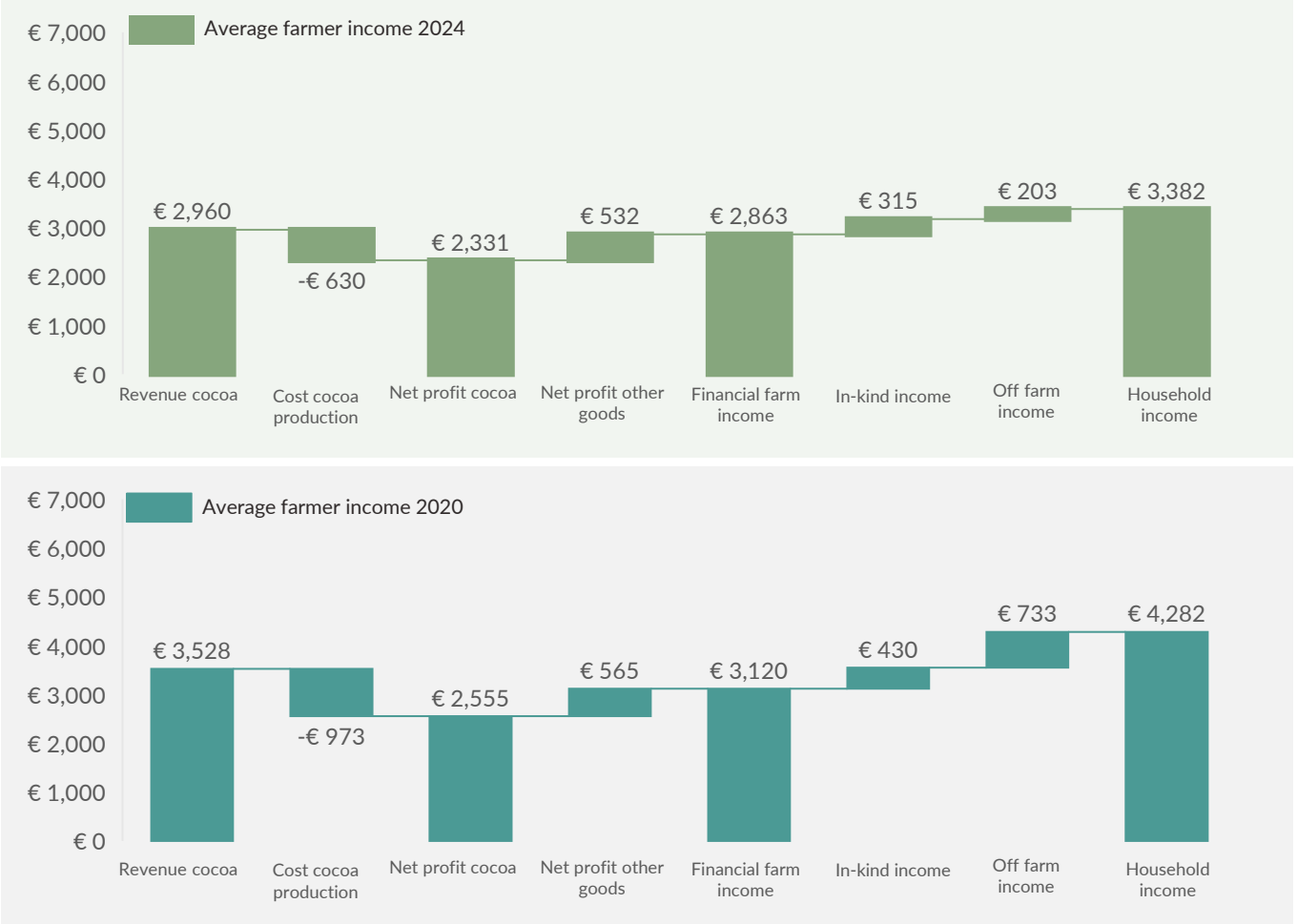
Comparison study **Farmer household income**

Improved income distribution despite a decrease in average household income between 2020 and 2024

The average household income of the 262 households included in the 2024 study is €3,382 per year, representing a 21% decrease compared to €4,282 in 2020. However, this decrease in the average income is primarily due to a small group of farmers with very high incomes in 2020, which skewed the average upwards. This is shown by the median farmer income that increased slightly from €2,846 in 2020 to €2,877 in 2024. Despite the lower average, the income distribution data presented on the previous page reveals a positive trend: fewer farmers are earning below the poverty line, and more are moving closer to a living income.

Looking specifically at cocoa production, profit from cocoa production has decreased by 9% between 2020 and 2024. Additionally, other income sources, such as goods, in-kind income, and off-farm activities, have decreased over the same period, contributing to the overall decline in household income. The next page provides further insights into trends in cocoa production, followed by a detailed analysis of income diversification and its implications.

Figure 6: Average farmer household income 2020 vs. 2024 (EUR/year)



Comparison study **Key productivity drivers**

Higher prices per kg of cocoa but overall decrease in cocoa productivity

Productivity and farm size

The comparative analysis shows a decrease in overall cocoa production per year. Looking at productivity, the average values for yield per hectare have increased slightly. The increase in yield per hectare is related to the decrease in farm size that is reported between 2020 to 2024. The change in farm size can potentially be explained by the introduction of formal measurement approaches that result in more reliable farm size measurements. If farmers in the previous 2020 study, believed their farms were bigger, farmers could be producing the same yields or lower yields in 2024 from less land. The same or even less reported production on less cocoa area results in higher yield per hectare, whilst in reality, productivity may not have increased or even declined. Additionally, the comparison study also indicates a decrease in the use of hired labour. Labour shortages can prompt farmers to focus on smaller farm areas, which would result in overall lower production.

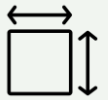
Factors influencing production and farm area

Climate change has emerged as a critical factor affecting cocoa production. Irregular rainfall patterns, rising temperatures, droughts, and occurrences of extreme weather events can disrupt production and make areas less viable for cocoa production. Furthermore, the prevalence of disease, caused by the cacao swollen shoot virus (CSSV), poses a significant threat to cocoa production. This disease has particularly affected West African nations like Ghana and Côte d'Ivoire

Higher prices and payment of premiums

As the supply of cocoa has decreased due to various factors mentioned, global demand for chocolate and cocoa products has remained robust (Kongor, J. E., et al., 2024). The reduced supply, coupled with persistent demand, has led to increasing cocoa prices (ICCO, 2024). This is reflected in the comparative analysis as well, with an overall increase of 38% in cocoa price between 2020 and 2024 and a similar increase in net profit by 32%. This increase in cocoa price also includes any Fairtrade price differentials and premiums when cocoa is sold on Fairtrade terms.

Cocoa production per year ↓ -29%



Cocoa production area ↓ -29%

Price per kg cocoa ↑ +38%

Net profit cocoa ↑ +32%

Comparison study **Income diversification**

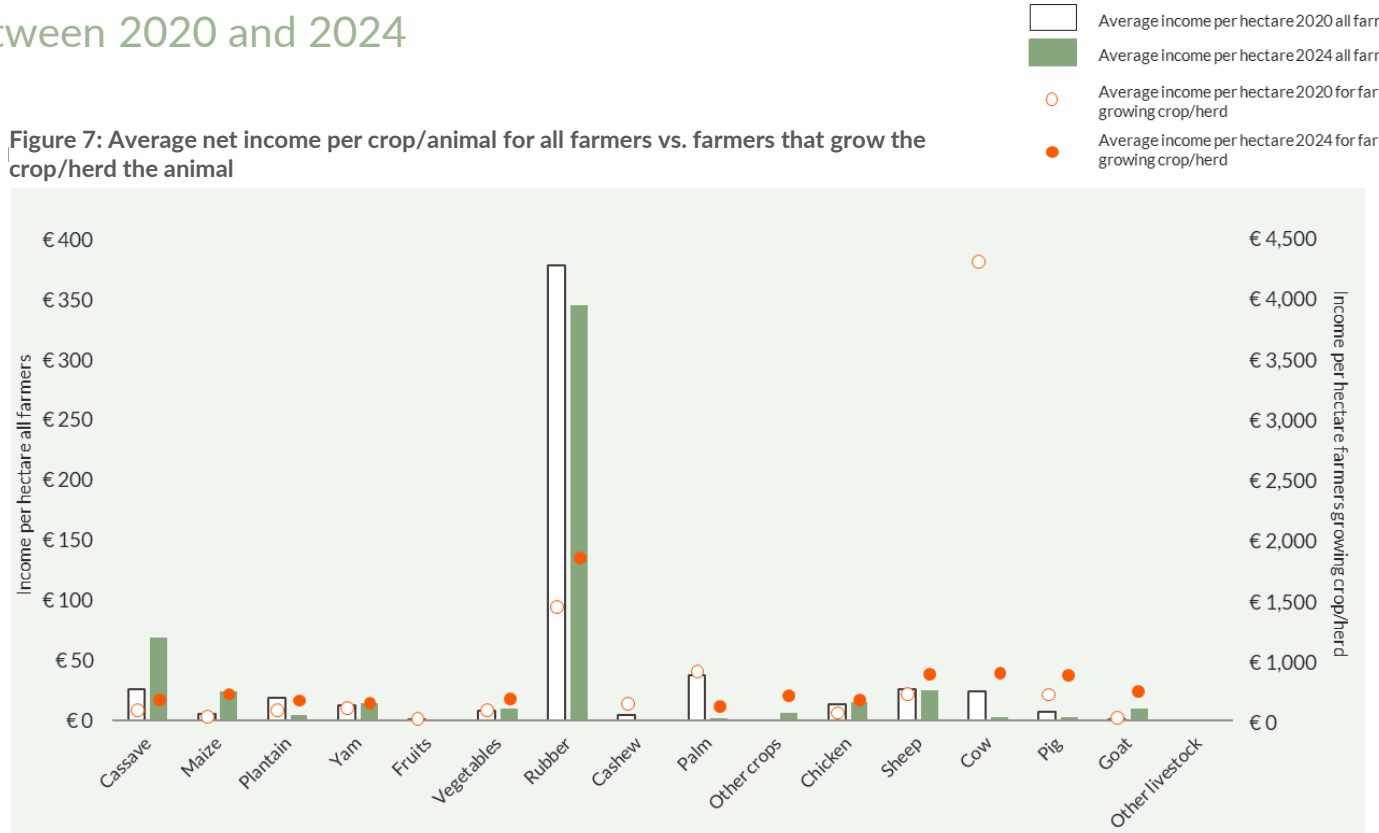
Income diversification has slightly decreased between 2020 and 2024

Compared to the 2020 study, fewer farmers are diversifying their income through the production of other crops or livestock. Approximately 69% of farmers now grow additional crops or raise livestock alongside cocoa, compared to 71% in the previous study. This slight decline in diversification may be attributed to the increased cocoa prices observed during the study period, which made cocoa farming more profitable and potentially lessened the appeal of diversifying into other income streams.

Of the farmers with diversified production, 23% of farmers use diversified production solely for in-kind use, 23% produce them exclusively for sale, and 54% utilize them for both purposes.

Rubber remains the most profitable crop for those who produce it, and the average income per hectare has increased for farmers cultivating rubber. However, the percentage of farmers producing rubber has slightly decreased compared to 2020, possibly reflecting the shift towards higher reliance on cocoa driven by favourable cocoa prices and profit margins.

Figure 7: Average net income per crop/animal for all farmers vs. farmers that grow the crop/herd the animal



2024	% of farmers	26%	6%	2%	7%	1%	5%	20%	0%	2%	2%	6%	4%	0.4%	0.4%	2%	0%
2020	% of farmers	23%	7%	19%	10%	3%	9%	26%	2%	5%	-	21%	7%	1%	2%	2%	-

Comparison study **Cost of production**

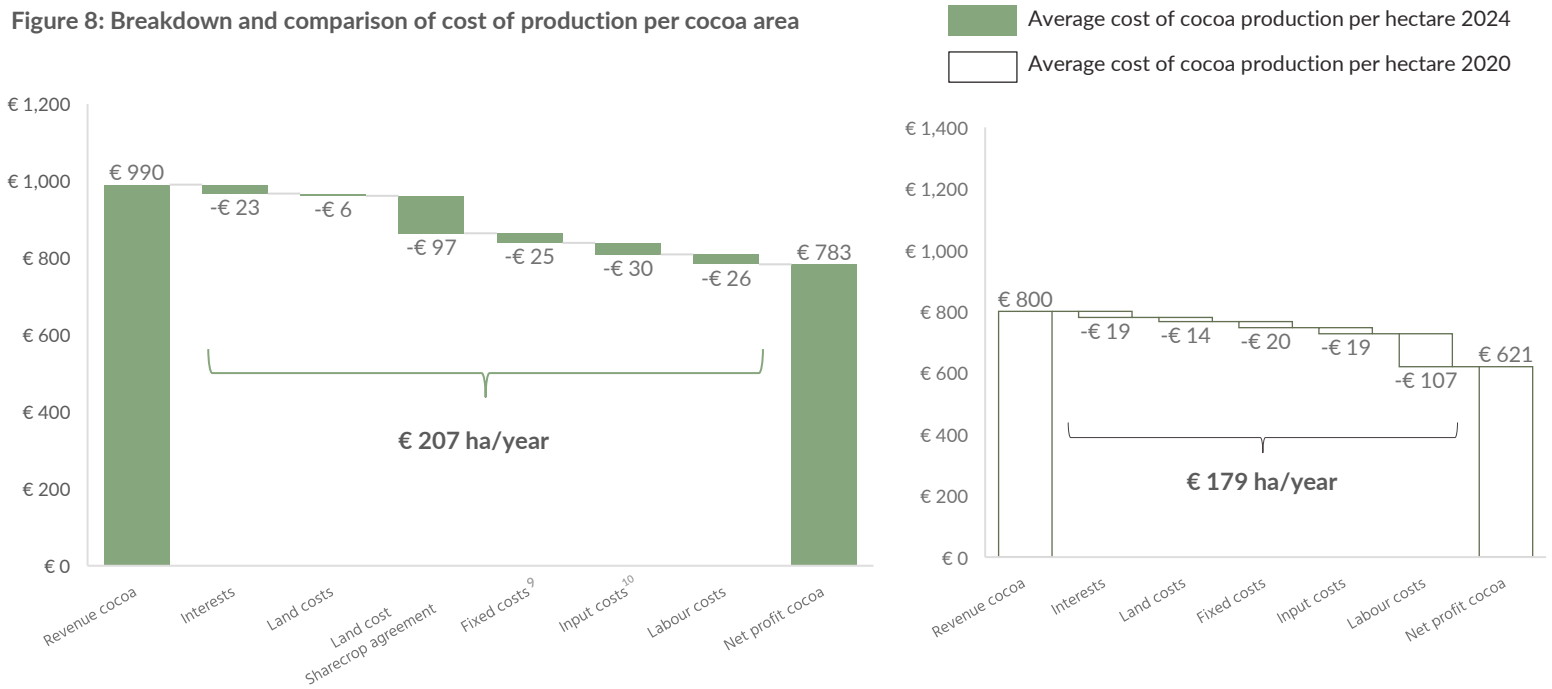
Shifting cost dynamics in cocoa production: Labour decreases, land costs rise

The analysis reveals an increase in cocoa production costs, rising from €179 per hectare annually in 2020 to €207 in 2024. The revenue per hectare has increased by 19% between 2020 and 2024 while the cost-revenue ratio has stayed similar with 22% in 2020 and 21% in 2024.

Compared to 2020 the current cost calculation for 2024 includes land cost related to sharecropping as well. The land costs from sharecropping agreements are calculated as 1/3 of the revenue paid by the landowner to the *sharecropper in*. Including these costs has led to an increase in the overall cost per hectare.

The results also show a shift in expenses, with labour costs decreasing while land costs from sharecropping make up a significant part of the total cost. Labour costs have decreased by 75%, which aligns with the drop in hired FTE that was shown in the descriptive statistics.

Figure 8: Breakdown and comparison of cost of production per cocoa area



Elaboration land cost sharecropping agreement:

In the 2020 study sharecropping agreements have not been separately included as an indicator. Potentially the cost related to the sharecropping agreement have been reported by farmers in other cost categories, but this information is not available. In the 2024 study sharecropping agreements have been specifically included in the questionnaire. Based on the information on sharecroppers a land cost of 1/3 of the revenue is included as the land cost that is paid by the landowner to the *sharecropper in* as part of the sharecropping agreement.

[9]Fixed costs include machete, machete file, tarpaulins, pick, basket, rope, axe, mechanic pruner, bag, boots, bucket, fuel and other fixed costs
[10] Input costs include fertilizer, pesticides, transport and seedlings costs

Fairtrade Price Mechanisms

04

Fairtrade Pricing Mechanisms **Descriptive statistics**

Key characteristics of the sample: land use, labour dynamics, and yield trends

The descriptive statistics for the main sample align closely with the sub-sample of farmers used for the 2020–2024 comparison, indicating overall consistency in the dataset. In the main sample, 20% of farmers participate in sharecropping agreements, and 16% entirely *sharecropped out* their land, relying exclusively on yields from the sharecropped areas.

Both the total cocoa production in kilograms (kg/year) and the yield (kg/ha), show little variation compared to the sub-sample of farmers analyzed in the comparative analysis (see p. 22).

The use of hired labour remains limited, with an average of 0.12 FTE, while household labour accounts for 3.10 FTE on average signaling a change in the workforce composition. Household sizes are relatively large, influenced by the inclusion of a few particularly large farmer households, which increased the average.

Table 4: Key descriptive statistics

Indicator	Unit	2024
Number of farmers	#	704
Percentage of farmers *sharecropping out* their land	%	20
Percentage of farmers entirely *sharecropping out* their land	%	16

Indicator	Unit	Average	Median
Total farm area	ha	5.98	5
Area of cocoa production	ha	3.15	3
Amount of cocoa trees	#	3,196	3,000
Trees per hectare	#/ha	1,135	1,265
Percentage of trees below 5 years and above 25[11]	%	45%	45%
Percentage of trees between 5 and 25 years	%	55%	55%
Kilos of cocoa produced	Kg/year	1,868	1,789
Farm-gate price	EUR/kg	€ 1.45	€ 1.45
Profit per kilo cocoa	EUR/kg	€ 1.21	€ 1.29
Yield	kg/ha	652	600
Hired FTE[12]	#FTE	0.12	0.10
Household FTE[13]	#FTE	3.10	1.66
Wages (of hired labour) [14]	EUR/FTE	€ 1,149	€ 838
Household size	# people	8.28	7

[11]The category low productive trees is updated to include both trees that are younger than 5 years and trees that are older than 25 years.
[12]The calculation for 2020 and 2024 for hired and household FTE has been updated in alignment with an updated definition of FTE. See for a more detailed explanation in the Annex.
[13] The household FTE calculation estimates the total labor input from household members in terms of full-time equivalents by summing the workdays contributed during cocoa harvest and non-harvest periods. It factors in the number of adults (male and female), the days they work per week, the duration of harvest and non-harvest periods, and a standard number of days defining one FTE.
[14]Wages of hired labour include only farmer that have hired labour.

Fairtrade Pricing Mechanisms **Yield and farm size distribution**

The income and farm size distributions highlight the variability within the farmer population

Figure 9: Farm size distribution

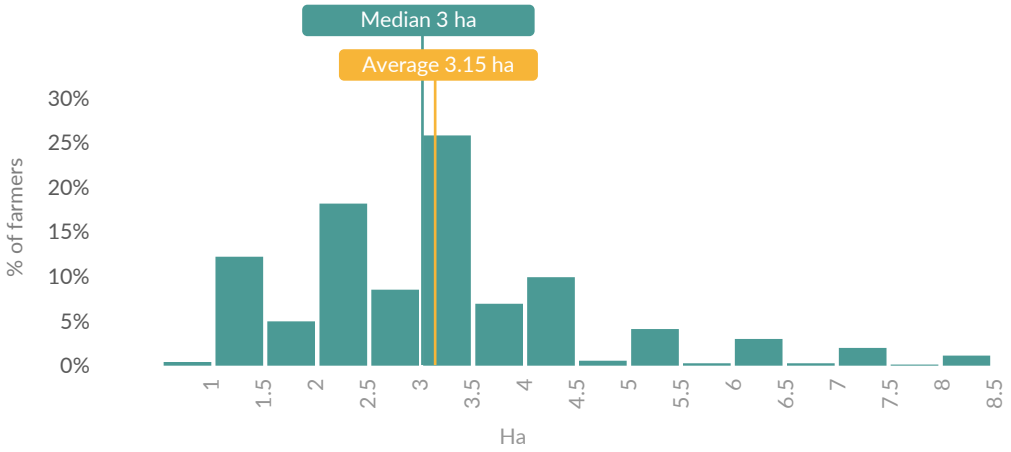
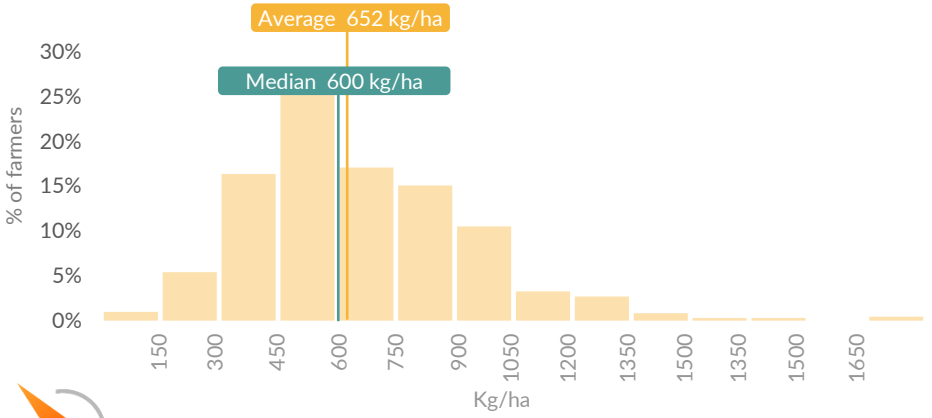


Figure 10: Yield distribution



These figures present the **distribution of farm size (in hectares) and cocoa yield (in kg/ha)** for the main farmers in the sample. Both the **hectares and the yield values include land *sharecropped out* by the farmers as well as the cocoa produced on these *sharecropped out* plots**, ensuring that the graphs reflect **total farm productivity** rather than only the area directly managed by the farmer.

For **farm size**, the average is **3.15 hectares**, while the median is slightly lower at **3 hectares**, indicating a relatively consistent distribution with a few larger farms increasing the average.

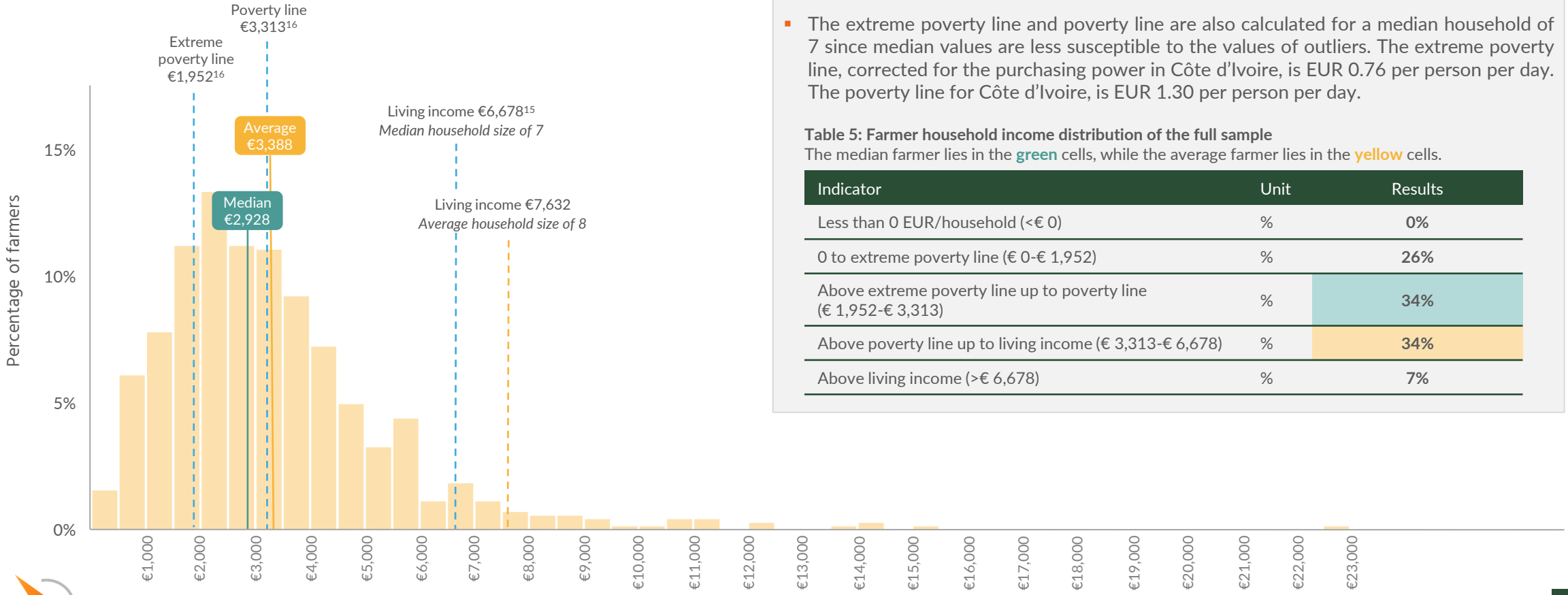
For **yield**, the average across the sample is **652 kg/ha**, while the median is **600 kg/ha**, indicating moderate differences in productivity levels across farmers. The yield distribution shows a concentration of farmers producing between 450 and 750 kg/ha, with fewer farmers achieving higher yields. To assess the representativeness of the reported yield data, triangulation was conducted using secondary data sources, including the **Cost of Sustainable Production (COSP)** dataset and yield estimates from the **Agri-Logic** dataset. These comparisons confirmed that the farmer-reported yield values were higher than expected benchmarks. However, in the absence of a direct explanation for this discrepancy and to maintain consistency with farmer-reported data, the original yield values were retained for the main analysis.

The distributions highlight the **variability in farm structure and productivity within the farmer population**, which is critical for understanding income potential, resilience, and the pathways farmers can take to achieve a living income under different pricing or intervention scenarios.

Fairtrade Pricing Mechanisms **Distribution of household income**

7% of the farmers earn a living income

Figure 11: Distribution of farmer household income 2024 (EUR/year)



Key insights:

- Most of the farmers in the sample earn a household income that falls between the poverty line and the living income benchmark. Only 7% of the farmers earn an income above the living income benchmark for a median household size of 7 people.
- The extreme poverty line and poverty line are also calculated for a median household of 7 since median values are less susceptible to the values of outliers. The extreme poverty line, corrected for the purchasing power in Côte d'Ivoire, is EUR 0.76 per person per day. The poverty line for Côte d'Ivoire, is EUR 1.30 per person per day.

Table 5: Farmer household income distribution of the full sample
The median farmer lies in the **green** cells, while the average farmer lies in the **yellow** cells.

Indicator	Unit	Results
Less than 0 EUR/household (<€ 0)	%	**0%**
0 to extreme poverty line (€ 0-€ 1,952)	%	**26%**
Above extreme poverty line up to poverty line (€ 1,952-€ 3,313)	%	**34%**
Above poverty line up to living income (€ 3,313-€ 6,678)	%	**34%**
Above living income (>€ 6,678)	%	**7%**

[15] Based on a median household size of 7, since medians are less susceptible to the values of outliers
[16] The most recent published PPP for private consumption for Côte d'Ivoire was published in 2023 with a value of 233.12 (LCU per International $)

Fairtrade Pricing Mechanisms **Farmer household income and living income gap**

The average household income is €3,388 per year and the median income is €2,500 per year

The average household income of the 704 households is €3,388 per year. This income is not sufficient to make a living income of €7,632 per year for an average household size of 8 people. The average farmer earns 44% of a living income with an average living income gap of €4,244 per year.

Looking at the median household income, the values show a similar trend with a median household income of €2,500, which is 37% of the living income benchmark for a median household of 7 (€6,768).

Cocoa revenue is the primary income driver of household income. Additional income sources specifically contribute little to the overall household income. This is also evident in the low values for these income sources in the breakdown of median household income, suggesting potential for income diversification.

Figure 12: Average farmer household income 2024 (EUR/year)

Living income 2024 = €7,632
Average household size of 8

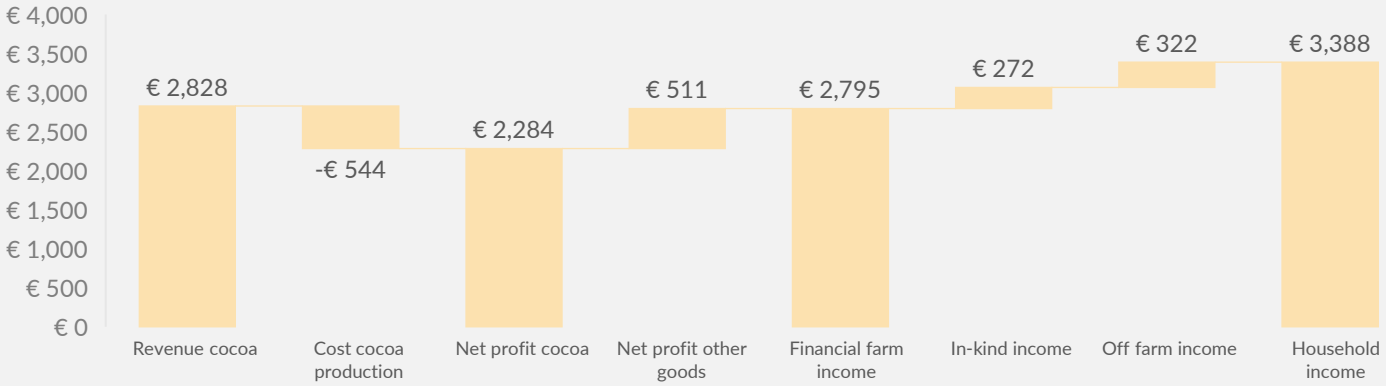
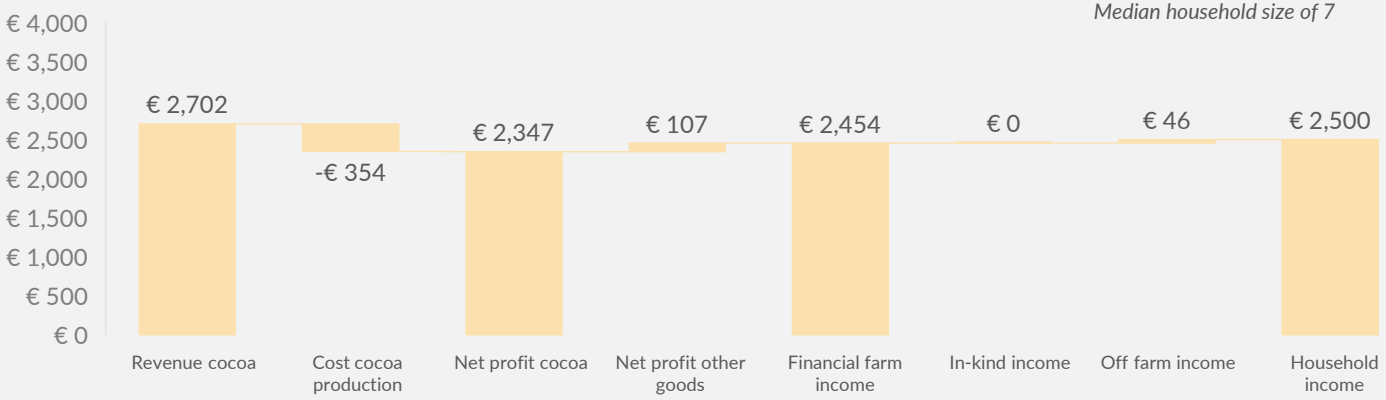


Figure 13: Median farmer household income 2024 (EUR/year)[17]

Living income 2024 = €6,678
Median household size of 7



[17] Median values for farmer household income do not sum up due to rounding and variations in specific calculation methods

Fairtrade Pricing Mechanisms **Income diversification**

Rubber provides the highest income among the products produced in addition to cocoa

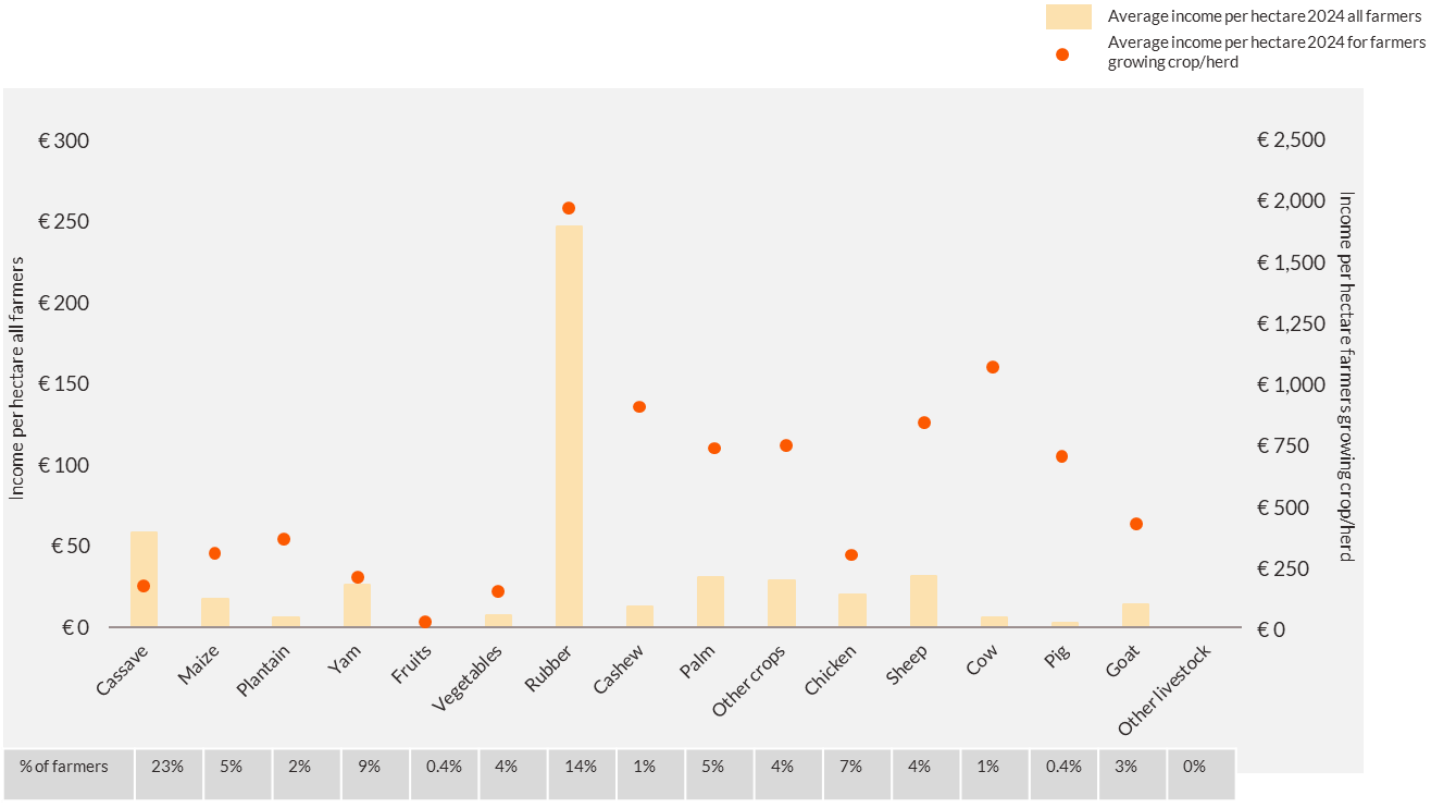
About 88% of the full sample of farmers have diversified their production to some degree and produce other goods next to cocoa. 27% of farmers produce only for in-kind purposes, 18% only for sales purposes, and 55% of the farmers that diversify their income do this for both in-kind and sales purposes.

The production of rubber stands out as the most lucrative crop for farmers producing it, with an income per hectare that is significantly higher than all other crops or animals. This suggests that farmers who focus on rubber production can achieve greater income levels compared to other options.

Livestock provides higher income per hectare for the farmers involved in herding compared to the production of other crops, except for rubber. However, only a small percentage of the farmers in the sample engage in the herding of livestock.

This limited diversification may stem from rising cocoa prices, which incentivize a focus on cocoa farming, as well as constraints like limited land, labor, or capital and less-developed markets or infrastructure for alternative activities.

Figure 14: Average income per crop/animal for all farmers vs. for farmers that grow the crop/herd the animal



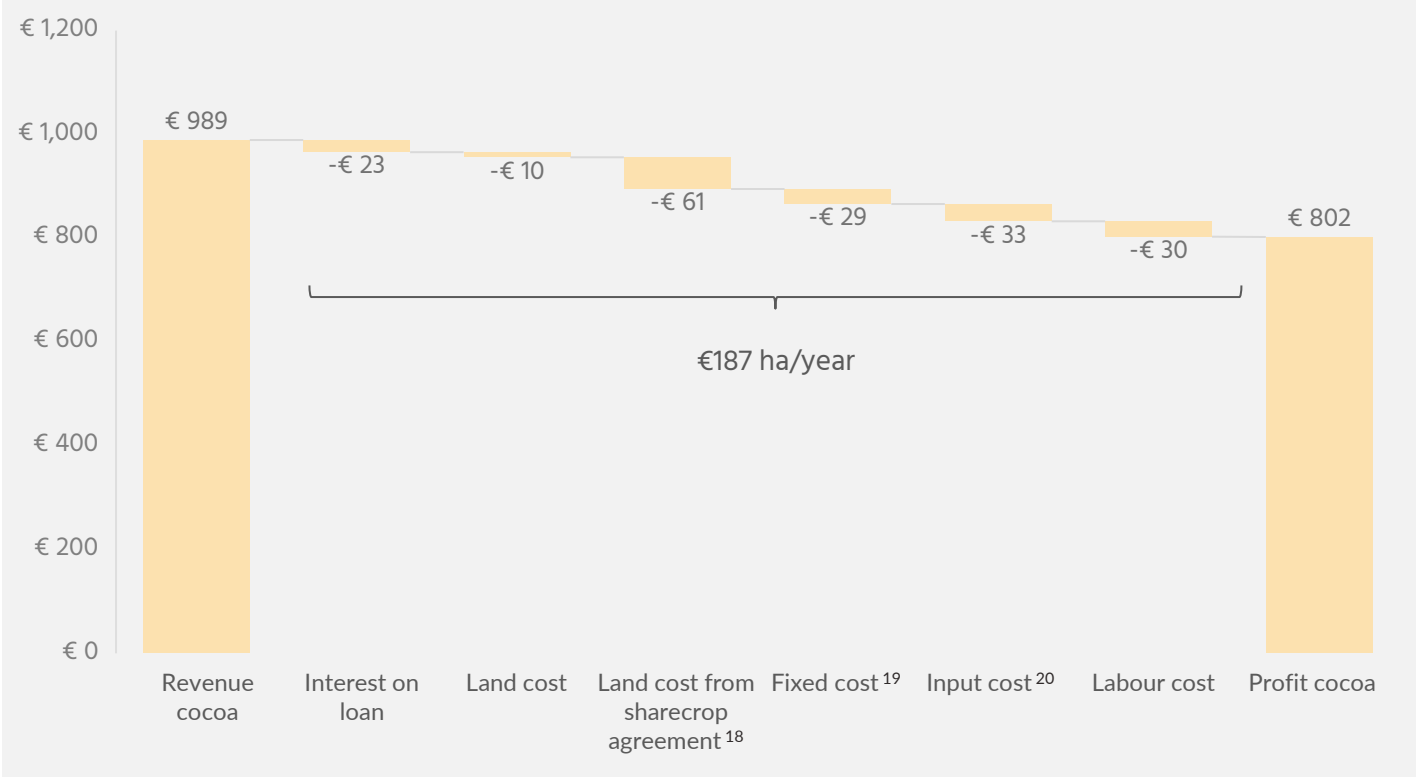
Fairtrade Pricing Mechanisms **Cost of production**

Cost of cocoa production is only a small fraction of the revenue which indicates a high profit margin of cocoa

The cost of production per hectare for the full sample is comparable to the cost of production for the sub-sample in the comparison analysis, with land cost from *sharecropping out* agreements and labour cost as the biggest cost categories.

Despite the various costs associated with cocoa production, the profit from cocoa, €802 per hectare, remains substantial. The cost accounts for only a small part of the revenue, with a cost-revenue ratio of approximately 19%.

Figure 15: Breakdown of cost of production per cocoa area



[18]Land cost from sharecrop agreement, include 1/3 of the revenue from cocoa produced on the sharecropped-out land which is transferred back to the *sharecropper in*.
[19] Fixed costs include machete, machete file, tarpaulins, pick, basket, rope, axe, mechanic pruner, bag, boots, bucket, fuel and other fixed costs
[20] Input costs include fertilizer, pesticides, transport and seedlings costs

Fairtrade Pricing Mechanisms **Income effect of the Living Income Reference Price**

42% of farmers meet the productivity benchmark of the Fairtrade Living Income Reference Price

Fairtrade Living Income Reference Price parameters against study results

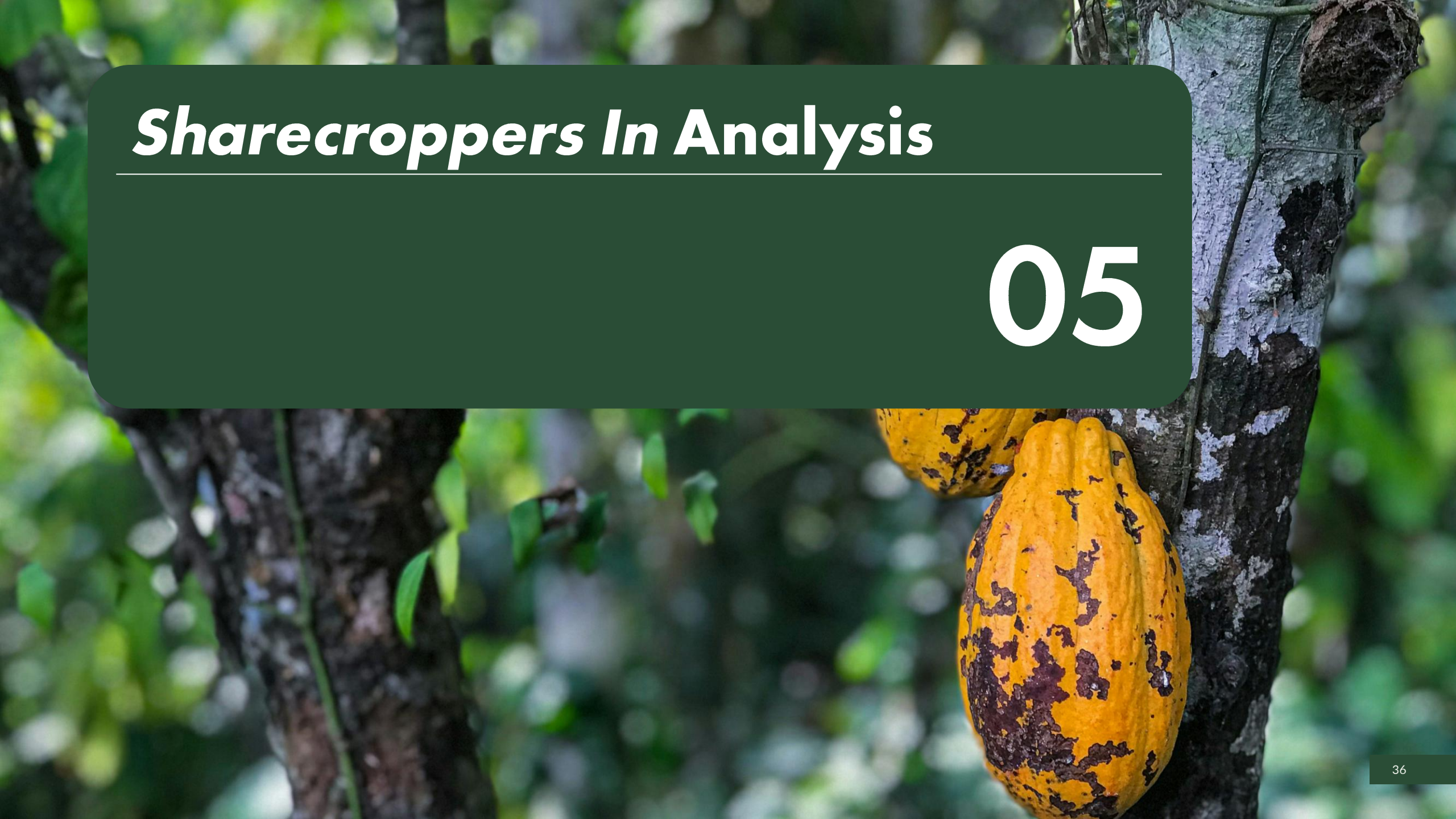
Among the 704 farmers in the main sample, approximately 16% are members of Small-scale Producer Organisations (SPOs) that participate in income initiatives, specifically related to the Living Income Reference Price (LIRP). The LIRP indicates the price needed for an average farmer household with a **viable farm size** and an adequate **productivity level** to make a living income from the sales of their crop. The LIRP is calculated based on a productivity benchmark of 664 kg per hectare and a cocoa area benchmark of 4.6 hectares, among others. The productivity benchmark is a long-term, achievable goal to help reach living incomes. This study is used to get insights about current farmers' situation and how (potential) improvements can be made to achieve the goal.

42%

42% of farmers in the full sample meet the productivity benchmark of 664 kg per hectare. The median yield is 600 kg per hectare (average of 652 kg per hectare).

13%

Just 13% of the full sample of farmers have a cocoa area of 4.6 hectares or larger, with the median cocoa area for farmers in the sample being 3.00 hectares (average 3.15 hectares).



Sharecroppers In Analysis

05

Sharecroppers in analysis **Descriptive statistics**

Key characteristics of the sample: land use, labour dynamics, and yield trends

All the farmers in this sample are *sharecropping in* completely (100%), meaning that the land on which they produce cocoa is under a sharecropping arrangement owned by another farming household. The descriptive statistics for *sharecroppers in* reveal a different set of dynamics compared to the main sample of landowners. *Sharecroppers in* have a smaller average total farm area of 4.78 hectares, with a median of 3.50 hectares. In terms of cocoa production, *sharecroppers in* allocate an average of 3.10 hectares to cocoa.

The average number of cocoa trees per hectare for *sharecroppers in* is 802, with the majority of trees being lower-productive trees (below 5 years or over 25 years old). On average 67% of the total trees are low-productive trees, underscoring the need to shift to a younger, more productive tree stock.

Labour use among *sharecroppers in* shows a reliance on both hired and household labour, with an average of 0.18 Full-Time Equivalents (FTE) for hired labour and 1.55 FTE for household labour, reflecting a smaller workforce compared to the main sample of landowners. The average wages for hired labour are EUR 938 per year. Household sizes are relatively small, averaging 5.28 members, which may influence labour availability and income generation strategies.

Table 6: Key descriptive statistics

Indicator	Unit	2024
Number of farmers	#	43
Percentage of farmers under sharecrop agreement	%	100
Percentage of farmers entirely *sharecropping in* their land	%	100

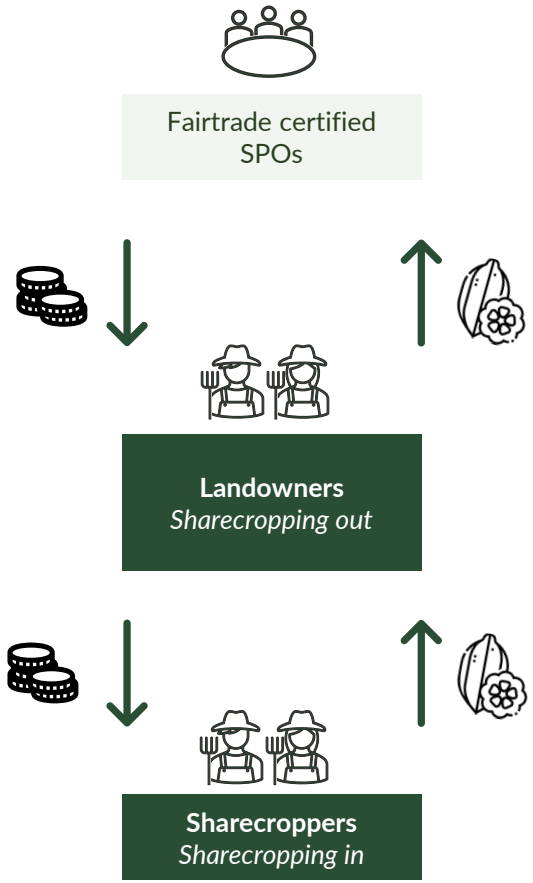
Indicator	Unit	Average	Median
Total farm area	ha	4.78	3.50
Area of cocoa production	ha	3.10	3.00
Amount of cocoa trees	#	2,513	2,000
Trees per hectare	#/ha	802	750
Percentage of trees below 5 years and above 25 years[21]	%	67%	80%
Percentage of trees between 5 and 25 years	%	33%	41%
Kilos of cocoa produced	Kg/year	1,820	1,700
Farm-gate price	EUR/kg	€ 1.45	€ 1.45
Profit per kilo cocoa	EUR/kg	€ 0.31	€0.37
Yield	kg/ha	603	567
Hired FTE[22]	#FTE	0.18	0.14
Household FTE	#FTE	1.55	0.68
Wages (of hired labour) [23]	EUR/FTE	€ 938	€ 838
Household size	# people	5.28	5.00

[21]The category low productive trees is updated to include both trees that are younger than 5 years and trees that are older than 25 years.
[22] The calculation for 2020 and 2024 for hired and household FTE has been updated in alignment with an updated definition of FTE. See for a more detailed explanation in the Annex.
[23] Waged of hired labour include only farmer that have hired labour.

Sharecroppers in analysis **Descriptive statistics comparison**

Significant differences between the *sharecroppers in* and landowners in terms of productivity and profit margins

Figure 16: Sharecrop agreement dynamics



A comparison of the descriptive statistics highlights significant differences between the sample of landowners (704) and *sharecroppers in* (43). The landowner sample reported an average total farm area of 5.98 hectares, compared to 4.78 hectares for *sharecroppers in*, though the area under cocoa production is relatively the same size, with 3.15 hectares for landowners versus 3.10 hectares for *sharecroppers in. Sharecroppers in* tend to have fewer cocoa trees per hectare and a higher proportion of unproductive trees, with 67% of their trees classified as unproductive compared to 45% for landowners. This could form an explanation for the relatively lower yield (602.55 kg/ha) that *sharecroppers in* have compared to landowners (652 kg/ha).

Despite this, the total cocoa production for *sharecroppers in* (1,820 kg/year) was not far below that of landowners (1908 kg/year), and both groups received the same farm gate price for their cocoa. However, profitability varied significantly. *Sharecroppers in* earned a net profit of just 0.31 EUR per kg of cocoa, while landowners achieved 1.21 EUR per kg. This can be explained by the higher cost that *sharecroppers in* have due to the sharecropping agreement. Page 42 provides more insights on the cost of production for *sharecroppers in*.

Labour dynamics also differed between the two groups. Landowners reported on average a higher household full-time equivalent (FTE) at 3.10, compared to 1.55 for *sharecroppers in* which can be explained by the smaller household size for *sharecroppers in*, averaging 5.28 members compared to 8.28 for landowners. The lower availability of household labour could explain why *sharecroppers in* relied more on hired labour, with a hired FTE of 0.18 versus 0.12 for landowners.

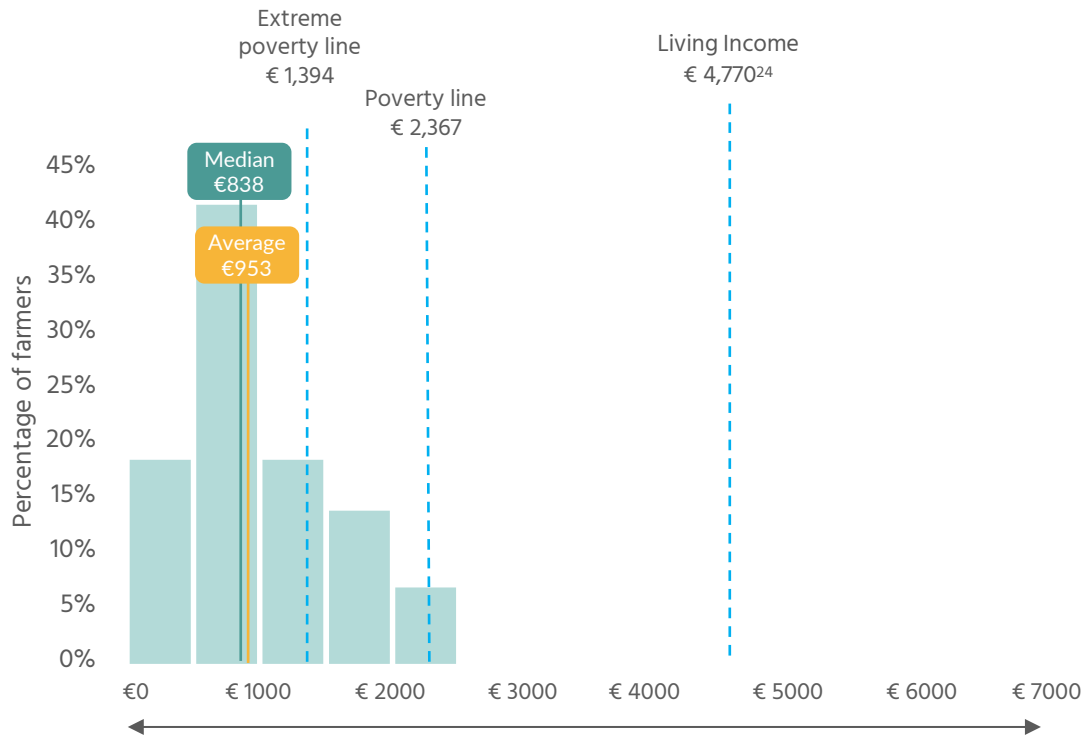
In December 2022, Fairtrade published a new Cocoa Standard containing additional requirements that support greater visibility of and benefits for sharecropper and caretaker farmers. The first of these requirements came into effect in January 2024, and subsequent requirements became active in July 2025.

This current study takes a closer look at these sharecropping arrangements to better understand how sharecropping affects household income and production costs, thus offering insights that can better inform strategies and support for farmers in the cocoa sector.

Sharecroppers in analysis Distribution of household income

100% earns an income below the living income benchmark

Figure 17: Distribution of household income for *sharecroppers in* (EUR/year)



100% of the 43 households earn a household income below the living income benchmark

[24] Based on a median household size of 5, since medians are less susceptible to the values of outliers

Key insights:

- The distribution of income per *sharecropper in* household per year peaks towards low incomes. With 100% of the *sharecroppers in* not earning a living income.
- Significantly here, both the median *sharecropper in* (838 EUR/year) and the average *sharecropper in* (953 EUR/year) lie below the extreme poverty line to poverty line category.
- The extreme poverty line, poverty line and living income benchmark are calculated for a median household of 5. The extreme poverty line, corrected for the purchasing power in Côte d'Ivoire, is EUR 0.76 per person per day. The poverty line for Côte d'Ivoire, is EUR 1.30 per person per day.

Table 7: Development of farmer household income distribution
The median farmer lies in the green cells, while the average farmer lies in the yellow cells.

Indicator	Unit	Sharecropper results	Landowners results
Less than 0 EUR/household (<€ 0)	%	0%	0%
0 to extreme poverty line (€0 - € 1,394)	%	79%	26%
Above extreme poverty line up to poverty line (€ 1,394 - € 2,367)	%	21%	34%
Above poverty line up to living income (€ 2,367-€ 4,770)	%	7%	34%
Above living income (> € 4,770)	%	0%	7%

Sharecroppers in analysis **Farmer household income and living income gap**

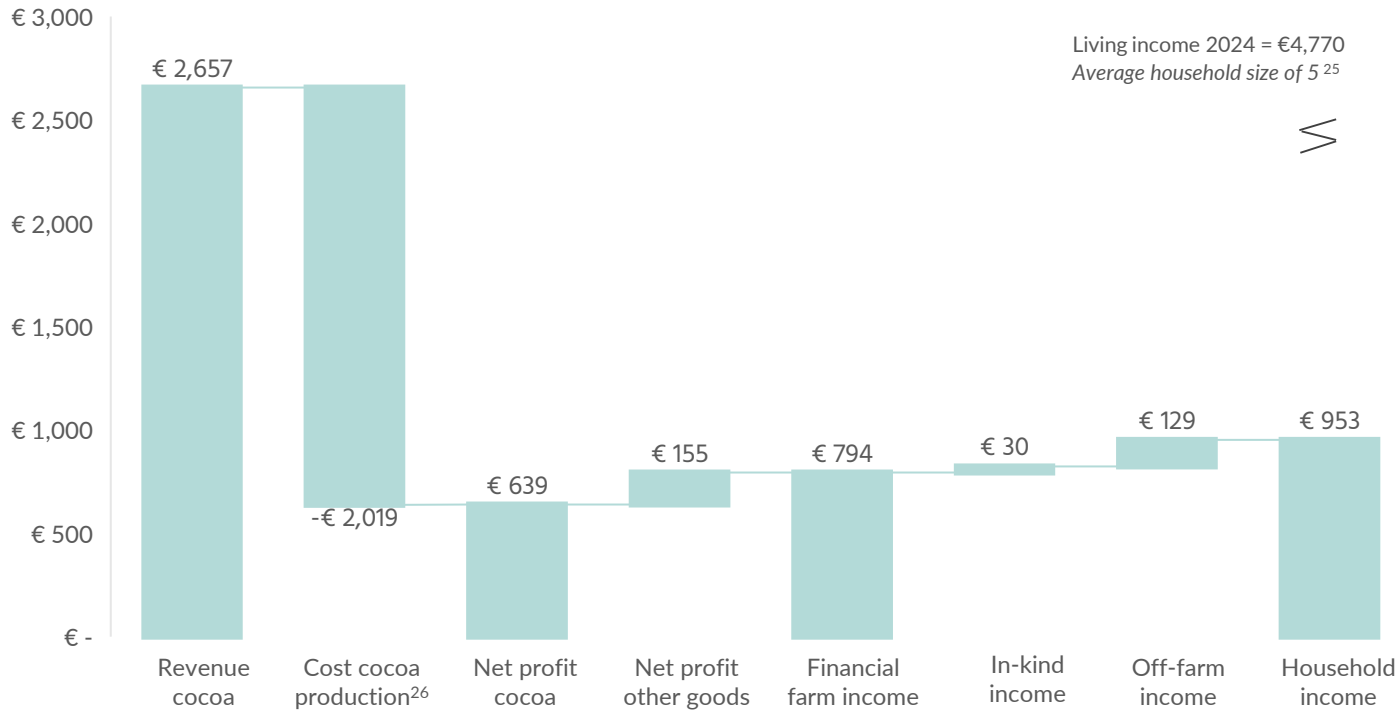
The average household income is €953 per year which is approximately 20% of the living income

The average household income of *sharecroppers in* is €953 per year, which is significantly below the living income benchmark of €4,770 per year, adjusted for a family of 5 people. On average, *sharecroppers in* households earn only 20% of the living income, leaving a substantial living income gap of €3,817 annually. This is a significantly lower household income than the income reported by the landowners in the current study. [25]

The cost of cocoa production is substantially higher for *sharecroppers in* compared to the landowners in the study. The cost-revenue ratio per hectare is 78% compared to 21% found in the analysis of the full sample of landowners. The costs are mainly driven by the 2/3 of the revenue that goes to the landowner as part of the sharecropping agreement.

Cocoa remains the primary source of income, accounting for the majority of household revenue. *Sharecroppers in* earn part of their income from the production of other goods, as well as off-farm income and in-kind income. Together these sources make up 33% of the total household income.

Figure 18: Average sharecropper farmer household income 2024 (EUR/year)



[25] It is important to note that the average sharecropper household consists of 5 members, whereas landowners' households in this study tend to have more members (approximately 8). This difference in household size should be considered when comparing the income figures.
[26] Cost of cocoa production include input costs, fixed cost, labour costs, maintenance cost and land cost related to the sharecropping agreement which is calculated as 2/3 of the revenue that is kept by the landowner

Sharecroppers in analysis **Income diversification**

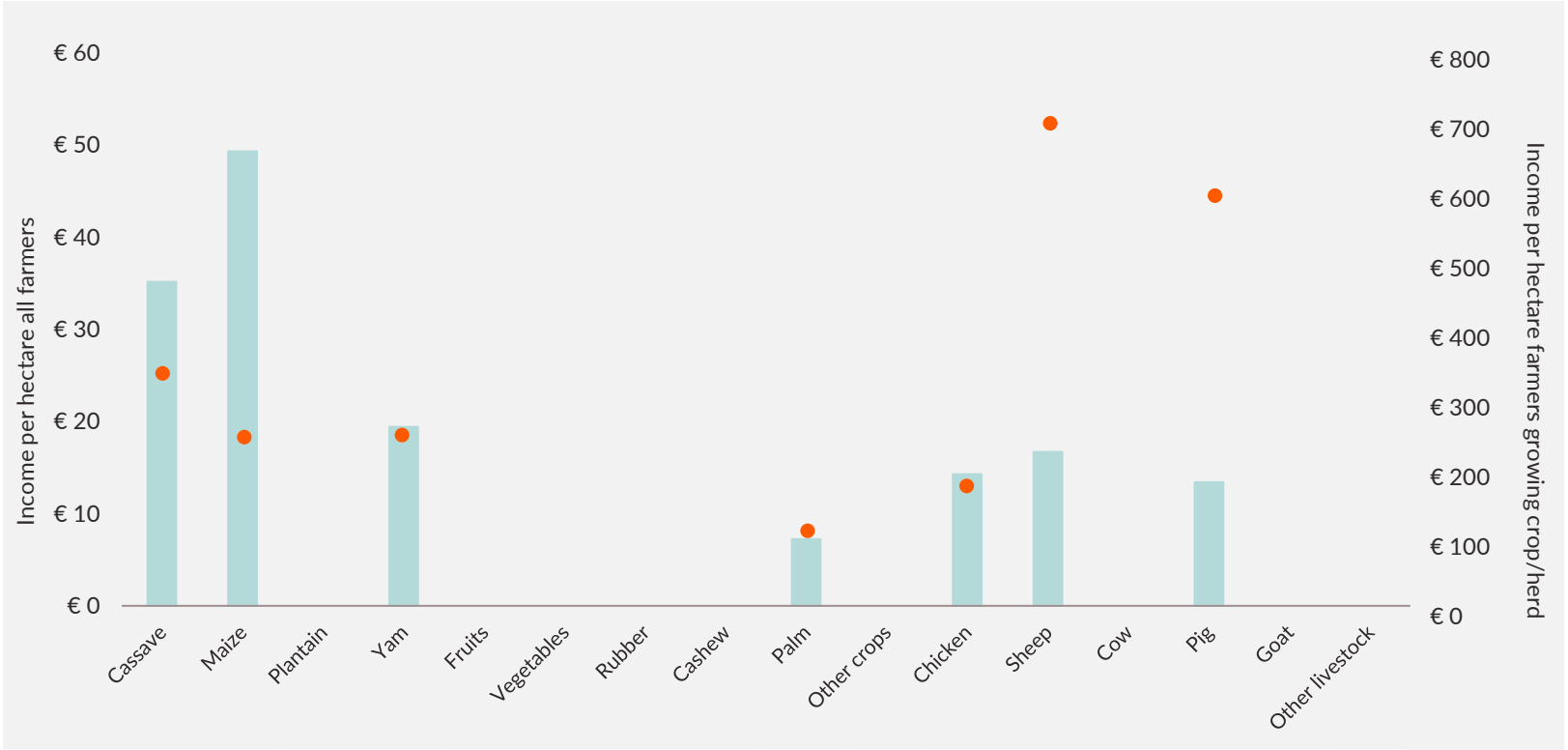
Only about half of the farmers engage income diversification, with maize as the most produced crop

From the *sharecroppers in* sample, about 47% of the farmers have diversified their production to some degree and produce other goods next to cocoa. Of the *sharecroppers in* diversifying their income, 5% produce other goods only for in-kind purposes, 40% only for sale purposes and 55% produce other goods only for both in-kind and sales purposes.

Sheep, pigs, cassava and maize are among the most popular and profitable crops/herds next to cocoa. The average farmer earns the most from sheep and pigs herding.

Comparing this to the main sample of landowners, *sharecroppers in* engage more in Maize production. There is no rubber production among the *sharecroppers in*, even though this is observed to be the most profitable crop in the analysis of the landowners.

Figure 19: Average income per crop/animal for all farmers vs. for farmers that grow the crop/herd the animal



% of farmers	9%	19%	0%	7%	0%	0%	0%	0%	4.7%	0%	7%	2.3%	0%	2.3%	0%	0%

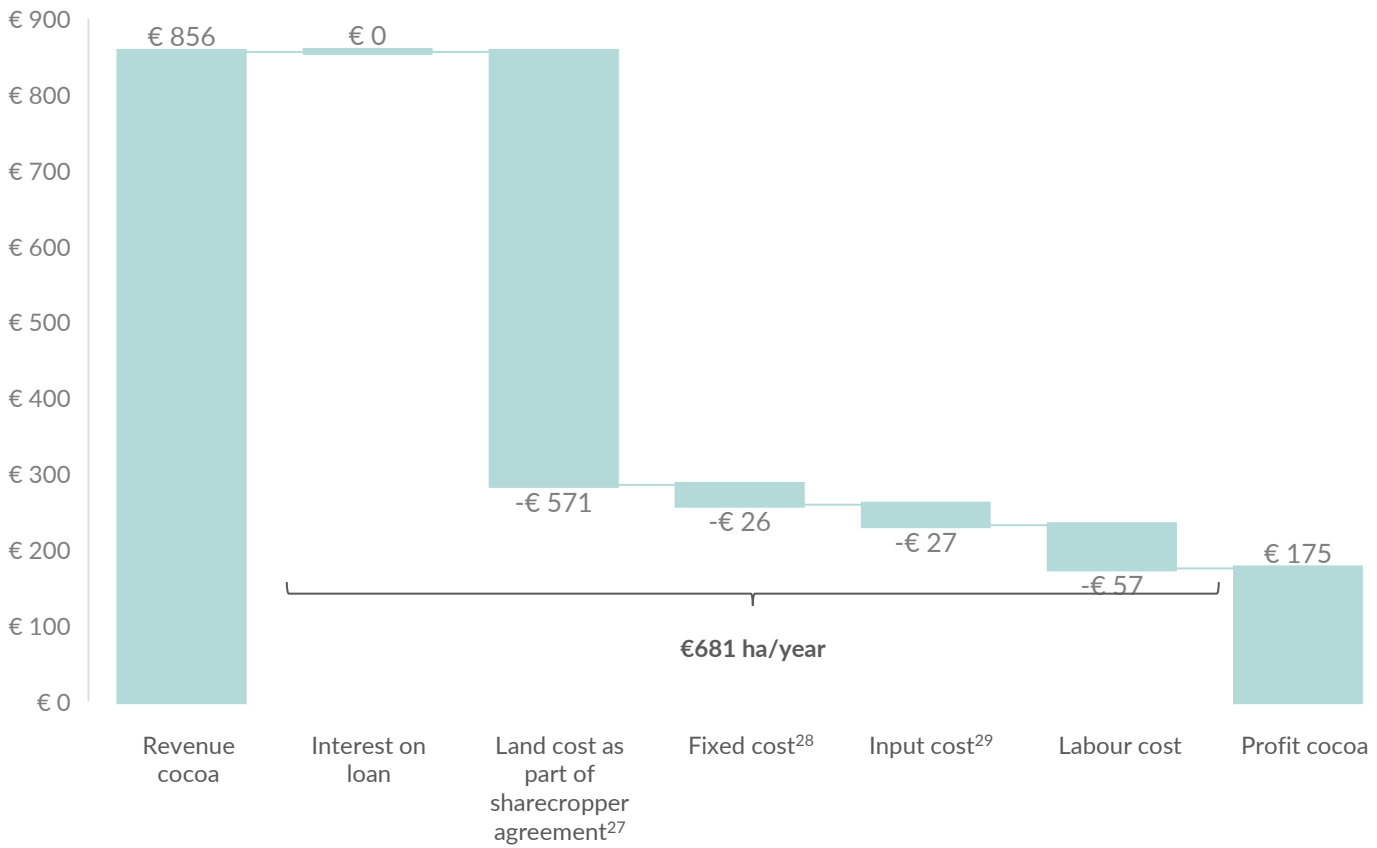
Sharecroppers in analysis **Cost of production**

Sharecroppers in have a lower profit margin compared to the landowner sample

The profit margins for *sharecroppers in* are notably lower compared to those of the main landowners sample. A significant portion of *sharecropper in* income is absorbed by production costs, with land costs from the sharecropping agreement accounting for 84% of total expenses. Under these agreements, *sharecroppers in* cultivate land owned by others in exchange for one-third of the cocoa revenue, which considerably reduces their profit margins.

Despite these lower margins, the profits remain positive, suggesting that sharecropping agreements can still provide a favourable alternative to other types of employment for farmers. However, a limitation of this analysis lies in the lack of detailed information regarding cost-sharing arrangements between *sharecroppers in* and landowners. The actual division of production costs between landowner and *sharecropper in* could differ, resulting in different cost values for the *sharecropper in*.

Figure 20: Breakdown of cost of production per cocoa area



[27] Land cost consists of 2/3 of the revenue generated by the sale of cocoa which is kept by the main farmers (*sharecropper out*)
[28] Fixed costs include machete, machete file, tarpaulins, pick, basket, rope, axe, mechanic pruner, bag, boots, bucket, fuel and other fixed costs
[29] Input costs include fertilizer, pesticides, transport and seedlings costs

Key Insights

06

Key insights **Fairtrade Price Mechanisms**

Respondents indicate that Fairtrade Price Mechanisms play an important role in income stability

The information presented in this section is drawn from the qualitative analysis, specifically from focus group discussions (FGDs) and in-depth interviews conducted with a carefully selected group of stakeholders. These insights provide a deeper understanding of the role and impact of the Living Income Reference Price and the Fairtrade Minimum Price in farmers' household income, as reported by the interviewed individuals. Through these discussions, an overview of how these income interventions affect income management, productivity, and overall household well-being is obtained.

The Fairtrade price mechanisms have a significant role in farmers' household income, with various reported impacts and distribution methods:

- **Living Income Reference Price role**: Farmers highlighted better income management as a crucial benefit of the Living Income Reference Price, enabling them to allocate resources more effectively across their household needs such as education, health care, and agricultural inputs (*e.g.*, pesticides and fertilizers). It also provided an opportunity for farmers to invest in side projects (*e.g.*, open their own shops) and improve overall productivity.
- **Distribution method**: The distribution of the Living Income Reference Price and Fairtrade Minimum Price, helped in managing yield, ensuring access to bonuses, and providing support for small expenses. However, challenges related to quotas for receiving payments were noted, impacting the regularity and effectiveness of income support. Concerns were focused on farmer dissatisfaction when they were unable to deliver the production volume forecasted prior to the harvest, meaning the LIRP and FMP payments were lower than the forecasted value. SPOs typically apply quota systems with an agreed value per kilo of cocoa delivered.
- **Distribution impact**: The Fairtrade pricing mechanisms contributed significantly to income stability by supporting community-level infrastructure improvements and improving access of households to better education, housing, and healthcare.
- **Challenges and considerations**: While the Living Income Reference Price and Fairtrade Minimum Price provided important financial benefits, farmers also expressed concerns about the requirements for receiving payments, which sometimes limited the full potential impact of these interventions. Again, these concerns arose when farmers were unable to deliver the production volume forecasted prior to the harvest. Despite these challenges, the qualitative insights revealed a positive impact on income, particularly through enhanced productivity and better management of household finances.

Insights from respondents emphasise that the Fairtrade Minimum Price differential, Living Income Reference Price and Fairtrade Premium are valuable Fairtrade interventions, playing a crucial role in improving income stability, enabling better resource management, and significantly contributing to a better living income for certified farmers.

Key insights **Reasons for involvement**

Reason for involvement in Fairtrade-certified SPOs

Benefits to producers

57%

of responses indicated that the main reason for their involvement in Fairtrade-certified SPOs was the benefit to producers. This included access to financial aid, improved infrastructure, and better income through Fairtrade cooperation, as well as enhanced overall well-being.

Certified-farmers FGDs

Premium & Bonus

22%

of responses mentioned the premiums and bonuses associated with involvement in Fairtrade-certified SPO as a motivating factor. These economic incentives were seen as significant contributors to their decision to join and remain part of Fairtrade.

Certified-farmers FGDs

Support from SPO

13%

of responses mentioned the support they receive from the Fairtrade-certified SPO. This support often involves technical assistance, training, and guidance to improve farming practices and productivity.

Certified-farmers FGDs

Connections with certified partners

9%

of responses mentioned that their involvement in Fairtrade was driven by the connections they had with certified partners, which provided access to new markets, information, and opportunities that would not have been available otherwise.

Certified-farmers FGDs

Quotes from FGDs and IDIs

"Fairtrade is the best of the organizations because in terms of premium they really live up to expectations" [30]
Dirigent FGD respondent n.1

"One SPO success was the payment of bonuses despite the low production of last year " [30]
Delegate IDI respondent n.10

"I congratulate Fairtrade because it is Fairtrade that opened the eyes of the planters" [30]
Dirigent FGD respondent n.2

"The bonus is distributed in June in a very low profitable season and people are really in need for money. So great timing" [30]
Farmer FGD respondent no. 2

[30] The quotes included in this report are extracted from the transcripts of IDIs and FGDs. They were initially translated into English and subsequently underwent minimal rephrasing to correct language errors and exclude unclear or unintelligible words, while preserving the original meaning and context..

Key insights **Training availability**

Training availability rate and related improvements

Figure 21 highlights the availability and participation rates of training programs among *sharecroppers in* and landowners. Notably, *sharecroppers in* report consistently lower training participation rates across all categories than landowners. Key areas such as child labour prevention (73% for *sharecroppers in* vs. 91% for landowners), good agricultural practices (79% vs. 83%), and financial management (51% vs. 78%) show significant disparities, reflecting the limited access to resources and capacity-building initiatives for *sharecroppers in*. Gender equality training stands out, with 58% of *sharecroppers in* reporting participation compared to only 0% of landowners, underscoring a rare area where *sharecroppers in* receive more attention.

Farmers who participated in training frequently reported adopting better practices such as conducting safety checks on farms, implementing maintenance and pruning routines, and improving harvesting, processing, and storage techniques. These changes translated into significant benefits, including increased productivity, enhanced income, higher earnings, and reduced involvement in child labour. Respondents also observed improved farm efficiency and well-being as outcomes of these programs.

Despite the clear advantages, stakeholders highlighted areas for improvement in the qualitative analysis. They suggested introducing programs aimed at raising awareness about women's roles in SPOs to foster inclusivity. Additionally, there were calls for expanding training opportunities to ensure equitable access for all producers. Addressing these gaps by increasing the number of training programs and ensuring fair access for all groups could amplify the positive impact of these initiatives on farmer livelihoods and SPO dynamics.

Figure 21: Training availability difference in two samples

Key insights **Productivity and income trends from qualitative analysis**

Changes in productivity levels and main drivers

Productivity and income in cocoa farming have been influenced by both negative and positive drivers. Among the negative drivers, climate change emerges as a recurring factor, alongside the impact of the swollen shoot disease, which requires the destruction and replanting of affected trees, leading to reduced yields. Inflation is also highlighted as a factor negatively affecting farmers' income. On the positive side, respondents noted an increase in cocoa prices and significant improvements in the adoption of good agricultural practices, which have contributed to better productivity and income levels.

Negative productivity trend

43% ↓

Positive productivity trend

43% ↑

Unclear productivity trend

14% ?

↓ *"Last year, there was too much rain during the critical flowering period, which caused the flowers to fall and reduced production. Additionally, the SWOLLEN SHOOT disease has significantly impacted yields. While the SPO has worked with the coffee and cocoa council to address the issue, the scale of the problem remains challenging, given that we are about 4,000 producers."* [31]

Delegate IDI respondent no. 4

↑ *"The price of cocoa motivated planters to put in more effort and even renew areas they had previously abandoned. Planters have started taking care of their plantations wholeheartedly, driving improved productivity."* [31]

Farmer FGD respondent no. 2

Negative income trend

15% ↓

Positive income trend

77% ↑

Unclear income trend

8% ?

↑ *"I think the main factors driving these trends are the increase in prices and a shift towards diversification. Farmers are starting to move beyond just cocoa production and are taking up other income-generating activities, such as livestock farming—like sheep and chickens. This diversification helps to fill gaps during times when cocoa isn't as profitable. The training and awareness have been crucial in helping farmers understand the importance of diversification."* [31]

Delegate IDI respondent no. 8

↑ *"The main factors explaining the current trend here are a new realization among producers about the importance of maintaining their plantations. They've learned that inaction at home leads to lower profits from their cocoa fields. Now, farmers are actively engaged in better maintenance practices, such as pruning, cleaning, and using fertilizers. This awareness has helped them understand the importance of investing in their plantations and following good agricultural practices to ensure better productivity and future profitability."* [31]

Delegate IDI respondent no. 3

[31] The quotes included in this report are extracted from the transcripts of IDIs and FGDs. They were initially translated into English and subsequently underwent minimal rephrasing to correct language errors and exclude unclear or unintelligible words, while preserving the original meaning and context..

Key insights **Correlation analysis**

Significant correlations between farmer income and farm area, household size and yield

Table 8: Correlations between variables

Independent variable	Dependent variable	Correlation
Profit per ha	Cocoa area	
	Yield (kg/ha)	
	Sharecropped out land	
Farmer household income	Farm area	
	Cocoa area	
	Product diversification	
	Household size	
	Yield (kg/ha)	
Yield (kg/ha)	Household FTE + hired FTE	

Positive & significant correlation

Negative & significant correlation

The findings from the correlation analysis suggest several important conclusions for improving profitability and income in cocoa farming:

1. **Optimal land management**: While larger farm and cocoa areas are associated with higher household income, the negative correlation between cocoa area and profit per hectare suggests diminishing returns as land area increases. Efficient land use and balanced allocation of resources are critical to sustaining profitability.
2. **Specialisation over diversification**: The negative correlation between product diversification and household income indicates that focusing on cocoa production, rather than diversifying into other activities, is currently yielding better results. However, it must be noted that income diversification is an important tool in financial security in case yields or prices of the main crop drop.
3. **Household labour as an asset**: The positive correlation between household size and income suggests that larger households, likely due to more available labour, can contribute to higher earnings. This reinforces the value of family labour in small-scale farming operations. This does not imply a smaller living income gap though, as larger household sizes also need a larger living income.
4. **Focus on productivity**: The positive correlation between yield and profit per hectare highlights the importance of sustaining productivity. Investments in practices that increase yield could improve profitability and farmer income.
5. **Reassessing sharecropping practices**: *Sharecropping out* arrangements, while contributing to household income, reduce profitability per hectare. Adjustments to ensure more equitable sharing of benefits between landowners and sharecroppers could enhance overall profitability and sustainability.

In conclusion, the data highlights the need for a strategic focus on improving productivity, optimizing land use, and addressing the conditions of sharecropping arrangements to enhance their sustainability. While sharecropping dynamics are shaped by broader structural factors, targeted support can help ensure that such practices contribute positively to farmer livelihoods.

Key insights **Income scenario analysis results**

Scenario analysis for income per Full-Time-Equivalent

This analysis compares the income per Full-Time Equivalent (FTE) across three groups in the agricultural sector: farm owners, *sharecroppers in*, and hired workers. The calculation considers the total income for each group relative to their respective FTE to provide insights into economic productivity and financial sustainability.

Insights

Farm owners earn the second-highest income per FTE :

Farm owners earn €1,092 per FTE. This likely reflects greater control over resources, access to capital, and higher margins from farm output than *sharecroppers in*.

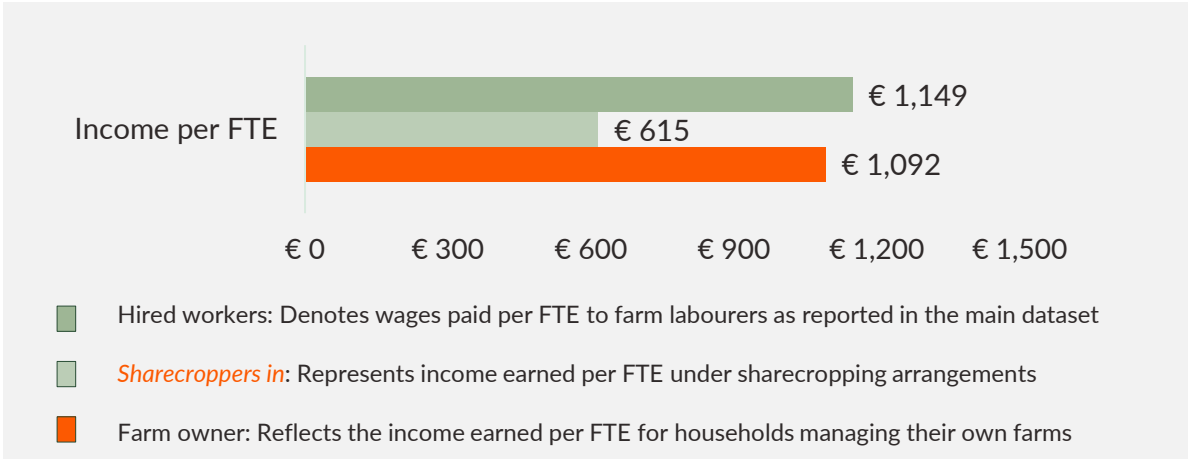
***Sharecroppers in* face income challenges**:

Sharecroppers in income per FTE is €615, substantially lower than farm owners. This reflects structural challenges such as limited land access, shared profits with landowners, and likely reduced autonomy over farming operations.

Hired workers earn competitive wages:

Hired workers earn €1,149 per FTE, the highest among the three groups. This demonstrates that hired labour can be financially viable but also suggests that the cost of labour is significant for farm owners.

Figure 22: Income per Full-Time-Equivalent



Conclusion

The analysis highlights significant disparities in income per Full-Time Equivalent (FTE) across the agricultural sector. Hired workers emerge as the most financially viable group in this sub-report, with earnings exceeding those of landowners and *sharecroppers in*. Landowners, while benefiting from operational control and ownership, face lower income per FTE than hired workers, likely due to operational costs. *Sharecroppers in* remain the most disadvantaged, indicating structural barriers that impede their economic progress. These findings suggest a need for targeted interventions to enhance equity, such as improving access to resources for sharecroppers or addressing inefficiencies in farm ownership structures. Promoting fairness and sustainability in income distribution is critical for advancing agricultural livelihoods.

Price Scenario 1

Market prices April 2024 – March 2025

07

Price Scenario 1 Descriptive statistics

Key characteristics of the sample: land use, labour dynamics, and yield trends

The table on the right presents a comparison between the original study values and the price analysis based on April 2024 – March 2025 market prices and a yield of 500 kg/ha. The table highlights changes in key indicators resulting from the increase in the farm-gate price and the adjustments in profit margins, wages, and cocoa production costs, while most structural farm characteristics remain constant (see p. 79 *Annex* for description of methodology and indicators).

The analysis shows that while farm-gate prices and profit margins increased significantly (+74% and +80% respectively), and wages of hired labour rose (+13%), the average and median yields decreased significantly by 23% and 16%, respectively. Finally, the overall cost of production increased significantly (+67%), driven by higher transport, labour, and agri-input costs, as well as interest rates. The inclusion of the cost associated with the *sharecrop out* agreement (*i.e.*, 1/3 of the cocoa produced on *sharecropped out* land) is an important cost driver.

Table 9: Key descriptive statistics

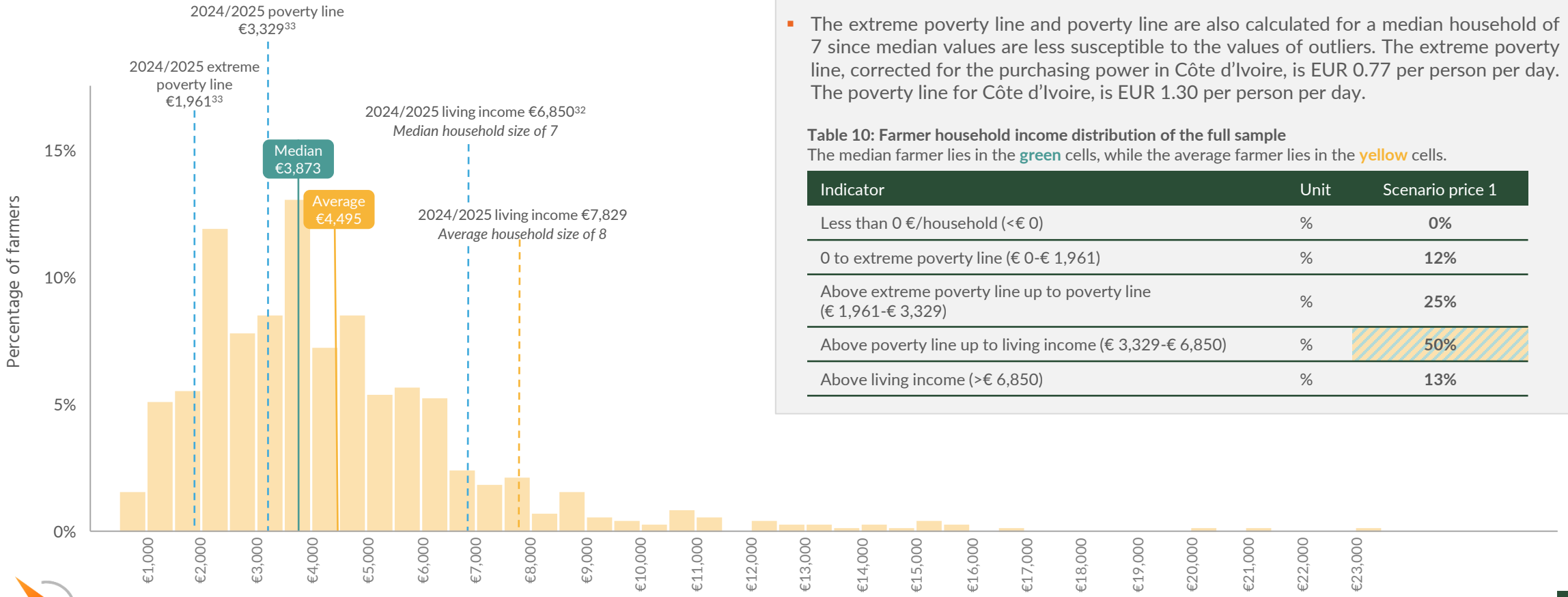
Indicator	Unit	Current & scenario analysis sample
Number of farmers	#	704
Percentage of farmers *sharecropping out* their land	%	20
Percentage of farmers entirely *sharecropping out* their land	%	16

Indicator	Unit	Scenario 1 Average	Scenario 1 Median	Original Average	Original Median	% average change
Total farm area	ha	5.98	5.0	-	-	-
Area of cocoa production	ha	3.15	3.00	-	-	-
Amount of cocoa trees	#	3,196	3,000	-	-	-
Trees per hectare	#/ha	1,135	1,265	-	-	-
Percentage of trees >5 years and <25	%	45%	45%	-	-	-
Percentage of trees between 5 and 25 years	%	55%	55%	-	-	-
Kilos of cocoa produced	Kg/year	1,575	1,500	1,868	1,789	***-16%***
Farm-gate price	EUR/kg	€ 2.51	€ 2.51	€ 1.45	€ 1.45	***74%***
Profit per kilo cocoa	EUR/kg	€ 2.17	€ 2.30	€ 1.21	€ 1.29	***80%***
Yield	kg/ha	500	500	652	600	***-23%***
Hired FTE[10]	#FTE	0.12	0.10	-	-	-
Household FTE[11]	#FTE	3.10	1.66	-	-	-
Wages (of hired labour)	EUR/FTE	€ 1,293	€ 1,018	€ 1,149	€ 838	***13%***
Household size	# people	8.28	7.00	-	-	-
Cost per kg of cocoa produced	EUR/kg	€ 0.49	€ 0.29	€ 0.29	€ 0.20	***67%***

Price Scenario 1 Distribution of household income

13% of the farmers earn a living income

Figure 23: Distribution of farmer household income April 2024 – March 2025 (EUR/year)



Key insights:

- Most of the farmers in the sample earn a household income that falls between the poverty line and the living income benchmark. 13% of the farmers earn an income above the living income benchmark for a median household size of 7 people.
- The extreme poverty line and poverty line are also calculated for a median household of 7 since median values are less susceptible to the values of outliers. The extreme poverty line, corrected for the purchasing power in Côte d'Ivoire, is EUR 0.77 per person per day. The poverty line for Côte d'Ivoire, is EUR 1.30 per person per day.

Table 10: Farmer household income distribution of the full sample
The median farmer lies in the **green** cells, while the average farmer lies in the **yellow** cells.

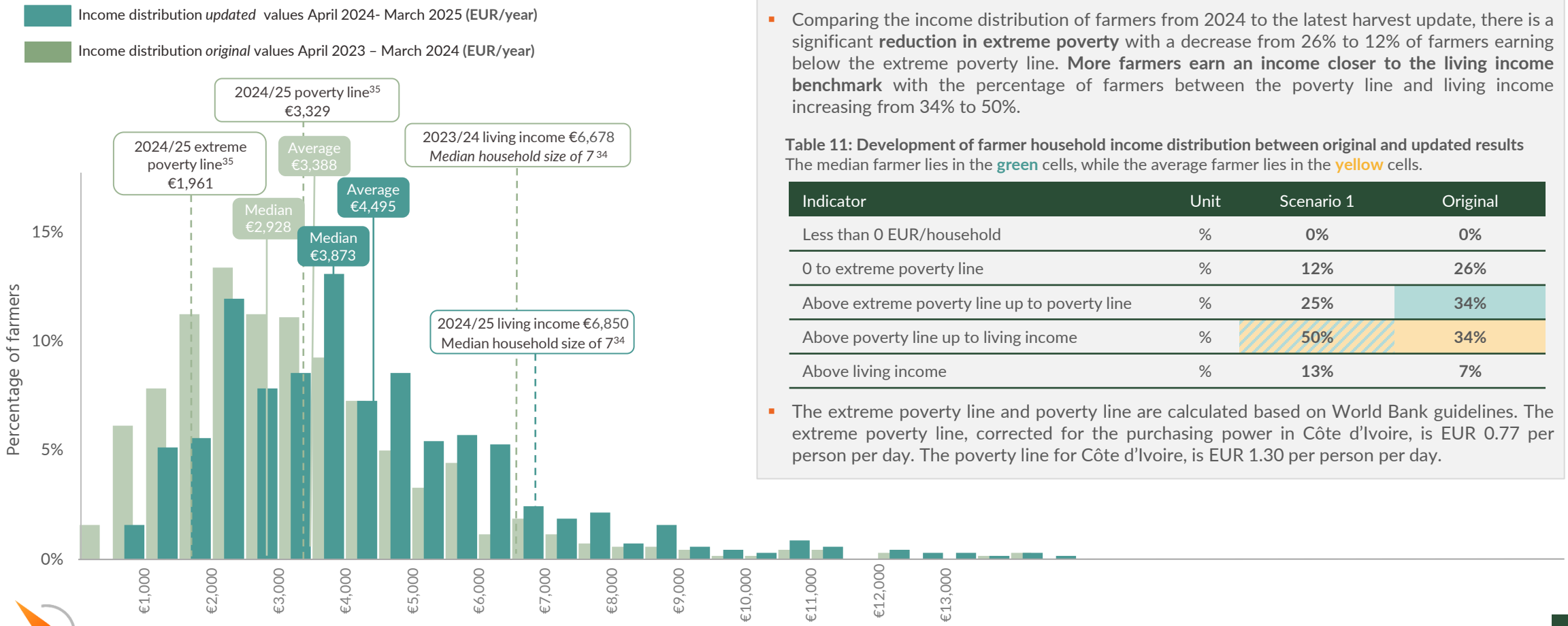
Indicator	Unit	Scenario price 1
Less than 0 €/household (<€ 0)	%	**0%**
0 to extreme poverty line (€ 0-€ 1,961)	%	**12%**
Above extreme poverty line up to poverty line (€ 1,961-€ 3,329)	%	**25%**
Above poverty line up to living income (€ 3,329-€ 6,850)	%	**50%**
Above living income (>€ 6,850)	%	**13%**

[32] Based on a median household size of 7, since medians are less susceptible to the values of outliers
[33] The most recent published PPP for private consumption for Côte d'Ivoire was published in 2024 with a value of 234.29 (LCU per International $)

Price Scenario 1 Distribution of household income

Results show a significant decrease in extreme poverty

Figure 24: Distribution of farmer household income 2023/2024 vs 2024/2025



Key insights:

- Comparing the income distribution of farmers from 2024 to the latest harvest update, there is a significant **reduction in extreme poverty** with a decrease from 26% to 12% of farmers earning below the extreme poverty line. **More farmers earn an income closer to the living income benchmark** with the percentage of farmers between the poverty line and living income increasing from 34% to 50%.

Table 11: Development of farmer household income distribution between original and updated results
The median farmer lies in the **green** cells, while the average farmer lies in the **yellow** cells.

Indicator	Unit	Scenario 1	Original
Less than 0 EUR/household	%	**0%**	**0%**
0 to extreme poverty line	%	**12%**	**26%**
Above extreme poverty line up to poverty line	%	**25%**	**34%**
Above poverty line up to living income	%	**50%**	**34%**
Above living income	%	**13%**	**7%**

- The extreme poverty line and poverty line are calculated based on World Bank guidelines. The extreme poverty line, corrected for the purchasing power in Côte d'Ivoire, is EUR 0.77 per person per day. The poverty line for Côte d'Ivoire, is EUR 1.30 per person per day.

[34] Based on a median household size of 7, since medians are less susceptible to the values of outliers
[35] The most recent published PPP for private consumption for Côte d'Ivoire was published in 2024 with a value of 234.29 (LCU per International $)

Price Scenario 1 Farmer household income and living income gap

The average household income is €4,495 per year and the median income is €3,650 per year

The average household income of the 704 households in the latest harvests with current market prices is €4,495 per year. This income is not sufficient to make a living income of €7,829 a year for an average household size of 8 people. The average farmer earns 57% (vs original 44%) of a living income with an average living income gap of €3,334 (vs. original € 4,244) per year.

Looking at the median household income, the values show a similar trend with a median household income of €3,650, which is 53% (vs. original 37%) of a living income benchmark for a median household of 7 (€6,850).

Cocoa revenue is the primary income driver of household income. Additional income sources specifically contribute little to the overall household income. This is shown as well in the low values for these income sources in the breakdown of the median household income, which suggests that there is a potential for income diversification.

Figure 25: Average farmer household income April 2024/March 2025 (EUR/year)

Living income €7,829
Average household size of 8

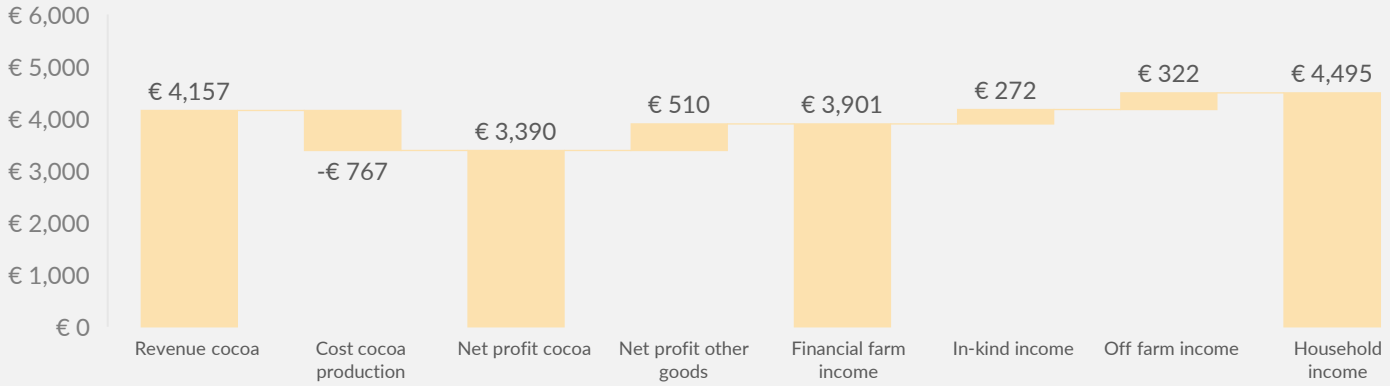
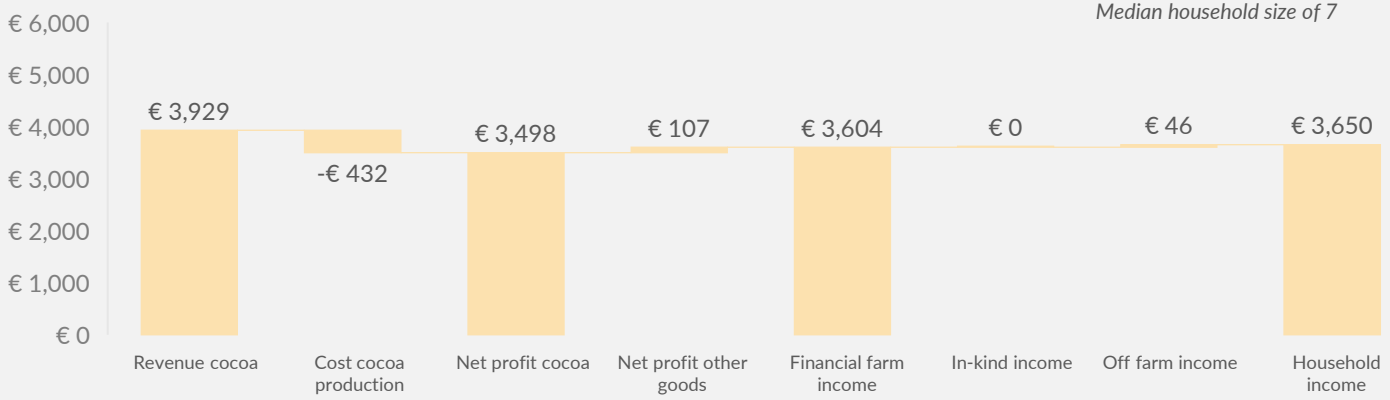


Figure 26: Median farmer household income April 2024/ March 25 (EUR/year) [36]

Living income €6,850
Median household size of 7



[36] Median values for farmer household income do not sum up due to rounding and variations in specific calculation methods

Price Scenario 1 Key insights

Progress toward living income under higher price scenarios

Price increases play a critical role in reducing the living income gap, with higher farm-gate prices directly improving farmer incomes and moving more households above the living income threshold. Under Price Scenario 1, the share of farmers earning a living income increased from 7% to 13%, while the share of farmers below the extreme poverty line decreased.

While price increases favour farmers, they are accompanied by rising production costs, including transport, labour, and input costs, which can offset some of the income gains. It is important to continue monitoring the relationship between price increases and cost categories to ensure that income improvements are not eroded by parallel cost escalations.

In the current modelling approach, the *sharecropping out* arrangement is treated as an implicit cost to the landowner, equal to one-third of the harvest retained by the *sharecropper in*. As cocoa prices increase, the opportunity cost of *sharecropping out* also increases, which reduces the relative benefit of *sharecropping out* for the landowner under high-price scenarios.

Although the market price in price scenario 1 and 2 is higher than the LIRP, not all farmers make a living income. This has to do with the benchmarks used in the LIRP calculations. The productivity of each farmer in the price scenarios is set at 500 kg/ha which is below the productivity benchmark included in the LIRP. Next to that, only 13% of farmers has a farm size that is equal or above the viable farm size included in the LIRP. As a result, only a share of farmers are able to earn a living income with the higher market prices.

Original study

7%

Farmers earns a living income with average price for the 2023-2024 harvests at 1.45 €/kg.

Price scenario 1

13%

Farmers earns a living income with average price for the 2024-2025 harvests at 2.51 €/kg.

Price scenario 2

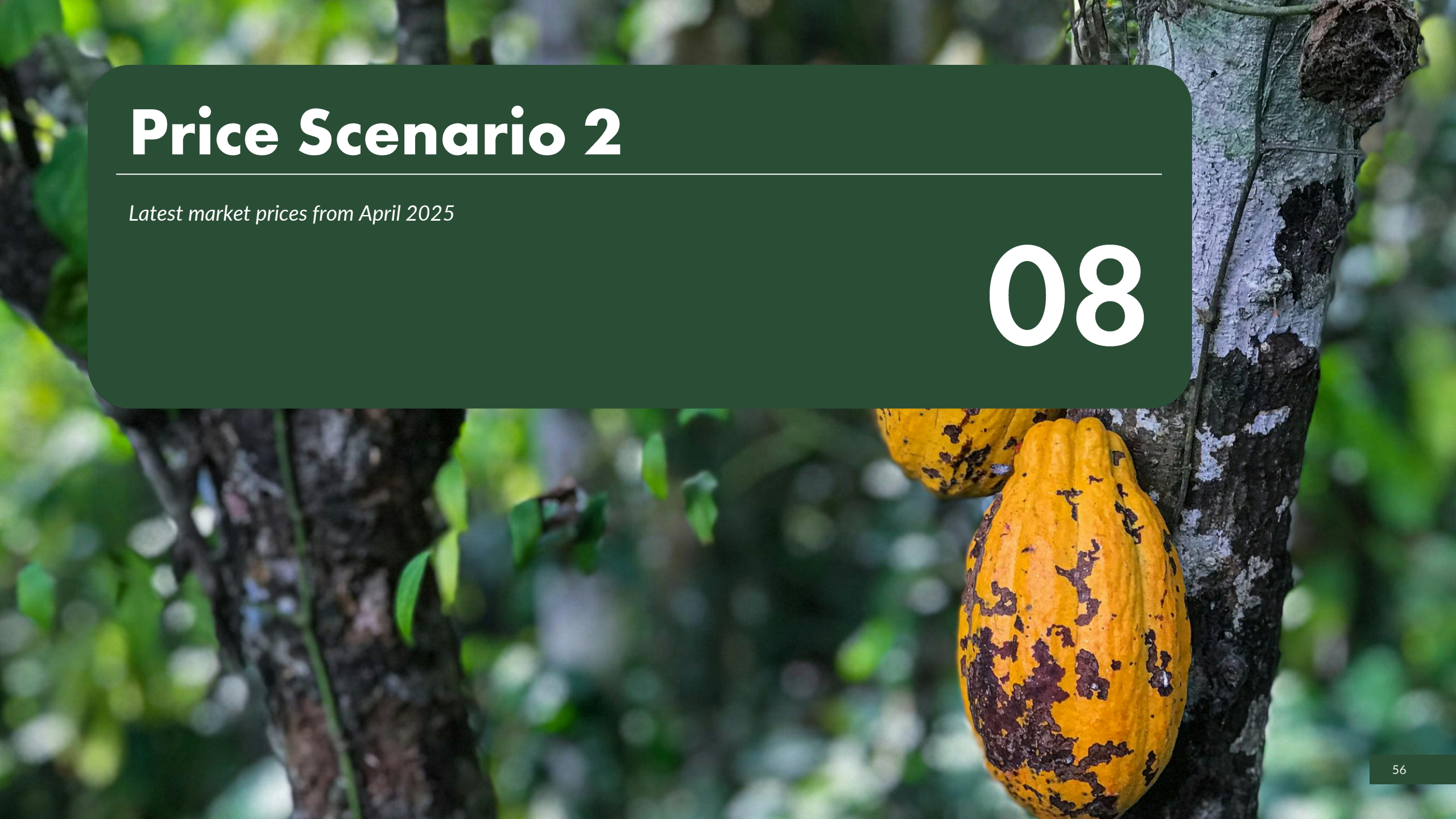
24%

Farmers earns a living income with average price for the 2025-2026 harvest at 3.35 €/kg.

Price Scenario 2

Latest market prices from April 2025

08



Price Scenario 2 Descriptive statistics

Higher cocoa prices increase profits, but also raise opportunity costs for landowners under sharecropping

In this price sensitivity analysis, only the farm-gate price, profit per kg of cocoa, and total cost of cocoa production are adjusted across the scenarios. All other variables are held constant, allowing us to isolate the effects of pricing.

As the farm-gate price increases from €1.45 to 3.35 €/kg, corresponding average profits rise significantly, from €1.21 to 2.86 € /kg, showing the potential income uplift for farmers.

However, the average cost of cocoa production also increases, from €544 to 905 € /year, and from €0.19 to 0.52 € /kg.

This cost increase is largely attributed to the higher land cost for farm owners under sharecropping agreements, where one-third of the cocoa harvest remains with the *sharecropper in*. As cocoa becomes more valuable, the opportunity cost of sharecropping rises, making it economically less attractive for farm owners to *sharecrop out* their land under high price scenarios.

Table 12: Key descriptive statistics

Indicator	Unit	2024
Number of farmers	#	704
Percentage of farmers *sharecropping out their land*	%	20
Percentage of farmers entirely *sharecropping out* their land	%	16

Indicator	Unit	Original price	Price 1 average	Price 2 average	Price 2 median
Total farm area	ha	5.98	-	-	-
Area of cocoa production	ha	3.15	-	-	-
Amount of cocoa trees	#	3,196	-	-	-
Trees per hectare	#/ha	1,135	-	-	-
Percentage of trees below 5 years and above 25[9]	%	45%	-	-	-
Percentage of trees between 5 and 25 years	%	55%	-	-	-
Kilos of cocoa produced	Kg/year	1,868	1,575	1,575	1,500
Farm-gate price	EUR/kg	**€ 1.45**	**€ 2.51**	**€ 3.35**	€ 3.35
Profit per kilo cocoa	EUR/kg	€ 1.21	€ 2.17	€ 2.86	€ 3.04
Yield	kg/ha	652	500	-	-
Hired FTE	#FTE	0.12	-	-	-
Household FTE	#FTE	3.10	-	-	-
Wages (of hired labour)	EUR/FTE	€ 1,149	€ 1,293	€ 1,293	€ 1,018
Household size	# people	8.28	-	-	-
Cost per kg of cocoa	EUR/kg	€ 0.29	€ 0.49	€ 0.57	€ 0.31

Price Scenario 2 Distribution of household income

Distributional effects and living income outcomes under three price points

Figure 27: Distribution of farmer household income with different prices

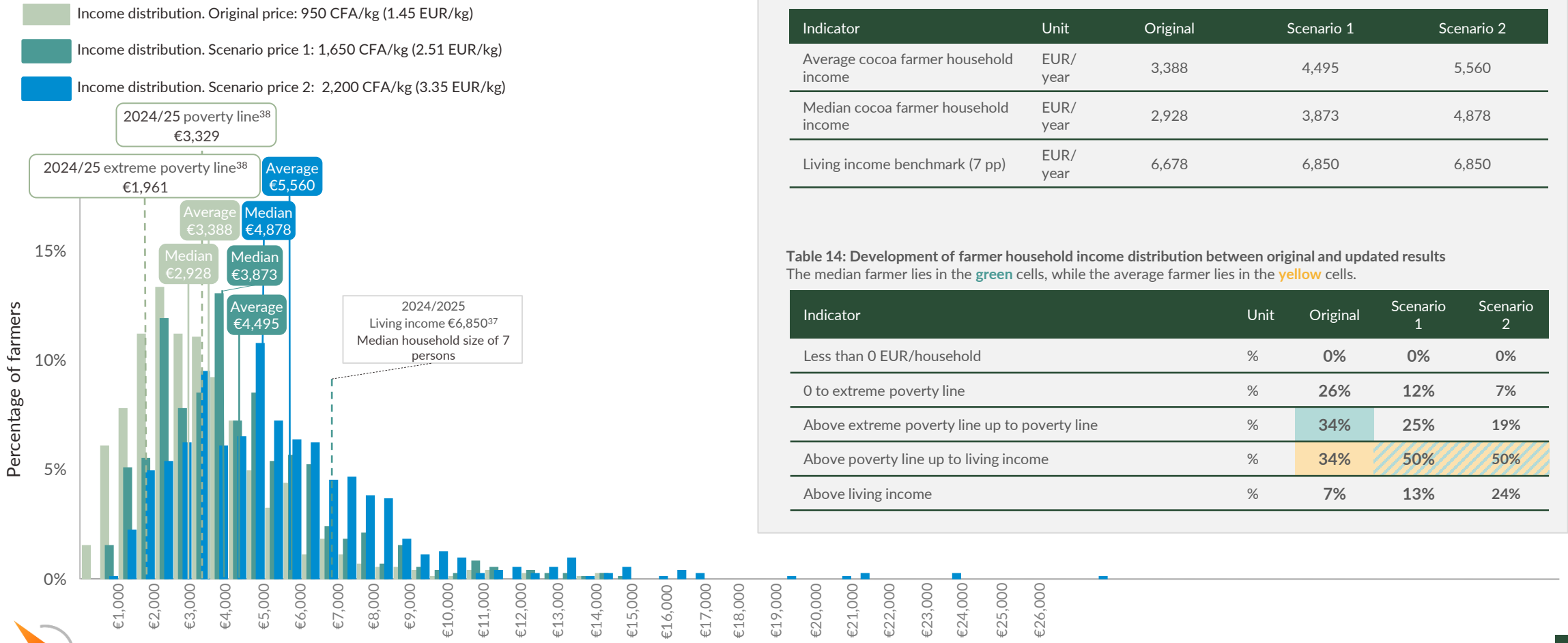


Table 13: Development of farmer household income between different price scenarios

Indicator	Unit	Original	Scenario 1	Scenario 2
Average cocoa farmer household income	EUR/ year	3,388	4,495	5,560
Median cocoa farmer household income	EUR/ year	2,928	3,873	4,878
Living income benchmark (7 pp)	EUR/ year	6,678	6,850	6,850

Table 14: Development of farmer household income distribution between original and updated results
The median farmer lies in the green cells, while the average farmer lies in the yellow cells.

Indicator	Unit	Original	Scenario 1	Scenario 2
Less than 0 EUR/household	%	0%	0%	0%
0 to extreme poverty line	%	26%	12%	7%
Above extreme poverty line up to poverty line	%	34%	25%	19%
Above poverty line up to living income	%	34%	50%	50%
Above living income	%	7%	13%	24%

[37] Based on a median household size of 7, since medians are less susceptible to the values of outliers
[38] The most recent published PPP for private consumption for Côte d'Ivoire was published in 2024 with a value of 234.29 (LCU per International $)

Price Scenario 2 **Farmer household income and living income gap**

The average household income is €5,560 per year and the median income is €4,728 per year

The average household income of the 704 households in the latest harvests with updated market prices is €5,560 per year. This income is not sufficient to make a living income of €7,829 a year for an average household size of 8 people. **The average farmer earns 71% of a living income with an average living income gap of €2,269 per year.**

Looking at the median household income, the values show a similar trend with a median household income of €4,728, which is **69% of the living income benchmark for a median household of 7 (€6,850).**

Cocoa revenue is the primary income driver of household income. Additional income sources specifically contribute little to the overall household income. This is also evident in the low values for these income sources in the breakdown of median household income, suggesting potential for income diversification.

Figure 28: Average farmer household income - Price scenario 2 (EUR/year)

Living income €7,829
Average household size of 8

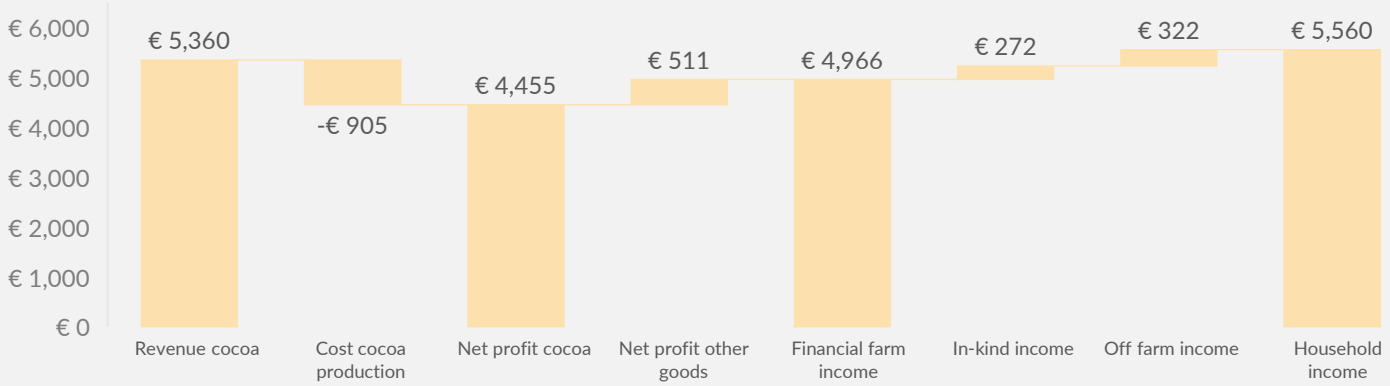
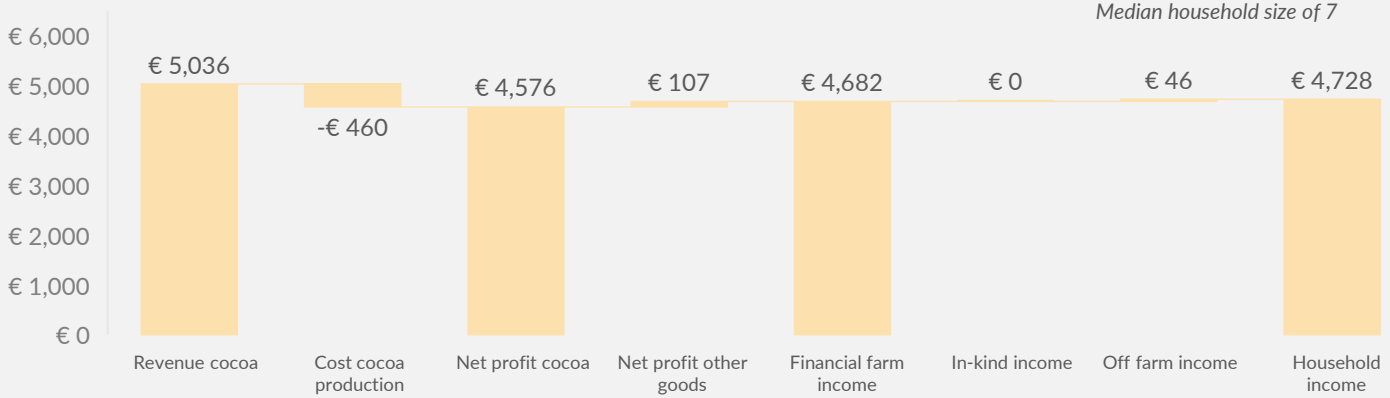


Figure 29: Median farmer household income - Price scenario 2 (EUR/year) [39]

Living income €6,850
Median household size of 7



[39] Median values for farmer household income do not sum up due to rounding and variations in specific calculation methods

Conclusion & Recommendations

09

Conclusion

Productivity improvement despite challenges

There has been a slight increase in average cocoa yield per hectare in the comparison study, from **625 kg/ha in 2020 to 650 kg/ha in 2024** reflected also in the median values, moving from 515 kg/ha to 595 kg/ha. However, the total production per farm decreased from an average of **2,742 kg to 1,952 kg** along with a reduction in cocoa farm area from **4.6 ha to 3.3 ha**. An explanation for the decrease in farm size and cocoa area could be more accurate farm measurement. More accurate farm measurement could also explain the slight average yield increase (during times of production decline). In the 2024 study farmers confirmed no change in cocoa production area despite the average reported area reducing by 28%, suggesting that farmers in the previous 2020 study, believed their farms were bigger. Also, the impact of swollen shoot disease on cocoa trees might not be fully reflected in reported farm areas, with potentially diseased trees excluded from productive area calculations

Labour dynamics and challenges

The reduction in hired full-time equivalents (FTE) from **0.92 to 0.12** and a drop in household FTE from **4.38 to 2.86** reflects a labour shortage. The trend also shows a decrease in household size, which contributes to fewer available labour resources.

Climate change and disease impact

Climate change has been a recurrent factor affecting cocoa production, with irregular rainfall patterns, rising temperatures, and increased occurrence of extreme weather events disrupting production. The prevalence of swollen shoot disease has significantly impacted productivity, making it necessary for farmers to burn infected trees, leading to a substantial decrease in yield.

Income distribution and poverty reduction

The distribution of farm owner income has significantly improved, with a marked decrease in extreme poverty from **36% to 17%** and an increase in farmers earning closer to the **living income benchmark** (28% to 42%). This positive trend can be largely attributed to higher cocoa prices and the payment of premiums, which have played a crucial role in increasing farm profits despite lower production levels. However, despite these improvements, the average income for *sharecroppers in* remains significantly below the living income benchmark, highlighting a substantial income gap and vulnerability among this group.

Conclusion

Economic pressures and responses

The increase in cocoa prices between 2020 and 2024, along with additional payments such as the Fairtrade Minimum Price, Living Income Reference Price and, Fairtrade premium, has helped cushion the decline in income from other sources such as off-farm income and in-kind income for farm owners. On the other hand, *sharecroppers in* showed low profit margins even with price increases, highlighting the need for more equitable economic policies and support systems for this vulnerable group.

Challenges in achieving sustainable livelihoods

The living income gap differs significantly between *sharecroppers in* and farm owners. All *sharecroppers in* earn below the living income benchmark, with average and median incomes falling between the extreme poverty and poverty lines. In contrast, most farm owners earn between the poverty line and the living income benchmark, with only 7% exceeding it but increasing to 13% and 24% with the higher farm gate prices of 2024 and 2025. These results highlight the urgent need for targeted interventions, such as improved income diversification and equitable cost-sharing arrangements in sharecropping, to support sustainable livelihoods in the cocoa sector.

The important role of Fairtrade price mechanisms

The critical role of Fairtrade mechanisms, such as the Living Income Reference Price, Fairtrade Minimum Price and Fairtrade Premium, is essential in sustaining farmers' income. These mechanisms enable improved income management by allowing farmers to allocate resources more effectively across household needs, including education, healthcare, and agricultural inputs. While the distribution of Living Income Reference Price and Fairtrade Minimum Price plays a key role in managing yield fluctuations and providing access to bonuses, it is important to note that the Fairtrade Minimum Price had a limited impact in the current study due to higher prices.

Additionally, training programs facilitated through Fairtrade initiatives have brought significant benefits. Farmers who participated in training reported adopting better agricultural and financial practices, leading to increased productivity, higher incomes, and reduced child labour. However, disparities remain, with *sharecroppers in* having lower access to training compared to farm owners. Expanding training programs to ensure equitable access and addressing gender inclusivity in SPOs could further enhance these initiatives' positive impact on farmer livelihoods and SPO dynamics.

Recommendations

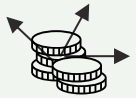
Enhance productivity through sustainable practices
Support farms to address labour shortages and sustain production. Facilitating access to tools and technologies can also improve productivity and increase resilience against weather changes and pests or diseases.

Mitigate climate change and disease impact

- **Increase trainings on climate-smart agriculture practices** such as improved irrigation systems, resistant cocoa varieties, and soil management techniques to cope with climate variability and disease outbreaks like swollen shoot.
- **Facilitate access to disease-resistant cocoa plantlets** and support for tree management, including the removal and burning of infected trees or very old trees, to maintain productivity levels.

Address labour dynamics and challenges

- **Facilitate the establishment and scaling up of labour groups**, which have been proven effective in addressing labour shortages and improving productivity. Labour groups enable farmers to pool resources and labour for critical tasks such as planting, harvesting, and processing, ensuring timely and efficient operations.
- **Encourage the use of sharecropping agreements with fairer terms** to ensure that both parties benefit equitably. It's important to explore ways to improve the cost-sharing arrangements between sharecroppers and landowners to minimize the financial burden on each party. For sharecroppers, this could mean a more reasonable portion of the revenue being retained after paying land-use fees. For landowners, it could mean agreements that incentivize efficient farming practices, helping to maximize overall income from the land. By improving these terms, both parties can experience a better balance between investment and returns.



Strengthen income distribution and poverty reduction

- **Expand the market reach for Fairtrade-certified products** to ensure more farmers can benefit from mechanisms like the Living Income Reference Price and Fairtrade Minimum Price. This would promote regular and equitable income support, improving income stability and access to essential household needs.
- **Targeted interventions for *sharecroppers in*** are needed to close the substantial living income gap, such as providing additional training and access to financial support, and improving market access for diversified income streams.

Recommendations

Promote economic equilibrium

- **Ensure that *sharecroppers in* benefit from the same price** increases and premium payments as other farmers by advocating for fairer economic policies and support systems.
- **Encourage diversification of income sources, such as integration of other agricultural activities, to reduce dependence on cocoa production and** economic exposure to climate-changing patterns and cocoa diseases.

Improve sustainable livelihoods

- **Focus on enhancing resilience and reducing vulnerability among *sharecroppers in*.** The findings highlight that *sharecroppers in* consistently earn incomes below the living income benchmark and have limited access to resources like training and diversified income streams. To address these challenges, focus on enhancing resilience and reducing vulnerability by providing access to diversified income opportunities, financial literacy training, and robust community support systems. These measures could help *sharecroppers in* better manage risks associated with market fluctuations and improve overall income stability.
- **Implement more inclusive economic policies.** The analysis shows disparities in income dynamics and access to Fairtrade benefits. Implementing more inclusive economic policies that extend support to both farm owners and *sharecroppers in* could help ensure equitable benefits from cocoa production and foster sustainable livelihoods for all stakeholders.

Monitor price-cost dynamics to secure real income gains

- Ensure that increases in cocoa prices translate into actual income improvements for farmers by systematically monitoring production costs. Price increases can drive progress toward living income, but rising costs such as labour, transport, and input costs, can offset these gains if left unchecked. Establish mechanisms to track cost trends alongside price developments to ensure that price increases lead to meaningful improvements in farmer profitability rather than being absorbed by parallel cost escalations.
- Refine the modelling and monitoring of sharecropping costs to capture the evolving cost-sharing dynamics between landowners and *sharecroppers in* as prices rise. Understanding how increased prices affect the opportunity cost of *sharecropping out* land is essential for designing interventions that ensure both landowners and *sharecroppers in* benefit fairly under different price scenarios.

Reference List

List of sources used in the report and modelling of farmer household income

10

Reference list

Author (Year)	Title
CIA World Factbook (2021)	Cote d'Ivoire. Retrieved from: https://www.cia.gov/the-world-factbook/countries/cote-divoire/#people-and-society
de los Rios, C. and Tyszler, M. (2020)	Guidance on calculating household income. The Committee on Sustainability Assessment (COSA) and KIT Royal Tropical Institute, Prepared for the Living Income Community of Practice.
International Cocoa Organisation (ICCO) (2022)	Production of cocoa beans. Retrieved from: https://www.icco.org/wp-content/uploads/Production_QBCS-XLVIII-No.-3.pdf
ICCO (2024)	Cocoa Market Review, January 2024. Retrieved from: https://www.icco.org/cocoa-market-report-for-january-2024/
Kongor, J. E., Owusu, M., & Oduro-Yeboah, C. (2024).	Cocoa production in the 2020s: challenges and solutions. CABI Agriculture and Bioscience, 5(1), 102. Retrieved from: https://link.springer.com/article/10.1186/s43170-024-00310-6
LICOP (n.d.)	Measuring actual income Retrieved from: https://www.living-income.com/measurement-actual-income
Romo (2022)	Income measurement practitioner's guide. A practitioner's guide and framework for selecting an appropriate approach to income measurement, ISEAL Alliance, Prepared for the Living Income Community of Practice
True Price (2018)	Cocoa farmer income – the household income of cocoa farmers in Côte d'Ivoire and strategies for improvement Retrieved from: https://trueprice.org/consumer/cocoa-fairtrade/
True Price (2017)	Assessing coffee farmer household income Retrieved from: https://www.impactinstitute.com/wp-content/uploads/2018/05/Assessing_Coffee_Farmer_Household_Income_Report_2017_updated.pdf
World Bank (n.d.)	Poverty. Retrieved from: https://www.worldbank.org/en/topic/poverty#:~:text=Based%20on%20information%20about%20basic,less%20than%20%241.90%20a%20day.&text=These%20lines%20are%20%243.20%20and,thresholds%20for%20middle%2Dincome%20countries
van der Haar, S., Janssen, V.C.J., Diallo, O., Boza, F.B., Diarra, I., Ingram, V., Kouadio, K.A.S., Laven, A., N'dri, A.N., N'guessan, A., Waarts, Y., (2024)	Cocoa household income study approach; A sector-wide approach to assessing the living income status of households in the cocoa sector. Wageningen, Wageningen Economic Research, Report 2024-038. 60 pp.; 1 fig.; 4 tab.; 22 ref. Retrieved from: https://research.wur.nl/en/publications/cocoa-household-income-study-approach-a-sector-wide-approach-to-a
Veldhuyzen, C (2019)	Fairtrade Living Income Reference Prices for Cocoa. Retrieved from https://www.fairtrade.net/issue/living-income

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Annex

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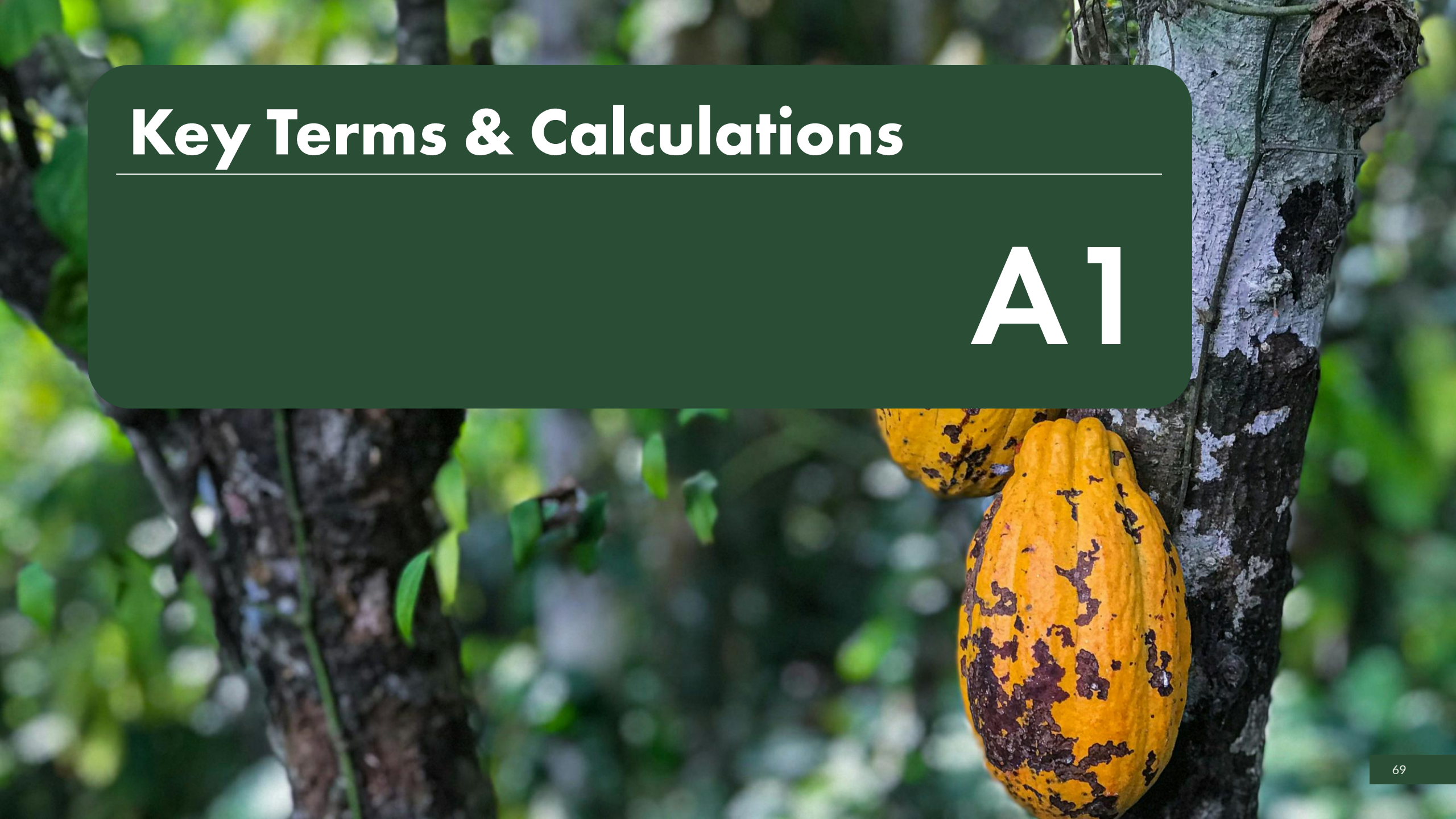


Key Terms & Calculations

A1

A1 Key terms & calculations

Total value of cocoa production and total costs of cocoa production based on CHIS methodology

Total value of cocoa production	
Total value of cocoa production	(Total value of cocoa produced (kg)*Cocoa price)+Total premium received
Total value of cocoa produced (kg)	(Volume of cocoa from land cultivated by the household (kg)+ Volume of cocoa from land sharecropped out (kg) + Volume of cocoa from land sharecropped in (kg)) - post-harvest loss (kg)
Volume of cocoa from own land (not under sharecropping arrangement)(kg)	Gross volume of cocoa produced (kg) - post-harvest loss (kg)
Volume of cocoa from land *sharecropped out* (kg)	household share of production (e.g. 2/3) * total volume produced under this arrangement (kg)
Volume of cocoa from land *sharecropped in* (kg)	household share of production (e.g., 1/3) * total volume produced under this arrangement
Cocoa price	most frequently received price per unit of cocoa by the farm household
Total premium received	volume of production sold as certified quality (kg) * premium /kg
Total costs of cocoa production	
Total costs of cocoa production	CHIS recommends collecting data for cost by cocoa main production activity (*i.e.*, preparation, maintenance, harvesting, post-harvest activities) by capturing the number of labourers per type of labour (*i.e.*, household members, sharecroppers, permanent labourers, temporary labourers, labour groups, communal labour). Given the length constraints of the survey and the alignment with the previous study, we collected data on temporary and permanent cocoa workers, temporary and permanent cocoa workers on general farming and household member hours spent on the farm during harvest time and the rest of the production year.
Annual costs (same as for minimum requirements)	• The number of permanent labourers and their annual remuneration • Costs of buying/renting/leasing land

A1 Key terms & calculations

Net non-cocoa income and Living income gap based on CHIS methodology

Net non-cocoa income	
Net non-cocoa income	SUM(Net income from: 1. Other farm income-generating activities (IGAs); 2. Off-farm IGAS; 3. Other income)
Other farm income	SUM(net income from cash crops, food crops, timber from cocoa farms and livestock products)
Off-farm income	SUM(net income from all other IGAs)
Other income	SUM(net income from pensions, remittances and cash transfers (recurrent))
Total production costs of non-cocoa IGA =	SUM(costs of rent/lease of land/buildings (e.g. shop), equipment, raw materials and inputs (incl fuel), labour and transport)
Net household income (Minimum requirenment)	Net cocoa income * (contribution of cocoa to total household income (%) / 100))
Net non-cocoa income (MR)	(SUM of contribution of non-cocoa income sources to total household income (%)/100) * Net household income) + average value of food produced for home consumption
Net household income (Recommended approach)	gross annual income - total annual production costs
Net non-cocoa income (RA)	SUM of net incomes of all non-cocoa income sources + average value of food produced for home consumption

Living income gap	
Household living income gap	Adjusted living income benchmark – Net actual household income
Net actual household income	Net cocoa income + Net non-cocoa income
Adjusted living income benchmark	Raw living income benchmark adjusted for: • Inflation (CPI current period/CPI of the period when the living income benchmark was computed). • Household size and composition (use of the OECD modified equivalence scale to determine the number of adult equivalent household members)

A1 Key terms & calculations

Fairtrade interventions

Concept	Definition
Living Income Reference Price	Fairtrade Living Income Reference Price The LI Reference Price indicates the price needed for an average farmer household with a viable farm size and an adequate productivity level to make a living income from the sales of their crop.
Fairtrade Minimum Price	Fairtrade Minimum Price The Fairtrade Minimum Price is the minimum price that must be paid by buyers to producers for a product to become certified against the Fairtrade Standards. The Fairtrade Minimum Price is a floor price which covers producers' average costs of production and allows them access to their product markets. The Fairtrade Minimum Price represents a formal safety net that protects producers from being forced to sell their products at a too low price when the market price is below the Fairtrade Minimum Price. It is therefore the lowest possible price that the Fairtrade payer may pay to the producer.
Fairtrade Minimum Price Differential payment	Fairtrade Minimum Price Differential Payment The Fairtrade Standard for Cocoa requires traders to pay a price differential for Fairtrade cocoa beans if the reference price in Côte d'Ivoire falls below the Fairtrade Minimum Price.
Fairtrade Premium	Fairtrade Premium The Fairtrade Premium is an extra sum of money paid on top of the selling price that farmers or workers invest in projects of their choice. They decide together and democratically how to spend the Fairtrade Premium to reach their goals, such as improving their farming, businesses, or health and education in their community.

A1 Key terms & calculations

Household members and size, labour groups and sharecropper vs permanent labourers

- **Household members and size**: *Household members are defined as a group of adults and children, regardless of their relationship, who contribute to or are dependent on a shared economic pot. This includes people living in the household for at least six months per year and dependent children who live elsewhere (landowners in school) and excludes paid labourers who live with the household)* (van der Haar, S., et al. 2024, p.43).

- **Labour groups**: *Groups of trained professionals renting out their services (also called, labour gangs, labour brigades and service groups)* (van der Haar, S., et al. 2024, p.43). These groups were accounted for in the hired workforce and in the related costs to cocoa production.

- **Sharecropper vs permanent labourers**: *A **sharecropper** is a person participating in a sharecropping arrangement, also referred to as tenant. The **sharecropping arrangement** is a land use arrangement in which a tenant (sharecropper in) can cultivate a landowner's land in exchange for a share of the production (or revenue or profit) or a share of the trees (or land)* (van der Haar, S., et al. 2024, p.44). Although they might be considered in the labour force, they differ *from **permanent labourers** who are long-term labourers such as caretakers or farm managers who are paid in cash for their services (in contrast to sharecroppers who receive a share of the production)* (van der Haar, S., et al. 2024, p.44).

Source: van der Haar, S., et al. (2024)

Model Adjustments 2020 vs 2024

A2

A2 Model adjustments 2020 vs 2024

Currency standardisation for results comparability

Currency adjustments

The 2020 study presented results in USD, while the 2024 study reports all data in EUR, as requested by Fairtrade. This change required a detailed conversion process to ensure comparability between the two datasets.

To ensure consistency and accuracy, the following process was adopted for the 2024 study:

1. **Conversion of CFA to EUR.** All financial data originally expressed in CFA (XOF) was converted to EUR.

2. **Poverty line adjustments**:

    1. The poverty line, initially expressed in USD, was converted to CFA using the purchasing power parity (PPP) exchange rate.
    2. The CFA value was then converted to EUR, taking into account the purchasing power parity adjustment.
    3. The final poverty line in EUR per household per year was calculated by multiplying the EUR/per person per day value by the median household size.

3. **Extreme poverty line**: a similar process was applied for the extreme poverty line, ensuring consistency in methodology.

To compare 2020 and 2024 results effectively, the results from the 2020 study, originally in USD, were converted to EUR using the 2019 exchange rate of **655.95 EUR/CFA.** This step ensured consistency across datasets and facilitated accurate trend analysis between the two study periods.

A2 Model adjustments 2020 vs 2024

Adjustments to Full-Time Equivalent (FTE) Calculations

FTE adjustments

New FTE

Adjustments to FTE metrics between 2020 and 2024: In response to updated guidance from Fairtrade International, the methodology for calculating Full-Time Equivalents (FTEs) has been revised for the 2024 study. These changes reflect updated assumptions about working hours and days:

1. **Hours per Day per FTE**: The average working hours per worker per day have been reduced from **8 hours** (used in the 2020 model) to **5 hours**.

2. **Working Days per Year**: The number of working days considered per year decreased from **271.46 days/year** (2020 model) to **220 days/year**.

As a result of these adjustments, the total FTE per year has been recalculated, changing from **2,171.66 hours/FTE/year** in the 2020 model to **1,100.00 hours/FTE/year** in the 2024 study.

Updating the 2020 model for comparability: To ensure consistency and comparability between the datasets, the updated FTE calculation methodology has also been applied retroactively to the 2020 model. This adjustment ensures that labour-related metrics are aligned across both study years, allowing for meaningful comparisons of FTE trends over time.

A2 Poverty lines and living income benchmark 2020 and 2024

Figure 1.*A2*: Distribution of farmer household income 2020 vs 2024 (EUR/year)

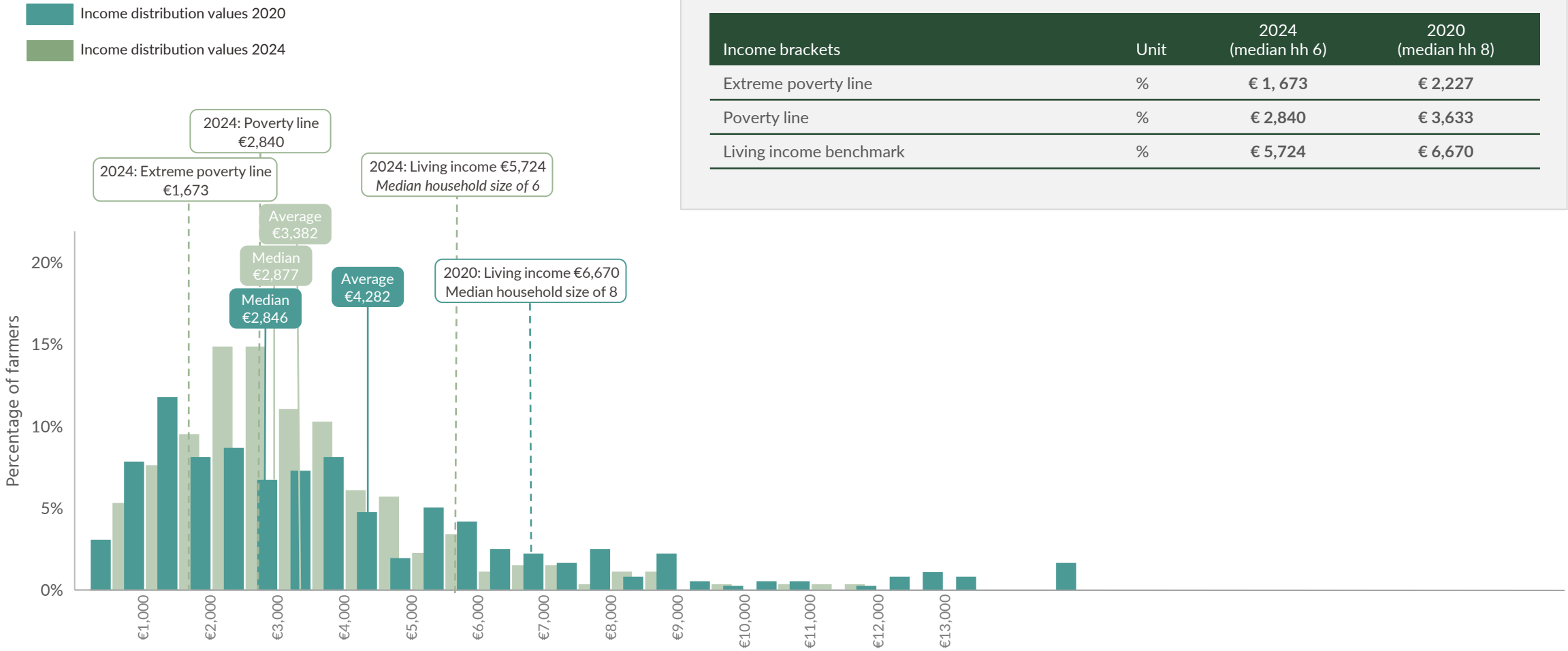


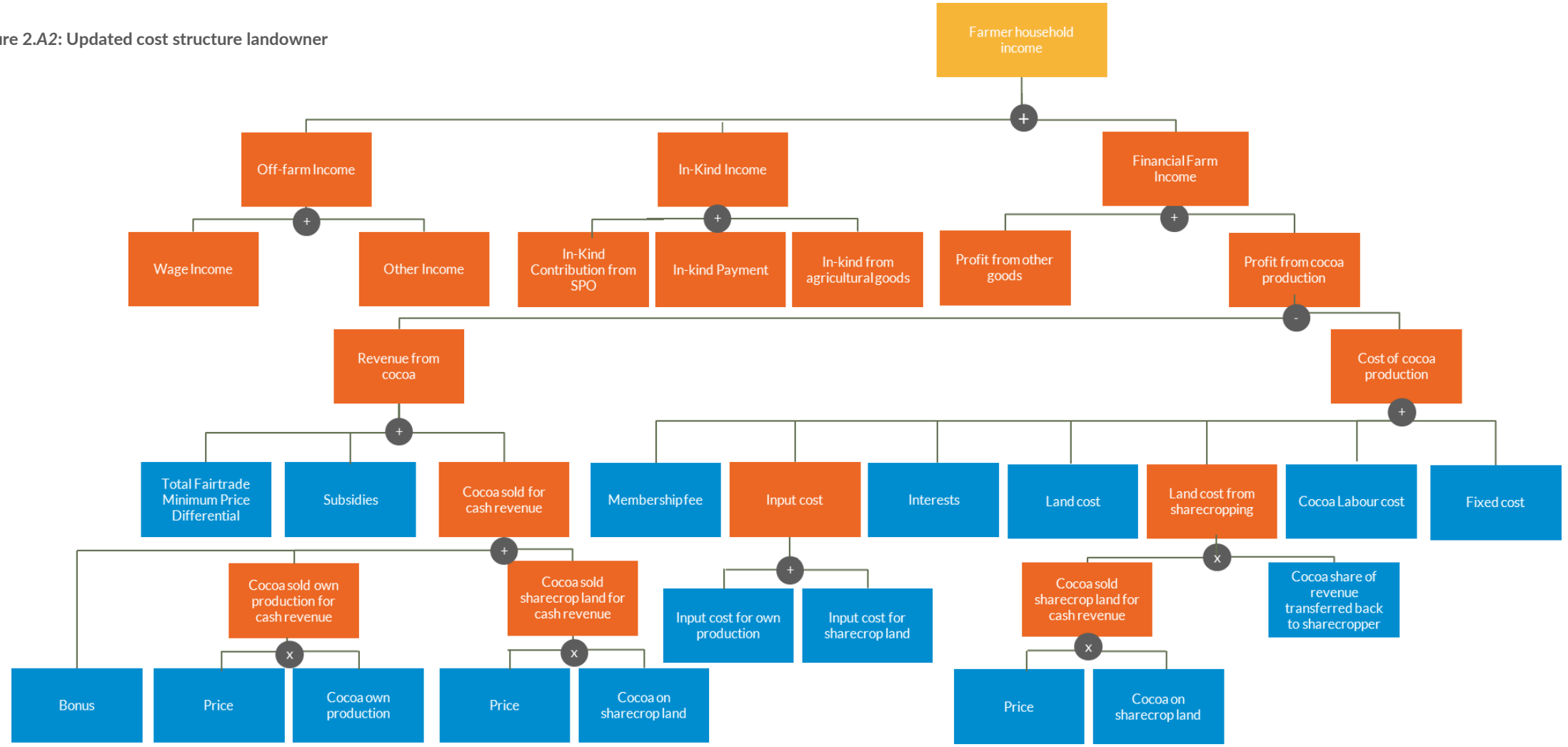
Table 1.*A2*: Ranges for poverty line and living income benchmark 2020 and 2024

Income brackets	Unit	2024 (median hh 6)	2020 (median hh 8)
Extreme poverty line	%	**€ 1, 673**	**€ 2,227**
Poverty line	%	**€ 2,840**	**€ 3,633**
Living income benchmark	%	**€ 5,724**	**€ 6,670**

A2 Updated cost structure landowner

Input
Calculation
Output

Figure 2.A2: Updated cost structure landowner



Model Adjustments 2024 vs 2025

A3

A3 Approach Price analysis 1 & 2

Data is updated to reflect recent cost trends, inflation, and benchmark revisions for the 2024/2025 harvests

Price analysis 1 and 2 are carried out to assess how recent changes in prices, productivity a production cost influence farmers' ability to achieve a living income. To carry out this analysis, key economic indicators, namely production costs and yields are updated to represent the most recent harvests of 2024/2025.

Additional data collection

To understand how these indicators have changed from the original time period of data collection 2023/2024 to 2024/2025, information was gathered from two sources.

1) Desk research for recent news articles and case studies that indicate cost and production trends.
2) Input from Fairtrade experts that work closely with farmers and SPOs in Côte d'Ivoire. Data was collected through a survey focused on five main indicators; productivity, fertilizers, pesticides, hired labour and transport. For the cost indicators, experts were asked to indicate both trends in cost as well as quantity of use.

Aggregation of data

To determine the final percentage changes applied to key cost indicators, findings from both desk research and expert surveys were systematically combined. Desk research provided a mix of quantitative data points and qualitative context, while the survey results offered expert-based estimates, often expressed as percentage ranges, and explanatory commentary. These complementary sources enabled the translation of qualitative and semi-quantitative insights into concrete percentage increases or decreases for indicators such as yield, pesticides, fertilizers, hired labour, and fuel/transport. The values used to update the data are presented on the next page.

Yield value

To understand the impact of the potential overreporting of yield, the additional price scenario analysis was conducted using a lower, more conservative yield value that aligns more closely with other data estimates. This approach made it possible to assess how variations in yield assumptions affect the calculated living income gap and provides a potentially more accurate picture of farmer income levels under typical production conditions. The average yield value of 500 kg/ha, as recommended by Fairtrade experts, has been used in the additional price scenario analyses.

1 **Identify key indicators to update**

2 **Desk research on cost and productivity trends**

3 **Primary data collection from experts**

4 **Aggregating results of data collection**

5 **Update data for price analysis**

A3 Key updates to economic and production model inputs

Adjustments reflect recent cost trends, inflation, and benchmark revisions for the 2024/2025 harvests

Update to cost indicators

This section presents the results of desk research and expert input on the variance of key indicators between 2023/2024 and 2024/2025. The variations are based on a combination of validated secondary data and expert insights gathered through targeted surveys and a stakeholder validation session. Each indicator, such as yield, fertilizer use and cost, hired labour, and fuel/transport, has been assessed individually for its percentage change and contextualized with country-specific explanations.

These change factors have been applied to the existing cost indicators in the calculation model. Where no specific information on cost trends is available, an inflation rate has been applied to the relevant cost indicator. As a result, the 2023/2024 data has been adjusted to reflect the 2024/2025 harvests.

Adjustment of benchmark and exchange rates

Next to specific cost indicators, the exchange rate and benchmarks such as the poverty line and living income benchmark has also been updated to reflect 2024/2025.

Table 1.*A3*: Yield value price analysis (2024/2025 Update)

Primary data indicator changed	*Value used*
Yield	500 kg/ha

Table 2.*A3*: Key Indicator Changes (2024/2025 Update)

Primary data indicator changed	*% change*
Fertilizer cost & use	+15%
Pesticides cost & use	+26%
Hired labour cost & use	+25%
Fuel/transport cost & use	+20%
Inflation rate	+3%

Limitations and Assumptions

Limitations to the model are outlined in this section. This includes missing variables, relevant ambiguities and issues revolving household size.

Key assumptions used to calculate farmer income are also outlined.

A4

A4 Missing variables

Missing variables and answers ambiguity

Potentially relevant missing variables

1. Water costs.

2. Taxes.

3. (In-kind) contribution SPOs.

4. In-kind payment of hired labour.

Relevant ambiguities

1. Cost-sharing agreements on sharecropping land are unknown. Therefore, it was impossible to isolate the production costs of cocoa from the *sharecropped-out* land.

2. Farmers indicate how many months a year they worked (for the other activities next to farming). However, when a 'weekly' or 'daily' pay rate is selected, the answers are unclear on how many days or weeks were actually worked.

3. Regarding off-farm labour for other family members, it is unclear how the farmers have answered the questions on how many days they have worked off-farm and how much money they have received for that work.

4. Farmers indicate that they have hired permanent workers but do not report a frequency or a daily pay. Therefore, permanent workers are set to 0.

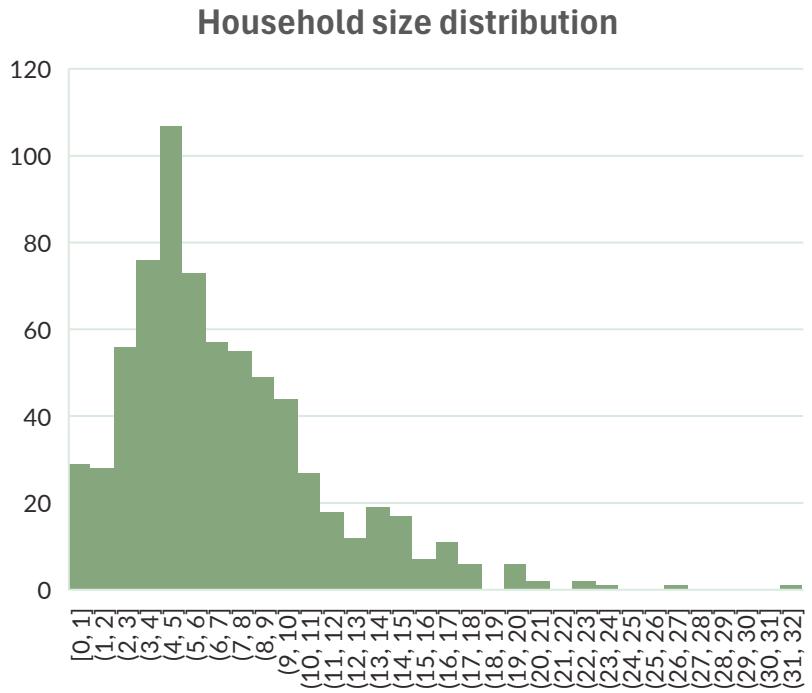
5. Sharecroppers report hiring temporary labourers and labour groups, but for the price of both permanent and temporary workers, they reported "not applicable" (*i.e.*, the information requested is not available) and the number of seasonal workers hired is blank.

A4 Household size

Highly variable household size

- The questionnaire includes a question on household size (“Total number of household members, not including farmer”). Some farmers have filled in very large numbers – values up to 33 have been recorded. This might correspond to genuinely large households, but alternatively, this number might include relatives not living in the household.
- The effect of the very large families is ‘countered’ by using the median instead of the average family size in comparisons. The median family size of 7 people is ~15% lower than the average. These very large household sizes are likely not realistic. However, it is preferable not to use a ‘hard’ cut-off, as all choices (16, 20, 25) are arbitrary.
- The main effect of the very large households, is that they drive up the average family size. The average family in the main sample consists of 8 people.
- Note that the family size does not directly affect the farmer’s household income. However, the household income needs to be compared to the (extreme) poverty line and living income based on larger families.

Figure 1.*A4*: Household size distribution



A4 Farmer income

Key assumptions to calculate farmer income

Building block	Calculation
Revenue cocoa	Calculated as the sum of sales to SPOs plus Fairtrade Minimum Price differential plus bonus. Cocoa sales are calculated for sales to SPOs by multiplying the volume sold.

Constituent of building block	Assumption
Volume of cocoa sold (for each buyer)	We test on the sum of all volumes sold versus the total volume produced: for most farmers, these are (almost equal). For farmers for which the sum of all sales is much smaller than the cocoa produced (less than 50%), we use the following assumptions: 1) the amount sold is assumed to be the full amount produced 2) all cocoa is assumed to be sold to the SPO.
Fairtrade minimum price differential received	Some farmers have replied they have not received a Fairtrade Minimum Price differential. As discussed with Fairtrade, farmers should have received the differential during the mid-crop harvest but have not reported it for a variety of possible reasons. Other farmers reported values also during the main harvest. Because of the different distribution policies of SPOs, it is difficult to make an accurate estimate of how much each farmer should have received. The data is therefore treated as reported by the farmers.

A4 Farmer income

Building block	Calculation
Cost of goods sold (COGS) cocoa	Calculated as the sum over hired labour, land costs, land costs from sharecropping, input costs, fixed costs and other costs. It is calculated by multiplying the number of people hired in each category (permanent vs. temporary), with the days worked by them, with their daily pay rate and then summing over all categories. Input costs are calculated as the sum over 'fertilizer costs', 'pest management costs', 'transport costs' and the product of 'seedlings purchased' with 'seedling costs'. Fixed costs consist of 'machete', 'machete file', 'tarpaulin', 'pick', 'basket', 'rope', 'axe', 'pruner', 'bag', 'boots', 'bucket', 'fuel' and 'other'. It is calculated by taking the sum of the amount of these items times their respective costs. Expenses on these items are treated as a cost in the year that they occur, not depreciated over the lifetime. Other costs consist only of training costs.

Constituent of building block	Assumption
Hired labour – people hired, days worked and pay rate	The normal rules for overwriting empty cells and cells containing "Non-applicable", can be overruled. This happens when one or two out of the three factors (people hired, days worked and daily pay rate) have a positive value, while the other(s) are not filled in (or are 0 or "Not Applicable"). In that case, the missing elements are replaced by their respective medians. For example: a farmer does not fill in the number of people hired but gives values for days worked and the daily pay rate. The number of people hired is replaced by the median, instead of by 0 (as would happen under the regular replacement rules). We have checked that this procedure does not have a large influence on the results.
Hired labour – days worked (during harvest and not harvest time)	Responses above 7 were divided by 6 (median days of work in a week) to correct for values reported as hours/week If above 7 report 7.

A4 Farmer income

Building block	Calculation
Interest	Calculated as a percentage of revenue.
Constituent of building block	**Assumption**
Interest	It is assumed to be 2.4% of the cocoa revenue (based on the 2020 study).

Building block	Calculation
Taxes	Calculated as a percentage of revenue.
Constituent of building block	**Assumption**
Taxes	Our understanding is that the farmers are theoretically obliged to pay this but are not doing so in practice. Tax burden is not included in the questionnaire and is assumed to be zero.

Building block	Calculation
Subsidies	Calculated as a percentage of revenue.
Constituent of building block	**Assumption**
Subsidies	Assumed to be 1% of the cocoa revenue (based on the 2020 study).

Building block	Calculation
Net investment outlays	Out-of-scope

A4 Farmer income

Building block	Calculation
Net profit other goods	Calculated as the sum of profits from each crop and each form of cattle. The crops consist of cassava, maize, plantain, yam, fruits, vegetables, rubber, cashew and palm. The cattle consist of chicken, sheep, cow, pig and goat. The profit of each category is calculated by taking the value (revenue) in that category and subtracting some of the costs made to grow that crop or breed that type of cattle. The questionnaire reports the total costs per type. Some of these can be attributed to commercial activities, the remainder to their own consumption (see below). We calculate the share of costs relevant to commercial activities by multiplying total costs by the portion that is sold (instead of consumed in the household). When that portion cannot be properly calculated from the given data, the full costs of production are assigned to the commercial activities. As a formula: profit = value - (total cost of production)*(volume sold/volume produced)

Constituent of building block	Assumption
Crops – total volume sold	It is assumed that all volume not sold is consumed by the household.
Crops – total volume produced	No additional assumptions.
Crops – cost of production	No additional assumptions.
Crops – value	No additional assumptions.
Cattle – number sold	It is assumed that all volume not sold is consumed by the household.
Cattle – number raised	For farmers reporting far above the median of the sample, the value is replaced with the median.
Cattle – cost of production	No additional assumptions.
Cattle – value	No additional assumptions.

A4 Farmer income

Building block	Calculation
Wage income	Calculated as the summation over the incomes of the different types of work. For each type of work, the income is calculated as the income per unit time, multiplied, when relevant, by the number of months worked. The other sources of work consist of other agricultural work, construction work, domestic labour, public service, wood charcoal, palm wine and other work.

Constituents of building block	Assumption
Other sources of work – months worked	No additional assumptions.
Other sources of work – income	No additional assumptions.
Other sources of work – rate basis	If the rate basis is "Annually", then the 'income' is directly used. If the rate basis is "Monthly", then the income per month is multiplied by the number of months worked. If the rate basis is "Daily" or "Weekly", the income is still multiplied by the number of months worked. This is because the weeks or days worked per month are not known. In addition, this approach gives roughly equal contributions for the different rate bases. Multiplying with the number of days or weeks in a month, gives results that are out of line with the other entries. When the rate basis is "Does not know", "Refuse to answer" or "Not Applicable", but the income has a positive value, the rate base is either changed to "Annually", or to "Monthly". When the income is larger than ten times the average of all the incomes that have a pay rate category of "Monthly", the rate basis is changed to "Annually", otherwise "Monthly" is used.

A4 Farmer income

Building block	Calculation
In-kind contributions SPOs	Calculated as a percentage of revenue.
Constituents of building block	**Assumption**
In-kind contributions SPOs	Assumed to be 1.1% of the cocoa revenue (based on the coffee project by Fairtrade and True Price).

Building block	Calculation
Other income & remittances	Consists of remittances from friends or relatives, gift money to pay for health or education, or any other money not earned from a job or rent.
Constituents of building block	**Assumption**
Other sources of income	No additional assumptions.

Building block	Calculation
Exchanged goods received	Consists of produce exchanged for land.
Constituents of building block	**Assumption**
Produce exchanged for land	No additional assumptions.

Building block	Calculation
Rental income	Summation over house, vehicle and other sources of rental income.
Constituents of building block	**Assumption**
Land, house, vehicle and other rental income	No additional assumptions.