the sustainable trade initiative

STRATEGY HANDBOOK
FULL REPORT

A Fact-Based Exploration of the Living Income Gap to Develop Effective Sourcing and Pricing Strategies that Close the Gap

TASK FORCE FOR COFFEE LIVING INCOME (TCLI)

Acknowledgements

IDH would like to express its sincere thanks to all the companies and organizations that have contributed to the creation of this report. The report would not have been possible without their openness and willingness to work together through this study. Living income and living wage is a cornerstone of IDH's objective to scale sustainable business practices. The companies and organizations listed below have shared their insights and offered critical feedback on the methodology. Many of these organizations shared data to help pave the way towards a living income for coffee producers by providing insight into their sourcing models and data on producers in their value chain. The final conclusions are not necessarily endorsed by these organizations.

Foreword

It is both *critical* and *urgent* to move international commodity markets toward practices that contribute more effectively to Living Incomes and Living Wages.

Coffee is a clear example. The long-term price of coffee in the futures market has remained roughly the same for the last 47 (!!) years, resulting in a massive decrease in farmers´ purchasing power. Growing public pressure has led to retailers and brands to rethinking their pricing and sourcing strategies. Additionally, the threat of future scarcity of coffee (especially arabica), and climate change build a business case for the coffee industry to leverage the full potential of their business practices to contribute to work towards Living Income (and Living Wage) in their value chain.

Since 2013, IDH has piloting business models in several sectors including flowers, tea, fruits and cocoa to work towards Living Wage and Living Income[1]. We recently established IDH Farmfit, which provides technical assistance and insights to improve farmer engagement models to their full impact potential and de-risked finance models to banks and businesses to scale these models

We have proven that reducing the Living Wage gap is possible when all value chain partners are committed and agree on a joint roadmap of concerted, multiple interventions. We have learned along the way that data on Living Wage gaps per country and instruments to identify the role of producers, off-takers and policy makers to close the gap are cornerstones for success. We have documented improvement in smallholder livelihoods in many of IDH's public impact reports.

Still the world is faced with ongoing poverty, especially in rural agricultural communities in developing countries. To mitigate rural poverty, we need to think bigger, look beyond our individual interests and work together. We need scale to accelerate and mainstream. And scale comes from the commitment and engagement of many.

Against this background, we are very pleased with the massive engagement from roasters, trade, producers and NGO's when we began convening this **Taskforce for Coffee Living Income** in May 2019.

We are proud of the report in front of you. It is the result of a collective journey to gather and interpret the current data on coffee farmer income, and to indicate how the Living Income gap can be closed with innovative sourcing practices and enabling policies.

We sincerely want to thank all of the contributing organizations mentioned on page 2 and New Foresight as lead consultant. This report would not have been possible without their valuable contributions of data and insights.

Needless to say that this beautiful report is useless if we don't **act** on the recommendations and change 'business as usual'. We trust the sector actors and especially the taskforce participants will hold each other accountable for that. IDH is looking forward to working together with all of you to make that happen.

Jordy van Honk

IDH Global Director Agriculture Commodities Coffee, Cocoa & Tea

1 https://www.idhsustainabletrade.com/?s=Living+wage

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Executive summary

Across the coffee sector, many coffee producers and their families live well below recognized "living income" benchmarks. The Task Force for Coffee Living Income (TCLI) acknowledges this challenge and aims to answer a pivotal question:

What are effective sourcing and pricing practices that coffee companies can adopt to help close the living income gap?

This report presents a framework for measuring the living income gap in coffee and suggests a path forward based on an analysis of data from a cross section of coffee producers in Colombia. Task Force members from across the coffee sector contributed extensive supply chain data, and expert insights during group meetings and bilateral discussions to develop this case study. This unique sector-wide approach has allowed the TCLI to evaluate the living income of coffee producers across all market segments and coffee qualities.

The TCLI has identified four distinct sourcing archetypes represented in Colombia. The sourcing archetypes are differentiated through four key characteristics: market segment; sourcing relations along the value chain; value chain structure; and recognition of quality and sustainability. The four archetypes range in the spectrum from conventional, mainstream coffee to specialty coffee and are termed Archetype 1 - Conventional, Archetype 2 - Conventional with product value recognition, Archetype 3 - High value consumer experience, and Archetype 4 - Specialty. The study analyzes the living income gap of producers supplying to each sourcing archetype and across small, medium, and large producers.

The results of the study suggest that most conventional *small* producers (selling mostly into archetype 1) face an insurmountable living income gap that cannot be solved with technical assistance and price support alone. For *small* producers with more exposure to technical assistance, certification or producing higher quality coffee (archetypes 2 and 3) the living income gap could be narrowed with a mix of higher prices, improved sourcing practices and policy support. *Small* producers of specialty coffee (archetype 4) meanwhile earn a living income due to higher yields and prices. In general, medium and large-scale producers currently earn a living income.

This report is therefore a call to action for companies and policy makers to work together to effectively close the living income gap. 80% of coffee consumed is produced by 25 million smallholders. Around 125 million people worldwide depend on coffee for their livelihoods. In Colombia, where these study focused, small coffee producers represent 96% of the coffee-growing area. Many of these farmers and their families struggle with food security, health and education needs. This report puts forward recommendations of sustainable sourcing and pricing practices within each sourcing archetype that companies are strongly urged to adopt in their supply chains to close the living income gap. While better sourcing and pricing practices can help narrow the income gap, complementary policy initiatives will be needed to help create conditions where producers can achieve a living income.

"This study marks the beginning of a new approach in the coffee sector. The current definition of sustainable coffee must be expanded to consider living income and set producers on a path towards achieving that and ensuring the future of coffee."

CATALINA EIKENBERG,
HEAD OF SUSTAINABLE BUSINESS
NEUMANN GRUPPE, GMBH

It is hoped that the work presented in this report can be replicated in other countries to spread the impact across multiple origins. This will require the development of standardized metrics for comparing data among stakeholders and assessing costs of coffee production across origins; sector collaboration to ensure the comprehensiveness of studies and limit data duplication; and a trusted, neutral third-party to conduct the study.

Chapter 1: Introduction

Across the coffee sector, many coffee producers are unable to earn sufficient income to support their families and their businesses. Many of them live well below recognized living income benchmarks. Though a wide variety of interventions to improve livelihoods have been made by governments, private sector and civil society, poverty remains widespread.

The Task Force for Coffee Living Income (TCLI) aims to answer a pivotal question with this report: What are effective sourcing and pricing practices that companies can adopt to help close the living income gap? This report is the culmination of six months of analyses and discussion focused on Colombia. It provides a fact-based approach to estimating coffee producers' income and the size of the living income gap. The report is based on contributions from a broad spectrum of stakeholders and includes extensive supply chain data submissions and expert insights from task force meetings and bilateral discussions.

Making living income a goal for the coffee sector

A prolonged period of extremely low coffee prices – often below the cost of production – over the past two years has left many coffee producers with little to show for their work, both in and outside of Colombia. Since 2016, the global coffee price for Arabica beans (the 'C' price) has decreased 30%.[2] At the same time, the cost of production for Colombian coffee producers, for example, has remained constant, and has even increased in some years.[3] This threatens the economic viability of farming for producers who often rely on coffee for over 70% of their annual income. This has been intensified by a rise in the cost of living for producers.

Due to the asymmetries of economic power, producers remain the most vulnerable to the effects of low and volatile prices, which threaten livelihoods and limit long-term farm investments. Between 1982 and 2018,

2. As of Oct 30 2019 where the market closed in at 99 US cents/lb GBE. As of 17 December 2019, the C price has risen again to 133.7 US cents/lb GBE.
3. Solidaridad (2018). Costos de producción de café 2011-2018, p. 30. International Coffee Organization (2016). "Assessing the economic sustainability of coffee growing"

DEFINITION OF LIVING INCOME

"The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household."

"Elements of a decent standard of living include: food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events".

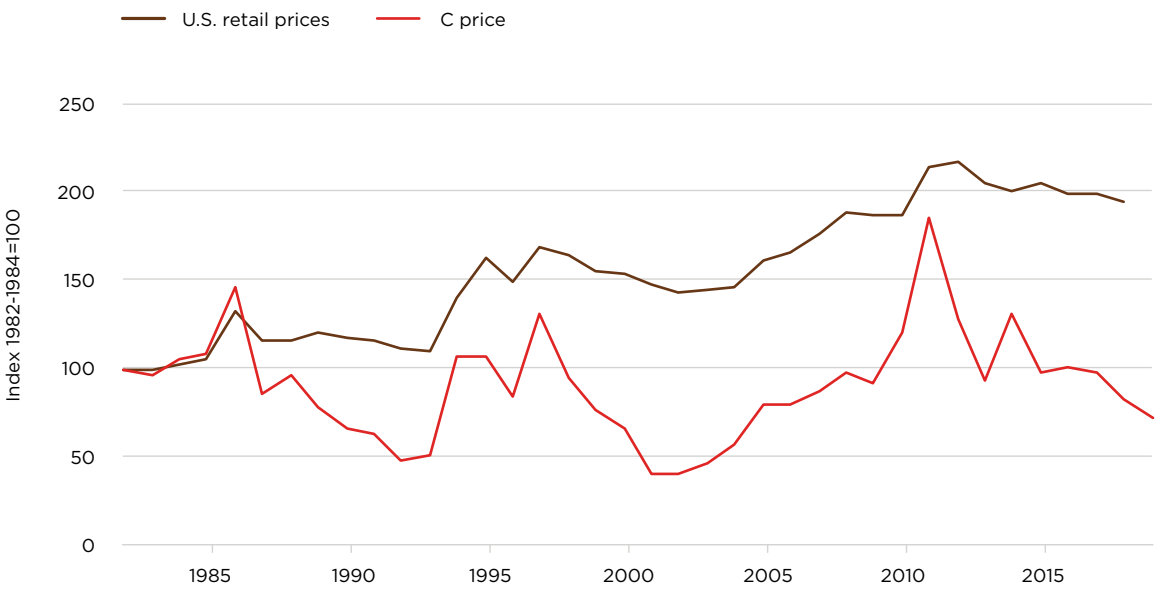
Source: *Living Income Community of Practice (2019)*

the 'C' price dropped by 27%. In the same period, roasted coffee in the U.S. experienced an average price increase of 98%.[4,5]

Next to the disproportional harm of low prices on producers' income, the high price volatility further aggravates their position as the combination of low general profitability *and* unpredictability of prices makes coffee farming a (too) high risk sector for producers to invest in, thus deepening the downward poverty spiral. The price volatility is partly fundamental (demand and supply related) but increasingly caused by the dominant role of non-commercial speculating by financial actors (See also Recommendation b in section 5.1.2. b.).

There is a growing awareness of the overlap between farmers' capacity to earn a living income and structural issues in the coffee sector.[6]
The Task Force's effort to develop a data-driven approach to living income and assuring the economic sustainability of producers is a vital path for the long-term sustainability of the coffee sector. **The work of the Task Force took place in the same period as the preparation of the ICO London Declaration and this report can clearly be seen as a contribution to the call for action in the coffee sector outlined in this declaration and signed by many of the TCLI**

FIGURE 1: GREEN COFFEE WORLD MARKET PRICE ('C' PRICE) VS. CONSUMER PRICE INDEX: RETAIL COFFEE IN U.S. CITY, ALL URBAN CONSUMERS



4. Calculation based upon U.S. Bureau of Labor Statistics, Consumer Price Index: Coffee in U.S. City Average, All Urban Consumers [CUUR0000SEFP01], retrieved from FRED, Federal Reserve Bank of St. Louis
5. Macrotrends (Nov. 29, 2019). "Coffee Prices - 45 Year Historical Chart"
6. For example, the signing of the London Declaration in September 2019 by a large share of the coffee sector, explicitly mentions its aim to "enable a living income for coffee producers" (London Declaration, 2019). A few months earlier, the 2nd World Coffee Producers Forum of July 2019 addressed issues such as "growers' economic sustainability" and "the revenue of coffee growers" (WCPF, 2019).

participants.[7] See also the text box 'Existing (coffee) producer income initiatives' on page 11 for an overview of other initiatives on the topic.

Colombia in focus

The Task Force selected Colombia as the first country to investigate due to its importance to global supply as the 2nd largest Arabica producer. The coffee sector in Colombia is well organized with a large number of smallholder farmers, and wide availability of producer and trade data.

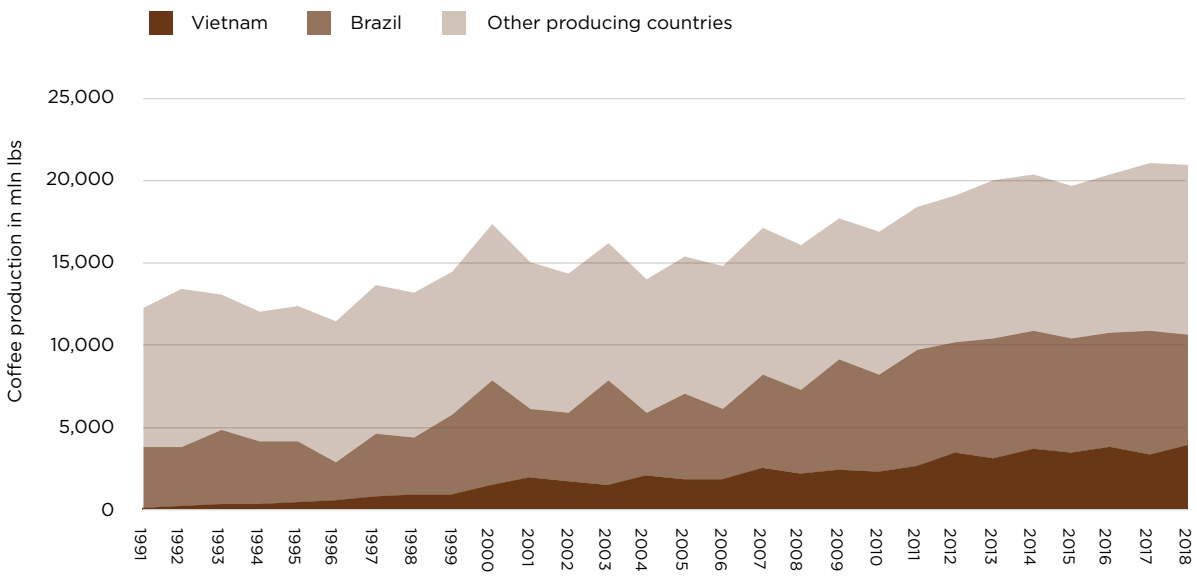
More importantly, Colombia represents a key coffee origin currently under threat due to the increasing sector dominance of Brazil and Vietnam. Together, these two countries represent 79% of the growth in global production (Arabica and Robusta) since 1990/91 (see Figure 2). In 2018, the two countries represented over 50% of global production, compared with only 30% in 1991.

"The Task Force for Coffee Living Income provides valuable insights and was created with the best of intentions, but we must all acknowledge our role in creating these conditions and dedicate ourselves to addressing the challenges, power dynamics, and sovereign imperatives of the public sector actors on the producer side."

RIC RHINEHART
SENIOR ADVISOR
SPECIALTY COFFEE ASSOCIATION

This market dominance threatens not only the livelihoods of millions of coffee farmers in Colombia and other countries, but also the future of a diversified, high quality and equitable coffee industry as a whole.

FIGURE 2: GLOBAL COFFEE PRODUCTION (1990-2018), MILLION POUNDS GREEN BEANS



7. The London Declaration, including signatories, can be found here: https://www.internationalcoffeecouncil.org/media/LondonDeclaration.pdf.

The current trend toward concentration of production among dominant origins needs to be reversed through global trade interventions and public policy for four reasons:

1. Brazil and Vietnam cannot offer the diversity in flavor and quality that is required for the consumer market. Roasters require a diversified set of origins to develop the blends they need.
2. Greater dependency on fewer origins increases the risk of supply disruption due to climate-related events, political upheaval, or economic downturns.
3. Dependency on fewer origins threatens an already unstable market with the potential for even greater price volatility due to disruptions in supply.
4. The development of economically viable coffee production is vital to many countries' efforts to combat extreme poverty.

Based on this, it is clear that current free market and business trends must be corrected to strengthen the economic viability of coffee origins around the world. Voluntary Sustainability Standards (VSS) represented a significant step forward by including sustainability requirements across the whole value chain by bringing producers with more sustainable and often better agriculture practices into international value chains. However, standards organizations do not generally include (Living) Income in the definitions of "sustainable", hence they do not provide assurance on the most important Sustainable Development Goal for coffee: "poverty" (SDG 1).

Addressing the living income gap in Colombia is an important first step to ensure the continued viability and long-term sustainability of a diverse supply base of origins.

TASK FORCE FOR COFFEE LIVING INCOME

The Task Force Coffee Living Income (TCLI) was convened by IDH, the Sustainable Trade Initiative in April 2019, bringing together important sector stakeholders, including roasters, traders, producer organizations, retailers and NGOs.

The involvement of private actors

It is clear that the sourcing and pricing practices of private sector actors play an important role in addressing the living income gap. Retailers, roasters, traders, exporters, producer organizations – every actor in the supply chain – can improve their contributions to closing the living income gap at the individual producer level. The retail coffee market generates revenues of more than 200 billion USD annually, yet only 10% of this value (20 billion USD) remains in producing countries.[8]

Private sector actors have an opportunity to leverage their experience in the coffee sector with a drive towards sustainable sourcing practices to instill change at origin. Realizing this potential will require effective and efficient interventions within individual supply chains, and sector wide collaboration with a common language based on facts and data. The role of the public sector in both producing and consuming markets is also vital to develop and implement effective enabling policies, which should be developed in an active dialogue involving private actors.

A fact-based approach

Effective interventions must be based on fact-based, data-driven insights into farmer income and the size of the living income gap. This should be rooted in a clear understanding of the various coffee sourcing models and economic status of

8 Panhuysen, S. and Pierrot, J. (2018). Coffee Barometer 2018.

different coffee farm types and allow for sector-wide comparisons across countries and regions. Ultimately, a shared understanding could translate into a clear methodology that can be tailored to the sourcing practices at hand providing value chain actors with tangible corrective actions to reduce the living income gap.

An industry-wide data-driven approach is currently lacking. Although data on the cost of production and living income are available, datasets are often fragmented, relatively small, incompatible (for example due to different metrics used or to different production systems having highly variable data), or not widely shared. Roasters, traders, farmer organizations, and producing country governments all maintain their own methods for data collection, and corrective actions remain relatively ineffective and scattered. Moreover, there is a growing debate around the ethics of farm data management and ownership. There is no code clearly establishing data rights, privacy and security around farm data. Data gathered at farm level is often used by traders and roasters in marketing the coffee, but the added value of this information seldom makes its way to the farm level. The lack of common definitions and minimum reference levels of "farmer income" hampers solid collective understanding of how big the income gap is and how this can be best closed.

"The Task Force for Coffee Living Income has given us an opportunity to work collectively on costs of production at farmgate level and to share experiences among industry players. There is a need for more alignment in calculating costs and this will lead to solutions that guarantee long-term profitability for coffee farmers. We at Mercon have the needs of coffee farmers, particularly smallholders, at the heart of our business strategy, and transforming small farmers into small entrepreneurs is key to building a better coffee world. "

GIACOMO CELI
SUSTAINABILITY DIRECTOR
MERCON B.V.

Sourcing archetypes

For the purpose of this report, the Task Force expands on existing research, which usually focuses on one segment of producers, to include four different sourcing archetypes. Living income gaps are assessed for each of these consumer market-based sourcing archetypes, and sourcing and pricing recommendations are tailored for each. Problems and solutions are specific to each archetype.

The report consists of the following chapters.

- **Chapter 2** describes the specific characteristics and differences among the four sourcing archetypes existing in Colombia.
- **Chapter 3** introduces the concept of living income and highlights how the concept differs from traditional poverty measures. Two living income benchmarks conducted in Colombia form the basis of the living income gap measurements in this study.
- **Chapter 4** calculates the cost of production and income for different Colombian producer segments and the subsequent living income gap.
- **Chapter 5** provides conclusions and recommendations to private and public sector actors to narrow the living income gap tailored to each sourcing archetype. It also offers lessons learned from conducting the study and recommendations on how to replicate the study across other origins.

Existing (coffee) producer income initiatives

SECTOR DIALOGUE

- **International Coffee Organization's (ICO) Sector Dialogues:** The dialogues employ a structured consultation process among high-level decision-makers, sector stakeholders and development partners, to identify and implement innovative proposals that mitigate the impact of low coffee prices on farmers and foster the long-term sustainability of the sector.
- **Specialty Coffee Association (SCA): SCA Coffee Price Crisis Response Initiative:** The SCA is compiling data and information to create an in-depth understanding of the coffee price crisis along with recommendations for the coffee industry.
- **Living income Community of Practice (LICOP):** This alliance is dedicated to the vision of thriving, economically stable, rural communities in global food and agricultural supply chains. The community supports and shares activities focused on improving smallholder incomes to enable smallholder farmers to achieve a decent standard of living. It provides support to increase the understanding of living income measurements and the income gap, and to identify and discuss strategies for closing the income gap.
- **Global Living Wage Coalition (GLWC):** The GLWC has established a single definition and a widely accepted methodology to calculate a living wage. The living wage benchmark estimates established by GLWC members in many countries and sectors enable industries and companies to move toward paying a living wage.
- **World Coffee Producers Forum:** The Forum brings together coffee-growing nations to discuss common challenges on revenue of coffee growers, environment, climate and sustainability. In 2019, the Forum also commissioned a landmark study by Jeffrey Sachs on how to ensure economic viability of coffee production to facilitate discussions with other sector stakeholders (available here).

LIVING INCOME STUDIES

- **Fairtrade International:** Assessing the costs of production in seven origin countries to establish living income reference prices
- **True Price: The True Price of coffee:** True Price calculates a 'true price' for coffee that factors in all social and environmental externalities, including living income and/or living wage benchmarks in the countries they study.
- **Shift: The Sustainable Living Income Project:** The project will establish living income benchmarks for three Arabica coffee producing areas of Uganda based upon detailed farm household surveys for 10,000 farming households within the Great Lakes Coffee supply chain.

IMPACT STUDIES

- **ALIGN:** ALIGN is a guidance tool for agri-food companies working on the topic of living wage and living income. It provides two functions: 1) A source map where the user can access information on living wage/living income either per country or per commodity and 2) an action process as a step-by-step guide for companies approaching the theme of living wage/living income.
- **Evidensia:** Evidensia is an open-source evidence platform on the impacts of supply-chain sustainability approaches that enables information-sharing among sustainability practitioners.
- **ISEAL: Demonstrating and Improving Poverty Impacts (DIPI) project.** The project is running 2013-2019 and seeks to understand the contribution that certification systems can make to poverty alleviation and pro-poor development.
- **MARS: Farmer Income Lab.** The Lab is an incubator for insights on fundamental levers most effectively contributing to increasing farmer incomes and sustainable sourcing strategies to leveraging these.

Chapter 2:

A complex reality: Introducing sourcing archetypes

To acknowledge the enormous differentiation in market segments of the coffee sector and related pricing and sourcing models, we classified coffee buyers and producers organized in different sourcing models into stylized "archetypes" according to the particular end market they serve. The TCLI analyzes coffee across four (international) sourcing archetypes functioning in Colombia, including Archetype 1 (Conventional), Archetype 2 (Conventional with product value recognition), Archetype 3 (High value consumer experience) and Archetype 4 (Specialty) (see Figure 3).[9]

***Attention**: We use the archetypes to better understand the impact of sourcing models on farmer income for various farmer segment. However in reality, coffee produced by a farmer may serve a mix of very different market segments and value chains (archetypes).*

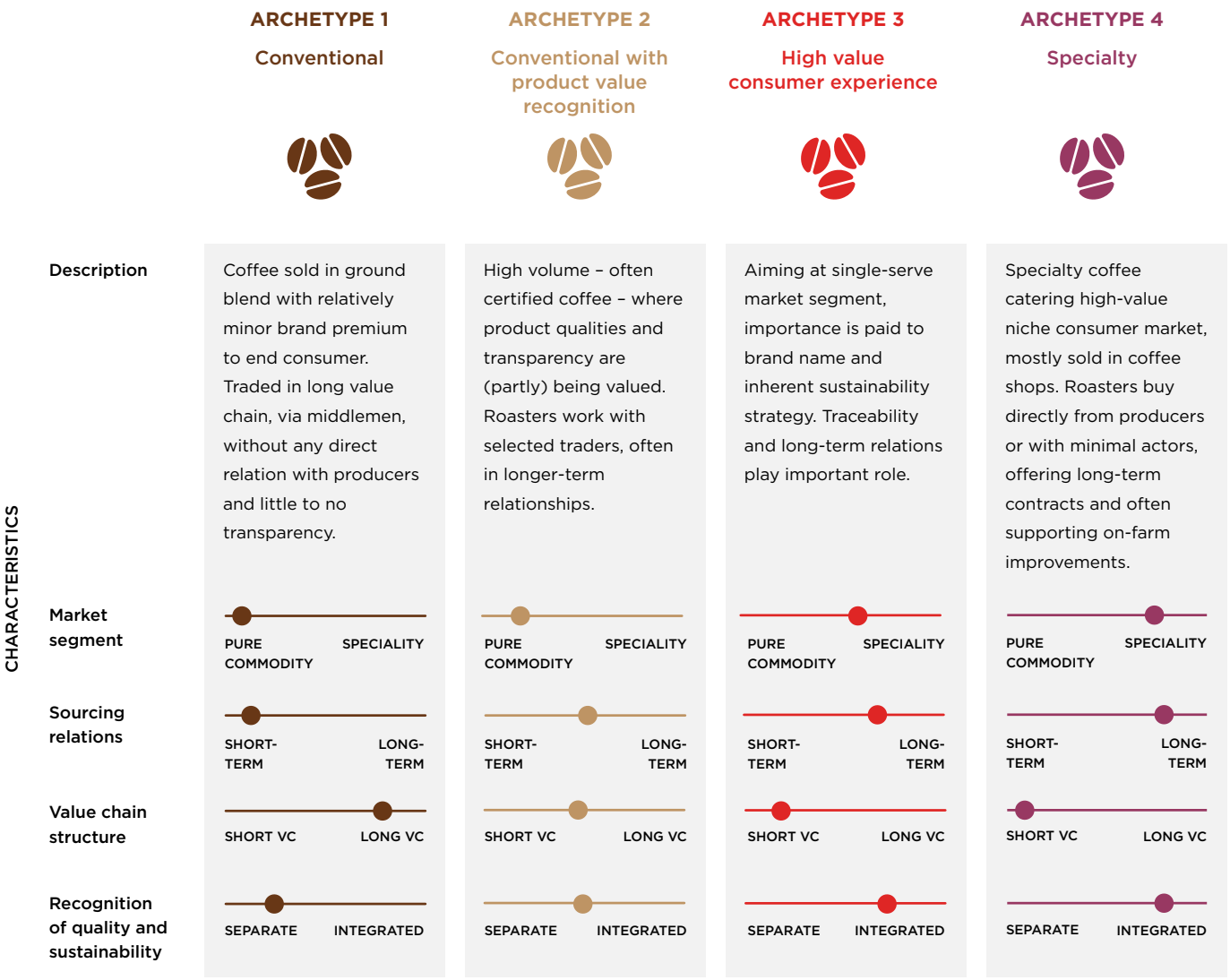
Members of the Task Force provided the majority of the data for this study. Aggregation and classification by sourcing archetypes respect the privacy of individual companies and yields important insights that cannot be gained by treating coffee as a singular product. The four sourcing archetypes are differentiated through four characteristics: market segment; sourcing relations; value chain structure; and recognition of quality and sustainability.

9. These archetypes have been designed for the case of Colombia; however, it is assumed that the core segmentations apply across origins and can therefore serve as the base for subsequent analyses in other origins (see also chapter 5 on the replicability of this study to other origins)

- **Market segment** refers to how the coffee is marketed and ranges from pure commodity to specialty product.
- **Sourcing relations** cover the nature of the sourcing contracts between buyers and producers, ranging from low visibility and short-term commitments to high visibility (and hence traceability) and long-term commitments.
- **Value chain structure** refers to the complexity and number of actors in the coffee value chain.
- **Recognition of quality and sustainability** entails the degree to which quality and sustainability requirements and premiums result in additional value creation with the coffee product.

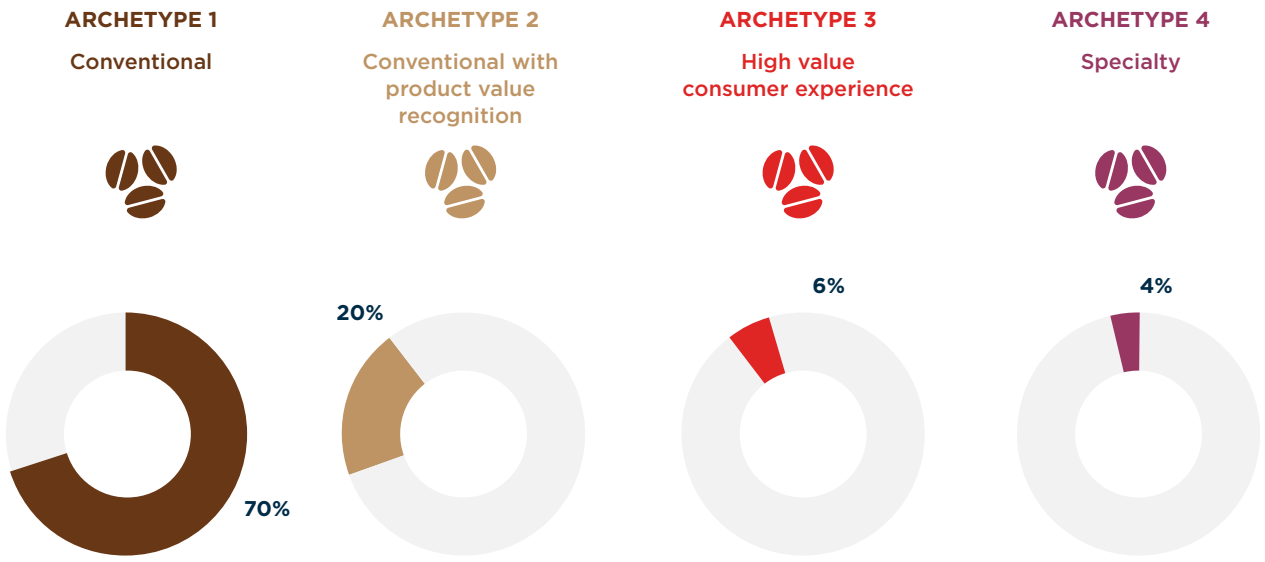
It is estimated that roughly 70% of the world's coffee production is sourced and marketed within sourcing archetype 1. Coffee traded as archetype 2 represents roughly 20%, archetype 3 represents 6%, and archetype 4 accounts for 4% of global production. The percentages will differ for Colombia being a "high-quality origin" with relatively less archetype 1.

FIGURE 3: OVERVIEW OF FOUR (INTERNATIONAL) SOURCING ARCHETYPES FUNCTIONING IN COLOMBIA



Note: The chart organizes various coffee trading practices into logical archetypes. In reality numerous variations can be found of the archetypes and their underlying characteristics. Individual companies are likely to find themselves sourcing among multiple archetypes.

FIGURE 4: GLOBAL ESTIMATES OF GLOBAL VOLUMES OF THE FOUR SOURCING ARCHETYPES



Note: The figures above are rough estimates based on interviews with industry representatives

DEFINITIONS OF TRACEABILITY AND TRANSPARENCY

Traceability: "The ability to identify and trace the history, distribution, location and application of products, parts and materials, to ensure the reliability of sustainability claims, in the areas of human rights, labor (including health and safety), the environment and anti-corruption."
Source: UN Global Compact and BSR (2014) A guide to traceability

Transparency: "Transparency relates directly to relevant **information** been made **available** to all elements of the value chain in a **standardized** way, which allows common understanding, accessibility, clarity and comparison."
Source: UNECE (2019). Transparency and Traceability for Sustainable Value Chains

BSR (2019) highlights that "supply chain transparency refers to the strategy of how to disclose supply chain and sourcing information to stakeholders. Transparency is defined by what data you are going to be transparent about, to whom, and how often, or when." The ability to control and increase transparency often lies with one actor in the supply chain, and it is therefore not a given that transparency claims lead to greater spread of information among all actors in the supply chain.

Archetype 1
Conventional

Coffee sold as conventional often makes up ground blends and is marketed with relatively minor brand premium to the end consumer. It is traded in long value chains, via middlemen, without any direct relation with producers and little to no transparency.

Market segment: Coffee is commoditized with limited differentiation in product characteristics, such as quality. The end-product is often sold in blends with beans that can be substituted with other washed, mild Arabica origins. Retail prices are relatively low and little value is created along the value chain, meaning that FOB (Free on Board) and farmgate prices are low. Coffee is often traded in bulk, with low margins.

Sourcing relations: Opportunistic relationships are predominant in this archetype. Producers, middlemen, cooperatives, exporters, traders, roasters, retail and end-customers are seeking an affordable, functional product with price as the predominant driver for the transaction. Pricing at the producer level is based on the prevailing 'C' price at the moment of delivery, which subjects producer organizations and producers to high volatility and uncertainty.

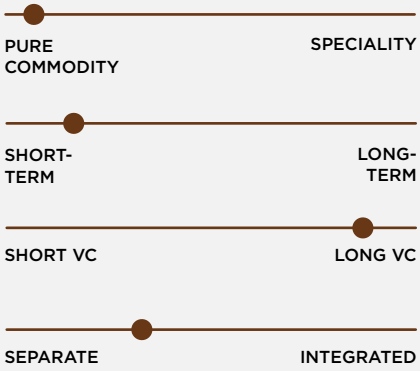
Roasters, traders, exporters and producer organizations can utilize risk mitigation tools, such as futures and options, to cope with price volatility. Unfortunately, due to their atomized structure, individual producers are unable to use these risk mitigation tools, which makes long-term production investments nearly impossible.

Value chain structure: Traders work with middlemen – sometimes multiple – to aggregate coffee, which results in a lack of traceability. The involvement of middlemen reduces the amount of value that eventually reaches producers, who have limited bargaining power and are largely price-takers.

ARCHETYPE 1

Conventional

Coffee sold in ground blend with relatively minor brand premium to end consumer. Traded in long value chain, via middlemen, without any direct relation with producers and little to no transparency.



Recognition of quality and sustainability: The quality requirements that do exist are often minimal (primarily physical appearance, defect count, and screen size). Higher quality is neither recognized nor rewarded. Sustainability efforts – if available at all – are separate from the sourcing strategy, and roasters and traders do not necessarily buy the coffee from the producers they support with technical assistance programs. In this archetype, sustainability does not enable producers to create extra value within the supply chain.

Archetype 2
Conventional with value recognition of sustainability

This archetype covers coffees that are often certified. Product quality and traceability are partially valued, and roasters work with select traders, often in longer-term relationships.

Market segment: Coffee is differentiated by certification and/or verification (Voluntary Sustainability Standards, VSS), or value added to the end-product warranting a premium. The associated premium(s) can result in higher farmgate prices, and – depending on the scheme – potentially a guaranteed minimum price. Producers regularly obtain several VSSs, which allows them to sell the coffee through value-added channels and maximize their premium potential. On the other hand, they are also increasing their cost of production, since costs to implement sustainable production practices and to obtain certification are not cheap.

Sourcing relations: Assuring certified volumes requires traders to establish separate supply chains (to separate from conventional, non-certified coffee). The increased investment in some cases results in longer term relations with roasters and producers. Premiums can provide producers with greater security and incentivize investment in farm improvements (provided certified coffee is also sold as such).

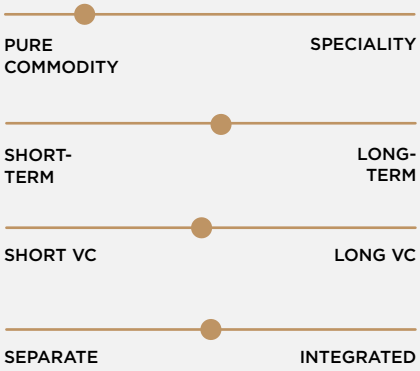
Value chain structure: Assurance requires increased traceability and traders often rely on cooperatives as an intermediary. Cooperatives can also be certified and function as a certification vehicle for member producers. Third-party auditors ensure that criteria are met for certification and/or verification.

Recognition of quality and sustainability: Sustainable production is integral to the added value in the end-product. Transparency is not fully incorporated, and the share of premium reaching individual producers is unclear. The cost of obtaining VSS certification is often borne by the trader or roaster, and sustainability interventions focus specifically on helping producers to meet minimum standard requirements.

ARCHETYPE 2

Conventional with product value recognition

High volume – often certified coffee – where product qualities and transparency are (partly) being valued. Roasters work with selected traders, often in longer-term relationships.



"This report accurately sheds light on the complexity of achieving coffee sustainability, and the urgent need to ensure farmer prosperity for the future of the coffee industry. Some of the concrete recommendations to increase farmer incomes are being worked on by the Global Coffee Platform with its members through collective action initiatives and public-private country platforms in coffee producing countries. It also confirms the value of the Coffee Data Standard and its common indicators in enhancing supply chain transparency and collaboration on data across our sector. We look forward to taking this work to the next level: it's time for more action."

ANNETTE PENSEL
EXECUTIVE DIRECTOR
GLOBAL COFFEE PLATFORM

Archetype 3
High value consumer experience

Emphasis is placed on the brand name and the inherent sustainability strategy in archetype 3, which primarily serves the single-serve market segment.[10] Traceability and long-term relations play an important role for traders and roasters.

Market segment: This coffee is marketed as a premium product focused on consumer experience and exclusivity. Consumption is convenience-driven and consumed in coffee shops or at home in single-serve machines. Roasters may be the retailer or act as private label roaster. The main value add is in branding and customer experience, where the company profile is important. As a result, a larger share of the value remains with the roaster/retailer.

Sourcing relations: Roasters require a steady supply of high-quality coffees with a consistent flavor profile, emphasizing long-term relationships. Traders and roasters invest in producers and farmer organizations to achieve quality and meet sustainability standards. Producers are often included in roasters' internal verification systems.

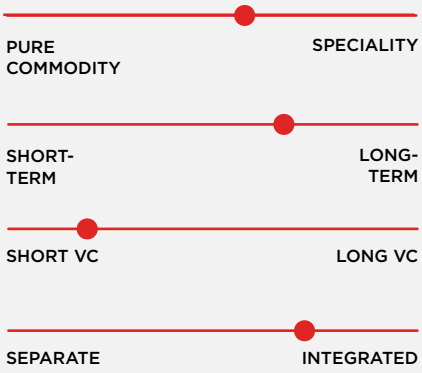
Value chain structure: A shortened value chain enables traders and roasters to have more input into production. Traceability and information sharing are high to enable storytelling for consistent branding. Traders are responsible for interventions, but roasters are often present on the ground to ensure verification of company programs. Companies tend to work via farmer associations or cooperatives to facilitate delivery of services and ensure a reliable producer base.

Recognition of quality and sustainability: Value chains are designed to facilitate control over quality and sustainability, both to provide a premium product and to enable credible storytelling in branding. Programs to improve quality and sustainability are integral to the added value in the end-product and offer producers the opportunity to improve their livelihoods.

ARCHETYPE 3

High value consumer experience

Aiming at single-serve market segment, importance is paid to brand name and inherent sustainability strategy. Traceability and long-term relations play important role.



10. Single-serve coffee is defined as coffee sold in a container for coffee brewing only large enough to serve a single portion of coffee. The container can be a capsule, pod, pad, or plastic cups. Single-serve coffees are sold in a variety of qualities and price ranges. In this report archetype 3 refers to the premium, high-value single-serve market. Lower quality single-serve coffees would therefore fall under archetype 1 or 2.

Archetype 4
Specialty Coffee

These coffees cater to the high-value niche consumer market, mostly sold in coffee shops. Roasters buy either directly from producers or through a minimal number of actors, offering long-term contracts and often supporting on-farm improvements to secure the specific quality for future years.

Market segment: Coffee is branded as specialty or gourmet coffee and commonly served in high-end coffee shops. Roasters may also own retail outlets themselves. Specialty coffee is often sold as single origin and single farm focusing on the farmer group or region and telling a story of the producer(s). Offering is based on a single flavor profile and dependent on supply, which can be limited. Low supply of production in origin countries makes this an exclusive offering. Relatively few points of sale drive up product value and roaster offering is based on a 'flavor catalogue' and thus varies depending on the season.

Sourcing relations: Roasters utilize long-term contracts to secure future supply. Multi-year collaborations between roasters and producers are required to maintain an offer of specific, unique flavor profiles. Pricing is (relatively) detached from the C price and based on cupping score, uniqueness (special preparation) and other quality features. Roasters and traders invest in producers to increase the supply of a product that has specific characteristics.

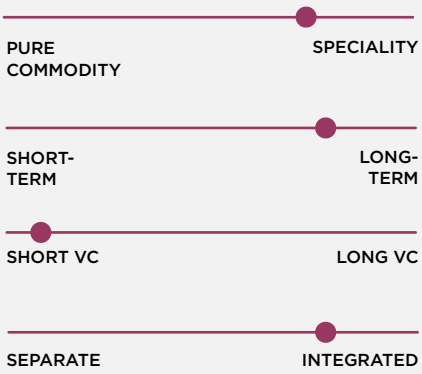
Value chain structure: A high level of traceability is a necessity for roasters to secure supply of specific coffee and to control quality. Volumes traded are low and export is carried out in small lots. A short supply chain enables a high level of transparency, enabling information sharing on fair trading arrangements.

Recognition of quality and sustainability: Quality is crucial for roasters and fully integrated across the value chain. Services to promote sustainability are financed through added value in the product and aim to surpass certification and/or verification requirements. Given the high-quality requisite, only a portion of a producer's coffee tends to fall within this quality segment, which leaves producers to sell remaining production through other sourcing archetypes.

ARCHETYPE 4

Specialty

Specialty coffee catering high-value niche consumer market, mostly sold in coffee shops. Roasters buy directly from producers or with minimal actors, offering long-term contracts and often supporting on-farm improvements.



"The analysis of the TCLI study is unique in providing data that can answer some of the most persistent questions that plague coffee producers and industry actors alike. Specialty actors should be at once heartened by the revelation that many smallholder farmers selling into specialty value chains are capable of achieving (and surpassing) living income thresholds; but they should be cognizant that producers do not fit neatly into any single archetype. Success in specialty coffee depends on the sustainability of all other sourcing models."

KIM ELENA IONESCU
CHIEF SUSTAINABILITY AND KNOWLEDGE DEVELOPMENT OFFICER
SPECIALTY COFFEE ASSOCIATION

Chapter 3: Reaching an equitable sector: Defining a living income for coffee producers

Low income results from many interrelated factors; there are no easy structural solutions to achieving a living income. It requires a systemic analysis of the root causes and long-term action by all key stakeholders. In recent years great strides have been made across other sectors, such as cocoa, to define and measure minimum-acceptable standards of living for smallholders. This has resulted in internationally recognized approaches to calculating living income benchmarks. Living income benchmarks provide a common language and define a collective target for all sector stakeholders.

The Beyond Chocolate Partnership in Belgium is an example of the chocolate industry teaming up with the Belgian government and civil society. Under the partnership, all chocolate produced and/or sold in Belgium must comply with a relevant certification standard by 2025, and all cocoa growers supplying into Belgium must earn at least a living income by 2030.

Another example is the December 2019 joint position paper from Barry Callebaut, Mars Wrigley, Mondelez, Fairtrade, Rainforest Alliance, and VOICE Network urging the European Commission to take legislative action to ensure a fully sustainable cocoa supply chain that delivers a living income to cocoa farmers.[11]

3.1 The concept of living income

The concept of living income goes beyond traditional notions of poverty alleviation that focus on basic subsistence and survival. The main difference between a living income and poverty lines is the additional income required for a decent standard of living. This goes beyond traditional poverty thresholds to include education, clothing, savings for unexpected events (e.g. hospital visits), and an increase in access to and consumption of more nutritious food. The living income concept is based on international standards for what constitutes a decent living.

11. "Joint position paper on the EU's policy and regulatory approach to cocoa." (Dec. 2, 2019).

DEFINITION OF LIVING INCOME AND LIVING WAGE

Living Income: "The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household."
Source: Living Income Community of Practice (2019)

Living Wage: "Remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family."
Source: Global Living Wage Coalition (2019)

In both definitions, elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing, and other essential needs, including a provision for unexpected events.

Achieving a living income can derive from multiple sources. In the case of smallholder coffee producers, income can be earned through the sales of a primary crop (such as coffee) and secondary crops, off farm business (for example, laboring on other farms), remittances, and consumption of food grown by the household. These income sources combined equal the total household income available to cover the costs of a decent livelihood.

Figure 5 illustrates the concept of a living income gap. The **living income gap** is the difference between the established living income benchmark (see table 1 below for benchmarks in Colombia), i.e. the income level required for a decent standard of living, and the total household income. Thus, the living income gap represents the additional income required to reach a decent standard of living, as defined by the living income benchmark.

"Living income is an important topic for the coffee industry, especially after the long period of low prices we have seen recently. It is obvious that the industry must ensure that farmers are economically sustainable, which means that they can earn an adequate income from coffee. This report aims to address this key challenge with concrete recommendations on different actions to increase farmer incomes, especially for smallholders who represent the great majority of producers and are most at risk."

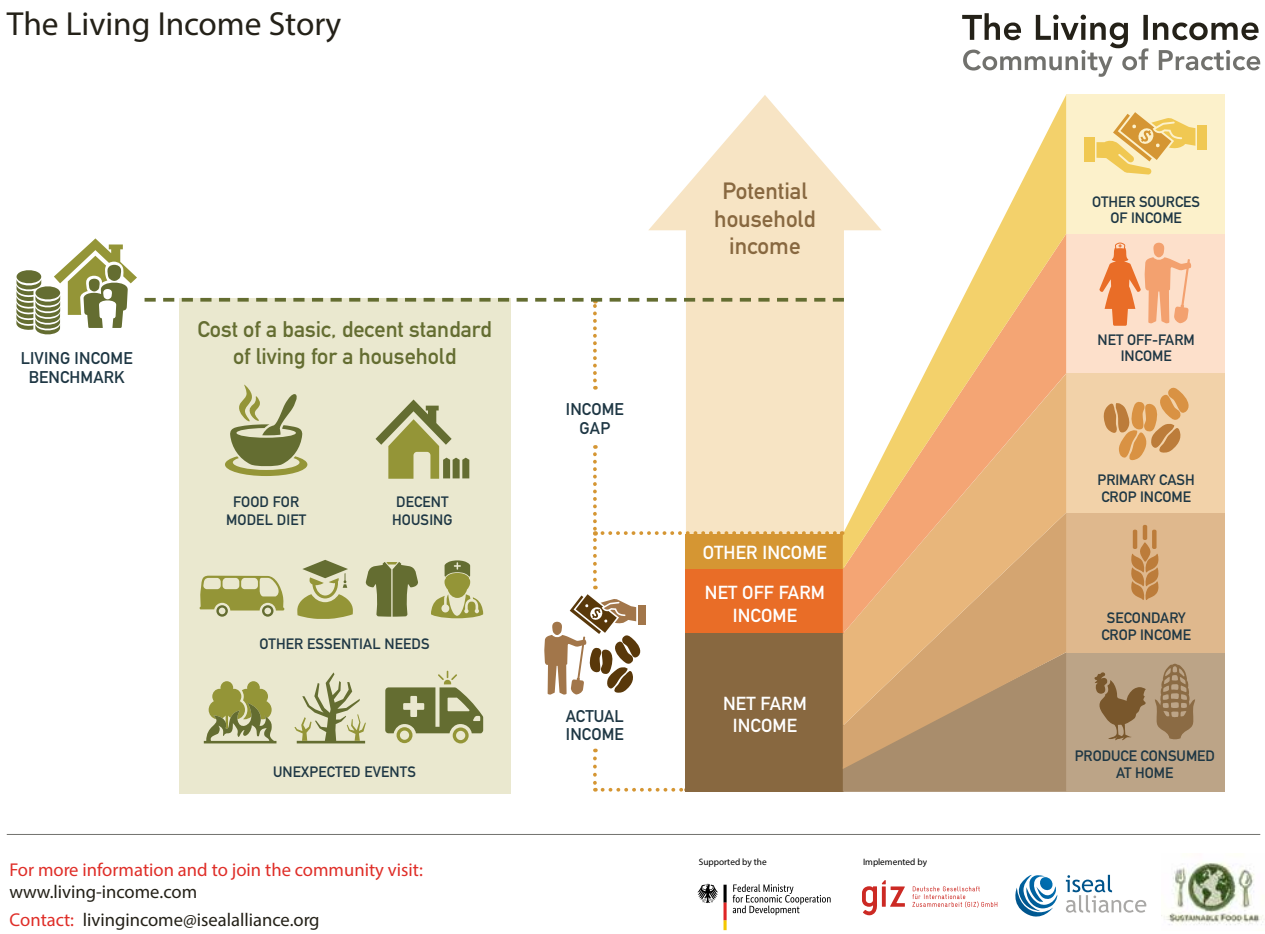
JUAN ANTONIO RIVAS
SENIOR VICE-PRESIDENT & GLOBAL HEAD
SUSTAINABILITY AND BUSINESS DEVELOPMENT
COFFEE OLAM INTERNATIONAL LIMITED

This study contributes to the living income discussion by calculating the net income of coffee producers for the different sourcing archetypes in Colombia. The primary focus is on coffee income, but other income sources are factored in. The majority of farm revenues are derived from coffee and increases or decreases based on the farmgate price and volume sold. Farm costs are broken down into fixed costs and variable costs, which include labor, harvesting costs, land-related maintenance costs and others. Figure 6 illustrates the breakdown of income for a coffee producing household.

Opportunity costs – most importantly household labor – are not generally included in cost of production. The amount of household labor is important for understanding the true cost of production, however, for comparison of living income benchmarks, opportunity costs are omitted. Living income is a monetary measure of an individual's access to a defined bucket of goods, and costs reflect actual cashflow. Omitting opportunity costs, like household labor, avoids double counting of income and more accurately reflects actual income.

It is important to note that a single producer can sell coffee within several archetypes. For example, a producer may sell majority of her coffee on conventional terms, while part of the production is sold as specialty coffee. For the purpose of this study, a given producer is allocated to the archetype in which they sell the largest share of their coffee. It is important to note that the farm income calculations do not represent producers selling the entirety of their produce within a given archetype. Section 6.1.1 in the annex provides further explanation of how data was allocated among the four archetypes.

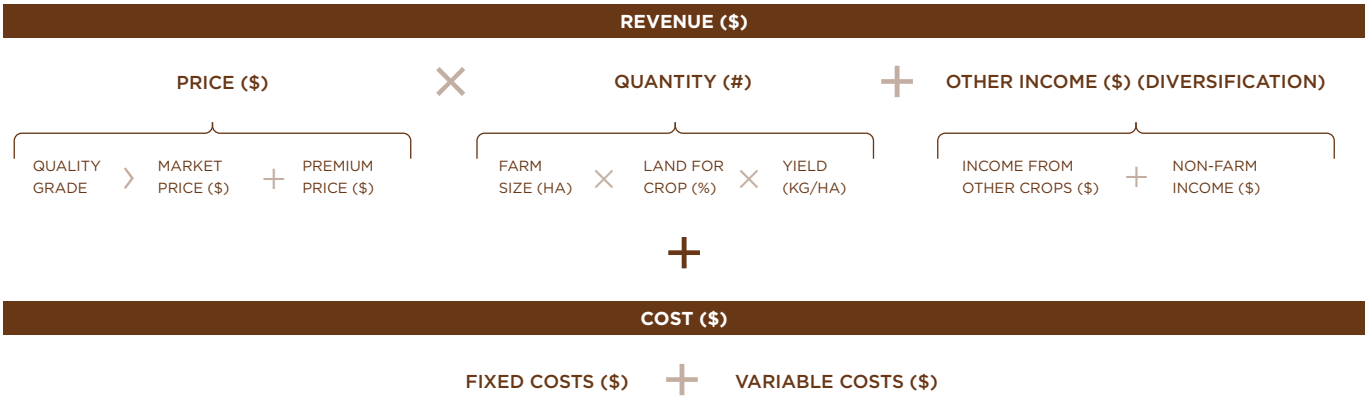
FIGURE 5: LIVING INCOME COMPONENTS ILLUSTRATED



For more information and to join the community visit:
www.living-income.com
Contact: livingincome@isealalliance.org

Supported by the Federal Ministry for Economic Cooperation and Development
Implemented by giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
iseal alliance
Sustainable Food Lab

FIGURE 6: COFFEE FARM INCOME EQUATION



3.2 Putting living income in perspective: Comparison of living income benchmarks against poverty measures

To date, three living income studies have been conducted in Colombia: 1) True Price/Solidaridad in Cauca, 2) CIAT/Sustainable Food Lab in Cauca, Caldas, and Nariño, and 3) Fairtrade in Santa Marta. Of the studies, only the True Price/Solidaridad study has been formally released and published at the time of writing. Table 1 provides a comparison of the three benchmarks against relevant poverty measures in Colombia. All benchmarks and poverty measures are adjusted for the November 1, 2019 exchange rate between the Colombian Peso and the U.S. Dollar.

Two of the benchmarks inform this study: True Price/Solidaridad and CIAT/Sustainable Food Lab (hereafter referred to as 'the living income benchmarks'). The two benchmarks are calculated for some of the largest coffee growing regions in Colombia and are considered representative for the TCLI study. The third study was conducted by Fairtrade in Santa Marta, primarily a banana-growing region, and therefore not used in this study to measure the living income gap. The CIAT/Sustainable Food Lab study set the living income benchmark at 4,467 USD/year for a four-person household, while True Price was higher at 5,357 USD/year.[12] As a result, in this report the living income benchmark is reported as a living income range.

For reference, the World Bank international poverty line for Upper Middle Income countries adjusted for Purchasing Power Parity (PPP) in Colombia is 3,375 USD/4-person household. This is 1,100-2,000 USD/year lower than the living income benchmarks. The poverty line is used in the next chapter on farm economics as a milestone towards achieving a living income.

CONTEXTUALIZING: REGIONAL DIFFERENCES IN COST OF LIVING

Results of the TCLI benchmarks will be compared against the living income benchmarks. It is important to bear in mind that there are substantial differences in cost of living across regions (departments) and urban vs. rural areas. This is exemplified by the CIAT/Sustainable Food Lab study that established a rural living income benchmark in Cauca, Nariño, and Caldas. The numbers below compare the rural benchmark against equivalent benchmarks for the capital cities of the three departments.

Rural living income (Caldas, Nariño, and Cauca): 4,464 USD (15,169,056 COP)
Manizales (Caldas): 6,468 USD (21,948,732 COP)
Popayán (Cauca): 6,420 USD (21,791,628 COP)
Pasto (Nariño): 5,688 USD (19,300,944 COP)
All numbers are for a family of four for one year (numbers are rounded).

For comparison purposes, the national poverty line in Colombia set by the Government is broken into two categories: 'Monetary poverty' *(Pobreza monetaria) and 'Extreme monetary poverty' (Pobreza monetaria extrema).*[13] In 2018, the Monetary Poverty line was set at 3,639 USD/year while the Extreme Monetary Poverty line was 1,663 USD/year. Both rely on the 'cost of basic needs', which can be divided into two components:[14] food-related costs and costs for other goods and services. It should be noted that in rural areas, lower prices for food and goods generally result in a lower cost of basic needs (see Table 1 'DANE's Rural poverty line').

12. For an explanation of how the True Price and Solidaridad living income benchmark was measured, see Brounen, et al. (2019). "The True Price of Climate-Smart Coffee: Quantifying the potential impact of Climate-Smart Agriculture for Colombian coffee", Appendix E, pages 45-47.

13. DANE (2018). "Pobreza Monetaria Y Multidimensional: Resultados". May 3, 2018.

14. Archivo Nacional de Datos (2018). "COLOMBIA - Medición de Pobreza Monetaria y Desigualdad 2017"

TABLE 1: COMPARISON OF COLOMBIAN LIVING INCOME BENCHMARKS AND POVERTY LINES

	True Price/ Solidaridad[15]	CIAT/Sustainable Food Lab 'Rural living income'[16]	Fairtrade (Santa Marta) *Preliminary*[17]	World Bank PPP-adjusted poverty line for Upper Middle-income countries	DANE's Rural poverty line	National extreme poverty line	National poverty line
Year of measurement	2017-2018	2018	2018	2017	2018	2018	2018
Measure (Colombian Pesos/4 pax HH)	18,190,000	15,169,056	27,786,108	11,461,000	9,327,274	5,645,040	12,356,784
Measure (USD/4 pax HH)[18] *NB Adjusted for Nov 1, 2019 exchange rate*	5,357	4,467	8,183	3,375[19]	2,747	1,663	3,639
Source	Brounen, et al. (2019). The True Price of Climate-Smart Coffee: Quantifying the potential impact of Climate-Smart Agriculture for Colombian coffee.	CIAT and Sustainable Food Lab (2019). Living income benchmark for coffee producers in Caldas, Cauca, and Nariño. Study forthcoming.	Fairtrade presentation at TCLI Amsterdam workshop, August	Calculated using World Bank PPP conversion factor, private consumption	CIAT and Sustainable Food Lab (2019). Living income benchmark for coffee producers in Caldas, Cauca, and Nariño. Study forthcoming.	DANE (2018). Pobreza Monetaria Y Multidimensional: Resultados. May 3, 2018.	DANE (2018). Pobreza Monetaria Y Multidimensional: Resultados. May 3, 2018.

Notes: All measures have been adjusted to U.S. Dollars using the OANDA November 1, 2019 USD:COP exchange rate. Conversions made by NewForesight. The final figures for the living income benchmarks may be adjusted upon publication.

15. The study primarily uses the Anker methodology, but differs from the methodology on calculation of social security expenses. True Price estimates social security using the actual future income needed for retirement, unemployment and sickness, such that these needs will also be covered in the living income of self-employed people. In contrast, the Anker methodology uses the amount of social security expenses based on the social security tax paid to the state by employees.

16. The Rural Living Income benchmark is estimated using DANE's ENPH survey. CIAT and Sustainable Food Lab uses Colombia's rural poverty line plus a percentage increase for decent living to reach Rural Living Income. This is an indicative study which is not intended to represent a full sector-wide analysis.

17. The Fairtrade study uses the Anker methodology to establish its benchmark. For more information on the Anker methodology, see Anker and Anker (2017). Living Wages Around the World: Manual for Measurement.

18. Using the OANDA exchange rate of Nov 1, 2019 of USD:COP 1: 3,395.44

19. The World Bank poverty line for Upper Middle Income countries such as Colombia is 5.5 USD per person per day. Thus, the WB poverty line can be calculated as 5.5 USD*365 days*4 people = 8,030 USD/household. This needs to be adjusted to the local Purchasing Power Parity (PPP) using the formula $\frac{\textit{(USD:COP exchange rate)}}{\textit{PPP Conversion Factor, Private Consumption}}$

This gives the following: $WB\ PL_{PPP} = 8{,}030 * \frac{1{,}411}{3{,}356.73} = \underline{3{,}375.40}$ USD/household.

Chapter 4:
The state of the Colombian producers: Measuring the cost of production, establishing the living income gap

The living income gap for most small conventional producers in Colombia (0.5 - 5 ha) who sell into archetype 1 is too large to be solved with technical assistance and price support from buyers alone (see figure 8).[20] According to available data, a small average conventional producer would need to cultivate 12.4 hectares of coffee to reach a living income (see figure 12). Even under a very optimistic scenario with a simultaneous increase in yield from 910 to 1,183 kg GBE/ha (30%) and farmgate prices from 1.01 to 1.32 USD/lb GBE, a producer would not earn above the poverty line (see figure 11).

Producers with more exposure to technical assistance, certification or producing higher quality coffees (archetypes 2 and 3) could narrow the living income gap through a mix of higher prices, good sourcing practices, and public policy changes (See 5.1.2. for examples). The small average producer of specialty coffee (archetype 4) currently earns a living income (figure 8).

20. Within this report, small farms are defined as farms with coffee in production on 0-5 hectares. Medium farms consist of farms between +5 and 15 hectares. Large farms are considered above 15 hectares of coffee production.

The average archetype 2 producer could reach the poverty line with a simultaneous increase in yield from 1,325 to 1,590 kg GBE/ha (20%) and farmgate price from 1.03 to 1.24 USD/lb GBE. The average small archetype 3 producer would reach the poverty line with current yields of 1,530 kg GBE/ha and an increase in farmgate price from 1.09 to 1.31 USD/lb GBE; a living income would require an increase in farmgate price to 1.53 USD/lb or an increase of *both* yield from 1,530 to 1,836 kg GBE/ha (20%) and farmgate price from 1.09 to 1.31 USD/lb GBE (see figure 14).

TCLI data shows that 32% of the archetype 2, 3 and 4 producers earn an income above the poverty line, while 18% make a living income (see figure 9 and table 3). The small *average* producers producing to sourcing archetypes 2 and 3 seem to be within reach of the poverty line, which can serve as an intermediate milestone to a living income.

The TCLI data suggests that the average medium archetype 3 and 4 producers earn a living income. The average large producer within archetypes 2, 3, and 4 all make a living income. This is primarily a result of the considerably larger farm size. See results in the annex in section 6.3 (figures 16 & 17). An *average* medium archetype 2 producer faces a negligible living

income gap that can be closed with an increase in farmgate prices from 1.03 to 1.14 USD/lb GBE or an increase in yields from 1,406 to 1,546 kg GBE/ha (10%) (see figure 18). It is important to note that medium and large farms represent just 4% of the total Colombian coffee-growing area (across the four sourcing archetypes).

The TCLI results are indicative of the conditions for average producers and should only be used as an indication. Section 4.4 provides sensitivity analyses that test the robustness of the results under varying combinations of yield and price. Chapter 5 also discusses some general concerns with the data and how to improve this in future replications of the TCLI work.

Living income benchmarks are calculated for a four-person household. A larger farm may need to care for a larger family, which leads to a higher living income threshold. The data does not provide the level of detail needed to analyze this further.

Living Wage requires additional analysis: The TCLI data did not include a level of detail to analyze whether living wages were paid to laborers which, in turn, would potentially increase the cost of production.

4.1 Coffee farm economics: Calculating the farm income and living income gap

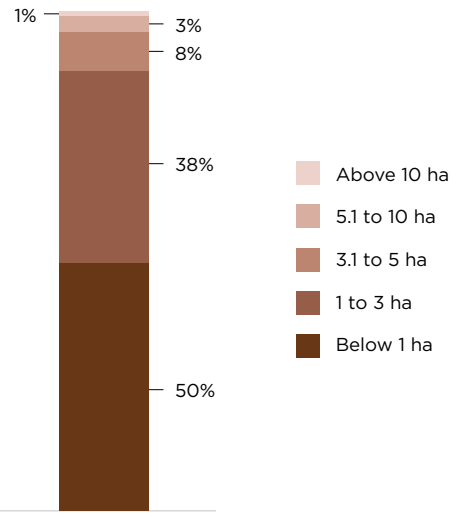
The farm P&Ls are based upon a mix of company data, data from the FNC (National Federation of Coffee Growers of Colombia)[21] and the Colombian government, and publicly available sources, such as ICO and research reports. The main sources for the archetype 1 data is the FNC's survey of 2,000 producers and publicly available sources. Archetypes 2, 3, and 4 are based on data provided by 11 traders and roasters for producers within their supply chains.[22]

Colombia is a smallholder-driven coffee sector. The majority of coffee producers in Colombia possesses very small farms. Figure 7 presents the distribution of farm sizes by coffee growing area. Half of the coffee growing area consists of farms below 1 hectare while farms sized one to three hectares represent another 38% of the total area. Medium and large farms (in this study considered above five hectares) only account for four percent of the total coffee growing area. The results of the TCLI study should be considered in this perspective, with majority of attention to the small producers representing the grand majority of the Colombian coffee sector.

4.1.1 Introduction to the TCLI data

Table 2 presents a summary of the main data points used in the farm economic calculations. The numbers represent averages. Figure 9 depicts an analysis of the disaggregated farmer data.

FIGURE 7: DISTRIBUTION OF FARM SIZES BY COFFEE GROWING AREA



Source: FNC (2019). Data provided via e-mail December 2019.

21. In Spanish: Federación Nacional de Cafeteros de Colombia
22. Data was not available for medium and large archetype 1 farms. Majority of data for archetype 1 is based upon publicly available information which does not present data for medium and large farms individually.

TABLE 2: SUMMARY OF MAIN DATA POINTS, 2018-2019, AVERAGES [23]

Archetypes		1 Conventional, mainstream*	2 Conventional with product value recognition (certification)			3 High value consumer experience			4 Specialty		
		SMALL	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE
Coffee farm size	**Ha**	1.3	2.7	6.7	25.4	1.9	7.4	17.3	3.75	7.9	19
Yield	**Kg GBE/ ha**	910	1,325	1,406	1,661	1,530	1,431	1,358	1,809	1,689	1,675
Farmgate price* **	**USD/ lb**	1.01	1.03	1.03	1.03	1.09	1.09	1.09	1.29	1.27	1.24
Variable cost	**USD/ lb GBE**	0.64	0.66	0.72	0.70	0.56	0.60	0.45	0.50	0.63	0.59
Fixed cost	**USD/ lb GBE**	0.19	0.17	0.23	0.24	0.27	0.17	0.24	0.40	0.22	0.33
Total cost	**USD/ lb GBE**	0.82	0.83	0.95	0.95	0.83	0.77	0.70	0.90	0.85	0.92
Household income from coffee	**%**	70**	80	85	85	80**	85**	85**	90	86	86

** For archetype 1 producers, no data was available for medium- and large-sized producers.*
*** Assumption by NewForesight based upon interviews with stakeholders and TCLI data on archetype 2 and 4.*
**** Farmgate prices and premiums as of July 2019 were used. Prices are converted from Colombian Pesos to US Dollars using the November 1, 2019 exchange rate to compare against the living income benchmarks. The price is a combination of the base price, certification premiums, and quality premiums. Prices are weighted averages accounting for a producer receiving different prices for different parts of her produce.*

The data for sourcing archetypes 2, 3, and 4 mainly represents producers dedicated to coffee production as their primary source of income due to reliance on company-provided data. The data in these archetypes are based upon available company data and verified through public statistics and interviews with sector stakeholders. The reliance on company data is likely to create a bias towards better-performing producers compared to the average Colombian producer since producers integrated into traders' and roasters' monitoring and evaluation systems are often more dedicated to coffee production. The data is therefore likely indicative of the better-performing producers and may not be fully representative of the average producer in Colombia.

The data suggest that small archetype 2, 3, and 4 producers have considerably higher yields than archetype 1, which is below the national average of ~1,150 kg GBE/ha. The higher yields are driven by integration into sustainability programs, intensive training on Good Agricultural Practices (GAP), and support from traders and roasters. One nondisclosed report by a trader finds that producers increased yields by 15-20% three years after joining a sustainability program.

Coffee represents in general 70-90% of total household income for all producers. Income diversification (non-coffee farm income and off-farm income) is low. The high dependence on coffee for income is likely an indication of data bias due to the heavy reliance on company data for this study. Other studies suggest that the average level of diversification across Colombia may be larger: Vellema, et al. (2015)[24] finds that coffee, on average, 'only' accounted for 46% of household income in a sample of certified coffee producers in Nariño. Another, non-disclosed study found that coffee, as a percentage of household income, ranged between 59% and 88%

23. Labor is not necessarily paid living wages. This accounts for both household and paid labor. A living wage covers the same basic expenses to sustain a decent living, as explained for a living income in chapter 3. While living income applies in the context of any income earner (e.g. coffee producers), living wage only refers to the salary obtained by hired workers (e.g. paid labor during harvesting). This is especially relevant for medium and large farms with large amounts of hired labor and would potentially increase their cost of production considerably.

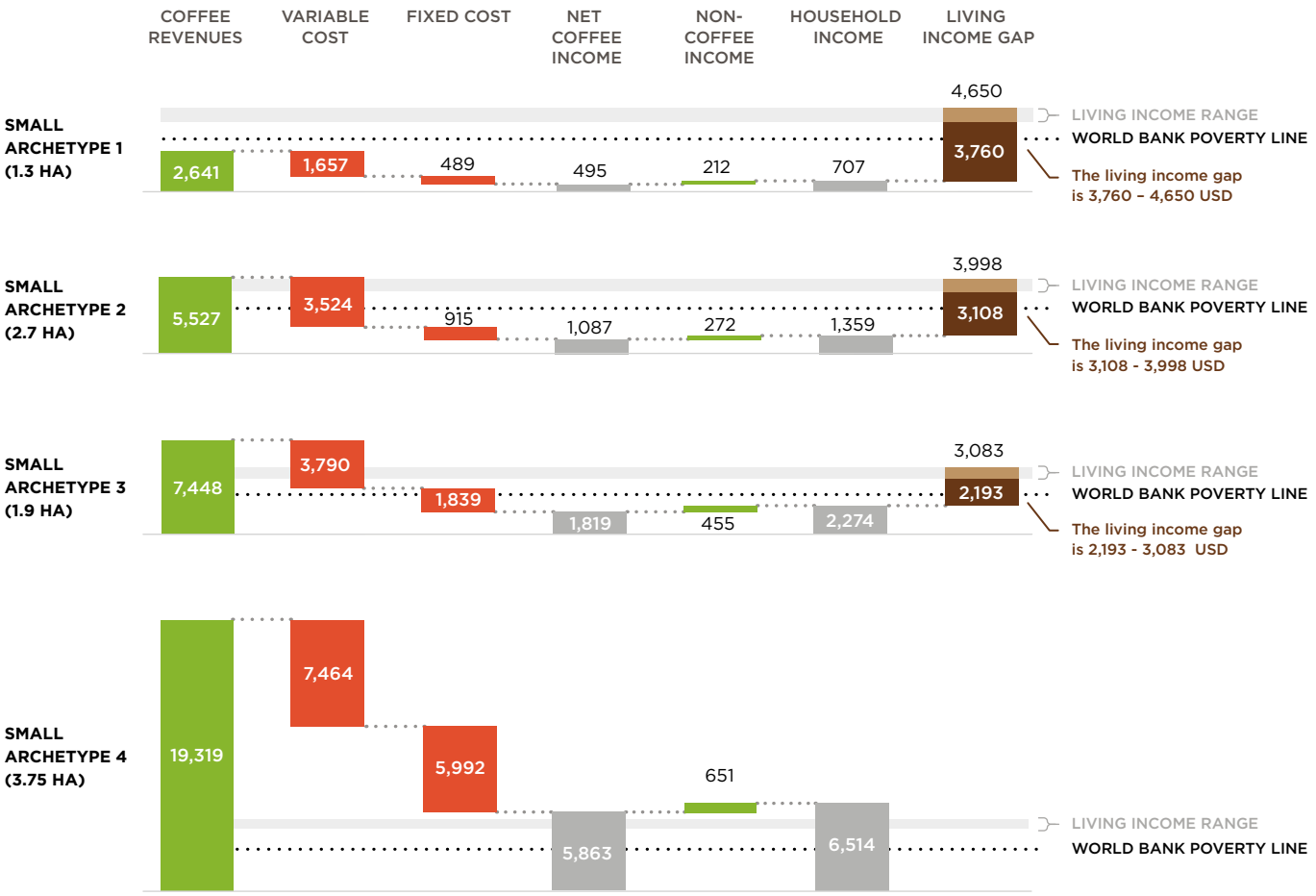
among a sample of certified producers in Caldas. The assumptions made on diversification for archetype 1 and 3 have been tested and verified by traders and the FNC.

4.1.2 Results of the TCLI data: Assessing the living income gap

The data indicate that a living income gap exists for the average, small producer within archetypes 1, 2, and 3. Across all archetypes, net income of the average small producers ranges from 707 to 6,514 USD. The average small producer within archetype 4 is the only one to reach a living income. Producers of archetype 2 and 3 earn 1,360 and 2,274 USD, respectively. The living income gap is largest for the small average conventional producer (archetype 1). Figure 8 presents the P&Ls of small producers.

The large living income gap for the average small archetype 1 producer is driven by a low average farm size of 1.3 hectares and relatively low yields. The increase in income among small producers across archetypes is primarily driven by substantial increases in yield and larger average farm size. For a small average specialty producer (archetype 4) price is also an important driver; she earns a relatively higher price (1.29 USD/lb GBE compared to 1.01 USD/lb GBE in

FIGURE 8: P&LS FOR SMALL FARMS (USD/FARM)



24. Vellema, W., A. Buritica Casanova, C. Gonzalez, and M. D'Haese (2015). "The effect of specialty coffee certification on household livelihood strategies and specialization." Food Policy 57 (2015), p. 13–25.

archetype 1)combined with a farm size three times as large as an average small conventional producer (3.75 ha vs 1.3 ha).

4.2 Assessing the severity of the living income gap

There is a considerable variation in production costs and profitability among regions and across individual producers. As a result, some producers break even while others struggle to cover their cost of production at current price levels.

27% of the archetype 2, 3 and 4 producers across all farm sizes earn an income higher than the poverty line, while 18% make a living income. Table 3 presents the number of producers breaking even, above the poverty line, and making a living income.

This result is in line with other studies:

- Solidaridad/True Price (2019) find that only 10% of smallholders in their sample from Cauca earn a living income.
- UC Davis (2019)[25] finds that during the 2015/16 coffee year with average Colombian farmgate prices of 1.12 USD/lb GBE, 34% of Colombian producers did not break even on the cost of production. Farmgate prices would need to be 1.23 USD/lb GBE for 75% of Colombian producers to break even.

In a study of Fairtrade producers, True Price found that the Fairtrade coffee producers in Tanzania, Uganda and Kenya, on average, earn less than the poverty line.[26] None of the Kenyan producers earned a living income. In contrast, True Price found that 75% of Indian producers and 50-65% of Indonesian and Vietnamese producers in their data currently earn a living income.[27] The better performance of Vietnamese and Indonesian producers is explained by the substantially higher yields and relatively low costs of production.

4.3 Cost of production in a historical price perspective

The TCLI results provide a snapshot of the living income gap in Colombia during a period of very low prices. Table 4 depicts the farmgate prices required for the average small producer within each archetype to reach a living income or the poverty line. The prices required to reach a living income are found taking the

TABLE 3: ANALYSIS OF 1,295 PRODUCERS WITHIN ARCHETYPE 2, 3 AND 4

	Number of producers	Share above/below
Producers earning a **living income**	233	18%
Producers *not* earning a **living income**	1062	82%
Producers above the **poverty line**	411	27%
Producers *not* above the **poverty line**	884	73%
Producers **breaking even**	1030	80%
Producers *not* **breaking even**	265	20%

Note: The average of the living income benchmarks was used (4,992.5 USD) to calculate the number of producers earning a living income. The PPP-adjusted World Bank poverty line was used to calculate the numbers of producers above/below the poverty line.

25. International Coffee Organization & University of California Davis (2019) "Profitability of coffee farming in selected Latin American countries – interim report"

26. True Price adjusted the poverty line for Purchasing Power Parity in the different countries in the study. True Price used the 3.10 USD poverty line rather than the 5.50 USD poverty line used in this study because the countries in the Fairtrade study are considered Low Middle Income countries in contrast to Colombia which is considered a High Middle income country.

27. True Price (2017). "Assessing Coffee Farmer Household Income. Commissioned by Fairtrade International."

2018-19 data in table 2 on yields and cost of production and calculating the price required to reach the living income benchmarks. For example, a small archetype 4 producer will need a farmgate price of 1.16-1.22 USD/lb GBE to reach the living income benchmarks presented in the previous chapter, based upon the farm size, yield, cost of production, and level of diversification as presented in the summary table. The living income benchmarks used are the same for all producers but some producers require a higher price because of their smaller farm size, lower yields, and higher cost of production.

Comparing the 2018-19 yields and cost of production (see table 2 above) over the past 19 years, farmgate prices have consistently been insufficient to achieve a living income for a small average conventional (archetype 1) producer. Table 5 features average farmgate prices in Colombia over the past ten years. It should be noted that cost of production may have varied in that period. Yields fluctuated as a result of the outbreak of leaf rust and the subsequent renovation. Therefore the results are only indicative.

It is evident that small conventional producers, on average, will be unable to achieve a living income in the existing market-driven structure. Prices would need to supersede the average price over the past ten years to even reach the poverty line, and/or find alternative sources of income to tap into.

Over the past 19 years, farmgate prices have fluctuated between a low of 0.32 USD/lb GBE in August 2002 and a high of 2.45 USD/lb in March 2011. The July 2019 price was at 1.01 USD/lb. Figure 10 illustrates the volatility in Colombian farmgate prices since 2000. The lower prices required for the average small producer within each archetype (as stated in Table 4) are plotted against the farmgate prices.

TABLE 4: FARMGATE PRICES REQUIRED TO REACH A LIVING INCOME OR POVERTY LINE FOR SMALL AVERAGE PRODUCERS, USD/LB GBE

USD/lb GBE	Archetype 1 *Small producer*	Archetype 2 *Small producer*	Archetype 3 *Small producer*	Archetype 4 *Small producer*
Prices required to reach the living income range	2.48 – 2.83	1.63 - 1.80	1.43 - 1.56	1.16 - 1.22
Prices required to reach the poverty line	1.80	1.30	1.17	1.04

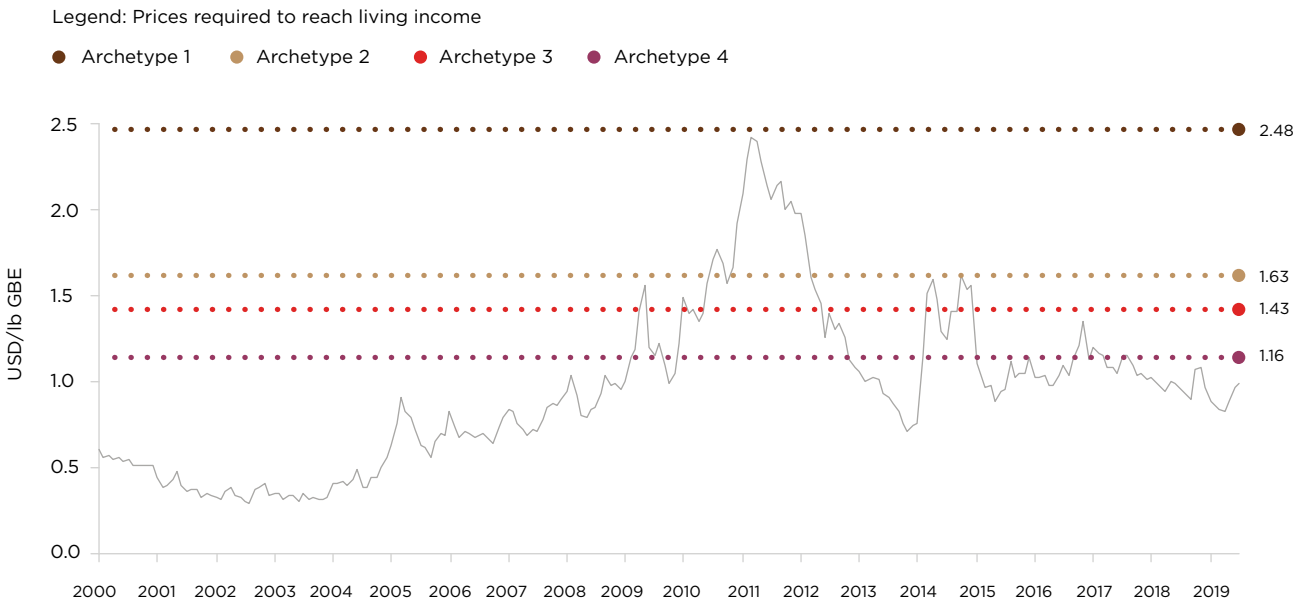
Note: The prices are calculated based upon the data presented in the summary data table.

TABLE 5: COLOMBIAN FARMGATE BASE PRICES (EXCLUDING PREMIUMS) (USD/LB GBE)

	Farmgate prices (USD/lb GBE)
July 2019	1.01
1-yr average	0.96
3-yr average	1.06
5-yr average	1.10
10-yr average	1.28
Peak price (March 2011)	2.45

The prices represent the base price and excludes any quality and certification premiums. Premiums paid were not available for all years.

FIGURE 10: FARMGATE BASE PRICES (JAN 2000 – JUL 2019) AGAINST LIVING INCOME PRICE POINTS; USD/LB GREEN BEAN EQUIVALENT



Source: FNC (2019). Historical prices provided by the FNC. The prices represent the base price and excludes any quality and certification premiums. Premiums paid were not available going back all years. Note: The prices required to make a living income shown represent the lower price level shown in Table 4.

4.4 Robustness of results

The results above are robust to changes in the main income drivers: yield, prices, and farm size. Changes in the three variables do not significantly impact the main conclusions of the chapter. There is a large spread in the data, partially representing the large heterogeneity of Colombian producers. This section analyzes the sensitivity of the main results, testing the robustness under varying combinations of yield and prices.

4.4.1 Impact on living income from variation in yield and farmgate price

It is unlikely that a small *average* conventional (archetype 1) producer can earn above the Word Bank poverty line under current conditions, let alone the living income benchmark. Even in an optimistic scenario of yields and prices being 30% higher than the TCLI average, a producer would be unable to reach the poverty line. Change would require the development of other income streams or restructuring small producers into economically viable producer groups. Figure 11 depicts an analysis of the household income for a small *average* archetype 1 producer under varying combinations of yield and coffee prices, holding all other variables constant.

The small *average* producers supplying the certified and high value sourcing archetypes (2 and 3) seem within reach of the poverty line as a steppingstone to living income. The average archetype 2 producer could reach the poverty line with a simultaneous increase in yield from 1,325 to 1,590 kg GBE/ha (20%) and farmgate prices from 1.03 to 1.24 USD/lb GBE (nearly a return to the ten-year average of 1.28 USD/lb GBE). The average small archetype 3 producer already reaches such a yield level and it is therefore not an unrealistic target. The *average* small archetype 3 producer would reach the poverty line with current yields of 1,431 kg GBE/ha and a farmgate price increase from 1.09 to 1.31 USD/lb GBE. Reaching a living income would require an increase in farmgate prices of from 1.09 to 1.53 USD/lb GBE or a simultaneous increase

FIGURE 11: NET HOUSEHOLD INCOME (USD/FARM) FOR SMALL ARCHETYPE 1 PRODUCERS

Current level — Poverty line • • • Living income

Yield (kg GBE/ha) (% change in yield)

ARCHETYPE 1

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		728	**819**	**910**	**1,001**	**1,092**	**1,183**	**1,274**	**1,365**	**1,456**
0%	**1.01**	$185	$449	$713	$977	$1,241	$1,505	$1,769	$2,033	$2,297
10%	**1.11**	$396	$687	$977	$1,267	$1,558	$1,848	$2,138	$2,429	$2,719
20%	**1.21**	$607	$924	$1,241	$1,558	$1,874	$2,191	$2,508	$2,825	$3,142
30%	**1.32**	$819	$1,162	$1,505	$1,848	$2,191	$2,534	$2,878	$3,221	$3,564
40%	**1.42**	$1,030	$1,399	$1,769	$2,138	$2,508	$2,878	$3,247	$3,617	$3,986
50%	**1.52**	$1,241	$1,637	$2,033	$2,429	$2,825	$3,221	$3,617	$4,013	$4,409
60%	**1.62**	$1,452	$1,874	$2,297	$2,719	$3,142	$3,564	$3,986	$4,409	$4,831
70%	**1.72**	$1,663	$2,112	$2,561	$3,010	$3,458	$3,907	$4,356	$4,805	$5,254

Note: The calculations are based upon the data presented in Table 2 for small producers.

Explanation: The numbers in the colored boxes show the household income (including non-coffee income). The horizontal axis shows variation in yields, while the vertical axis represents variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. The blue boxes indicate the income above the threshold of the poverty line. The yellow boxes indicate the income above a living income.

in yield from 1,530 to 1,836 kg GBE/ha (20%) and farmgate prices from 1.09 to 1.31 USD/lb GBE. The analyses for small archetype 2, 3, and 4 producers can be found in the annex.

The findings are in line with similar smallholder studies in other commodity sectors, including:

- WUR (2019) finds that increases in prices will be insufficient to lift Kenyan tea producers to another income group due to low productivity and small farm sizes. They found that a 50% increase in farmgate prices for tea producers in Kenya would only move 6% of producers above a living income.
- In a study of cocoa in Côte d'Ivoire and Ghana, WUR (2019) also finds that there was no business case for lifting the poorest farmers out of poverty (above the poverty line) as productivity and farm sizes are too low.[28]
- Alliot et al (forthcoming) find that the average income of small-scale rice producers in Thailand is 56% of the living income benchmark, while small-scale banana growers in Ecuador earn 77% of the given living income benchmark.[29]

28. Wageningen University and Research (November 2019). "A living income for smallholder commodity farmers and protected forests and biodiversity: how can the private and public sectors contribute?"
29. C. Alliot, et al (forthcoming). "Distribution of Value and Power in Food Value Chains." Oxfam-commissioned research undertaken by BASIC.

4.4.2 Required farm size to reach a living income

It is unrealistic that a small, average conventional producer can achieve a living income. An average archetype 1 producer would need to manage 12.4 hectares of coffee production under current prices to reach a living income. Figure 12 depicts the required coffee farm size to reach a living income under different combinations of farmgate prices and yield levels, holding all other variables constant. If yields were 1,183 kg GBE/ha, 30% above the TCLI average, a producer would still require 9.4 hectares.[30] If farmgate prices were to rise from the five-year average of 1.01 to 1.11 USD/lb GBE, while holding yields constant, then 8 hectares would be required.

The colored boxes in the following figures show the required coffee farm size (hectares) to reach a living income under different combinations of farmgate prices and yield levels, holding all other variables constant. The calculations are based upon the data for small producers presented in table 2 above. On the horizontal axis is variation in yields, while the vertical axis represent variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. There is no dotted lines for poverty and living income similar to the previous table because these show the farm size needed to reach a living income.

FIGURE 12: HECTARES REQUIRED TO REACH A LIVING INCOME FOR SMALL ARCHETYPE 1 PRODUCERS

Current level

Yield (kg GBE/ha) (% change in yield)

ARCHETYPE 1		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		728	819	910	1,001	1,092	1,183	1,274	1,365	1,456
0%	1.01	15.2 ha	13.5 ha	12.2 ha	11.1 ha	10.2 ha	9.4 ha	8.7 ha	8.1 ha	7.6 ha
10%	1.11	10.0 ha	8.9 ha	8.0 ha	7.3 ha	6.7 ha	6.1 ha	5.7 ha	5.3 ha	5.0 ha
20%	1.21	7.4 ha	6.6 ha	5.9 ha	5.4 ha	4.9 ha	4.6 ha	4.2 ha	4.0 ha	3.7 ha
30%	1.32	5.9 ha	5.2 ha	4.7 ha	4.3 ha	3.9 ha	3.6 ha	3.4 ha	3.1 ha	3.0 ha
40%	1.42	4.9 ha	4.4 ha	3.9 ha	3.6 ha	3.3 ha	3.0 ha	2.8 ha	2.6 ha	2.5 ha
50%	1.52	4.2 ha	3.7 ha	3.4 ha	3.1 ha	2.8 ha	2.6 ha	2.4 ha	2.2 ha	2.1 ha
60%	1.62	3.7 ha	3.3 ha	2.9 ha	2.7 ha	2.4 ha	2.3 ha	2.1 ha	2.0 ha	1.8 ha
70%	1.72	3.3 ha	2.9 ha	2.6 ha	2.4 ha	2.2 ha	2.0 ha	1.9 ha	1.7 ha	1.6 ha

Farm - gate price (USD/lb GBE) (%increase in price)

Note: The calculations are based upon the data presented in Table 2 for small producers.

Explanation: The colored boxes in the following figures show the required coffee farm size (hectares) to reach a living income under different combinations of farmgate prices and yield levels, holding all other variables constant. The calculations are based upon the data for small producers presented in table 2 above. On the horizontal axis is variation in yields, while the vertical axis represent variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. There is no dotted lines for poverty and living income similar to the previous table because these show the farm size needed to reach a living income.

30. According to studies by Technoserve and the Global Coffee Platform, a yield increase of 20% should be attainable for the average Colombian producer. The average Archetype 1 producer is only 1.3 hectares. Source: Global Coffee Platform (2018) "A Quick Scan on Improving the Economic Viability of Coffee Farming" & Technoserve (2014) "Colombia A business case for sustainable coffee production"

The pattern is similar for archetypes 2 and 3. The TCLI data suggests that a small average archetype 2 producer has an average of 1.83 hectares under production, but would require 7.9 hectares to make a living income with current prices. Likewise, archetype 3 would need 5 hectares versus the current average of 2 hectares in the TCLI data. (The analyses for small archetype 2, 3, and 4 producers can be found in the annex.)

4.5 Limitations of the study

It is important to note that these results represent annual income. Coffee production is characterized by seasonality, which may heavily affect even well-performing producers. Though Colombia produces coffee year around, each department has a primary harvest, most often spanning April-June or October-January, and a smaller, secondary harvest later in the year. As a result, income from coffee during the primary harvest months must be managed over the rest of the year. This can impact cash flow and the ability to buy required inputs for the farm or other household expenditures. The task force did not collect data on monthly figures, and further research would need to be done to understand the impact of coffee seasonality to ensure coffee producing families have enough net income every month to meet basic decent standard of living (living income).

The TCLI data provided little visibility on the specific sources of non-coffee income, and more research is needed to understand alternatives to coffee production and the income earning potential of smallholder diversification. Given the farm size of smallholder producers, possibilities for on-farm diversification are often limited. Income from other sources, for example laboring on other farms or taking a non-farm job, is required. Since the availability of other income sources varies between regions, it is important to better understand the income earning potential of producers aiming to diversify.

The TCLI study only considers living income for the coffee producer. Analyzing living wages for laborers on the coffee farms was not possible due to insufficient data. The TCLI data was not granular enough to analyze whether living wages were paid to laborers. Most data on the cost of production was only provided as a total cost for harvest and non-harvest labor, respectively, and therefore does not allow for analyses of cost per workday. Further research is recommended to investigate the extent to which living wages are paid and its implication on cost of production and producers' competitiveness.

"The Living Income Community of Practice appreciates the depth of analysis in the TCLI report. The analysis and stakeholder process has tangibly advanced the conversation on closing income gaps in the coffee sector. We remain committed to supporting the TCLI and the coffee sector on methodological and process issues as we move forward."

CHRISTINA ARCHER
ON BEHALF OF THE LIVING INCOME COMMUNITY OF PRACTICE, CO-HOSTED BY ISEAL, GIZ AND THE SUSTAINABLE FOOD LAB
LIVING-INCOME.COM

Chapter 5: Conclusion and recommendations

This report, and the multi-stakeholder process that supported its creation, contribute to the living income discussion in the coffee sector by estimating the living income gap in Colombia relative to various sourcing models. The report is unique in its approach to identifying different sourcing archetypes and illustrating how the living income gap differs per archetype across the spectrum of coffee produced. The report fundamentally aims beyond traditional output-based development objectives like "training in GAP" by adding *Living Income as an outcome-based reference target* for sourcing and policy interventions.

The results of the TCLI analysis cover Colombia and are based on data collected from trade and industry players and sector representatives, however many of the recommendations are applicable across countries where low income jeopardizes the livelihoods of farming families.

The research found that the living income gap for most small conventional producers in Colombia selling into archetype 1, who depend on coffee for the majority of their household income, is too large to be solved with technical assistance and price support from buyers alone. Achieving a living income would require the development of other income streams or restructuring small producers into more economically viable producer groups.

For producers cultivating more sustainably produced or higher quality coffee (archetypes 2, 3 and 4), the living income gap can be narrowed through a mix of higher prices, good sourcing practices and changes to public policy as elaborated further in this chapter. Acknowledging the large task of closing the living income gap, especially for archetype 1 producers, lifting producers above the *poverty line* could be an intermediate target for companies.

This report is therefore a call to action for companies to implement and scale sourcing and pricing practices within their value chains that can narrow the living income gap. This study in Colombia is based on factual data assessments and can serve as a model for ongoing sector-wide and country-specific data gathering efforts and policy debates. The sourcing and pricing options available to companies depend on its sourcing model. In addition, pre-competitive and sector solutions can be supported by all types of companies regardless of the market channel they operate in, which are noted as 'all-archetype' solutions.

This chapter organizes the solutions according to the most relevant archetype of consumer market segments to maintain consistency with the report, without claiming an *exclusive* causal relation between the recommendations and the Archetypes.

Sustainable sourcing and pricing practices alone are insufficient for resolving the systemic issues of the coffee sector. They must be accompanied with effective, complementary policy initiatives that can create an enabling environment where producers can earn a living income. Though there have been important advances in sustainable sourcing practices and producer incomes, these practices alone do not guarantee that producers have the same overall access to technology, infrastructure, education, credit, and productive activities needed for an economically sustainable coffee sector. Strong institutions and a supportive policy framework are also necessary. The second section (section 5.1.2.) provides input on sector-wide policies needed to create a better (policy) environment for a living income.

The report has been made possible with the strong support of the TCLI partners who provided farmer and pricing data, and participated in dialogue sessions and bilateral talks from July to November 2019.[31] The third section (section 5.1.3.) offers key lessons for how the sector can replicate similar studies in other origins.

5.1 Recommendations for closing the living income gap

Table 6 presents an overview of the recommendations explained in detail through the remainder of the chapter. We have grouped each recommendation under the most relevant archetype, however many of the recommendations can be applied to multiple archetypes. For example we can assume that regardless the archetype, producers benefit from professionalization in larger economic clusters and from customer recognition of sustainable practices and quality. We also want to stress that along with the recommendations on *sourcing and pricing practices, the recommendations* for *enabling policies* are a necessary and crucial part of any effort to raise the majority of smaller farmers out of poverty.

31. Measures have been taken to ensure compliance with competition law.

Any of the actions recommended in this chapter must be based on local stakeholder consultation to include a comprehensive understanding of the contextual and personal factors (e.g. culture, and producer-specific needs and aspirations) that may impede adoption of certain practices. Actions taken by a company, in a sector or at the government-level should be guided by an in-depth understanding of the economic and social situation and potential of households and producer groups. This will enable the design of more effective interventions and policies with a higher rate of success.[32]

The sourcing and pricing practices recommended are provided according to the relevant archetype. However, one cross-cutting practice for all value chain actors, including public policy, to consider is the promotion of sector transparency[33] on the cost of production and living income conditions (i.e. cost of a decent standard of living, anonymized actual income estimates).

Increasing sector transparency on the costs of production and living income contributes to improved understanding of the costs of production and living income gaps in origin countries.

"Achieving a living income is a shared responsibility of all actors. Reliable data and factual analysis is required to bring transparency on the current situation and define the strategies and investments needed to build truly sustainable global supply chains - where all actors benefit and are incentivized to produce sustainably. Private sector actors have the opportunity to leverage their buying power/sourcing practices and investments to set up effective and efficient interventions to contribute to this goal."

NOURA HANNA
GLOBAL LEAD
LIVELIHOOD
RAINFOREST ALLIANCE

32. Waarts, Y. et al. (2019) "A living income for smallholder commodity farmers and protected forests and biodiversity: how can the private and public sectors contribute?"
33. Transparency is defined as "relevant information made available to all elements of the value chain in a standardized way, which allows common understanding, accessibility, clarity and comparison." Source: UNECE (2019). "Transparency and Traceability for Sustainable Value Chains."

TABLE 6: SUMMARY TABLE OF TCLI RECOMMENDATIONS AND EXPECTED OUTCOMES

Good sourcing and pricing practices		
	Practice	**Outcome**
Cross-cutting for all stakeholders, both private and public	1. Increase sector transparency on the costs of production, cost of living (living income benchmarks) and actual incomes 2. Increase public reporting and exchange on effectiveness of programs to improve farmer incomes.	• Improved understanding of the cost of production and living income gaps • Enhanced bargaining power for producer • Informed decision-making on interventions
Archetype 1 (Conventional)	1. Farmer organization professionalization: Offer targeted capacity building and financial support for improved coffee and diversified income sources	• Better access to markets • Improved services to producers • Diversification options
	2. Integration of producer support services (e.g. technical assistance, financing, inputs) in sourcing	• Increased farm performance through best practices
	3. Implementation of price risk management practices	• Mitigation of risks faced by producer • Improved capacity for long-term investments by producer
	4. Roasters recognize sustainable practices and traceability and support trading practices that reward these attributes with higher differentials	• Less downward pressure on differentials • Higher FOB prices
Archetype 2 (Conventional with product value recognition)	5. Preferred supplier status for sustainable coffee producers	• Enabling the preferred supplier to receive a living income or cost-plus margin • Increased predictability and transparency
	6. Ensure a minimum price related to a defined quality	• Safety net for producer to avoid selling at a loss
	7. Develop a new, producer-driven logic to set prices for sustainable coffee adequately	• Greater benefits for producers • Quality differentiation
	8. Long-term contracts	• Provision of predictability, stability and trust in sourcing relationships
Archetype 3 (High value consumer experience) & 4 (Specialty)	9. Engage in price transparency initiatives to develop a new price discovery mechanism for higher quality coffee	• Provision of benchmark prices • Enhanced bargaining power of producer
	10. Flexible (living income) premium	• Enhanced income for producer
	11. Enhance traceability of coffee across the value chain	• More market access for producer • Higher prices
Archetype-wide public-private enabling policies		
Global level	a. Improve functioning of 'C' market to the benefit of producers	• More stable prices • Higher prices through enhanced differentiation based on qualities and origins
	b. Create a global price stabilization fund	• Short term safety net for producers in volatile low-price periods • Facilitate long-term investments
	c. Enhance supply chain transparency and collaboration on data across the coffee sector	• Development of inter-operability • Facilitate direct income improvement
	d. Avoid counter-productive taxes that redirect value from the coffee producing areas or hamper the equitable distribution of value along the supply chain	• Improved distribution of value towards farmers
	e. Develop Codes of Ethics on Farm Data Management with national institutions	• Harness benefits of data • Protection of producers' privacy and security
Producing countries	f. Invest in the national coffee sector to improve efficiency, infrastructure and organization	• More efficient coffee production • Reduced gap between FOB and farmgate pricing
	g. Support consolidation of smaller farms into larger farms or economically viable collaborative groups through government-supported initiatives	• Economically viable producers
	h. Adopt supply management and support economically non-viable coffee producers to transition into other livelihoods	• More resilient income • Improved livelihoods for non-viable coffee producers
Consuming countries	i. Develop – in dialogue with the sector stakeholders (starting at EU level) – standards on traceability, transparency and living income that require importers and roasters to comply with a minimum level of sustainability, gradually raising the bar of sustainability	• Minimum producer income secured
	j. Encourage sector commitments to providing living wages for hired laborers on coffee farms	• Minimum producer and/or worker income secured

A common language

There are few *data-driven*, fact-based insights into the impact of low prices on the living situation of coffee producers. The TCLI report has highlighted substantial variation in the costs of production among producers and cost of a living income across and within departments in Colombia. The same can be said for other origins and other sectors. The results in this report were only made possible thanks to strong contributions by important trade and industry players, and sector representatives, such as the National Federation of Coffee Growers of Colombia. In other origins, publicly available data is more limited and more sector collaboration is needed to align on methodology for measuring living income gaps to increase the common understanding of the challenge.

To improve the understanding of living conditions at origin, the entire sector could benefit from collectively agreed, standardized metrics on how and what to measure for costs of production. A promising initiative is the Global Coffee Data Standard (see text box).

Value chain actors are also strongly encouraged to contribute to the work within the Living Income Community of Practice. Companies could partner with benchmarking organizations and (local) governments to support living income benchmarking and precompetitive sector baselines on actual incomes, as done in the West African cocoa sector.[34] Companies also can cost-efficiently gain greater insights into actual household incomes, including seasonal and other income sources, through their existing data collection processes. This collaborative approach ensures that the benchmark can be used by all supply chain actors, as well as other stakeholders in the area. Section 5.1.3. provides more practical implementation-focused recommendations to strive towards.

Informed decision-making

Improved and more informed insights into the size and drivers of the costs of production and living income gap faced by coffee producers can help companies and organizations to develop more targeted and effective interventions.

Increased transparency on prices, the costs of production, income sources, and the cost of a decent standard of living can also reduce the information asymmetry between producers and other value chain actors. This enables producers to negotiate prices from a more informed perspective. If producers know their costs of production and the price they need to achieve to cover their costs and make a living, they will have a clear argument for asking for higher prices. Without this clear argument, the producer will lose the negotiation at the time of price setting. Building public awareness of the living income gap will likely also enhance the willingness of consumers to pay a premium for their coffee.

Importance of two-way transparency

It is important to acknowledge that the ability to control and increase transparency often lies with one actor in the supply chain, and it is therefore not a given that transparency claims lead to greater spread of information among all actors in the supply chain. Current efforts are mostly consumer-facing and not

THE GLOBAL COFFEE DATA STANDARD

The project is a collaboration among the Global Coffee Platform, COSA, Rainforest Alliance, and Waterwatch Cooperative, and funded by the ISEAL Innovations Fund.

The aim is to streamline the collection of data across the coffee sector, reduce data transaction cost, and enable comparable reporting.

The project has two overarching objectives:

1. Define common denominators of indicators and develop practical metrics to operationalize the indicators so that they are functional across origins and comparable over time
2. Develop a technical standard for common metrics to facilitate data interoperability & exchange for collective impact reporting

Read more in the documentation for the standard: http://datastandard.globalcoffeeplatform.org/en/latest/index.html

34. Living Income Community of Practice and KIT 2018. Benchmarks and Income Gap Assessments: Ghana and Cote d'Ivoire. https://www.living-income.com/papersandreports

producer-facing. For example, buyers may share green coffee prices with other buyers and customers, but do not share information of prices along the value chain with producers. It is important that any action or claims to transparency also make useful information available to producers and farmer organizations.

Concrete examples

- The International Coffee Organization (ICO) has launched the Coffee Pledge to support a living income for coffee producers. The campaign aims to rally the voice of consumers to further mobilize funds and the political backing needed to address the price crisis. The ICO also aims to secure commitments from industry and governments to develop concrete solutions for coffee price levels, price volatility and the long-term sustainability of the coffee sector.

The banana sector provides a concrete example of how transparency can lead to a sector commitment. Dutch supermarkets have committed to a living wage in the banana sector. An important tool used to trace the commitment is the IDH Salary Matrix that enables value chain actors to get an instant assessment of their progress on salaries and enhancing the ability of companies to track their progress towards living wages. The tool allows the user to calculate the gap between the current wages paid and the living wage benchmark. This will serve as the baseline for negotiating future wage increases.

5.1.1 Good sourcing and pricing practices for companies

ARCHETYPE 1 RECOMMENDATIONS

1. Farmer organization professionalization: Offer targeted capacity building and financial support

Professional, well-managed farmer organizations tend to offer better access to markets and improved services to their members. These organizations have stronger internal management systems that enable the provision of inputs and the ability to handle larger loans, enabling pre-financing for inputs and other services, as well as buffer savings. The benefit to traders is that professional farmer organizations tend to have a stronger membership base with less side-selling, greater quality control, and they can act as more reliable strategic sourcing partners for international buyers. Professionally run farmer organizations tend to be more profitable, more sustainable and have greater access to markets and finance. These factors have a positive impact on farmer organizations' members. More professional farmer organizations are also less likely to experience corruption or mismanagement. As these organizations mature, they often are able to build new market opportunities in other crops or services for their members.

GOOD PRACTICE - DEEP DIVE

Living Wage Salary Matrix – IDH/Rainforest Alliance

The Living Wage Salary Matrix is an excel-based tool that helps suppliers identify how the remuneration and in-kind benefits they provide to their workers compare to living wage benchmarks. These insights allow suppliers to track compensation improvement and increase transparency with buyers. The living wage benchmarks used in the tool are based on the Anker methodology and benchmark studies carried out by the Global Living Wage Coalition.

The initial pilot in 2019 includes the banana sector in Costa Rica and Belize. The Salary Matrix is currently being tested in other sectors, such as tea and flowers.

How it works:

1. Fill in the Excel matrix with data on remuneration, in-kind benefits, and other related variables
2. Obtain insight on the percentage difference between current salaries and living wage reference values; total in-kind benefits granted by type of position; etc.
3. Set a first step to develop strategies that reduce the living wage gap.

Success factors for replication:

- The supplier or company owner must have a minimal level of insight into existing data, such as remuneration.

The matrix is publicly available here.

It is important that value chain actors support capacity building to identify and develop strong management, and carefully consider how to engage with farmer organizations at different levels of professionalization.

In April 2019 the IWA29 Professional Farmer Organization – Guidelines were adopted as an ISO standard providing a standard framework for rating agencies to measure performance towards professionalization of farmer organizations. There is currently one company delivering assessments benchmarked against the IWA29 standards. SCOPEinsight, partnering with the International Finance Corporation, has developed a standardized, data-driven approach that helps farmer organizations and agribusinesses reach a higher level of professionalism. Certified assessors conduct assessments of the farmer organization, collecting data and business intelligence. With this data, a tailored capacity building program is created that helps improve internal management, operations, financial management, sustainability and other elements. Successful implementation relies on a minimum degree of stakeholder alignment between the farmer organization and related value chain actors (e.g. strong relations between the trader, financial institution and farmer organization).[35] Companies can tap into resources like SCOPEinsight and others through the AMEA Network – Agribusiness Market Ecosystem Alliance, which brings together 26 organizations working to accelerate farmer organization professionalization and incentivize service quality improvement.

2. Integration of producer support services (e.g. technical assistance, financing, inputs) in sourcing: Roasters and their supply chain partners should encourage, recognize and reward sustainability interventions that are integrated into sourcing operations.

The data suggests that producers that have been exposed to sustainability programs make a better living, not only due to the small premium related to certification, but because of the exposure to Good Agriculture Practices that result in better yields and access to markets. Traders – often supported by roasters – can establish supply chain structures that deliver services[36] to producers in a cost-efficient way that yields a return on investment in the long term. Integration requires value chain actors to make contractual agreements with producers to supply them with relevant professional services ahead of and during the season, in return for producers selling their produce to the service provider (often a trader) after harvest. The access to services enables higher income and helps producers to overcome issues of cashflow and financing of inputs.

"Jacobs Douwe Egberts is aware of the impact low futures prices in coffee are having on smallholder farmers around the world. That is why we have joined forces with the ICO, governments, NGOs and the industry to address the systemic challenges faced by these producers. Through the JDE Common Grounds program, we aim to directly reach 500,000 smallholder farmers by 2025, promoting Good Agricultural Practices for a more profitable and sustainable future."

NADIA HOARAU-MWAURA
SUSTAINABILITY DIRECTOR
JACOBS DOUWE EGBERTS

Producer support programs – in the form of packaged service delivery – can increase the performance of farms.[37] Service packages can include a wide range of support, such as training on Good Agricultural Practices, financial management and focused investment, provision of fertilizer and crop protection, access to finance, and support for crop diversification. Effective service delivery can increase yields, improve quality, enable premiums, and improve farm resilience. The provision of improved services from producer organizations, traders, roasters or others can ultimately be self-financing with producers as clients. Potential benefits include revenues from service payments, increased loyalty, increased volume per producer (leading to potential sourcing efficiencies), and improved quality. Intermediaries (for example middlemen, lead farmers, entrepreneurial youth) can be employed to deliver services, lowering the running costs, while creating local jobs.

35. SCOPEinsight (2019) https://scopeinsight.com/
36. Services can for example be training, access to inputs (fertilizer, crop protection, planting material), access to finance, farmer group organization and capacity building, transportation of produce, etc. See also the example of BLOOM.
37. Sustainable Trade Initiative Service delivery models: https://www.idhsustainabletrade.com/approach/service-delivery-models/.

3. Price risk management scheme: Enable cooperatives to mitigate the risks that producers face due to price volatility by creating price risk management schemes.

Cooperatives or farmer organizations can protect their members from price volatility by offering them price risk management instruments, such as futures and options. This approach only relates to limiting the impact of price volatility (and its knock-on effect of selling coffee during a low 'C' market price situation). It is not designed to increase the producer's business case for negotiating higher prices in a low-price scenario. These instruments should be used to protect farmers in volatile markets while at the same time enabling them to profit from rising prices.

Moreover, greater security on future prices enables producers to take a long-term perspective and undertake investments that involve higher short-term costs (e.g. land renovation, machinery) that could generate higher revenues in the long run. These investments are often critical to improving their practices to reach consumer market segments that require sustainable practices and higher coffee quality.

Engaging in price risk management tools requires extreme discipline, professionalization, and knowledge. There is therefore a large risk for farmer organizations to engage with these tools. There are a few key requirements to make price risk management schemes successful.

- The cooperative needs a high level of professionalization and support from committed partners (also see Recommendation 1 - Farmer organization professionalization).
- Furthermore, financial support may be necessary to build the capacity of cooperatives as the implementation and investments require extreme discipline, commitment and knowledge.[38]
- As cooperatives mitigate their price risk with futures contracts, they are aided by longer-term sourcing relations that build trust among members and buyers that coffee sales will be sold at an acceptable level in the future.

38. USAID (2019) *Coffee and Cocoa Price Risk Management (CC-PRM)*, Retrieved from: (Acc. 11 Dec. 2019)

Coffee trader Sustainable Harvest offers trainings to cooperatives on how to adopt these mechanisms, *see Textbox*.

GOOD PRACTICE - DEEP DIVE

Managing price risk through forward contracts and call options: The case of Sustainable Harvest

Sustainable Harvest is a specialty-grade green coffee importer that helps cooperatives in Latin America to hedge price risk by combining forward contracts and options. Currently, between 40-50% of their contracts with a timespan longer than three months are traded with this mechanism.

Cooperatives that participate in the mechanism use a 'variable sale', which is a combination of a **forward price-to-be-fixed (PTBF) contract and call options**. The PTBF contract allows cooperatives to agree on a price with Sustainable Harvest within a specified period, while the purchasing call options through a Sustainable Harvest account enable them to benefit of potential subsequent price increases. In this way, the call option works as an insurance for cooperatives.

Sustainable Harvest provides financing to the cooperatives, to access the options to cooperatives. In addition, it offers cooperatives training, information and analysis on markets and derivatives. Sustainable Harvest covers its own price risk by investing in futures and options on the New York Stock Exchange.

In order for this mechanism to be effective, cooperatives need to be strong and professional, having a good understanding of the farmer economics and their own financials. Furthermore, there needs to be a willingness from buyers and/or importers (in this case, Sustainable Harvest), to subsidize the cost of options, as contract defaults would impact trading activities significantly.

Source: *USAID (2019), "Coffee and Cocoa Price Risk Management (CC-PRM)", see* link.

4. Roasters recognize sustainable practices and traceability and support trading practices that reward these attributes with higher differentials.

This requires an internal company shift away from the mainstream practice of rewarding buyers who push down prices (differentials) using all available buying mechanisms and positions. This is a free business choice and the economic viability of this approach depends on the company's position on margin flexibility, public commitment to living income, and the expected return from higher brand premium from the consumer.

In common practice, the buyers' main focus is to negotiate the lowest price possible for the desired quality. Some buyers might be measured against this logic and remuneration schemes would evaluate performance on "cheap" differentials. Roasters who are willing to undertake this recommendation will need to review their remuneration logic for coffee buyers to streamline incentives and avoid constant pressure on differentials. The impact of this recommendation can be quite fast. Less downward pressure on differentials can lead to higher FOB prices. It would then need to be assessed if the higher FOB results in higher farmgate prices.

This methodology can result in higher prices for farmers of archetype 1 and 2. It is crucial to design a traceability and transparency system to evaluate how the higher differentials are reach individual producers.

ARCHETYPE 2 RECOMMENDATIONS

5. Preferred supplier status for sustainable coffee producers

Roasters and retailers can confer preferred supplier status onto mainstream contracts, thus prioritizing firms that focus on social responsibility and ensure a living income or at minimum a cost-plus margin to producers in their supply chain, provided that they also meet all other requirements. Preferential treatment could be based according to a point system associated with level of inclusion and of economic or socio-environmental sustainability of producers. Preferential purchase relations may allow a measure of flexibility to adapt production and price levels over time to achieve the stipulated level of social responsibility. The preferred supplier approach in sourcing has proven to be very effective in addressing sustainability challenges at the production level in many agriculture and non-agriculture sectors (like electronics and apparel). Caution should be taken that the preferred rating system makes clear that simply excluding the poorest farmers is not an acceptable strategy.

6. Minimum price: Ensure a minimum price related to a certain quality that covers producers' average costs of production, thereby providing a safety net that protects producers during volatile market periods.

A minimum price, in combination with a guaranteed off-take of the coffee at this price, increases predictability and security, enabling producers to engage in long-term investments that enhance profitability. Conversely, instituting minimum prices could incentivize more producers to enter the coffee sector and thus exacerbate the current oversupply and pricing pressure throughout the coffee sector. While companies should seek to improve the livelihood of coffee producers, there is also a need at a policy level to introduce supply management (see more under section 5.1.2.).

Two concrete examples of how minimum prices can be established are certification and a cost-plus pricing model. A minimum price can be defined by certifications for a certain *quality and/or origin* of the product. For example, Fairtrade certification guarantees a minimum price of 1.40 USD/lb FOB for washed Arabica[39] plus a 0.20 USD/lb social premium to cooperatives whose members meet a set of social and environmental criteria. The minimum FOB price however does not assure that individual producers receive a certain farmgate price. The share of the FOB price that individual producers receive differs widely across and within origins. The Fairtrade Premium is an amount on top of the minimum price paid directly to the producer organization for investment in community, environmental or organizational projects and priorities. It does not recognize price distinctions for differences in quality or distinctions in the cost of production among different regions.

39. Fairtrade minimum price of 1.40 USD/lb plus a social premium of 0.20 USD/lb to the cooperative is added to the price, resulting in a total price of 1.60 USD/lb. Prices are slightly different for natural Arabica and washed/natural Robusta. In addition, Fairtrade offers a price differential of 0.30 USD/lb for organic production.

Another method to ensure a minimum income for producers is with cost-plus pricing contracts that pay a pre-determined margin above the average cost of production. This model requires the establishment of average costs of production differentiated by origins, and an agreement among the value chain actors to ensure that the risk is shared. For buyers, the main risk in the cost-plus pricing model is that prices rise above the pre-determined price, which can result in producers side-selling to other buyers who pay market-conforming prices. One way to circumvent this risk is paying a flexible premium (see recommendation 9).

Producers also carry a risk as some origins have higher costs of production than others. Engaging in **cost-plus pricing contracts** can limit their competitiveness compared to lower-cost origins unless there are other distinct features, such as quality, that differentiate the coffee and increase the willingness of buyers to pay a higher price.

Specialty coffee trader Caravela uses a cost-plus pricing model for select contracts in agreement with the roaster. Caravela has undertaken studies of the costs of production in the seven Latin American origins from which it sources, enabling the company to establish average costs of production in each origin. Understanding the costs of production provides an objective way to determine the FOB prices and guarantee a minimum level of profitability for producers.[40]

7. Develop a new, producer-driven logic to valorize sustainable coffee more adequately

The sustainability practices currently in place, including Voluntary Sustainability Standards (VSS), are not sufficiently adequate instruments to valorize sustainably produced coffee. The philosophy of VSS is that roasters and retail can commit to buying certified coffee for prices that reflect the certified status of the product. Producers would receive a certification premium for all their certified coffee leading to higher incomes and are thus incentivized to enhance their production of sustainably produced coffees.

However, in practice these mechanisms are predominantly buyer-driven and implemented by roasters and retail. The effects of VSS have therefore been mixed, rendering certified producers unable to receive higher incomes for their coffee. Offtake of certified coffee is not guaranteed as there is currently an over-supply of certified coffee so that producers are not selling all their certified coffee at the premium price.

For instance, if certain higher qualities are needed to be certified, the lower qualities produced will automatically be certified too (as a producer cannot certify only certain parts of the qualities being produced on their farm) which consequently leads to an oversupply of certified coffees. Because of the 'mainstreamization' of standards, or the expansion of certified coffee from Archetype 3 and 4 channels to high volume Archetype 2 brands, premiums for producers have decreased. This in turn has reduced the economic incentive for producers to raise their sustainability practices, as certifying their coffee has now become financially less attractive. The current buyer-driven certification mechanisms are disconnected from other features that differentiate coffee, such as origin and quality distinctions. Moreover, the definition of "sustainably" produced coffee does not include a reference to (Living) Income and so VSS's do not provide any assurance on the level of producer income.

One solution that could bring the valorization of sustainability in coffee to a new level is the introduction of a producer-driven logic. Producers and traders of a specific origin collectively agree upon a set of origin-specific sustainability KPIs (e.g. on traceability; GAPs), that are coherent with targets that are aligned across the coffee sector. Instead of buyers controlling the price and standards of sustainable coffee, it is the producers and traders who set the terms and price premium to the buyer. As these KPIs would be determined in collaboration between producers, (local) governments and traders in a specific region, they could include a premium scheme that differentiates among qualities of coffee.

One example that contains elements of the proposed producer-given sustainability scheme is NKG BLOOM, which has agreed on a long-term collaboration with producers to offer a set of services and impact financing. Together with producers in Uganda, Colombia, Mexico, Honduras and Kenya, BLOOM aims to set the terms of sustainability and to sell this coffee at a premium to roasters and retailers.

40. Caravela (2019) "Why and How to Estimate Costs of Production in a Coffee Farm?"

8. Long-term contracts: Roasters and traders could engage in longer term, multiple year contracts with producers and/or farmer organizations.

Longer term contracts provide greater stability and allow producers to plan activities over a complete harvest cycle at minimum, which enables forward-looking investments in production. Longer term contracts are assumed to provide predictability, stability and trust in the sourcing relationship between producer and buyer. It reduces overall price risk to the producer and enables them to obtain access to credit and develop a long-term mindset to conduct investments that may have high upfront costs. Roasters can benefit from greater supply chain management, direct and secure access to certain qualities, and the option to associate their brands with positive reputational characteristics.

Long-term contracts are found to be most effective as part of a portfolio strategy: one share of total supply is secured in long-term contracts, and another share is acquired through short-term contracts. For the buyer, such a portfolio ensures reduced pricing volatility and secured supply, while also maintaining the ability to buy elsewhere when short-term needs arise.[41] Longer term supply contracts are a standard improvement step in many sectors that struggle with low producer income (e.g. in cocoa, tea, apparel).

ARCHETYPE 3 & 4 RECOMMENDATIONS

The recommendations for archetype 3 and 4 are merged because the good practices applicable to the archetypes are similar and most often only differ in scale and maturity. For all recommendations, it is recommended that companies seek opportunities to make value chains more inclusive of vulnerable smallholders since often only the most advantaged producers can access these markets on a consistent basis.

9. Engage in price transparency initiatives to support development new price discovery mechanisms for higher quality coffee.

Higher quality and specialty coffees are – to a large extent – priced against the 'C' price, the market reference price for commodity coffee. As the TCLI data suggests, production of higher quality coffees requires greater investment by producers. Properly acknowledging this increase in production cost requires decoupling price discovery from the commodity system. Traders and roasters may want to consider joining sector initiatives to establish new benchmark pricing for specialty coffee.

Initiatives already exist where roasters publish the prices that they have paid for the coffee they sell, including the share of the retail price that was paid to the producer. This **benchmark pricing** provides traders, roasters, producers and cooperatives with reference prices to determine fair prices for high-quality and specialty coffees. A greater understanding what their coffee is worth allows producers to negotiate fairer prices and a larger share of the value created.

Participating in price transparency initiatives requires roasters to have knowledge of the value chain, including the prices paid at different stages. In longer, less transparent value chains, roasters and traders can collaborate to identify the price points along the chain.

A few examples contributing to greater sector transparency already exist:

- A group of coffee roasters and traders has initiated The Pledge, an initiative to create a common code for transparency reporting in green coffee buying. Signatory companies commit to a goal of full transparency for all of their coffee. The aim is to ensure a sustainable supply of coffee by working towards a living income for producers. Signatories are required to submit data on the producer/producer organization, the FOB price paid, the quality of the coffee, the lot size (volume), the length of the trading relationship, and the percentage of transparent coffees in relation to the total volume of coffee (in lbs./tonnes) sold in the stated year.
- The Specialty Coffee Transaction Guide provides an alternative reference price for specialty coffees with the aim of decoupling specialty coffee from the 'C' price. The guide uses contract data donated by 38 roasters and traders, which is anonymized and aggregated. The guide provides information on industry pricing behavior, including

41. Clay, J. (2018) "How Long-Term Contracts can Help Drive More Sustainable Agriculture."

recent FOB prices based on lot size, quality, and origin. The guide serves as a tool to both producers and exporters, importers, roasters to determine relevant prices.

- Specialty coffee roasters that register at Transparent Trade Coffees (TTC) provide price transparency for green coffee purchased. TTC publishes aggregate average green prices (GPP*), and the effective return to origin (RTO*) percentage for consumers to understand how much value makes it back to producers.
- Fair Trade Proof is a cooperative of 23 independent roasters in the United States that is committed to Fair Trade as a 'long-term partnership between roasters and producers'. Central to this partnership is their website where roasters publish specific information from all specialty coffee contracts they make with the 69 individual producers and/or cooperatives in Latin America, Africa and Southeast Asia. This includes prices paid per green pound, volume, quality etc.

10. Flexible (living income) premium: Ensure a premium is paid on top of the market price of a product to contribute to living income

A flexible premium can ensure a minimum standard of living – ideally a living income – while minimizing value chain actors' risk exposure to side-selling. A flexible premium can be determined in line with the strategic goals of the value chain actors. The benefit to roasters and retailers is a clear, communicable impact contributing to a living income at farm-level, which provides a marketing value-add to the end-product.

The premium is based upon the difference between the prevailing market price and a pre-determined target price based on a recognized living income benchmark for the particular country or region. The target price can be set ahead of the season guaranteeing producers a secure income. This reflects the price that should be paid for the producer to achieve a living income, under a set of agreed assumptions. These could include a level of productivity or household income from non-coffee sources. The assumptions are made to balance the trade-off between buyers 'subsidizing' inefficient producers and creating an incentive for professionalization. The assumptions are often above the current levels of (inefficient) production, and as such, the premium does not necessarily ensure a net living income for the producer.

Offering a flexible (living income) premium should be a win-win for both producer and company. While the advantage for the producer is clear, companies must ensure that they have a strong business case for offering the premium. One successful example is Tony's Chocolonely. This chocolate manufacturer has successfully turned from being a niche chocolate producer (archetype 4) into an archetype 2 or 3, while becoming the largest chocolate bar producer in the Netherlands. *See more on the Tony's example in the text box.*

"Ensuring a living income for smallholder farmers is a key long-term strategic focus for the Nespresso AAA program. This report highlights the complexities and the opportunities that can aid progress towards that goal."

PAULO BARONE
HEAD OF COFFEE SUSTAINABILITY AND ORIGIN DEVELOPMENT
NESTLÉ NESPRESSO S.A

GOOD PRACTICE – DEEP DIVE

Tony's Chocolonely: Flexible living income premium and long-term contracts

Chocolate manufacturer Tony's Chocolonely strives to help producers earn a living income, by offering a premium of 15-20% above the market price. Producers are able to achieve a living income if they meet a set of assumptions.

Impact: In the 2017/2018 season, the Tony's premium in Ivory Coast was 400 USD/ton, while in Ghana it was 175 USD/ton. These amounts were paid on top of the Fairtrade premium of 200 USD/ton. In 2018 the average farmgate price in Ghana was 1,410 USD/ton.

Scale: Tony's has grown to become the largest brand of chocolate bars in the Netherlands. In 2018, Tony's purchased 7,106 MT of cocoa beans from 5 cooperatives (5,021 producers) in Côte d'Ivoire and Ghana.

HOW IT WORKS:

- Tony's pays the total price (farmgate + Fairtrade premium + Tony's additional premium) to the cooperative selling the cocoa, which is distributed amongst producers.
- Each year the premium is re-calculated, based on prevailing farmgate prices and the Fairtrade premium.
- The **premium paid** to farmers is calculated ahead of the season according to a **fixed set of variables and assumptions**. For a cocoa producer from Côte d'Ivoire, this would mean the following (obtained from the Tony's living income model:
- The **costs of living** are taken from living income benchmarks for Côte d'Ivoire that set by the Living Income Community of Practice and based on a family of 8 people.
- The **costs of farming** are assumed to be 418 USD per ha + 250 USD fixed cost per farm
- The **productive farm size** is 4.4 ha. This is based on the viable farm size that can employ the available family labor
- The realistically **achievable yield** is 800 kg/ha, based on correct use and amount of inputs and good agronomical practices
- Other income generated by the farming household through food production, sales of other crops and services is assumed to cover 25% of cost of living.

Note: In practice, few producers will be able to meet these assumptions and will therefore not actually reach a living income. For example, the average yield of cocoa in both countries is around 400-450 kg/ha; other income typically makes up 10-40% of total income; and household size may vary significantly from the benchmark. Tony's therefore work with cooperatives on long-term contracts of a minimum of five years while providing capacity building to ensure continued improvement of producers.

	IVORY COAST	GHANA
Family size	8	6
Cost of living	$2.49	$2.16
Business costs	$2,216	$1,062
(net) Farm size	4.	2.74
Productivity target	800	800
Income from other activities	$1,745	$1,183
Living Income Reference Price (per kg)	$2.20	$2.10

Source: *Information obtained from Tony's Annual Report 2018-2019 (2019)*

11. Traceability: Enhance traceability of coffee as a steppingstone to greater market access and higher prices for producers.

Traceability can allow a greater share of the price differentials to be transmitted through to producer organizations and individual producers. Traceability allows roasters to establish brand confidence and add value via consumer marketing. This does not directly result in a higher price to producers. Roasters would need to couple traceability with other efforts to empower producers.

Counter Culture Coffee has demonstrated how traceability can add value across the value chain. The roaster sells specialty coffee that is traceable to specific producers, which are sold at a higher price than non-traceable coffees. The increased traceability has allowed the company to engage in longer term relations with the producers coupled with support services to increase the quality. A statistical analysis has shown how **using traceability to market its coffees with name designation and credentials** not only allows a higher retail price, but also leads to a significantly higher FOB price, higher quality coffee, and longer term relationship between Counter Culture Coffee and the producers.

The majority of traceability initiatives in smallholder agro-commodities have been at a small pilot scale thus

GOOD PRACTICE – DEEP DIVE

Counter Culture Coffee: Name designation and credentials

Counter Culture Coffee (CCC) markets some of its coffees with name designation and credentials, allowing a higher retail price and value distribution. CCC focuses on relationship-specific investments where it invests in producers with its partner traders to improve quality over time and enable differentiation based on credentials

IMPACT:
A study of CCC's retail coffees showed that coffees sold with credentials of the producers had several benefits (see table):

- **Higher FOB:** Increase in average FOB price of $1.64 (a 46% premium) compared to blended specialty coffee. *NB it is uncertain how big a share is transferred to producers.*
- **Longer term relationships:** Producers experience additional security working longer with the same roaster (1.9 years longer on average)
- **Quality improvement over time:** Thanks to long-term relations and investment, producers experience higher prices and improved ability to market themselves as a single-producer coffee

Five main credentials were identified driving price premiums: Awards won by the farm, both currently and in the past;

- Elevation of the property where beans were grown;
- Specific location of the farm, which indicates micro-climate conditions;
- Processes used to convert cherries into dried coffee beans;
- Amount of growing experience

	BLENDS (N = 178)	NAMED GROWER (N=115)	DIFFERENCE
Avg. FOB price (USD/lb GBE)	$3.56	$5.21	+$1.64*
Avg. Quality score	85.0 points	87.0 points	+2.0 points
Avg. Quality Purchased	9,865 pounds	8,324 pounds	-1,541 pounds
Avg. Length of Relationship	3.9 years	5.8 years	+1.9 years

**Significant at p<0.01*

Source: Transparent Trade Coffee (2018). "Naming Growers: Exploring the Pricing Implications for Green Coffees".

far. A promising larger scale project to be launched in 2020 is a Starbucks-Microsoft partnership to develop a blockchain-based supply chain tracking system making Starbucks' coffee digitally traceable (the company already has full internal traceability through C.A.F.E. Practices). Starbucks is also developing a mobile app that will allow consumers to track the supply chain journey of the beans. Starbucks is undergoing studies to understand how this greater supply chain visibility can benefit farmers..

Traceability can effectively be combined with transparency and living income premiums (as mentioned under archetype 2). In 2018 Fairfood began logging all transactions from tree to plate in their coconut supply chain. They then piloted the sales of coconuts for a price that guaranteed a living income for coconut producers in the Philippines. See text box.

5.1.2. Public-private policy dialogue and enabling policies

This section presents the outcomes of task force dialogues held from June to October. The task force identified some of the most pressing public policies in producing and consuming countries that affect the ability to create an enabling environment for higher producer incomes. The task force found consensus around a few key policy areas with high potential impact.

GLOBAL LEVEL

a. **Improve the functioning of the New York and London 'C' market in favor of producers by increasing and stabilizing the 'C' price.** Extreme volatility and fluctuations could be reduced by limiting the speculative behavior of financial funds that aggravates price peaks and troughs. Re-establishing the connection between price and coffee quality could increase prices by more accurately acknowledging quality and origin differences. This measure is specifically urgent for archetype 1 and 2 coffees, which are primarily traded according to 'C' market prices. **Follow up:** The Global Coffee Platform is facilitating dialogue with the Intercontinental Exchange (ICE) to increase knowledge and understanding of how coffee exchanges work as price discovery mechanisms and the role of

GOOD PRACTICE – DEEP DIVE

Fairfood: Living income premiums in the coconut sector through blockchain

In 2018, Fairfood logged all transactions from tree to plate in their coconut supply chain using blockchain technology. Coconut sales were piloted at a price that guaranteed a living income for coconut farmers in Indonesia.

Impact: 55 coconut producers in Indonesia received a premium per nut of approximately €0.60 on top of the market price of €0.36.

Scale: The pilot project was conducted with 1,000 coconuts from 55 producers in Indonesia. Recently Fairfood began a similar project in coffee with the exporter Caravela, and in nutmeg with Dutch company Verstegen. Although the pilots are relatively small, it provides insights into the potential applications of blockchain technology and scalability across sectors.

The blockchain enables producers to register their harvest via SMS and then sell their produce to the farmer organization. Prices along the value chain are tracked and immutable, enabling both the producer and consumer to see all prices along the value chain. Consumers can to scan the nut to see which producer cultivated it, and for what price.

There is no direct relation between blockchain and higher prices. Nonetheless, the two-way transparency that it enables, strengthens the ability of the producer to compare prices paid and obtain a stronger bargaining position. In addition, the increased attention from consumers, NGOs and other stakeholders pushes buyers to perform better.

Sources: Fairfood (2018). "Berekening eerlijke prijs per kokosnoot" and Provenance (n.d.). "The Fairfood Coconut".

futures markets, with the goal of enhancing the coffee futures contracts (Arabica and Robusta) as genuine and effective price discovery tools.

b. **Set up a global price stabilization fund that provides a safety net for producers in times of low-price periods.** This fund would subsidize producers when coffee prices are low while creating a buffer fund when prices are high. It will also enhance producers' ability to invest in capacity (e.g. by renovating aging farms and cultivating improved varieties) and in measures that mitigate the effects of climate change. **Follow up:** Some leading trading companies have publicly stated the need for such a prize stabilization fund amongst others during the 125th Session of the International Coffee Council in London on 23 September 2019. Such a fund would require sector-wide collaboration to enable a level playing field, while being managed by an independent secretariat[42]. Further dialogue between ICO and international roaster and trade representatives on this topic seems a logical next step

c. **Enhance supply chain transparency and collaboration on data across the coffee sector.** This could include fostering and sharing collected data with commonly agreed metrics of farm economics, development of inter-operable digital systems (i.e. enabling different computer systems and software to exchange and make use of collected data in one common system), and a data tool to better compare farm-economics and facilitate income improvement. **Follow up:** VSSs and the Global Coffee Platform are working on these themes already and alignment between them would be a good step forward.

d. **Avoid counter-productive taxes that redirect value from the coffee producing areas or hamper the equitable distribution of value along the supply chain.** There are numerous examples of government tax policies in producing and consuming countries that could be reduced, resulting in improved producer incomes. For example, in Germany, 45% of the coffee retail price is captured by the government through special taxes. The potential value of such an exemption is high (USD 2,13/kg GBE; equivalent to 70% of ICO's 5-year average price for Arabica of USD 3,05/kg GBE[43]). Reducing these taxes would have the potential to channel value back to the producers. Tax reduction can also be leveraged to enhance sustainable procurement practices by exempting companies from these taxes if their coffee has been sustainably produced. Follow up: In the EU, living income and living wage has already received a significant amount of attention in political debates. It would therefore be logical for the EU Commission to take the lead as a political front-runner among consuming countries.

e. Develop a Code of Ethics on Farm Data Management. The code can consider current issues of limited data ownership, better control of access to and use of data, data rights, privacy, security and whether farm data should be considered 'personal' or not. The code would be voluntary and non-binding. Worldwide three major codes of conduct currently exist on the use of agriculture data: The US American Farm Bureau Federations' Privacy and Security Principles for Farm Data, the New Zealand Farm Data Code and the EU Code of conduct on agricultural data sharing by contractual agreement.

PRODUCING COUNTRIES

Follow-up on the below recommendations would be most appropriate on a country-by-country basis, initiated by individual local governments.

f. **Invest in the improvement and efficiency of infrastructure and organization of the national coffee sector** to reduce the gap between FOB and farmgate prices. Governments should prioritize infrastructure that eases collection and transportation of coffee, as well as support the professionalization of producers and enhance the capacity of farmer organizations (marketing, price negotiation, service provision, hedging). Traders and roasters that source coffee from these countries can support these types of investments by strengthening and collaborating with national coffee organizations.

g. **Support consolidation of smallholder producers into larger farms or economically viable**

42. Varieties of the global price stabilization fund have been suggested in 2019, including the 'global coffee fund' in the report published by Jeffrey Sachs, among calls for a safety net from other traders such as OLAM, and a 'multi-stakeholder funding mechanism' mentioned in the London Declaration on the long-term sustainability of the coffee sector.

43. AidEnvironment (2018). "Ensuring a German coffee tax exemption benefits producers"

collaborative groups through government-supported initiatives to overcome the systemic issue of their inability to achieve a living income. Small farms of 1.3 ha inherently result in poverty if coffee is the dominant source of income. For many producing countries this is clearly a tough, politically sensitive, nut that needs to be cracked by the governments of producing countries and calls for coffee sector reform. We recommend engaging actors in the international coffee sector in country-level public-private dialogues.

h. **Adopt supply management practices and support economically non-viable coffee producers to transition into other livelihoods**[44] to avoid exacerbation of over-supply as other stakeholders promote a living income. There is also a need for governments to support diversification of remaining coffee producers to reduce vulnerability to price volatility, build income resilience, and provide more consistent cash flow. Land restoration and agro-forestry should be promoted in the process.

CONSUMING COUNTRIES

Follow-up on the below recommendations: In the EU, living income and living wage has already received a significant amount of attention in political debates. It would therefore be logical for the EU Commission to take the lead as a political front-runner among consuming countries.

i. **Work with sector stakeholders (starting at EU level) to develop standards on traceability, transparency and living income that require importers and roasters to comply with a minimum level of sustainability**, gradually raising the bar of sustainability. Coffee that does not comply with the required level of sustainable production cannot enter the consuming country/countries.

j. **Encourage sector commitments to living income for producers and living wages for hired labor on coffee farms.** Adherence to local labor laws ought to represent a core aspect of sustainable coffee contracts. Coffee contract provisions could include compliance criteria for national labor and ILO codes – including living wages paid to farm labor – as a requirement for demonstrating progress towards sustainability. These conditions cannot be resolved by voluntary coffee contracts or the price producers receive for their product and require adequate national legal protections and social programs that impose industry commitment.

5.1.3 Recommendations for future replication of study

The TCLI report makes important contributions to the living income discussion using fact-based insights into the livelihood of coffee producers to estimate the size of the living income gap, a prerequisite for driving improvements in farmer income. The report is the result of a broad sector effort to shed light on producers across the spectrum of coffees produced and retailed. The work would not have been possible without the strong support of trade and industry players and sector representatives providing information and farm data from their supply chains.

This report has contributed to the discussion of living income in light of the current coffee price crisis. However, more work is needed across origins to gain greater understanding of the extent of the issue. To encourage further studies of a similar character, this section provides lessons learned and recommendations on how to emulate this study.

Replicating the TCLI work in other origins is important for designing effective and efficient interventions related to global trading and policy practices that impact multiple origins. There is a need for greater sharing of findings on effective and ineffective interventions among countries and across commodities. Comparable studies on the severity of the living income gap are required to prioritize origins for interventions.

Lessons learned

Individual stakeholders possess a wealth of information and data, but it is rarely put to use for public, sector-wide learnings. From the TCLI work, it became clear that there are hurdles to overcome to make better use of the data. These are:

- **The majority of data, both publicly available and company data, is not standardized and contains varying levels of granularity.**

44 Coffee is not the only sector in which these types of measures are recommended. In the cocoa sector, it is increasingly being recognized that there is no business case for supporting small producers to reach a living income relying on cocoa production alone. Rather, these non-viable producers or other livelihoods.

This made it difficult to compare all data received, and substantial work was needed to adjust data and make it comparable.

- **Most data do not capture all of the cost categories needed to accurately calculate the costs of production and/or the data is captured at an aggregate level with little visibility of cost drivers.** One major finding of the TCLI study was that there are considerable concerns with the available data. Text box 1 below describes the data concerns further.
- **Existing literature tends to focus on one specific producer segment or value chain, which makes comparison of results difficult across producer segments.** NewForesight undertook a review of existing literature on the topic of costs of production and living income in coffee. The literature review found little insight into how costs of production differ among types of producers and qualities of coffees. Combined with a lack of comparable studies, results from various studies were difficult to outright compare.
- **The use of company data is very sensitive and participation of a critical mass of sector stakeholders is important.** Sharing data and publicizing results of living income gaps is perceived as a reputational risk for many companies. The Task Force was successful because of the critical mass of traders and roasters contributing to and supporting the initiative, as well as the creation of sourcing archetypes that limit the traceability of results back to any individual company.
- **The study established four sourcing archetypes that served as a basis for tailored recommendations *and* decreased company's sensitivity to data sharing.** The sourcing archetypes helped to group traders and roasters, limiting the traceability of a given set of results. This decreases the reputational risk and provides sector-wide insights applicable to different consumer market segments.
- **The study initially aimed to provide insights into the value created and value distributed within each sourcing archetype, but this proved impossible.** The purpose was to provide greater overview of the value distribution along the value chain to facilitate a fact-based discussion on shifting more value towards producers and producing countries. In the beginning of the study, traders, roasters, and retailers were asked to provide transaction data, but halfway through the study the idea proved practically impossible. The trading of coffee in both the physical and terminal markets (futures and options) makes it difficult to trace the price of a coffee. Secondly, most roasters have a wide range of blends that include Colombia as a portion of the blend. To overcome this, one would need to choose a specific roasted product and determine the share that is from Colombia, and then trace this specific portion. In addition, retail prices of comparable bags of coffee vary significantly among countries. ICO data[45] suggests that 2017 retail prices ranged from 3.40 USD/lb roasted coffee in France to 7.67 USD/lb roasted coffee in Italy.[46] One could choose to focus on a retail product in one specific country, but this would decrease the reliability and applicability to coffees retailed in other countries. Finally, creating such an overview within the context of the task force could be considered an infringement of competition and in violation with anti-trust regulations.

Recognizing these issues, it is recommended to consider the following in replication of this study:

1. **Establish standardized common metrics to compare data among stakeholders and assess costs of coffee production across origins.** Companies and organizations collect data according to their own definition of cost categories. Agreeing on standardized metrics and definitions can allow for easier comparison of data. Moreover, as a study of this type is replicated in other origins, it is important to keep in mind the inherent production level differences that influence the cost structure. Costs of production vary considerably across origins, as well as processing techniques (wet/dry) and cultivars. Moreover, in some countries producers partially process the coffee on the farm, whereas other origins sell the coffee as cherries, which result in different cost structures.

45 International Coffee Organization (2017). "Retail prices of roasted coffee in selected importing countries. Historical Data on the Global Coffee Trade"
46 The European Union average is 5.23 USD/lb roasted coffee.

2 **Agree on cross-sector guidelines on data collection to compliment standardization of common metrics.** Higher quality data is required, and any efforts to streamline data would benefit from best practice guidelines. This could include information on data collection methods, statistical rigor, quality benchmarks, key questionnaires, and data analysis and visualization.

3 **Sector collaboration is needed to ensure the comprehensiveness of studies and limit data sensitivities.** The Task Force benefitted from the strong sector contributions of traders and roasters in all market segments, allowing the Task Force to analyze the impact across different sourcing models. Furthermore, the contribution of company data conserved resources that would otherwise have been needed to conduct field studies making the study more time efficient. The downside to this approach is the potential bias in the data, which highlights the importance of including other sector stakeholders, such as the National Federation of Coffee Growers of Colombia and civil society.

4 **There is a need for a trusted and neutral third-party to conduct the study.** The task force study was conducted under strict confidentiality agreements on the condition that data would only be shared in aggregate form once a critical mass of data was collected from multiple stakeholders. This, combined with the use of sourcing archetypes, limited the sensitivity around providing company data. An important aspect of having a neutral third party conduct the work was the ability to have several conversations with stakeholders to align on data requirements. Companies and organizations have provided data at varying levels of granularity, and a pragmatic approach was required to arrive at a comfortable level of detail in the data for all parties.

TEXT BOX 1: DATA CONCERNS

In the research for the TCLI report, several concerns about publicly available studies and company data were noted:

- **Inconsistent and/or unspecified use of processing stages** (e.g. dry parchment, GBE and roasted coffee) when describing data, leading to uncertainty about the numbers
- **Lack of clarity on what aggregated data includes** (e.g. cost of materials with/without application/labor cost)
- **Small or unspecified samples** that are unrepresentative of the population
- **Use of average numbers that mask the heterogeneity of the population -** Moreover, using averages will be biased by the distribution of producers that tend to be skewed towards a majority of small producers.
- **Data based on a lack of reliable records of costs and revenues -** Most sources did not describe how data was recorded and collected. The accuracy and completeness of the raw data received varied and data cleaning was required.
- **No specification of regions of data collection or quality of coffee produced** - Costs of production differ substantially across and within departments in Colombia, partially due to differences in the quality of coffee produced and partially due to regional differences in the cost of living.
- **No clear data on data collection -** The cost of production has increased substantially in Colombia over the past decade, primarily due to changes in oil prices, which influence input costs and increases in cost of hired labor. Use of older data will therefore have to be adjusted to current prices or risk skewing the results.
- **Stating the cost of production in U.S. Dollars rather than Colombian Pesos -** The Colombian Peso has experienced substantial depreciation against the U.S. Dollar in recent years. This makes it inaccurate to compare the 2017 costs of production in U.S. Dollars to 2019 costs of production stated in U.S. Dollars. One would need to use the cost of production in Colombian Pesos and adjust both numbers using the same exchange rate.

Chapter 6: **Annex**

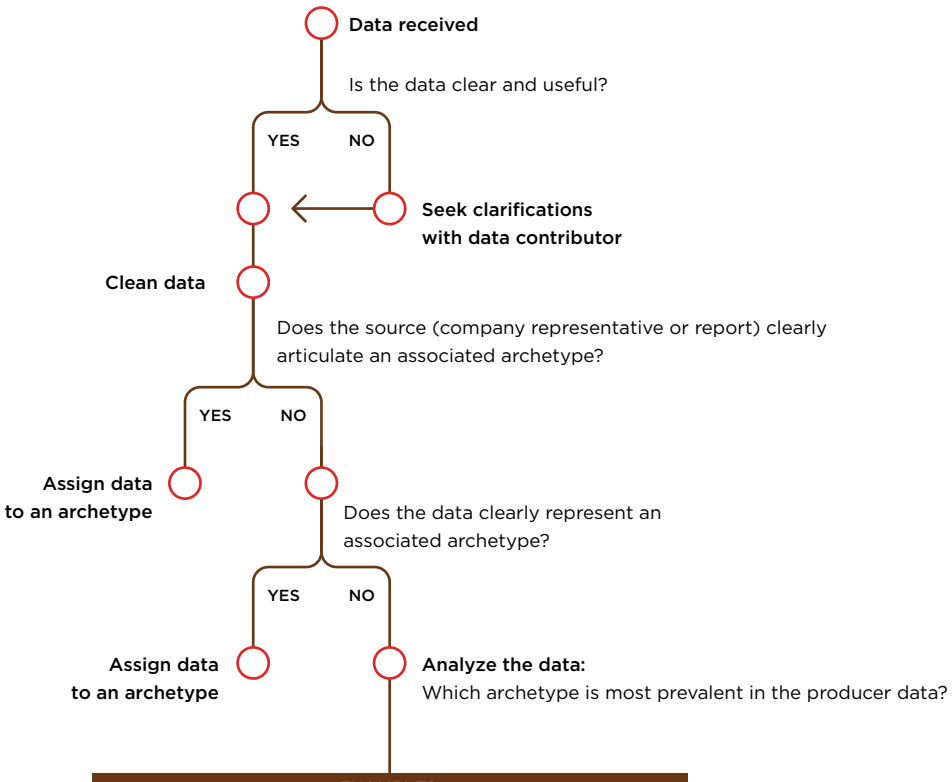
6.1. Farm economic methodology

6.1.1 Allocating farm data to the sourcing archetypes

Most producers produce a mix of different qualities, supplying to more than one sourcing archetype. Farm data was linked to associated archetypes based upon conversations with company staff and data analyses. For company data, we have worked with company staff to identify which archetype they believe a certain farm cluster belongs to. The publicly available data is linked to an archetype based on the characteristics of producers described and the quality of coffee produced.

In some cases, the data could not be allocated to a specific archetype based on conversations with the company representatives. In those cases, the data was analyzed further. Figure 13 demonstrates how farm data was allocated to the sourcing archetypes.

FIGURE 13: DECISION TREE FOR ALLOCATING FARM DATA INTO ARCHETYPES



EXAMPLES

	A1	A2	A3	A4	Result
Producer 1	70%	0%	25%	5%	**A1**
Producer 2	20%	30%	40%	10%	**A2**
Producer 3	0%	40%	60%	0%	**A3**
Producer 4	10%	15%	25%	40%	**A4**

In the cases where farm data has been analyzed to allocate it to a sourcing archetype, the main criteria for allocation have been quality and certification. The SCA cupping score was used to create a common measure to categorize coffee quality. When data contributors provided data using different quality classification, conversations were held to apply an approximate cupping score. The table below explains how the two criteria relate to the sourcing archetypes. The division was not mutually exclusive, and in a few cases allocation has been done at the discretion of NewForesight.

	Sourcing archetype 1	Sourcing archetype 2	Sourcing archetype 3	Sourcing archetype 4
Cupping score	Below 80	Below 82	82-84	+84
Certification	No	Yes	Yes	N/A

6.2 Sensitivity analyses for small archetype 2, 3, and 4 producers

6.2.1 Net household income for small producers

The following figures show analyses of the household income for small *average* archetype 2, 3, and 4 producers under varying combinations of yield and coffee prices, holding all other variables constant. The calculations are based upon the data for small producers presented in table 2 in chapter 4. The numbers in the colored boxes show the household income (including non-coffee income). The horizontal axis shows variation in yields, while the vertical axis represents variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. The blue boxes indicate the income above the threshold of the poverty line. The yellow boxes indicate the income above a living income.

FIGURE 14: NET HOUSEHOLD INCOME FOR SMALL ARCHETYPE 2, 3, AND 4 PRODUCERS

LEGEND — Current level — Poverty line • • • Living income

ARCHETYPE 2

Yield (kg GBE/ha) (% change in yield)

Farm-gate price (USD/lb GBE) (%increase in price)		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		1,060	1,193	1,325	1,458	1,590	1,723	1,855	1,988	2,121
0%	1.03	$254	$807	$1,359	$1,912	$2,465	$3,017	$3,570	$4,123	$4,675
10%	1.14	$696	$1,304	$1,912	$2,520	$3,128	$3,736	$4,344	$4,952	$5,560
20%	1.24	$1,138	$1,801	$2,465	$3,128	$3,791	$4,454	$5,117	$5,781	$6,444
30%	1.34	$1,580	$2,299	$3,017	$3,736	$4,454	$5,173	$5,891	$6,610	$7,328
40%	1.45	$2,022	$2,796	$3,570	$4,344	$5,117	$5,891	$6,665	$7,439	$8,212
50%	1.55	$2,465	$3,294	$4,123	$4,952	$5,781	$6,610	$7,439	$8,268	$9,097
60%	1.65	$2,907	$3,791	$4,675	$5,560	$6,444	$7,328	$8,212	$9,097	$9,981
70%	1.76	$3,349	$4,288	$5,228	$6,168	$7,107	$8,047	$8,986	$9,926	$10,865

ARCHETYPE 3

Yield (kg GBE/ha) (% change in yield)

Farm-gate price (USD/lb GBE) (%increase in price)		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		1,224	1,377	1,530	1,683	1,836	1,989	2,142	2,295	2,448
0%	1.09	$785	$1,529	$2,274	$3,019	$3,764	$4,509	$5,253	$5,998	$6,743
10%	1.20	$1,380	$2,200	$3,019	$3,838	$4,658	$5,477	$6,296	$7,115	$7,935
20%	1.31	$1,976	$2,870	$3,764	$4,658	$5,551	$6,445	$7,339	$8,233	$9,126
30%	1.42	$2,572	$3,540	$4,509	$5,477	$6,445	$7,413	$8,382	$9,350	$10,318
40%	1.53	$3,168	$4,211	$5,253	$6,296	$7,339	$8,382	$9,424	$10,467	$11,510
50%	1.64	$3,764	$4,881	$5,998	$7,115	$8,233	$9,350	$10,467	$11,584	$12,701
60%	1.75	$4,360	$5,551	$6,743	$7,935	$9,126	$10,318	$11,510	$12,701	$13,893
70%	1.86	$4,956	$6,222	$7,488	$8,754	$10,020	$11,286	$12,552	$13,819	$15,085

ARCHETYPE 4

Yield (kg GBE/ha) (% change in yield)

Farm-gate price (USD/lb GBE) (%increase in price)		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		1,447	1,628	1,809	1,990	2,171	2,351	2,532	2,713	2,894
0%	1.29	$2,651	$4,583	$6,515	$8,447	$10,379	$12,310	$14,242	$16,174	$18,106
10%	1.42	$4,196	$6,322	$8,447	$10,572	$12,697	$14,822	$16,947	$19,072	$21,197
20%	1.55	$5,742	$8,060	$10,379	$12,697	$15,015	$17,333	$19,652	$21,970	$24,288
30%	1.68	$7,287	$9,799	$12,310	$14,822	$17,333	$19,845	$22,356	$24,868	$27,379
40%	1.81	$8,833	$11,538	$14,242	$16,947	$19,652	$22,356	$25,061	$27,766	$30,470
50%	1.94	$10,379	$13,276	$16,174	$19,072	$21,970	$24,868	$27,766	$30,663	$33,561
60%	2.07	$11,924	$15,015	$18,106	$21,197	$24,288	$27,379	$30,470	$33,561	$36,652
70%	2.20	$13,470	$16,754	$20,038	$23,322	$26,606	$29,891	$33,175	$36,459	$39,743

6.2.2 Hectares required to reach a living income

The colored boxes in the following figures show the required coffee farm size (hectares) to reach a living income under different combinations of farmgate prices and yield levels, holding all other variables constant. The calculations are based upon the data for small producers presented in table 2 in chapter 4. On the horizontal axis is variation in yields, while the vertical axis represent variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. There is no dotted lines for poverty and living income similar to the previous tables because these show the farm size needed to reach a living income.

FIGURE 15: HECTARES REQUIRED TO REACH A LIVING INCOME FOR SMALL ARCHETYPE 2, 3, AND 4 PRODUCERS

LEGEND — Current level

ARCHETYPE 2

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		1,060	1,193	1,325	1,458	1,590	1,723	1,855	1,988	2,121
0%	1.03	9.8 ha	8.7 ha	7.8 ha	7.1 ha	6.5 ha	6.0 ha	5.6 ha	5.2 ha	4.9 ha
10%	1.14	6.5 ha	5.8 ha	5.2 ha	4.7 ha	4.3 ha	4.0 ha	3.7 ha	3.5 ha	3.2 ha
20%	1.24	4.8 ha	4.3 ha	3.9 ha	3.5 ha	3.2 ha	3.0 ha	2.8 ha	2.6 ha	2.4 ha
30%	1.34	3.9 ha	3.4 ha	3.1 ha	2.8 ha	2.6 ha	2.4 ha	2.2 ha	2.1 ha	1.9 ha
40%	1.45	3.2 ha	2.9 ha	2.6 ha	2.3 ha	2.1 ha	2.0 ha	1.8 ha	1.7 ha	1.6 ha
50%	1.55	2.8 ha	2.5 ha	2.2 ha	2.0 ha	1.8 ha	1.7 ha	1.6 ha	1.5 ha	1.4 ha
60%	1.65	2.4 ha	2.1 ha	1.9 ha	1.8 ha	1.6 ha	1.5 ha	1.4 ha	1.3 ha	1.2 ha
70%	1.76	2.1 ha	1.9 ha	1.7 ha	1.6 ha	1.4 ha	1.3 ha	1.2 ha	1.1 ha	1.1 ha

ARCHETYPE 3

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		1,224	1,377	1,530	1,683	1,836	1,989	2,142	2,295	2,448
0%	1.09	6.2 ha	5.5 ha	4.9 ha	4.5 ha	4.1 ha	3.8 ha	3.5 ha	3.3 ha	3.1 ha
10%	1.20	4.4 ha	3.9 ha	3.5 ha	3.2 ha	2.9 ha	2.7 ha	2.5 ha	2.3 ha	2.2 ha
20%	1.31	3.4 ha	3.0 ha	2.7 ha	2.5 ha	2.3 ha	2.1 ha	1.9 ha	1.8 ha	1.7 ha
30%	1.42	2.8 ha	2.5 ha	2.2 ha	2.0 ha	1.8 ha	1.7 ha	1.6 ha	1.5 ha	1.4 ha
40%	1.53	2.3 ha	2.1 ha	1.9 ha	1.7 ha	1.6 ha	1.4 ha	1.3 ha	1.2 ha	1.2 ha
50%	1.64	2.0 ha	1.8 ha	1.6 ha	1.5 ha	1.4 ha	1.2 ha	1.2 ha	1.1 ha	1.0 ha
60%	1.75	1.8 ha	1.6 ha	1.4 ha	1.3 ha	1.2 ha	1.1 ha	1.0 ha	1.0 ha	0.9 ha
70%	1.86	1.6 ha	1.4 ha	1.3 ha	1.2 ha	1.1 ha	1.0 ha	0.9 ha	0.9 ha	0.8 ha

ARCHETYPE 4

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%	60%
		3,190	3,589	3,988	4,387	4,785	5,184	5,583	5,982	6,380
0%	1.29	1.2 ha	1.1 ha	1.0 ha	0.9 ha	0.8 ha	0.7 ha	0.7 ha	0.6 ha	0.6 ha
10%	1.42	1.1 ha	1.0 ha	0.9 ha	0.8 ha	0.7 ha	0.7 ha	0.6 ha	0.6 ha	0.5 ha
20%	1.55	1.0 ha	0.9 ha	0.8 ha	0.7 ha	0.7 ha	0.6 ha	0.6 ha	0.5 ha	0.5 ha
30%	1.68	0.9 ha	0.8 ha	0.7 ha	0.7 ha	0.6 ha	0.6 ha	0.5 ha	0.5 ha	0.5 ha
40%	1.81	0.9 ha	0.8 ha	0.7 ha	0.6 ha	0.6 ha	0.5 ha	0.5 ha	0.5 ha	0.4 ha
50%	1.94	0.8 ha	0.7 ha	0.6 ha	0.6 ha	0.5 ha	0.5 ha	0.5 ha	0.4 ha	0.4 ha
60%	2.07	0.7 ha	0.7 ha	0.6 ha	0.5 ha	0.5 ha	0.5 ha	0.4 ha	0.4 ha	0.4 ha
70%	2.20	0.7 ha	0.6 ha	0.6 ha	0.5 ha	0.5 ha	0.4 ha	0.4 ha	0.4 ha	0.4 ha

6.3 Farm P&Ls for medium and large farms

The following figures present the farm P&Ls for the average medium and large producers. The calculations are based upon the data for medium and large producers, respectively, presented in table 2 in chapter 4.

The TCLI data suggests that the *average* medium archetype 3 and 4 producers are making a living income. The average large producer within archetypes 2, 3, and 4 all make a living income. This is primarily a result of the considerably larger farm size. An *average* medium archetype 2 faces a negligible living income gap that can be closed with a 10% increase in farmgate prices or yields (see sensitivity analysis further below). It is important to bear in mind that medium and large farms represent a minority of Colombian coffee production.

FIGURE 16: P&LS FOR MEDIUM FARMS (USD/FARM)

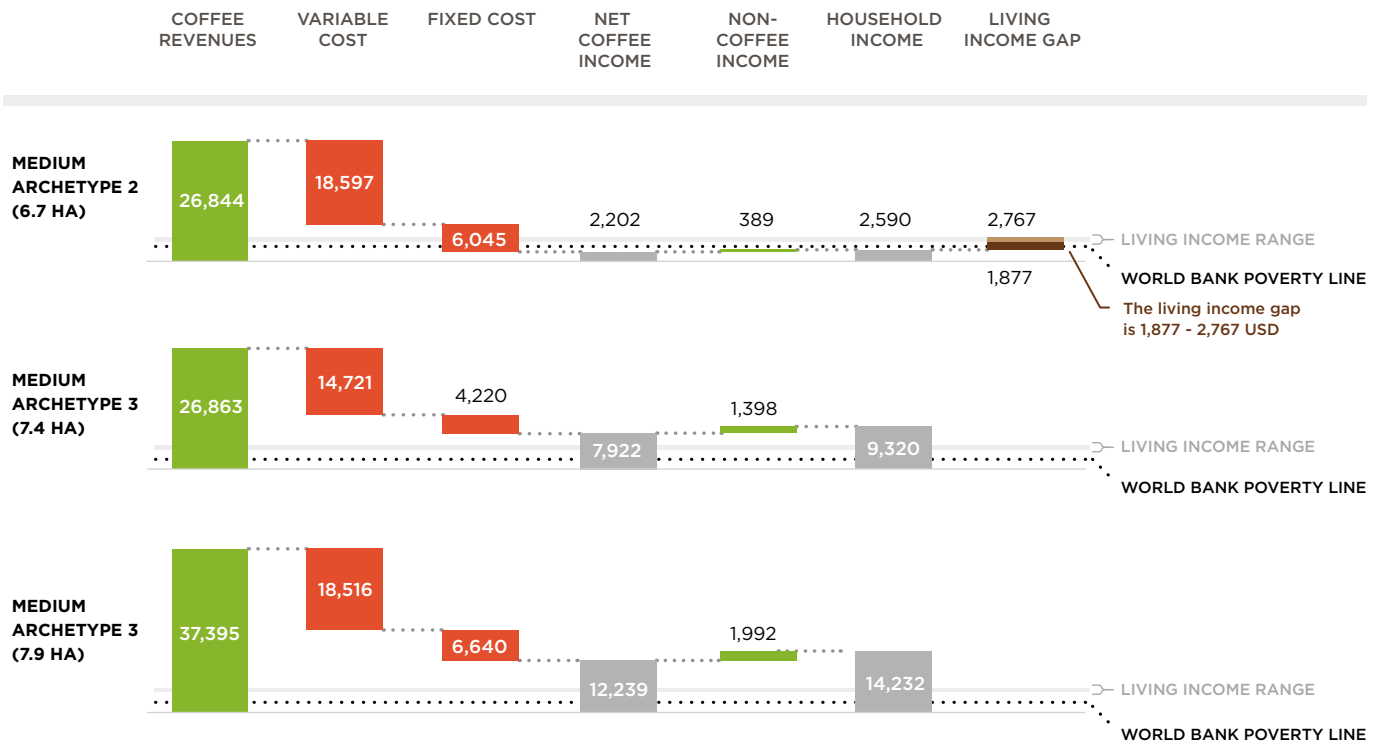
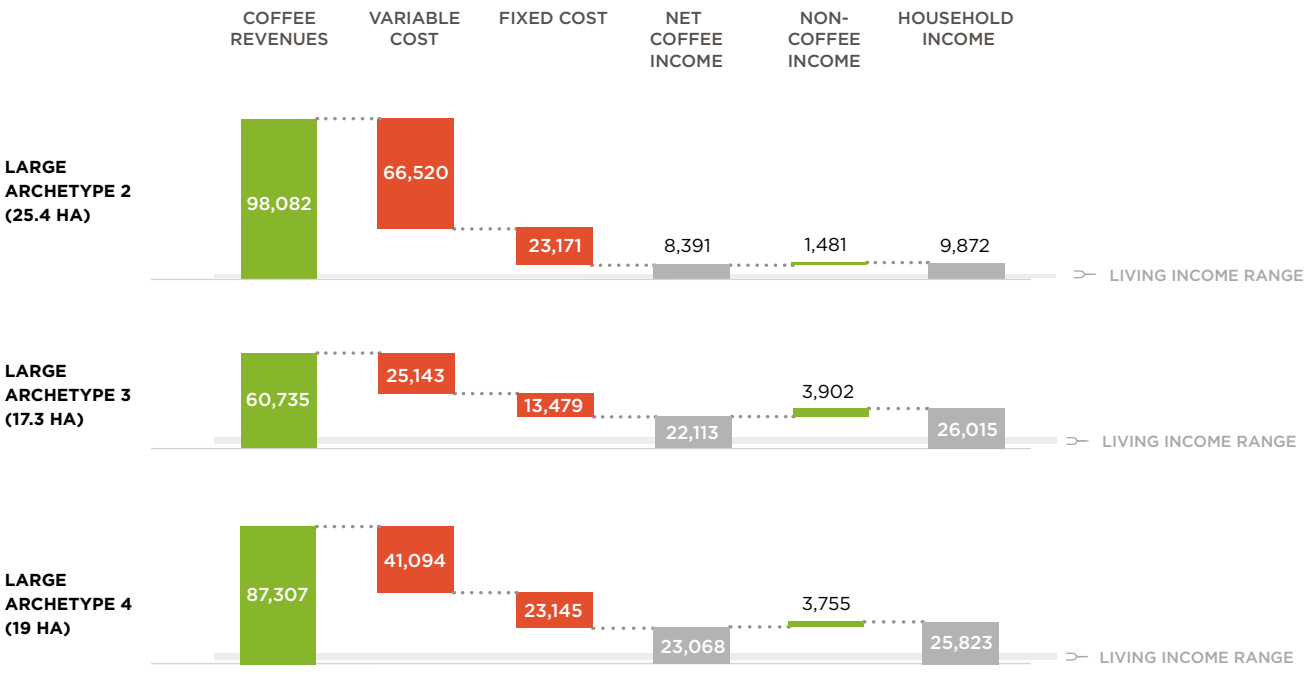


FIGURE 17: P&LS FOR LARGE FARMS (USD/FARM)



6.4 Sensitivity analyses for medium and large farms

6.4.1. Net household income for medium producers

The following figures show analyses of the household income for a medium *average* archetype 2, 3, or 4 producers under varying combinations of yield and coffee prices, holding all other variables constant. The numbers in the colored boxes show the household income (including non-coffee income). The horizontal axis shows variation in yields, while the vertical axis represents variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. The blue boxes indicate the income above the threshold of the poverty line. The yellow boxes indicate the income above a living income.

FIGURE 18: NET HOUSEHOLD INCOME FOR MEDIUM ARCHETYPE 2, 3, AND 4 PRODUCERS

LEGEND — Current level — Poverty line • • • Living income

Yield (kg GBE/ha) (% change in yield)

ARCHETYPE 2

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,124	1,265	1,406	1,546	1,687	1,827	1,968	2,108
0%	1.03	$-2,778	$-94	$2,591	$5,275	$7,960	$10,644	$13,328	$16,013
10%	1.14	$-630	$2,322	$5,275	$8,228	$11,181	$14,134	$17,086	$20,039
20%	1.24	$1,517	$4,738	$7,960	$11,181	$14,402	$17,623	$20,844	$24,066
30%	1.34	$3,665	$7,154	$10,644	$14,134	$17,623	$21,113	$24,603	$28,092
40%	1.45	$5,812	$9,570	$13,328	$17,086	$20,844	$24,603	$28,361	$32,119
50%	1.55	$7,960	$11,986	$16,013	$20,039	$24,066	$28,092	$32,119	$36,145
60%	1.65	$10,107	$14,402	$18,697	$22,992	$27,287	$31,582	$35,877	$40,172
70%	1.76	$12,255	$16,818	$21,381	$25,945	$30,508	$35,072	$39,635	$44,199

Yield (kg GBE/ha) (% change in yield)

ARCHETYPE 3

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,145	1,288	1,431	1,575	1,718	1,861	2,004	2,147
0%	1.09	$3,947	$6,633	$9,319	$12,006	$14,692	$17,378	$20,065	$22,751
10%	1.20	$6,096	$9,051	$12,006	$14,961	$17,916	$20,870	$23,825	$26,780
20%	1.31	$8,245	$11,468	$14,692	$17,916	$21,139	$24,363	$27,586	$30,810
30%	1.42	$10,394	$13,886	$17,378	$20,870	$24,363	$27,855	$31,347	$34,839
40%	1.53	$12,543	$16,304	$20,065	$23,825	$27,586	$31,347	$35,108	$38,869
50%	1.64	$14,692	$18,721	$22,751	$26,780	$30,810	$34,839	$38,869	$42,898
60%	1.75	$16,841	$21,139	$25,437	$29,735	$34,033	$38,331	$42,629	$46,927
70%	1.86	$18,990	$23,557	$28,123	$32,690	$37,257	$41,823	$46,390	$50,957

Yield (kg GBE/ha) (% change in yield)

ARCHETYPE 4

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,351	1,520	1,689	1,858	2,027	2,195	2,364	2,533
0%	1.27	$6,752	$10,492	$14,231	$17,971	$21,710	$25,450	$29,189	$32,929
10%	1.39	$9,744	$13,857	$17,971	$22,084	$26,198	$30,311	$34,425	$38,538
20%	1.52	$12,735	$17,223	$21,710	$26,198	$30,685	$35,173	$39,660	$44,148
30%	1.65	$15,727	$20,588	$25,450	$30,311	$35,173	$40,034	$44,895	$49,757
40%	1.77	$18,719	$23,954	$29,189	$34,425	$39,660	$44,895	$50,131	$55,366
50%	1.90	$21,710	$27,320	$32,929	$38,538	$44,148	$49,757	$55,366	$60,975
60%	2.02	$24,702	$30,685	$36,668	$42,652	$48,635	$54,618	$60,601	$66,585
70%	2.15	$27,694	$34,051	$40,408	$46,765	$53,122	$59,480	$65,837	$72,194

6.4.2 Net household income for large producers

The following figures show analyses of the household income for a large *average* archetype 2, 3, or 4 producers under varying combinations of yield and coffee prices, holding all other variables constant. The numbers in the colored boxes show the household income (including non-coffee income). The horizontal axis shows variation in yields, while the vertical axis represents variation in farmgate prices. The red boxes highlight the current levels used for the calculations in the rest of the report. The blue boxes indicate the income above the threshold of the poverty line. The yellow boxes indicate the income above a living income.

FIGURE 19: NET HOUSEHOLD INCOME FOR LARGE ARCHETYPE 2, 3, AND 4 PRODUCERS

LEGEND — Current level — Poverty line • • • Living income

ARCHETYPE 2

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,329	1,495	1,661	1,827	1,993	2,159	2,325	2,491
0%	1.03	$-9,745	$64	$9,872	$19,680	$29,488	$39,296	$49,105	$58,913
10%	1.14	$-1,898	$8,891	$19,680	$30,469	$41,258	$52,047	$62,836	$73,625
20%	1.24	$5,948	$17,718	$29,488	$41,258	$53,028	$64,798	$76,567	$88,337
30%	1.34	$13,795	$26,546	$39,296	$52,047	$64,798	$77,548	$90,299	$103,050
40%	1.45	$21,642	$35,373	$49,105	$62,836	$76,567	$90,299	$104,030	$117,762
50%	1.55	$29,488	$44,200	$58,913	$73,625	$88,337	$103,050	$117,762	$132,474
60%	1.65	$37,335	$53,028	$68,721	$84,414	$100,107	$115,800	$131,493	$147,186
70%	1.76	$45,181	$61,855	$78,529	$95,203	$111,877	$128,551	$145,225	$161,899

ARCHETYPE 3

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,086	1,222	1,358	1,493	1,629	1,765	1,901	2,037
0%	1.09	$13,868	$19,941	$26,015	$32,088	$38,162	$44,235	$50,309	$56,382
10%	1.20	$18,727	$25,408	$32,088	$38,769	$45,450	$52,131	$58,812	$65,493
20%	1.31	$23,586	$30,874	$38,162	$45,450	$52,738	$60,027	$67,315	$74,603
30%	1.42	$28,444	$36,340	$44,235	$52,131	$60,027	$67,922	$75,818	$83,713
40%	1.53	$33,303	$41,806	$50,309	$58,812	$67,315	$75,818	$84,320	$92,823
50%	1.64	$38,162	$47,272	$56,382	$65,493	$74,603	$83,713	$92,823	$101,934
60%	1.75	$43,021	$52,738	$62,456	$72,174	$81,891	$91,609	$101,326	$111,044
70%	1.86	$47,880	$58,204	$68,529	$78,854	$89,179	$99,504	$109,829	$120,154

ARCHETYPE 4

Yield (kg GBE/ha) (% change in yield)

Farm - gate price (USD/lb GBE) (%increase in price)

		-20%	-10%	0	10%	20%	30%	40%	50%
		1,340	1,508	1,675	1,843	2,010	2,178	2,345	2,513
0%	1.24	$9,362	$18,092	$26,823	$35,554	$44,284	$53,015	$61,746	$70,477
10%	1.37	$16,346	$25,950	$35,554	$45,158	$54,761	$64,365	$73,969	$83,573
20%	1.49	$23,331	$33,808	$44,284	$54,761	$65,238	$75,715	$86,192	$96,669
30%	1.62	$30,315	$41,665	$53,015	$64,365	$75,715	$87,065	$98,415	$109,765
40%	1.74	$37,300	$49,523	$61,746	$73,969	$86,192	$98,415	$110,638	$122,861
50%	1.87	$44,284	$57,381	$70,477	$83,573	$96,669	$109,765	$122,861	$135,957
60%	1.99	$51,269	$65,238	$79,207	$93,176	$107,146	$121,115	$135,084	$149,053
70%	2.12	$58,254	$73,096	$87,938	$102,780	$117,622	$132,465	$147,307	$162,149

6.5 Conversion rates

Standardized conversions were used to convert and compare data received from contributors. All figures from before 2019 have been converted to U.S. Dollars using the November 1st, 2019 exchange rate of OANDA to convert from between the Colombian Peso (COP) and the United States Dollar (USD). The exchange rate used is 1 USD = 3,341 COP. The following conversion rates were used for the study:

Conversion table	
Currency	
1 USD	3,341 COP
Mass	
1 pound (lb)	0.454 kg
1 carga	275.578 lb (125 kg)
1 arroba	27.5 lb (12.5 kg)
1 bag	132.267 pounds (60 kg)
Coffee processing	
1 lb GBE	2 lb dried cherry (0.908 kg)
1 lb GBE	1.25 lb parchment (0.568 kg)
1 lb GBE	0.84 lb roasted coffee (0.381 kg)

6.5 Literature

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