

Fairtrade Living Income

Reference Prices for

Coffee from Colombia

EXPLANATORY NOTE

Introduction

In March 2019, the World Coffee Producers Forum condemned the historically low coffee futures market prices and called for immediate action to avoid a humanitarian crisis for some 25 million smallholder families around the world. They warned that by allowing the impoverishment of producers, the coffee industry was compromising its own future. Later that year, the International Coffee Organization (ICO) committed to foster responsible sourcing of sustainably grown and traded coffee, enabling a living income for coffee producers.

In the midst of this coffee price crisis, Fairtrade took action by participating in the Specialty Coffee Association's (SCA) Price Crisis Response Team. In parallel, Fairtrade embarked on a journey to establish Living Income Reference Prices for coffee from its key origins, triggered by the urgency to address the economic conditions for a sustainable coffee sector and bring the true cost of socially just and environmentally sound production practices into the equation.

Living Income Reference Prices play a pivotal role within Fairtrade's holistic **Living Income Strategy**. They are instrumental for raising awareness around the fundamental need for sustainable pricing as part of a smart mix of interventions to enable living incomes, and they inform price setting mechanisms for Fairtrade and other actors committed to sustainable trade.

The first multi-stakeholder price discovery exercise was conducted in Colombia. The results of this process are outlined in this paper. More detailed analysis is available in the Spanish version of this note, available on the [Fairtrade International website](#).

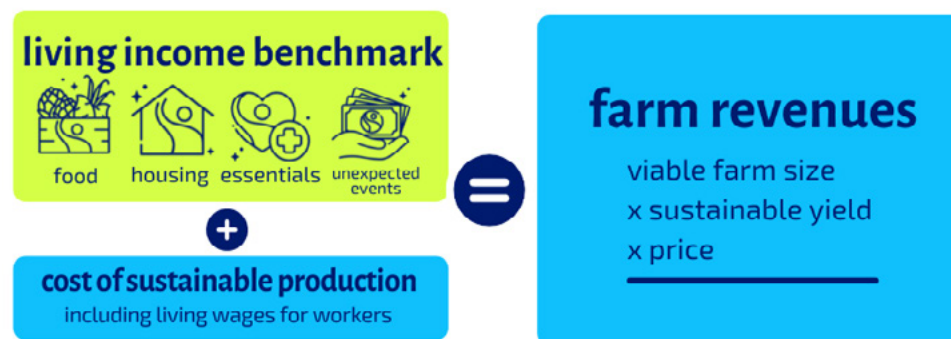
The Price Model

A Living Income Reference Price indicates the price needed for a typical farmer household with a viable farm size and a sustainable productivity level to make a living income from the sales of their crop.

The model is derived from the universal human right for everyone who works to a just and favourable remuneration, ensuring an existence worthy of human dignity. Hence, a full-time farmer should be able to make a living income from the farm revenues.

A Living Income Reference Price is based on the following key parameters:

1. Sustainable yields (productivity benchmark)
2. Viable farm size (to fully employ the available household labour)
3. Cost of sustainable production (in order to achieve above mentioned yields)
4. Cost of a decent standard of living (living income benchmark)



A price that allows an average farmer household with a viable farm size and a sustainable productivity level to earn a living income can thus be calculated with the following equation:

$$\text{living income reference price} = \frac{\text{cost of decent living} + \text{cost of sustainable production}}{\text{viable land area} \times \text{sustainable yields}}$$

Although crop diversification is strongly encouraged to enhance income resilience, the equation is based on coffee as a single cash crop, assuming that any other chosen farm activity would be as profitable as coffee and thus generate a proportionate share of a living income.

Establishing Living Income Reference Prices

In order to assess the farm economic metrics, Fairtrade introduced farm records among coffee farmers, initially in Colombia, Uganda and Indonesia. Their farm investments and outputs were tracked throughout a year during 2019/20 in record-keeping books. These baseline data serve as a primary source for subsequent analysis and establishment of Living Income Reference Prices.

The first multi-stakeholder price discovery process took place in Colombia. For this purpose, a technical roundtable committee was set up, comprised of coffee experts representing producers, industry, NGOs and research institutions. Over a period of six months a series of workshops and complementary focus group discussions were conducted to analyse a variety of recent datasets, pool knowledge and agree on the values for each of the variables in the reference price model.

Based on these variables and a preliminary range for the living income benchmark for a typical coffee farmer household, Fairtrade Living Income Reference Prices were estimated for conventional and organic coffee from Colombia.

Variable 1: Sustainable yields

A sustainable productivity level is defined as a feasible target yield that can be attained when sustainable agricultural practices are implemented. Both economic and environmental aspects are considered. By balancing the economic benefits of high yields with the medium and long-term effects on natural resources and climate resilience, an optimum productivity target is determined. This target yield was subjected to a reality check by the technical committee in order to assess its feasibility, before validating the productivity benchmark.

Productivity levels and cost of production are directly linked: increased crop investment (particularly in adequate use of fertilizer) leads to higher yields per hectare, while the cost of production per kilo of coffee decreases with improved productivity, resulting in a higher profit margin.

The recommended crop renovation cycle by CENICAFE¹ to maintain a regulated coffee production is five years. However, the roundtable members suggested to lengthen the cycle for better alignment with the reality and diversity in the country (the national target of the Colombian Federation of Coffee Growers [FNC] is 10% renovation) and decided to adjust the renovation cycle to 6-7 years.

Tree density is another factor influencing productivity. It is important to acknowledge the conflict between the economic gains with high density versus the environmental benefits that increase with proper shade management, and therefore lower density. In Colombia you will find densities between 2,000 and over 10,000 trees per hectare. A range of 4,400 to 5,500 trees per hectare was chosen as a suitable reference for organic and conventional coffee production systems.

¹ National Coffee Research Centre, part of the Colombian Coffee Federation

Analysis of data presented from various sources, including the baseline developed by Fairtrade in 2019/20, Solidaridad's longitudinal cost of production study (2019), a database shared by Nespresso (AAA programme, 2018) and input from the FNC, showed averages of current productivity around 1,500 to 1,700 kilos of dried parchment coffee per hectare. These averages were also confirmed in the secondary source inventory of the past five years (New Foresight, 2020)².

It was deemed realistic to achieve yields of 1,800 kilos of dried parchment per hectare (kgDP/ha) of conventional coffee when adopting good agricultural practices in line with the above mentioned considerations. This target yield was therefore agreed upon as the productivity benchmark for conventional coffee.

For organic coffee a distinction was made between the Sierra Nevada de Santa Marta and other regions with organic produce. Whereas in the Sierra Nevada, coffee farmers have relatively large farms and low productivity (with only one harvest per year), in the other regions land sizes are smaller with higher yields.

Productivity benchmarks for organic coffee were agreed at 1,200 and 1,500 kgDP/ha for the Sierra Nevada and other regions respectively.

Variable 2: Viable farm size

In accordance with the universal right to remuneration for work that provides a decent living,³ a hired worker is entitled to a 'living wage'. Consistent with this logic, a self-employed farmer should earn the equivalent of a living wage for the work on his or her farm. Hence, full-time farmers should be able to make a living income from their farm proceedings. Following this guiding principle, a farm that is big enough to fully absorb the available household labour, should generate a living income. This is considered a viable farm size or a 'full-employment farm size'.

Likewise, producers with smaller plots of land would earn a share of a living income proportional to their time invested in farm work. In those cases, the household would have time available to supplement their income with other activities.

The viable or full-employment coffee area was calculated by dividing the available household labour force by the time household members spend working on a hectare of coffee. The equivalent of 1.5 persons multiplied by 246 working days a year for a total of 369 labour days was taken as the available household labour force.

Based on FNC's labour efficiency indicators and taking into account the previously defined productivity benchmarks and crop life cycle, the labour requirements for each activity were analyzed. Some adjustments were applied afterwards to reflect a more realistic scenario.

The proportion of the work carried out by family labour was also analyzed. Throughout the year, except for the harvest, the family can take care of 80-90% of the work. Hired labour is mainly needed for crop renovation and sporadically for crop maintenance.

² New Foresight, Fairtrade Coffee LIRP, 2020

³ The Universal Declaration of Human Rights establishes: "Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity."

The highest labour intensity occurs during the coffee harvest, when the work is split evenly between family labour and hired labour. An average harvesting efficiency of 80 kilos of cherry per day was agreed, taking into account that the yield at the beginning and towards the end of the harvest is much lower than during the peak of the season, when higher efficiencies are reached by experienced pickers.

For conventional coffee, 195 labour days per hectare are required for harvest and non-harvest activities, of which 67% is covered by family labour participation. Based on this, 2.8 hectares (369 available days of labour in the household / (195 days/ha * 67% completed by household labour) = 2.8 ha) was established as the minimum viable crop area for conventional coffee.

In organic coffee, 153 and 171 labour days per hectare are required in the Sierra Nevada de Santa Marta and in other regions respectively. Based on these indicators, 4.4 hectares was established as the minimum viable cultivated area for organic coffee from the Sierra Nevada de Santa Marta and 3.2 hectares for other organic regions in Colombia.



Variable 3: Cost of sustainable production

The cost of sustainable production is calculated based on the crop investments needed throughout a crop life cycle to reach the targeted sustainable productivity level. Hired labour remuneration is factored in at a living wage, so that the Living Income Reference Price not only allows coffee farmers to earn a living income, but also to pay their workers a living wage.

Fairtrade baseline data were cross-checked with various data sources shared by members of the roundtable and updated in focus group discussions to reflect the increase in input costs throughout the production cycle.

The average annual investment required to achieve a productivity of 1,800 kgDP/ha in conventional coffee includes the cost of fertilizer and other agricultural inputs, packaging materials and transport, as well as one-off costs for crop establishment in the first year, for a total of 3,480,000 pesos (US\$967) per hectare.

For organic produce, costs related to shade management were added to the other inputs, materials and transport costs, for a total of nearly 3,200,000 pesos (\$889) per hectare, needed to achieve an average yield of 1,200 kgDP/ha in the Sierra Nevada de Santa Marta, and approximately 3,500,000 pesos (\$972) per hectare to reach the target yield of 1,500 kgDP/ha in other organic regions.

The cost of hired labour was calculated based on the previous analysis of labour requirements (see variable 2). The number of hired labour days required outside the harvest was multiplied by a daily living wage. The living wage is derived from the cost of decent living, for which a range between 75,000 and 58,000 pesos per day was established, because of the variations in cost of living in different regions (see variable 4 below for more detail).

During the harvest, collectors are hired to pick around 60-70% of the total coffee volumes and are paid per kilo of cherry collected. At a piece rate of 600 - 560 pesos per kilo a worker would need to pick on average 125 kilos per day to earn a decent income, which is considered feasible. These are common pay rates nowadays in Colombia.

The table below shows an overview of the cost breakdown for each scenario.

| variable | unit | conventional | organic | organic SNSM |
|--|---------------|-------------------|-------------------|-------------------|
| (A) viable crop area | ha | 2.8 | 3.2 | 4.4 |
| (B) sustainable productivity | kgDP/ha | 1800 | 1500 | 1200 |
| (AxB) production volume | kgDP | 5084 | 4831 | 5262 |
| cost of inputs, materials & transport | COP/ha | 3,500,000 | 3,500,000 | 3,200,000 |
| % hired labour outside harvest | % | 10% | 25% | 20% |
| hired labour days outside harvest | days/ha | 7 | 19 | 14 |
| hired labour cost outside harvest (+) | COP/ha | 525,000 | 1,425,000 | 1,050,000 |
| hired labour cost outside harvest (-) | COP/ha | 406,000 | 1,102,000 | 812,000 |
| % hired labour for harvesting | % | 70% | 60% | 70% |
| hired labour cost during harvest (+) | COP/ha | 3,780,000 | 2,700,000 | 2,520,000 |
| hired labour cost during harvest (-) | COP/ha | 3,528,000 | 2,520,000 | 2,352,000 |
| cost of production per hectare (+) | COP/ha | 7,805,000 | 7,625,000 | 6,770,000 |
| cost of production per hectare (-) | COP/ha | 7,434,000 | 7,122,000 | 6,364,000 |
| fixed costs | COP | 500,000 | 500,000 | 500,000 |
| (C+) cost of sustainable production | COP | 22,543,972 | 25,058,130 | 30,186,631 |
| (C-) cost of sustainable production | COP | 21,496,142 | 23,438,099 | 28,406,310 |

Applying the higher living wage of 75,000 pesos per day and 600 pesos per kilo, the variable cost of production sums up to approximately 7.8, 7.6 and 6.8 million pesos per hectare (or US\$ 2,168; \$2,118 and \$1,880)⁴ for conventional, organic and organic coffee from the Sierra Nevada respectively.

Similarly, applying the low-end living wage of 58,000 pesos per day and 560 pesos per kilo, the cost of production would be 7.4, 7.1 and 6.4 million pesos per hectare (US\$ 2,065; \$1,978; \$1,768) for each.

In all scenarios, an amount of 500,000 pesos (approx. US\$ 140) was added for fixed costs, such as the payment of services and the cooperative's membership fee.



⁴ The exchange rate applied here is 1US\$ = 3,600 Colombian pesos. However, it should be noted that the exchange rate is extremely volatile and dollar values are therefore only indicative.

Variable 4: Living income benchmark

Living income is defined as **sufficient income generated by a household to afford a decent standard of living for the household members**. Elements of a decent standard of living include: a nutritious diet, decent housing, education, healthcare, transport, clothing and other essential needs, including a provision for unexpected events.

A recent study by the Global Living Wage Coalition established a Living Income Benchmark for the Caribbean regions in Colombia at 27,786,000 pesos per year, based on a four-member household.⁵ The costs of decent living are broken down as follows:



However, the regions where this study was conducted only overlaps partly with the Sierra Nevada de Santa Marta, whereas the cost of living in other Colombian coffee regions is expected to be lower. Other studies have estimated the cost of decent living in various rural parts of Colombia, and the results of the different studies were evaluated and compared with national poverty lines, in order to decide on an appropriate benchmark to use for the reference price calculation, in accordance with the reality of coffee farmers.

| living income benchmarks (updated to 2020) | | | | | poverty lines | |
|---|------------|------------|-------------|-----------------------|----------------------|------------|
| source | GLWC | TruePrice | Solidaridad | CIAT | DANE | |
| region | Caribbean | Cauca | Caqueta | Caldas, Cauca, Nariño | rural | national |
| household size | 4 | 4.75 | 4 | 4 | 4 | 4 |
| monthly cost of decent living (household) | | | | | | |
| food | 717,833 | 565,891 | 600,000 | 708,872 | | |
| housing | 338,880 | 206,768 | 300,000 | 241,858 | | |
| NFNH | 1,148,533 | 807,301 | 350,000 | 262,000 | | |
| provision | 110,262 | 67,472 | 62,500 | 154,643 | | |
| monthly cost | 2,315,508 | 1,647,431 | 1,312,500 | 1,367,373 | 843,876 | 1,310,696 |
| yearly cost | 27,786,096 | 19,769,175 | 15,750,000 | 16,408,476 | 10,126,512 | 15,728,352 |
| cost pppd | 19,032 | 11,403 | 10,788 | 11,239 | 6,936 | 10,772 |
| living daily wage | 75,301 | 53,575 | 42,683 | 44,467 | minimum wage: 37,000 | |

⁵ <https://www.globallivingwage.org/living-wage-benchmarks/living-wage-for-caribbean-coast-of-colombia/>

Although all the above studies are based on the Anker methodology⁶, the variation in the results is notably large. National poverty lines published by DANE are included for reference, since a decent standard of living is usually significantly higher than the poverty line. In this regard, the FNC has suggested a 'prosperous income' to be twice the rural poverty line or two minimum wages.

In order to maximize consistency in the measurement of the cost of living and to allow for global comparability, preference is given to the use of benchmarks validated by the Global Living Wage Coalition for the Living Income Reference Price model. A new comprehensive living wage and living income Anker study in Colombian coffee-growing areas is underway, commissioned by the NGO Verité. It is therefore planned to adjust the Living Income Reference Prices once the results are delivered early 2022.

In the meantime, consensus was sought on an interim value to be applied to the Reference Price model. Although most members of the roundtable agreed with the use of the Anker benchmark for the Caribbean region on a preliminary basis, some participants preferred to make adjustments to take into account regional differences in the country. It was therefore decided to establish a range applicable as a preliminary benchmark for a living wage between 27,783,000 and 22,050,000 pesos per year.

| living income benchmark | applicable range FLIRP | | | |
|--------------------------|------------------------|-------------------|-------------------|-------------------|
| | 2x national poverty | high end | low end | 2 x rural poverty |
| food | | 715,000 | 700,000 | |
| housing | | 340,000 | 300,000 | |
| NFNH | | 1,150,000 | 750,000 | |
| provision | | 110,250 | 87,500 | |
| monthly costs | 2,621,392 | 2,315,250 | 1,837,500 | 1,687,752 |
| yearly costs | 31,456,704 | 27,783,000 | 22,050,000 | 20,253,024 |
| costs ppdp | 21,544 | 19,029 | 15,103 | 13,872 |
| living daily wage | 85,000 | 75,000 | 58,000 | 55,000 |

The living wage used in the cost or production is derived from the living income, by dividing the cost of living by the number of people working in the family (in full-time equivalents). Assuming a labour availability of 1.5 persons per family and 246 working days per year, the living wage is estimated at 27,783,000 / 369, rounded to 75,000 pesos per day, equivalent to approximately two minimum wages.

Applying the lower range of living income, the corresponding wage would be 58,000 pesos per day.

⁶ <https://www.globallivingwage.org/about/anker-methodology//>

Preliminary Living Income Reference Prices

With the variables defined in the previous chapters and considering a provisional range for the decent cost of living, preliminary Living Income Reference Prices at farm gate were calculated for Colombian coffee.

The following table summarizes the values found for the key parameters of the price model for conventional and organic coffee, both in the Sierra Nevada de Santa Marta (SNSM) and in other regions in Colombia. Although the production system in the Sierra Nevada differs from the other organic regions, the lower productivity is compensated by larger farm sizes, which allowed for establishing a single reference price for organic coffee.

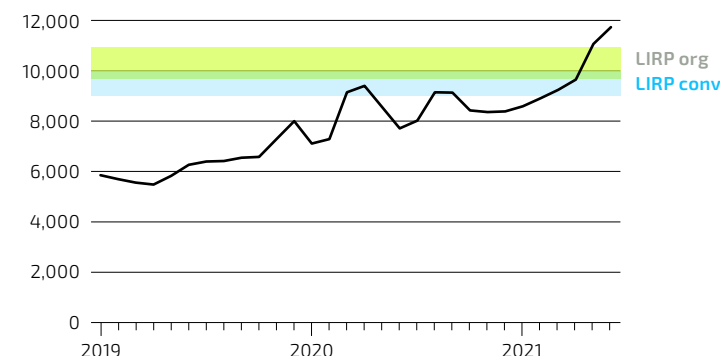
| variable | unit | conventional | organic | organic SNSM |
|--|----------|-------------------|-------------------|-------------------|
| (A) viable crop area | ha | 2.8 | 3.2 | 4.4 |
| (B) sustainable productivity | kgDP/ha | 1800 | 1500 | 1200 |
| cost of inputs, materials & transport | COP/ha | 3,500,000 | 3,500,000 | 3,200,000 |
| cost of hired labour outside harvest (+) | COP/ha | 525,000 | 1,425,000 | 1,050,000 |
| cost of hired labour outside harvest (-) | COP/ha | 406,000 | 1,102,000 | 812,000 |
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| cost of hired labour during harvest (-) | COP/ha | 3,528,000 | 2,520,000 | 2,352,000 |
| fixed costs | COP | 500,000 | 500,000 | 500,000 |
| (C+) cost of production | COP | 22,543,972 | 25,058,130 | 30,186,631 |
| (C-) cost of production | COP | 21,496,142 | 23,438,099 | 28,406,310 |
| (D+) cost of decent living | COP | 27,783,000 | 27,783,000 | 27,783,000 |
| (D-) cost of decent living | COP | 22,050,000 | 22,050,000 | 22,050,000 |
| (C+D/A*B) LIRP (high-end) | COP/kgDP | 9,899 | 10,938 | 11,017 |
| (C+D/A*B) LIRP (low-end) | COP/kgDP | 8,566 | 9,416 | 9,589 |

Preliminary Living Income Reference Price ranges are thus established between **9,900 - 8,570 pesos per kilo of dried parchment of conventional coffee**, and **11,000 - 9,500 pesos per kilo of dried parchment organic coffee**.

Implementing Living Income Reference Prices

By establishing Living Income Reference Prices, Fairtrade quantifies the gap between market and sustainable prices at farm gate level and emphasizes the need to address price as a crucial factor to attain sustainable supply chains that enable farmers to earn a living income.

Internal market prices x kgDP



The above graph shows internal market farm gate prices for Colombian coffee since the price crisis in 2019, in relation to the Living Income Reference Price ranges. Interestingly, the market price has soared over the past few months and has reached a historical high in June 2021, surpassing the Living Income Reference Price range.

By applying a standard parchment to green bean conversion factor and an exchange rate of 3,600 pesos to a dollar, the following prices would apply for green coffee at farm gate. Adding a further 35 dollar cents to cover average operational costs of the producer organization and export handling in Colombia, indicative FOB (free on board) prices can be estimated, as summarized below:

| conventional coffee | | high | low |
|--|-----------|-------|-------|
| FLIRP | COP/kgDP | 9,900 | 8,570 |
| "green bean equivalent (conversion factor 0.61)" | COP/lbGBE | 6,039 | 5,228 |
| "green bean equivalent (1USD = COP 3600)" | USD/lbGBE | 1.68 | 1.45 |
| approximate FOB price (+0.35) | USD/lbGBE | 2.03 | 1.8 |

| organic coffee | | high | low |
|--|-----------|--------|-------|
| FLIRP | COP/kgDP | 11,000 | 9,500 |
| "green bean equivalent (conversion factor 0.61)" | COP/lbGBE | 6,710 | 5,795 |
| "green bean equivalent (1USD = COP 3600)" | USD/lbGBE | 1.86 | 1.61 |
| approximate FOB price (+0.35) | USD/lbGBE | 2.21 | 1.96 |

However, the actual FOB prices will depend on the particular situation and cost structure of each producer organization and will have to be negotiated between seller and buyer, in order to factor in all relevant costs incurred by producer organizations, so they can pay their members a Living Income Reference Price.

Fairtrade will integrate voluntary payment of the Living Income Reference Prices in living income pilot projects with committed buyers and their supply chain partners. By implementing the holistic living income strategy on a controlled scale, Fairtrade seeks to demonstrate its effectiveness and validate the price component as a critical driver to achieve living incomes.

However, it must be stressed that the Living Income Reference Price is just one tool, which in combination with other interventions is needed to close the income gap, and therefore there is no guarantee that by paying a LIRP all farmers will earn a living income. Nonetheless, payment of a LIRP, as well as long-term sourcing agreements, are considered essential purchasing practices that buyers are responsible for to enable living incomes for farmers in their supply chains.

On the other end, farmers are equally responsible for implementing the sustainable agricultural practices to meet the productivity target.

Furthermore, it should be clear that for farmers who do not have the minimum viable farm size it is unlikely that living incomes will be generated from farm revenues only. This is a challenge, since the average coffee area in Colombia is only 1.6 hectares. Although these farmers can earn a proportional share of a living income from coffee sales, supplementary income generating opportunities will be needed to fully bridge the income gap.

Fairtrade recommends that the mandatory Fairtrade Premium is not counted towards the Living Income Reference Price, but is paid on top to the producer organization. The Fairtrade Premium is an important source of income for producer organizations to cover operational costs, including adequate service delivery to their members. Empowered producer organizations play a crucial role in supporting their members reach target yields, reduce costs, add value, diversify income sources and enhance farm resilience, all of which contribute to achieve living incomes.

Finally, most buyers do not purchase all the coffee produced by a producer organization and thus the LIRP will only be received for part of the sales. This means that the price differential will get diluted over the total volumes, if not all buyers commit to paying a LIRP. **Hence, this is a call to the coffee industry to jointly commit to sustainable prices, so that living incomes can become a reality for coffee farmers.**

The Living Income Reference Price model makes up an integral part of Fairtrade's Living Income Strategy. Fairtrade is constantly testing and improving its model in order to develop a standardized approach for establishing sustainable price levels for smallholder farmers, applicable to a wide range of commodities and regions. We welcome your feedback in this process.

For more information or comments, please contact:
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