Fairtrade Living Income Reference Price for Coffee from Ethiopia

EXPLANATORY NOTE

Introduction

This document explains the figures and validation process behind the Fairtrade Living Income Reference Price for organic garden and forest-grown arabica coffee from Ethiopia. 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.

Fairtrade began to develop the first Living Income Reference Prices for coffee in a context of historically low futures market prices. In March 2019, the World Coffee Producers Forum condemned these 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. In response, the International Coffee Organization (ICO) committed to foster responsible sourcing of sustainably grown and traded coffee, enabling a living income for coffee producers.

By establishing Living Income Reference Prices, Fairtrade addresses the economic conditions for a sustainable coffee sector and brings the true cost of socially just and environmentally sound production practices into the equation.

Following the completion of multi-stakeholder price discovery processes in Colombia, Indonesia, Uganda and Honduras, a Fairtrade Living Income Reference Prices for garden and forest-grown organic coffee from Ethiopia were determined in collaboration with the technical roundtable set up for this purpose.

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 their farm revenues.

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

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

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

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

Establishing Living Income Reference Prices

In order to assess the farm economic metrics, Fairtrade introduced farm record-keeping books, in which farmers tracked their farm investments and outputs throughout a year during 2021-2022 (2013-2014 in local year-count). These baseline data served as a primary source for subsequent gap analysis and establishment of Living Income Reference Prices.

In Ethiopia, baseline data for organic coffee production were collected from a sample of 460 farmers from two cooperative unions, one in the highlands of Yirgacheffe region for "garden" coffee and one in the Bench Maji region for forest-grown coffee. The cooperatives produce partly washed and to a lesser extent natural coffee.

A technical roundtable was set up in Ethiopia in May 2023, comprised of representatives from Ethiopian largest coffee cooperative unions, the Ethiopian Coffee & Tea Authority, NGOs and local universities who accompanied the process. A two-day in-person workshop took place to analyse the baseline results and complementary datasets, pool local knowledge and expertise and agree on the values for each of the variables in the price model.

Based on these variables, Fairtrade Living Income Reference Prices for organic garden and forest-grown coffee from Ethiopia were established.

Variable 1: 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.

Cognizant of the living income benchmark study for Ethiopian coffee regions that is commissioned by the ICO, the roundtable estimated a preliminary benchmark, to be adjusted once the ICO study becomes available by the end of 2023. The preliminary benchmark was determined based on a comparative analysis of several calculations of the costs of decent living in coffee growing regions of Ethiopia, including a proxy benchmark calculation by the Global Living Wage Coalition (GLWC) for the Guji region (Oromia) and WageIndicator studies for Oromia and Southern Nations. The respective benchmark values have been updated to 2023, applying official inflation rates. The below table shows an overview of the comparison.

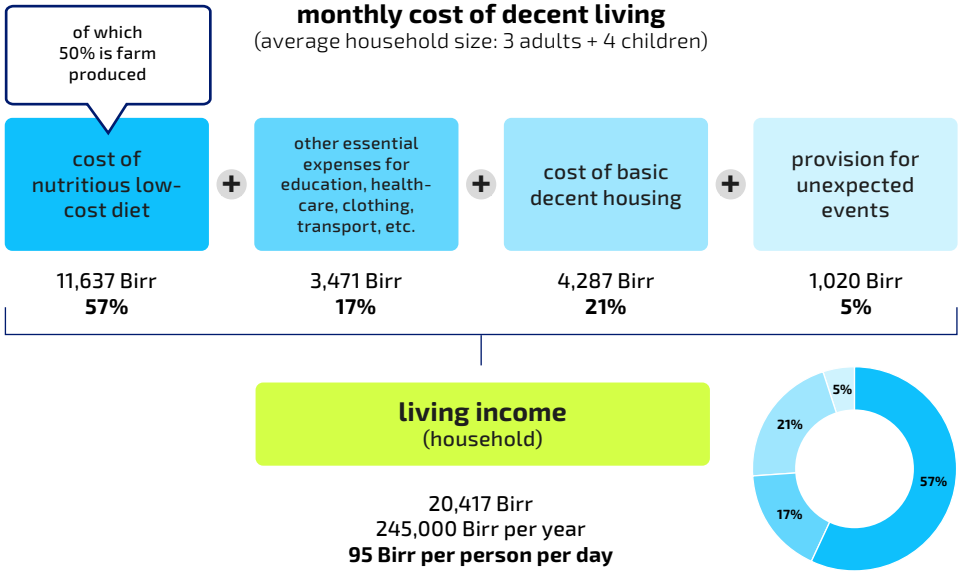
Table 1: Comparative analysis of living income benchmark calculations for Ethiopian coffee regions, updated to March 2023

Living income benchmark	GLWC	WageIndicator	
region	**Guji** proxy*	**Oromia** rural	**Southern** rural
household size	**6**	**6**	**6**
FTE income earners in household	**1.8**	**1.65**	**1.65**
monthly cost of decent living			
food		10,202	10,080
housing		3,000	2,750
healthcare		700	700
transport		750	718
education		446	600
clothing		702	570
water		324	324
phone		776	776
provision (5%)		846	826
total per household per month	**12,963**	**17,756**	**17,344**
yearly costs of decent living	155,561	213,066	208,127
cost of decent living (pppd)	**80**	**97**	**95**

The WageIndicator benchmark calculations are more detailed and considerably higher than the GLWC proxy value with 96 Birr per person per day on average between the two coffee regions. The roundtable adopted this value, but suggested to adjust to a household size of seven. Baseline data show a typical coffee farmer household to be composed of 7 members, with 2-3 working age adults and 4-5 children. This resulted in a provisional **living income benchmark of 245,000 Birr** (US$ 4,466[1]) **per year** for a 7-member household.

Ethiopian coffee farmers typically grow a variety of food crops for domestic consumption intercropped with coffee, which can be considered as an in-kind income. It was further discussed what percentage of the household's food needs can realistically be produced on an average coffee farm and consensus was reached that half of the value of a nutritious diet can be farm produced.

Figure 1: Approximation of the cost of decent living for a 7-member household in Ethiopia



The **living wage** for hired labour is derived from the living income benchmark by dividing the yearly cost of decent living by the number of full-time equivalent workers in a rural family. Assuming the equivalent of 1.65 full-time workers as defined in the original WageIndicator benchmark (see table 1) and 246 working days per year, the daily living wage is estimated at 210,000 / 406, rounded to **520 Birr** (US$ 9.48).

Variable 2: Sustainable yields

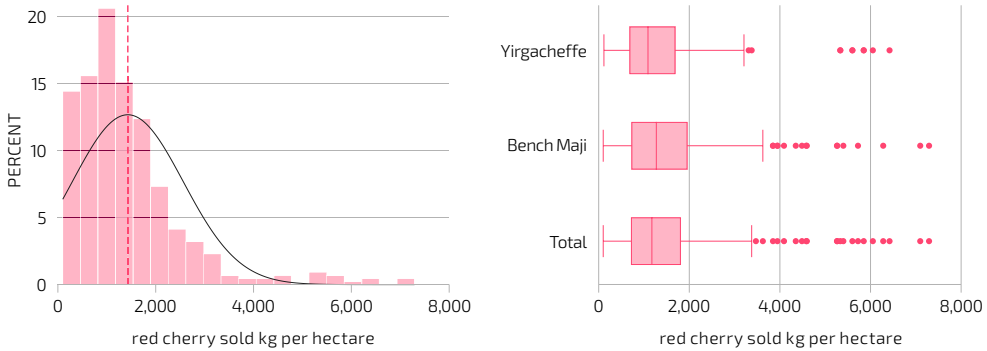
A sustainable productivity level is defined as a feasible target yield that can be attained when sustainable agricultural practices are implemented. Both economic and environmental aspects have been considered. By balancing the economic benefits of high yields with the medium- and long-term effects on natural resources and climate resilience, an optimum productivity target is determined. For Ethiopia, we analysed two types of **organic production systems: garden and forest-grown coffee**.

Key factors affecting coffee productivity are the tree age and density, intercropping practice and shade management, applied rehabilitation practices (stumping, pruning and replanting) and compost use. The roundtable agreed on an optimal tree density of 1,800 - 2,500 trees per hectare for garden coffee and 1,200 trees per hectare in case of forest coffee, in line with common intercropping practices. Required crop rehabilitation practices include stumping every 15 years and yearly replanting of 5% of the trees, in order to achieve and maintain adequate productivity levels.

Baseline results show very low coffee productivity with an average yield of 1,430 kg of red cherry* per hectare, based on sales figures. The result is slightly higher in Bench Maji with 1,560 kg on average versus 1,300 kg for Yirgacheffe, and the median yield of only 1,174 kg of cherry per hectare. 25% of the baseline sample produce 1,815 kg/ha or more.

*after converting dried cherry (*jenfel*) sales to red cherry

Graphs 1 and 2: Baseline distribution of red cherry yields per hectare



Converted to green bean, this results in 260 kgGBE/ha on average for Bench Maji and 217 kgGBE on average for Yirgacheffe.

For comparison, secondary sources report current productivity levels between 300 - 350 kgGBE/ha in Ethiopia.

The roundtable discussed feasible target yields, based on an optimal tree density and 1.5 to 2.5 kg of cherry per tree, depending on the altitude for a productivity of around 700 kg of green bean per hectare in case of garden coffee. For forest-grown coffee it was considered feasible to produce 5 kg of cherry per tree, giving 6,000 kg of cherry (1,000 kgGBE) per hectare at an optimal density of 1,200 trees per hectare. However, considering the actual productivity levels, more **realistic target yields on a mid-term of 3,300 (550 kgGBE) and 4,800 kg of cherry (800 kgGBE) per hectare were agreed for organic garden coffee and forest-grown coffee respectively.**

Variable 3: Viable farm size

In accordance with the universal right to remuneration for work that provides a decent living[2], a hired worker is entitled to a 'living wage'. Consistent with this logic, self-employed farmers should earn the equivalent of a living wage for their work on the 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 farm income with other activities.

The viable or full-employment coffee area is calculated by dividing the available household labour force by the time household members spend working on a hectare of land. A typical coffee grower household in Ethiopia consists of 7 members of which three are working-age adults on average.

The roundtable members examined the reality of coffee grower households and the family members actually involved in coffee farming. In most cases only two adults – usually the couple – work on the farm, taking care of coffee production and attending to the food crops for domestic consumption.

Assuming two household members dedicated to farming, as a rule of thumb 75% or the equivalent of 1.5 full-time workers multiplied by 246 working days a year for a total of 369 labour days was considered as the available household labour force.

Based on previously identified sustainable agricultural practices needed to attain the productivity benchmark, the labour requirements for each activity were analysed, as well as the proportion of the work carried out by family labour (see tables 2 and 3).

Table 2: Overview of labour requirements to produce the target yield of 3300 kg cherry of garden coffee per hectare

household labour utilization (garden)			
required practice		family labour (days/ha)	hired labour (days/ha)
fertilization	preparation & application compost once a year	63	39
pest management	uprooting & burning of affected trees	27	0
weed control	manual weeding 3x a year	24	45
rejuvenation	stumping	14	6
harvest	red cherry picking	42	54
post-harvest	drying (30% of natural coffee)	63	27
replanting	nursery establishment	8	3
admin & misc	general supervision	10	0
intercropping	attending intercropped food crops	10	0
total number of days x hectare		**261**	**174**

Table 3: Overview of labour requirements to produce the target yield of 4800 kg cherry of forest-grown coffee per hectare

household labour utilization (forest)			
required practice		family labour (days/ha)	hired labour (days/ha)
fertilization	preparation & application compost once a year	20	66
pest management	uprooting & burning of affected trees	0	0
weed control	manual weeding 3x a year	20	48
rejuvenation	stumping	1	2
harvest	red cherry picking	36	84
post-harvest	drying (30% of natural coffee)	45	90
replanting	nursery establishment	9	0
admin & misc	general supervision	4	0
intercropping	attending intercropped food crops	10	0
total number of days x hectare		**145**	**290**

Coffee farming in Ethiopia is highly labour intensive, since all activities are carried out manually. For instance, a lot of effort goes into the preparation of compost, making use of a range of inputs collected from the farm. Also, the drying of coffee cherry (natural process) requires constant turning over for a homogeneous product, while minding weather changes. Farm work is taken care of by family members with the help of hired labour for nearly all activities.

In the case of garden-grown coffee, 261 household labour days are occupied per hectare. Hence, **to fully absorb the available labour of two household members in coffee farming, a farm size of (369/261) 1.4 hectare would be required**.

The context for forest-grown coffee is a little different with relatively larger farms and higher dependency on hired labour. Household members spend 145 days per hectare on farm work. Therefore, **the viable farm size to fully occupy the available household labour force of two adults is (369/145) 2.5 hectare.**

Table 4: Summary of influencing factors and agreed viable land areas for garden and forest grown coffee

viable land size		
	garden	**forest**
household size	7 members/3 adults	7 members/3 adults
available household labour for coffee production	**1.5 FTE** (369 days)	**1.5 FTE** (369 days)
labour days required per hectare	261 days	145 days
viable coffee area	**1.4 ha**	**2.5 ha**
% of living income generated from coffee	100%	100%
% of food needs produced on farm	50%	50%

Variable 4: Cost of sustainable production

The cost of sustainable production is calculated based on the crop investments needed 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.

Roundtable members discussed in focused groups the agricultural inputs, hired labour and other production costs incurred for implementing sustainable agricultural practices in garden and forest-grown production systems. The below tables provide an overview of the costs of sustainable production per hectare.

Table 5: Overview of sustainable production costs to produce 3300 kg cherry of garden coffee per hectare

cost of sustainable production (garden)						
required practice		hired labour (days/ha)	hired labour (Birr/ha)	agri inputs (Birr/ha)	other variable costs (Birr/ha)	fixed costs (Birr)
fertilization	compost production from coffee by-products, molasses & other farm ingredients / application 1x year	39	20,280	800	2,500	1,000
pest management	uproot & burn affected trees	-	-	-	-	-
weed control	manual weeding including shade management 3x year	45	23,400	-	-	1,000
rejuvenation	yearly stumping	6	3,120	-	1,500	-
harvest	red cherry picking	54	28,080	-	5,500	-
post-harvest	drying of natural coffee "jenfel" (30% of total production)	27	14,040	-	5,000	-
replanting	setting up tree nursery for gap filling (75 trees / year)	3	1560	750	1,500	-
admin & misc	land tax, services, security, etc.	-	-	-	-	13,000
total cost x hectare		**174**	**90,480**	**1,550**	**16,000**	**15,000**

By far, the main cost item for both garden and forest coffee growers is hired labour. For garden coffee (Yirgacheffe and other regions), 174 labour days are hired per hectare and for forest grown coffee (Bench Maji) this is even 290 labour days per hectare (see also variable 3 on viable farm size). Paid at a living wage of 520 Birr per day, the cost of hired labour is 90,480 Birr and 150,800 Birr per hectare for garden coffee and forest-grown coffee respectively.

Hardly any agricultural inputs are purchased, since compost is produced from coffee by-products and other ingredients collected from the farm. Pest and weed control are done mechanically using manpower.

Other production costs include transport, packaging materials, harvesting baskets and drying beds. Fixed costs include small tools, security guards during harvest time, water and electricity services.

With hired labour costs of 90,480 Birr, input costs of 1,550 Birr plus 16,000 Birr for other variable costs, the total variable costs are 108,030 Birr per hectare. Adding the fixed costs rounded to 15,000 Birr, the **total cost of sustainable production amounts to 166,242 for a 1.4 hectare garden farm**.

Table 6: Overview of sustainable production costs to produce 4800 kg cherry of forest coffee per hectare

cost of sustainable production (garden)						
required practice		hired labour (days/ha)	hired labour (Birr/ha)	agri inputs (Birr/ha)	other variable costs (Birr/ha)	fixed costs (Birr)
fertilization	transport, preparation & application of manure (4500 kg / ha)	66	34,320	-	6,000	-
pest management	uproot & burn affected trees	-	-	-	-	-
weed control	manual weeding including shade management 3x year	48	24,960	-	-	6,800
rejuvenation	yearly stumping	2	1,040	-	-	-
harvest	red cherry picking	84	43,680	-	3,000	-
post-harvest	drying of natural coffee "jenfel" (30% of total production)	90	46,800	-	3,000	-
replanting	setting up tree nursery for gap filling (75 trees / year)	-	-	750	-	-
admin & misc	land tax, services, security, etc.	-	-	-	-	3,200
total cost x hectare		**290**	**150,800**	**750**	**12,000**	**10,000**

The cost breakdown to meet the target yield for forest-grown coffee is 150,800 Birr for hired labour costs, plus 750 Birr for seedlings and 12,000 Birr for other variable costs such as transport, packaging and food for workers, amounting to a total of 163,550 Birr per hectare. An additional 10,000 Birr of fixed costs was agreed. **This brings to total cost of sustainable production for a 2.5 hectare coffee area to 418,875 Birr.**

Living Income Reference Price modelling

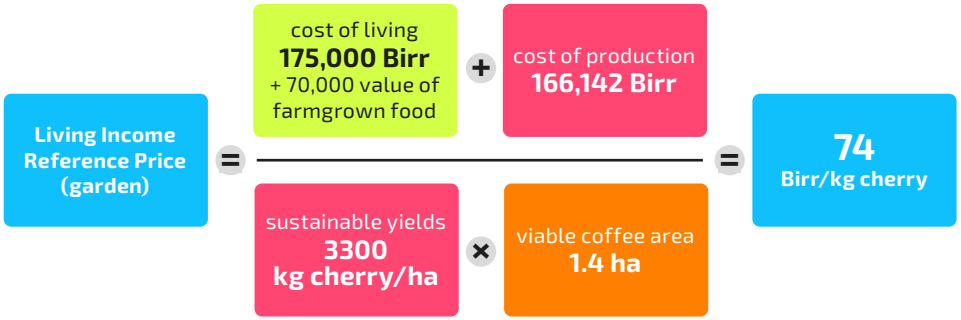
With the variables defined in the previous chapters, Living Income Reference Prices at farm gate were modelled for organic garden and forest-grown coffee from Ethiopia.

Table 7 summarizes the agreed key parameter values of the price model and the respective Living Income Reference Prices for garden and forest-grown coffee in Ethiopia.

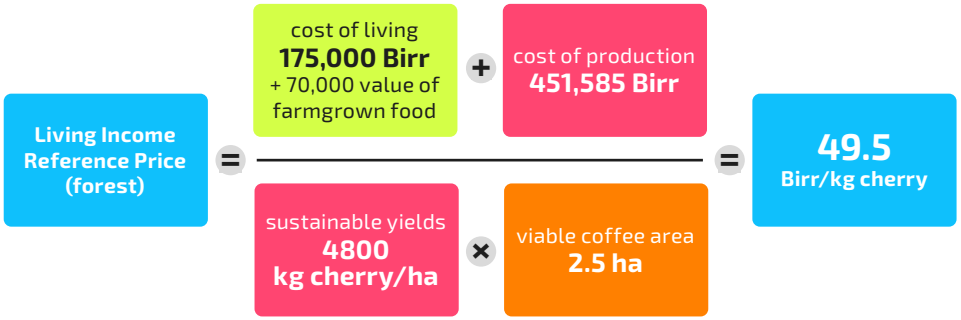
Table 7: Living Income Reference Price modelling for organic garden and forest-grown coffee with hired labour paid at 520 Birr per day.

type		garden	forest
food needs farm-grown		50%	50%
household income from coffee		100%	100%
(A) viable land area	ha	1.4	2.5
(B) sustainable yields	kg cherry/ha	3300	4800
cost of agricultural inputs	Birr/ha	1,550	750
hired labour cost* non-harvest	Birr/ha	62,400	107,120
harvest labour cost*	Birr/ha	28,080	43,680
other variable costs	Birr/ha	16,000	12,000
Total variable costs x hectare	Birr/ha	108,030	163,550
fixed costs	Birr	15,000	10,000
(C) cost of sustainable production	Birr	166,242	418,875
value of farm-grown food	Birr	70,000	70,000
(D) living income	Birr	175,000	175,000
(C+D/AxB) LIRP	Birr/kg cherry	74	49.5
equivalent price for green bean	Birr/kgGBE	443	297

The resulting **Fairtrade Living Income Reference Price for garden coffee from Ethiopia is established at 74 Birr** (US$ 1.35) **per kilo of cherry** (equivalent to 443 Birr for a kilo of green bean) at farmgate.



The **Fairtrade Living Income Reference Price for forest-grown coffee from Ethiopia is established at 49 Birr** (US$ 0.90) **per kilo of cherry** (equivalent to 297 Birr for a kilo of green bean) at farmgate.



Implementing Living Income Reference Prices

By establishing Living Income Reference Prices, Fairtrade quantifies the gap between market and sustainable prices at farmgate 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.

At the time of baseline collection in 2021/22, farmgate prices in Ethiopia were ranging between 40-55 Birr per kilo of cherry for garden coffee and 25-35 Birr for forest-grown coffee, on the rise from the previous year, when farmers only received 30-39 and 15-20 Birr respectively. In the current season prices have continued to rise and have reached up to 75 Birr per kilo in Yirgacheffe and 45 Birr per kilo in Bench Maji, showing that Living Income supporting prices are indeed within reach in Ethiopia.

It is to be noted that Ethiopian coffee has been selling far above the international coffee market prices. Although partly due to high domestic consumption and high production costs, prices are mainly driven up by the country's restricted foreign currency policy. This has attracted opportunistic players from other sectors like vehicles and construction to the coffee business as a means to gain foreign currency. They buy coffee at a high price and export at a loss, while making huge profits from their imported goods/equipment.

By applying the average conversion factor of 6 kilos of cherry for a kilo of green bean, and adding the costs incurred by the producer organization to export the green bean, LIRP equivalents at FOB (Free on Board) level can be estimated. The operational, processing and export handling costs are estimated at US$ 0.50 per pound of green bean, for indicative FOB prices of US$ 4.18 per pound of green bean organic garden coffee and US$ 2.96 per pound of green bean organic forest coffee in Ethiopia, based on Living Income Reference Prices paid at farmgate, as summarized below:

Table 8: Approximate farmgate – FOB price conversion for garden arabica coffee

farmgate - FOB conversion (garden)		**Birr**	**USD**
LIRP cherry at farmgate	**/kg cherry**	**74**	**1.35**
LIRP GBE at farmgate	/kg GBE	444	8.10
LIRP GBE at farmgate	/pound GBE	202	3.68
SPO operations, processing & export costs	/pound GBE	28	0.50
LIRP proxy GBE at FOB	**/pound GBE**	**230**	**4.18**

Table 9: Approximate farmgate – FOB price conversion for forest arabica coffee

farmgate - FOB conversion (forest)		**Birr**	**USD**
LIRP cherry at farmgate	**/kg cherry**	**49.5**	**0.90**
LIRP GBE at farmgate	/kg GBE	297	5.41
LIRP GBE at farmgate	/pound GBE	135	2.46
SPO operations, processing & export costs	/pound GBE	28	0.50
LIRP proxy GBE at FOB	**/pound GBE**	**163**	**2.96**

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 at farmgate.

Fairtrade integrates 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.

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, along with 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.

The current average farm size of 1.5 hectare for Yirgacheffe farmers and 3.2 hectare (of which 2.3 hectare in coffee) in Bench Maji are close to what is considered a viable farm size. Yet, there are many Ethiopian coffee farmers with smaller farms who do not have a viable coffee area to generate a living income from their coffee sales only. Although these farmers can earn a proportional share of a living income from farm revenues, supplementary income generating opportunities will likely 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 Living Income Reference Price 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 the Living Income Reference Price. **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.**

Endnotes

1 Applied exchange rate 1USD = 54.86 Birr

2 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 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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