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Fair-trade coffee: how fair is fair?

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1 Introduction

An important aspect of sustainability that needs discussion is a fair income for producers and labourers involved in agriculture. In this chapter, we will discuss what 'fair' means and the approach used by some major Voluntary Sustainability Standards (VSS) to calculate 'fair' prices for producers. This is followed by two alternative approaches to calculate prices: the Living Income Reference Price Formula and the Living Income/Fair Price Approach, a bottom-up approach for defining what is a 'fair' price from the farmers' perspective.

Fair trade is often thought to include a 'fair price', but that is not always correct. Fair trade covers more than a fair price alone. It is also about conditions of work, terms of trade, etc. In this chapter, the payment of a fair producer price will be highlighted. The notion of a fair price has until recently not played an important role in fair trade organisations with no agreement about the question of what a fair price is. The issue is now receiving more attention in the fair trade movement.

We will first discuss the meaning of the word 'fair' and some underlying concepts concerning 'fair' prices. Basic to these concepts is the Universal Declaration of Human Rights, adopted in 1948 by the United Nations (UN).

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We will see how these fundamental human rights are put into practice by some VSS, notably Fairtrade International (FT) and Rainforest Alliance (RA).

Two other approaches are also discussed:

- the Living Income Reference Price Formula; and
- the Living Income/Fair Price Approach.

The Living Income/Fair Price method is further explained by means of a model showing how to calculate fair prices for a coffee producer using the Living Income/Fair Price methodology. Finally, some conclusions are drawn.

2 Defining what is 'fair'

There are a lot of possible ways to interpret 'fair'.[1] Should 'fair' prices and wages be paid because it is an economic or social necessity, a moral right or as an act of charity? Does the worker have a moral or economic 'right' to fair remuneration or is it something we grant him/her because of our 'goodness'? As we will see below, the answer to this question is important for 'fair' price calculations.

Debates on pricing usually revolve around market prices, which are determined by supply and demand. In conventional economic theory, the market price is the price at which the supply of and demand for a product reach equilibrium. In practice, however, market prices are determined by a wide range of other factors that have nothing to do with supply and demand. Indeed, market prices often diverge from equilibrium prices for several reasons:

- Some markets are imbalanced because they have only a single buyer or a few buyers.
- Markets may be dominated by a few large-scale producers.
- Prices can be distorted by subsidies, import/export restrictions and other government interventions.
- Demand from poorer consumers, who lack purchasing power, does not figure in the equilibrium-price calculation.

Considering these distortions in the market, more attention should be paid to an approach grounded in ethics and fairness.

The importance of the influence of prices on coffee producers can be illustrated by the number of people involved. Coffee is produced on approximately 12.5 million coffee farms. The structure and size of the farms varies by producer country. Almost 95% of coffee farms are smaller than 5 ha and 84% of all coffee farms are smaller than 2 ha. It is estimated that smallholder

1 For more details on how economists have looked at the concept 'fair', see Bronkhorst 2020, Annex I.

farms produce up to 73% of all coffee, with the remaining 27% produced by large coffee estates (Coffee Barometer, 2020). Assuming an average household consists of four people would suggest that some 50 million people are affected by coffee prices. This figure does not take into account all other people who are dependent on these households such as shopkeepers, suppliers, etc.

When talking about fair producer prices, we must distinguish between fair producer prices and fair consumer prices. A fair price to the producer basically means that he/she is not paid too little, while a fair price to the consumer means that he/she is not paying too much for an acceptable product. A fair price to the consumer is based on the consumer's willingness to pay which can be constrained by lack of monetary means. A fair consumer price implies the absence of excess profits in the chain, due to monopolies, oligopolies and other factors. A fair price to the consumer implies not that the lowest amount possible is paid, but that not too much or too little is paid. This means that a fair price to the consumer implies a fair price to the producer.

The following definition of a 'fair price' is the definition I use in my book *The Economics of Human Rights* (Bronkhorst, 2020):

> A **'fair' price** is the minimum price the producer should receive in order to cover all production costs (fixed and variable costs) and be able to pay Fair Wages to all his/her workers on this product and him/herself. It should also allow the producer to make necessary investments. In the case of coffee and other agricultural activities it should provide at least a 'Living Income' for the farmer.

A 'fair price' must include the payment of 'fair wages': wages sufficient to enable a worker on a coffee farm to have a decent life for himself and for his family. This includes food, shelter, education, health care, etc. Payment is on condition that a complete working week is spent on the product and that the product is considered useful. A common way to determine the usefulness of a product is through the demand for it.[2] Besides coverage of production costs, a reasonable profit must be part of the fair price. A reasonable profit is a profit that permits the firm to continue its operations and make the necessary investments to be able to continue in the future as well. This includes investment, e.g. needed to prepare for climate change impacts.

When fair prices are not paid, and income from coffee falls below a certain minimum, producers suffer and may be forced to switch to other sources of income. Figure 1 shows highly fluctuating international coffee prices during the period 1995–2020. Figure 1 shows that there are long periods during which coffee prices are very low, significantly reducing producers' incomes and pushing them into poverty.

2 Usefulness cannot be measured by demand alone though. There are many products that are in high demand (such as certain drugs) but that are harmful both to the user as well as to the general health system. Besides demand implies only demand by people with sufficient purchasing power. The demand of the poorest is not taken into account.

Figure 1 International coffee prices 1995–2020. Source: https://tradingeconomics.com/commodity/coffee.

When producer prices are too low, the impact is not just economical but social and environmental as well. Xavier (2020) has identified a number of sub-strategies that producers used to reduce costs when income is insufficient. Among these strategies are reducing operating expenses, reducing expenditure on land conservation (e.g. reducing use of fertilisers and maintenance work on plantations), reducing wages or numbers of workers employed, intensifying the use of household labour, including children, and reducing household expenses.

Producers are often small-scale farmers working on marginal lands, including steep slopes and degraded soils. If they cannot afford to maintain or improve soil health, the result is increased erosion, lower soil fertility and increased incidence of pests and diseases that make plantations less and less productive. If productivity drops too much, plantations may be given over to cattle grazing or abandoned altogether (Xavier 2020). In the case of Costa Rica, e.g. the drop in prices for coffee beans in the period 2000–2008 led to an abandonment of coffee production and a change to keeping livestock. Trees were cut down, there was overgrazing by livestock and the effect was deforestation and significant land degradation with serious consequences for the environment. We may conclude that a sufficient income for the farmer is necessary not only for his livelihood but also to enable him/her to make investments to protect land and the ecosystem services it delivers, change to more sustainable production methods and prepare for, and adapt to, climate change.

When talking about 'fair' prices to be paid to producers, it is important to recognise the work of the Max Havelaar Foundation and FT. The Max Havelaar Foundation was founded in 1988 in the Netherlands in response to the plea from Mexican coffee farmers that, rather than being given assistance, they would be better served by being paid a 'fair' coffee price. Max Havelaar is now part of FT which covers many regions and products beyond coffee. They have done an important job in making people think about fair prices and have put the subject in the spotlight. Other organisations such as UTZ and Rainforest Alliance (RA) (now merged into one organisation) also work for the benefit of the producers. However, only FT has, in coffee, developed a system focused specifically on providing the producer with a fair price. Defining and achieving 'fair' prices by organisations such as FT have continued to prove challenging through to the present.

It is important to keep in mind that, for developing countries, the concept of 'fair trade' can be seen as derived from the global North and imposed top-down on the global South instead of being developed bottom-up. The interpretation a coffee farmer in the South may have of a 'fair' price may be quite different from the idea of what is 'fair' developed in the North. It is often assumed that a deal between buyer and seller is fair when both parties agree, without considering the relative situation in which both parties operate. For the producer, it often is a case of 'take it or leave it', where the livelihood of his/her whole family is at stake, while the buyer can easily go to another producer to get the cheapest deal. Differences in access to information also play an important role in seller–buyer relationships. The relative bargaining power of buyer and seller can lead to very different so-called 'fair' agreements.

3 Defining 'fair' wages and incomes

There are lots of difficulties when trying to calculate a fair price. These include differences in price levels and living standards between different countries, differences in farm sizes and households, costs and profitability, etc. We will now discuss the approach to fair or reference prices developed by FT, as well as the 'Living Income Reference Price Formula' and the 'Living Income/Fair Price' methodology. We will start by discussing some underlying concepts for 'fair' prices.

Basic to our definition of 'fair' is the Universal Declaration of Human Rights adopted by the UN in 1948. Article 23 of the Universal Declaration of Human Rights states that:

> Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.

Article 25 states that:

> Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

These articles are on the basis of the sustainable development goals (SDGs) adopted in 2015 by the UN. Goals 1 'No Poverty' and 2 'Zero Hunger' are about ending poverty and hunger, as well as achieving food security. A further application to these principles is the development of a number of related concepts:

- poverty line,
- minimum wage,
- living wage (LW), and
- living income (LI).

We will first discuss these concepts and then their application to fair prices.

3.1 Poverty lines

There are several different definitions of poverty lines. The most common are the poverty lines calculated by the World Bank. These are based on the concept of 'purchasing power parity' (PPP). PPPs are based on the cost of purchasing a representative basket of goods, calculated in US$ to allow comparisons between countries. Examples are:

- International Extreme Poverty Line: US$1.90 PPP,
- Lower Middle Income Class Poverty Line: US$3.20 PPP, and
- Upper Middle Income Class Poverty Line: US$5.50 PPP.

PPPs have been criticised in various ways, e.g. by not taking into account the conditions facing groups such as the poorest or basing PPPs on unrepresentative selections of goods based on middle-class incomes. Another frequently used poverty line is the national poverty line. This is calculated by individual national governments so is not affected by problems associated with PPPs. A danger here is political interference; it may be in the interest of the government to define a high or a low poverty line to suit a particular political agenda.

3.2 Minimum wage

Minimum wages can be implemented in a single firm, a specific industry or at a national level by governments in the form of a legal minimum wage which firms must pay all employees. A legal minimum wage may be different for specific industries or regions. Like national poverty lines, setting minimum wages can be subject to political influence, e.g. the relative influence of interested parties such as employers, trade unions, etc., in setting a particular figure.

3.3 Living wage

The development of the concept of 'living wage' is quite recent. Although there is no international labour convention relating specifically to an LW (Vaughan-Whitehead), the International Labour Organisation (ILO) made a clear reference to it from 1919 in its constitution and has included an LW as a human right in several major ILO declarations (Anker, 2011). There is no universal agreement about ways of defining and calculating an LW. The most widely used definition is that agreed upon in 2013 by the Global Living Wage Coalition, consisting of FT, Forest Stewardship Council, GoodWeave, Sustainable Agriculture Network/RA, Social Accountability International and UTZ Certified. Their definition of an LW is:

> The 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. Elements of a decent standard of living include food, water, housing, education, health care, transport, clothing, and other essential needs including provision for unexpected events.
>
> *(Global Living Wage Coalition)*

This definition provides a foundation for the rest of this chapter.

The standard work on LWs by Richard and Martha Anker 'Living Wages Around the World: Manual for Measurement' (2017) says:

> Estimating a living wage begins by estimating the cost of a basic but decent lifestyle for a worker and his/her family. This involves adding up the cost of three expenditure groups: food (for a low-cost nutritious diet), housing (for basic healthy housing), and other essential expenses for a family, and then adding a small margin for sustainability and emergencies
>
> *(Anker and Anker, 2017).*

When this cost of a basic but decent life for a family is divided by the number of full-time workers per family, the outcome is the net living wage. Anker and Anker use labour force participation rates for persons aged 25–59 to estimate the number of full-time equivalent workers per couple (Anker and Anker, 2017).

In their approach, living costs are divided into three categories:

- food,
- housing, and
- other essential needs.

Food costs are estimated based on:

- a low-cost nutritious diet that meets World Health Organization recommendations for calories, macronutrients and micronutrients and is consistent with local food preferences and a country's development level, and
- local food prices for the types, qualities and quantities of foods that workers typically buy.

Housing costs are estimated using international (UN-HABITAT) and national standards for decency. The cost of other essential needs is estimated using an extrapolation method based on secondary household expenditure data. This is then 'post checked' to make sure that sufficient funds are included for needs such as health care, education and transportation. The Ankers approach is important because it has been accepted by major organisations organised in the global living wage coalition. It has therefore evolved into a de-facto standard.

3.4 Living income

The concept of an LW applies to paid workers only. For agriculturalists who work on their own account, earning a living by selling their produce on the open market or to customers such as large companies, another concept is needed. This new concept is 'Living Income (LI)'. A definition of LI by the Living Income Community of Practice (an alliance of organisations including FT and RA) is:

> A Living Income is 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 [3]

whereby:

- Net income = total income minus all costs, and
- Household is a group of people (often family) who form an economic unit (pooling income and other livelihood assets), often (but not always) living under the same roof or within the same compound.

3 https://www.living-income.com/.

Further important insights on decent work and income are provided by ILO and the Food and Agriculture Organisation of the United Nations (FAO). ILO defines decent work as follows:

> Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.

The FAO defines decent employment as:

> work that provides a living income and reasonable working conditions. Work should be remunerative and dignified. It should enable people–whether through self-employment or wage labour–to provide for themselves and their families. Workers should be able to perform their work under safe and healthy conditions and have a voice in the workplace.

The definition of LI used later in this chapter in discussing the Living Income/Fair Price methodology is an extension of this definition by Bronkhorst (2020). The extension implies adding to the calculation a percentage to enable additional investments to improve future yields. This percentage might be between 5% and 10%, depending on local circumstances. The reason for adding this percentage is that farmers in particular need more income to prepare for and adapt to challenges such as climate change and soil exhaustion. Extra funds may be essential to help them to prepare for the future and ensure sustainable production over the long term.

4 Voluntary Sustainability Standards relating to fair prices

After this explanation of different definitions, we will now discuss some approaches on how to calculate the fair prices needed to achieve LWs and LIs. The two major players in the field are FT and the RA (including UTZ which merged with the RA in 2018). The chapter will then discuss the 'Living Income Reference Price Formula' developed by Krain et al. and the 'Living Income/Fair Price' approach developed by Bronkhorst. Both RA and FT certification programs include requirements relating to the three pillars of sustainability: social, environmental and economic. However, each has a different approach to implementation.

4.1 Rainforest Alliance

Before its merge with RA, UTZ required a premium to be paid to producers. For every purchase of a UTZ product, the first buyer in the supply chain, normally a

trader, had to pay a cash premium on top of the market price to the producer or producer group they bought the product from. This was recorded in the UTZ traceability system.

The new 2020 Certification Program of The Rainforest Alliance came into force in July 2021. The new program includes 'critical criteria' in three areas: social, economic and environmental improvement. These requirements must be met by farms and supply chain actors in order to earn and maintain certification. Improving farmer livelihoods is seen as an important goal in a holistic approach to help farmers grow their businesses and become more profitable and resilient, e.g. through training in farm management, financial literacy and market access.[4]

Their new program requires buyers to pay a Sustainability Differential, a mandatory additional cash payment to certified farms over and above the market price. This payment is designed to be completely free of restrictions or requirements on how it is used. The amount of the Sustainability Differential is not fixed. The new program has also introduced a Sustainability Investment requirement for buyers, who must make cash or in-kind investments to farmers based on the needs identified in their certificate holders' own investment plans. Sustainability Differentials and Sustainability Investments must be reported in the RA system. It is important to note that the amount of the Sustainability Differential is not fixed for coffee. A minimum amount is set for cocoa but has not yet been set for coffee. There is also no fixed amount for Sustainability Investments.

4.2 Fairtrade International

FT's approach to minimum and premium pricing has changed over time. In 1988, a minimum price was based on the reference price used by the International Coffee Organisation (ICO) to stabilise coffee prices. The premium above the minimum price varied between 0% and 10%, depending on the market price. As an example, when the minimum price was US$115 cents per pound, there was a premium of 10% which increased the price to US$126 cents per pound (5% above the minimum ICO price). When the price rose to US$165 cents per pound, there was no additional premium.

In 1995, a fixed premium of US$5 cents per pound was established, calculated from the same minimum price of US$126 cents per pound. The reference point for the price was changed to free on board (FOB) which takes account of shipping costs. The Fairtrade Minimum Price (FMP or FTMP) serves as a safety net to protect producers in times of very low market prices. At that time, FLO (Fairtade Labelling Organisation International) had not yet

4 https://www.rainforest-alliance.org/faqs/difference-between-rainforest-alliance-certified-fair-trade.

determined how a 'living' wage should be calculated or implemented but was working on doing so.

Prices in 2011 were:

	Prices in USD cents/lb
FTMP Arabica washed	140
Fairtrade Premium	20 out of which at least 5 cents are to be invested in productivity and/or quality
Total Fairtrade price	160
Organic differential	30
Total Fairtrade organic price	190
FTMP Arabica natural	135

In 2018, a new document was published to replace previous guidance documents: 'Guidance Document for Fairtrade Coffee Pricing' (FLO, 2018).[5] This remains based on a price floor combined with a premium.[6] FT also supports fair pricing in other ways, e.g. encouraging long-term contracts for greater stability.

Setting an FMP is the outcome of two processes:

- First, information is collected from producers about their cost of production which provides the base for preparing a proposal for an FMP.
- Second, the outcome of research is shared with all stakeholders and a process of consultation is organised.

The FMP is the outcome of this process.

A point of departure in deciding an FMP is that hired workers have the right to an LW and self-employed farmers should be able to make an LI from their farming activities. Following this principle, a farm should be big enough to fully absorb the average household labour force to generate a LI. This would be considered a viable farm size or a 'full-employment farm size'.

The costs associated with producing sustainable yields are likely to be higher than current production costs, since many farms have low levels of investment and productivity. Costs of production are projected at the level of a sustainable yield. This calculation is based on fully employed non-remunerated household labour. Additional hired labour needs are factored in on the basis of an LW. Calculated in this way, the Fairtrade living income reference price (FLIRP) covers an LI for the household members (provided the available household labour is effectively employed on their farm) from the farm profits and an LW for hired workers.

5 https://files.fairtrade.net/standards/Guidance_Document_for_Fairtrade_Coffee_Pricing_2_0_EN_April_2018.pdf.
6 Source: www.fairtrade.net.

The Fairtrade price for green coffee is defined at FOB level. The Fairtrade price is the reference market price or the FMP, whichever is higher, plus the Fairtrade Premium of 20 cents/pound and the Fairtrade organic differential of 30 cents/pound (in the case of organic coffee). The reference market price is the sum of the terminal market price (ICE New York C contract for Arabica, ICE London RC contract for Robusta) in the relevant month, plus or minus the prevailing differential. A negative differential can never be applied to the FMP. The Fairtrade Premium and the Fairtrade organic differential are not subject to negotiation and are meant for the producer organisation only.

The **FMP** is the minimum that producers are paid when selling their products through FT. It aims to cover the average costs of sustainably producing a crop and acts as a safety net when market prices drop. Producers (cooperatives, not individual farmers) get the market price when this is higher and can also negotiate for more.

The **Fairtrade Premium** is an extra sum of money, paid on top of the selling price, that farmers or workers invest in projects of their choice.[7] The use of the Fairtrade Premium is restricted to investment in the producers' business, livelihood and community (for a small producer organisation or contract production set-up) or investment in improving the lives of workers and their community (for a hired labour situation). Its specific use is democratically decided by the producers.

Organic differential: for some certified organic products, a minimum organic differential is set. It is the lowest possible differential that producers must receive in addition to the FMP or market price, whichever is higher. If a premium is set for the conventional product variety, this premium also applies to the organic product, unless stated differently.

In the case of FT coffee, e.g. buyers pay the FMP or the market price, whichever is higher, and a premium for conventional coffee. For organic coffee, an organic differential needs to be paid on top of price and premium.

In addition to the FMP, a FLIRP has also been developed. This FLIRP indicates the price needed for an average farmer household with viable farm size and an adequate productivity level to make a LI from the sales of their crop. It is based on the following key parameters:

- cost of a decent standard of living (Living Income benchmark),
- sustainable yields (productivity benchmark),
- viable farm size (to fully employ the available household labour), and
- cost of sustainable production (in order to achieve above-mentioned yields).[8]

7 Source: https://www.fairtrade.net/standard.
8 Source: https://files.fairtrade.net/2019_FairtradeLivingIncomeReferencePrice_Model.pdf.

While the FMP is mandatory and part of FT certification standards, the FLIRP is a price indicator for partners who voluntarily want to go a step further in enabling LIs in their supply chains. The FMP is a safety net to ensure farmers do not go deeper into poverty, but it will not necessarily lift farmers out of poverty. The FLIRP concept has been developed to help achieve this more ambitious goal. Payment of a FLIRP is currently voluntary. The aim is to implement the FLIRP with willing partners and generate evidence of its effectiveness to move towards LIs.

As the previous discussion suggests, whilst beneficial, the FMP may only have a modest impact on already low incomes for coffee smallholders. Producers still face a range of costs such as sending children to school, paying for health services, etc. This means producers will still not earn the minimum income defined under the Universal Declaration of Human Rights.

In addition, the Fairtrade Premium is paid to the farmers' organisation, so the individual farmer cannot spend it the way he/she likes. Individual members jointly decide on the way the premium is spent in the general assembly of their organisation. They may decide to distribute (part of) the premium in cash to members directly, but it is often agreed to invest the premium in common goods or services or to address priority needs for the community as a whole. The individual farmer also has to contribute something to the group in order to receive these and other benefits of being in a cooperative (such as gains of scale, better access to markets and therefore higher prices).

The cooperative a farmer belongs to has to apply for FT certification which costs €565 per customer. On top of the application fee, a customer pays an annual fee. In the first year of certification, this fee starts at €1545 for the smallest possible small producer organisation (SPO, below 50 members) and €2940 for traders. This sum covers all costs, including the audit, for the first 12 months. The annual fee is lower in subsequent years, if the customer can be classified into a lower fee category, something that will be determined after the first audit. Examples of typical annual certification fees are small SPO (< 50 members): €1260 average SPO (~260 members): €2120 large SPO (> 500 members): €2595 .[9] A tool that calculates the cost of initial/annual Fairtrade certification can be found on: https://www.flocert.net/solutions/fairtrade/cost-calculator/. A detailed description of Fairtrade's Living Income Reference Price model for coffee applied to Colombia can be found at https://www.fairtrade.net/news/fairtrade-launches-its-first-living-income-reference-prices-for-colombian-coffee.

9 Source: mail correspondence with Flocert, the global certification body for FT

5 Other approaches: The Living Income (and Other Benchmarks) Reference Price Formula and the Living Income/Fair Price approach

Two different approaches that are not part of the 'Voluntary Sustainability Standards' should be mentioned as well. These are:

- the Living Income (and other benchmarks) Reference Price Formula (the 'Linnert Steffens' formula) developed by Krain et al. (2021), and
- the Living Income/Fair Price approach developed by Bronkhorst (2020).

These are discussed in the following sections.

5.1 The living income (and other benchmarks) reference price formula (the 'Linnert Steffens' formula)

This is a general method that allows the setting of prices against any benchmark including, e.g. poverty lines. The following formula is used (Krain et al. 2021):

$$BM_{rp} = \frac{\left(\frac{BM_w}{WD} * NoWDS\right) + CP}{Y}$$

where:

Variable	represents
BM_{rp}	a LI (or other benchmark) reference price in monetary value (e.g. a currency unit) for a particular crop per usual weight or volume unit (e.g. per kg, ton or litre) per unit area of production (e.g. per ha)
$\frac{BM_w}{WD}$	a benchmark 'wage' per workday
NoWDS	number of workdays needed to produce a certain yield per unit area.
CP	cost of production (input and service cost, but no labour cost) per unit area
Y	yield of the crop per unit area for which the benchmark reference price is calculated e.g. in kg.

Source: Krain et al. (2021)

In this approach, a reference price is calculated for two scenarios:

- 'current production',
- 'improved production'.

The current production scenario reflects the costs and incomes of the producer's existing situation and reference prices are calculated against this scenario. The 'improved production' scenario allows recalculation of reference prices based on raising productivity and income. For more details on this approach, see Krain et al. (2021) where a detailed description and calculation are given of its application to cocoa and cashew production in Ghana.

5.2 Living Income/Fair Price approach

Another approach that takes into account the actual conditions that a coffee grower faces is the Living Income/Fair Price approach. The definition used for living income is an extension of the definition by the Living Income Community of Practice:

> Living Income is 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. [10]

Although this is a good definition, an extension of the definition is needed for a farm household to improve its situation. This means that a percentage to enable additional investments to improve future yields must be added. This percentage might be between 5% and 10%, depending on local circumstances. The reason for adding this percentage is that farmers in particular need additional income to develop improved production methods to meet such challenges as climate change and soil exhaustion. Extra funds for investment help them to prepare for a more sustainable and secure future.

The LI of the farmer must include 'Fair or Living Wages' for all workers involved, both hired labour and family labour, as well as funds for additional investments. The payment should be based on full employment by the household in coffee production, and the product should be one that is useful (i.e. for which there is a reasonable demand). Because of the assumption of full employment in coffee production, it is not necessary to separately calculate the number of hours spent on each crop. Equally important is that the concept of a LI considers the local context in defining a decent standard of living.

To calculate fair prices, a number of steps have to be taken.

- First, living wages must be calculated:[11]
  - This means that the average family size must be known: adults, children and people above the age of 60.

10 https://www.living-income.com/.
11 For a detailed methodology on how to calculate LWs according to the Anker methodology, see Anker, Richard and Anker, Martha, Living Wages Around the World, Edward Elgar 2017.

- The total expenses of the household during the year on food, housing and other essential needs to ensure a basic but decent life must be calculated.
- To this amount of total expenses, 5–10% (depending on region, cultural values, etc.) must be added for additional, and often unforeseen, expenses.
- The average number of adult earners per household must be known.
- Number of working days per year must be calculated = calendar days – Sundays – festivals – social obligations – emergencies – sick days.
- In the case of agriculture, attention must be paid to the fact that working hours are not equally divided over the year; there are peak and slack periods.

From this, the LW per adult earning family member per working day can be calculated:

$$\text{LW per person(pp) per year} = \text{family income needed to be divided by number of adult income earners.}$$

$$\text{LW pp per day} = \text{LW per year divided by number of working days.}$$

This is shown in Fig. 2.

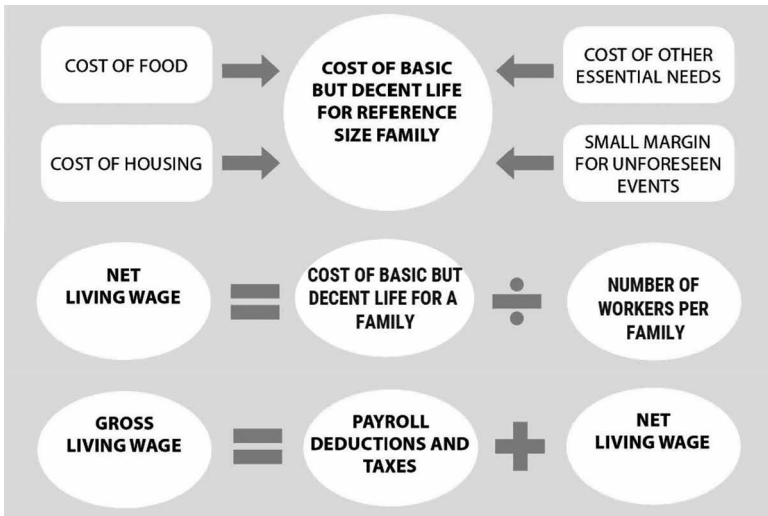

Figure 2 Methodology for estimation of living wage. Source: https://www.globallivingwage.org/about/anker-methodology/.

Based on those calculations, the level of fair wages for labourers can be calculated, in consultation with representatives of the workers themselves, as recommended by Vaughan-Whitehead. These benchmarks for LWs, as well as any legal minimum wage levels established by governments, provide an absolute minimum below which fair wages cannot fall. It is important to be aware that, for the producer to be able to pay fair wages, the LW must be known, there must be an effective demand for the product and the consumer must have the financial resources needed to purchase the product at a price that can fund fair wages. LWs have now been calculated for many countries and regions and can be used. Calculated LWs can be found at https://www.globallivingwage.org/, https://wageindicator.org/ and https://align-tool.com/.

When the LW is known, the LI can be calculated. LI/year = (number of adult earners × LW) × 1.1, whereby 1.1 is an additional 10% for investment costs. This percentage can be adapted to a specific situation. A higher percentage can be used to enable the farmer to invest in items like better seeds and better equipment. Additional investments needed to adopt more sustainable methods of production may necessitate a higher percentage.

When LWs and LI are known, several other data have to be collected as well:

- A typical smallholder farm size must be determined. Which farm size is chosen depends on the chosen target group: marginal farmers or small farmers, fertility of the soil, mode of production, distance to the market, etc.
- Production costs must be known for all products, including investment costs and depreciation. These costs may differ even for one crop, depending on method of cultivation, e.g. use of manual labour or tractors and other machinery, with or without fertiliser and/or improved seeds, etc. Also included in production costs are rent payments to a landowner or allowance for sharecropping where part of the produce is taken by the landowner *in lieu* of rent. These costs can be considerable.
- For fixed investment costs that must be made once in a couple of years, the level of depreciation can be used in the calculations. This also applies to livestock that provides returns (e.g. milk) over a certain period, after which they are slaughtered or sold. In this case, the whole productive life of the animal must be considered with costs and revenues spread over this period.
- Production per hectare must be known for each type of cultivation method, e.g. with/without fertiliser and/or improved seeds. The use of machinery can make a large difference to productivity.
- Additional income must be known, both from agricultural and from non-agricultural sources.

These data are necessary to calculate fair prices.

5.2 Fair price

The minimum price the producer should receive in order to attain a LI is called the 'fair' price. In this context, 'fair' does not imply that a higher price cannot be more beneficial, but that any price below this fair price is not sufficient, making this the absolute minimum price the producer must receive. As mentioned before, 'fair' can be interpreted in different ways. 'Fair' here is derived from the 'Universal Human Rights', adopted by the UN in 1948, and in particular, Articles 23 and 25 (see earlier). We can see the concepts of LW and LI as a way of fulfilling these human rights. On this basis, we use them here as a minimum basis for the calculation of fair prices.

This price is based on the assumption of full employment working on the specific crop. When we know the average or mean size of the farm plots needed for full employment, all production costs and the LI, we can calculate the fair price for a specific crop. A fair price for coffee can be calculated using the following formula:

$$\text{Fair Price} = \frac{\left(\text{Total cost involved in coffee production} + \text{Living income} - \text{Additional income}\right)}{\text{Coffee production}}$$

Additional income means all income from other sources, such as other crops, work as a labourer, etc. Because production costs are different in each situation, there is also a different 'fair' price in each case. This means that there is a different fair price for each type of production. For policy reasons, it is advisable to agree on a typical smallholder cost structure on which to base calculations.

When there is a gap between income needed and actual income, the underlying reasons should be analysed. If a full-time working farmer does not receive the income for his/her crops that he/she needs for a 'decent life', this is a reason to further analyse the pricing system in the production chain that the farmer depends upon.

5.3 Living Income/Fair Price Calculation model

Since 95% of the coffee farms are smaller than 5 ha, and 84% of all coffee farms are smaller than 2 ha, we will look at the example of a coffee farm of 2 ha. What can be considered a 'fair' price to the producer?

First, we will have to find out the average size of the family and how many full-time workers there are in the family. It can be assumed e.g. that a working adult works 250 days per year (calendar days − Sundays or any other weekly holiday, such as Friday or Saturday − festivals – social obligations – emergencies − sick days). The total number of working days for a household

per year can then be calculated (number of adult workers × number of working days).[12]

Where LWs for the area have already been calculated, the LI can be calculated '(LW/month × number of adult workers × 12) + 10%)'. In the case of LWs, we must differentiate between the net LW that the worker receives, and the gross LW the employer has to pay. The amount of the net LW is used to assess workers' income. The gross LW is used for the costs of hired labour paid by the employer which are included in the production costs.

Yield and production cost per hectare may be known or must be investigated. We must multiply by two to determine the yield and costs for an area of 2 ha. The average farm for which we want to calculate the fair price for coffee must be carefully chosen. There may be great differences in production costs per hectare for small and large farms. Whilst a 'fair' price for coffee will be calculated, the farmer often also grows secondary crops. When no fair prices are known for these secondary crops, they may be valued at opportunity costs.[13] Home-grown food that is consumed by the family may also be valued as an opportunity cost.

We assume that there is full employment on the farm. In terms of the price calculation, this implies that the revenues should equal the total production costs + LI. The calculation of a fair price is shown below:

Living Income/Fair Price Calculation model of coffee

Average number of adult earners per household	to be determined
LW pp/year (per earning adult)	amount
Total working days/year (calendar days – weekly holidays – festivals – social obligations – emergencies– sick days)	number of days
LW per adult earning family member per working day	amount
(LW pp × number of adult earners) / working days	
Size of the farm in ha	to be determined
Living income per year	to be determined
Production in kg	to be determined
Production costs	to be determined

12 It is not possible to give a uniform number of days since much depends on cultural values, climatic circumstances, etc.

13 Opportunity cost: the value of that which must be given up to acquire or achieve something (*Penguin Dictionary of Economics*).

Revenue other products	***product A***	***product B***	***other***	total
	to be determined	idem	idem	amount
Production costs other products	***product A***	***product B***	***other***	total
	to be determined	idem	idem	amount
Additional income (revenue – costs)	***product A***	***product B***	***other***	total
	amount	idem	idem	idem

$$\text{Fair price per kg} = \frac{(\text{Total cost involved in coffee production} + \text{Living income} - \text{Additional income})}{\text{Coffee production in kg}}$$

We can also calculate what the area of coffee plantation should be to obtain a LI with actual prices. This calculation is made assuming that the family can work full-time on coffee, without having to employ other labour. When additional labour is required, this must be calculated at gross LWs. The base of the calculations is:

$$\text{price}(p) \times \text{quantity}(q) \text{must equal living income} + \text{total costs}.$$

In making these calculations, we face the problem that costs can change by area, even if the production method does not change. In addition, when prices change, the quantity to produce (q) changes, together with the costs to produce the required quantity, so careful calculation is necessary.

The required size of the landholding does not only depend on price; production costs are very important as well. Economies of scale in the case of larger or smaller landholdings will change the proportion of production costs. When we know production costs, LI and price, the size of the landholding can be calculated. On the other hand, if the size of the landholding is known and the associated production costs are also known, fair prices for this landholding can be calculated, assuming that the landholding has full employment.

After calculation of a 'fair' price, the next step is to compare the fair price with the actual price the producer receives. When there is a gap between these two, the underlying reasons for the gap should be analysed. Are there blockages in the supply chain such that monopolistic or oligopolistic players are able to secure higher profits than other actors in the chain (such as roasters, importers, traders and retailers),[14] a lack of cooperation among producers to improve their bargaining power etc.? Where this is the case, who should take responsibility for tackling these issues (governments, companies, international organisations,

14 An example of how different ways of calculation have different results on final consumer prices is given in Bronkhorst (2020) Table 8.1.

NGO's, cooperatives of coffee producers, labour unions)? A fair price does not appear as by magic but requires a lot of effort to change existing structures.

6 Conclusion

An important aspect of fair trade should be the price that is paid to the producer. To allow the farmer to lead a decent life and to pay for additional investments to cope with factors like changing to more sustainable production methods and adjusting to climate change, the price the farmer receives for his/her products should be a 'fair' price. To define 'fair', we have taken the Universal Declaration of Human Rights as a base. Application of these basic human rights leads to the concepts of an LW and LI that are used to define fair prices. A 'fair' price for the producer can be defined as the price for a product that includes all production costs and at least a 'Living Income' for the farmer and 'fair wages' for all workers involved, plus a small percentage for necessary investments.

Payment of fair prices is such an important aspect of fair trade that we have taken a closer look at its application in this chapter. This has been done by discussing the approaches taken by FT, RA, the 'Living Income Reference Price Formula' and the 'Living Income/Fair Price' approach.

RA and FT have their own reasons to base their policies on more than fair prices. RA sees their approach as holistic and focuses on helping farmers grow their businesses and become more profitable and resilient through training in farm management, financial literacy and market access. The mission of FT is to connect disadvantaged producers and consumers, promote fairer trading conditions and empower producers to combat poverty, strengthen their market position and take more control over their lives.

Both FT and RA are working hard to achieve LIs for farmers. They must be credited for the fact that they function as guides for other organisations and have put the position of the farmer on the agenda. The two organisations have a leading role within the group of major VSS organisations.

The approach of FT to fair prices is very promising and their approach to calculate fair prices could serve as an example for other organisations. However, it is possible to criticise FT approach:

- The producer is faced with too low an income now. Supporting a better income in the future is good, but producers face immediate costs such as sending their children to school, paying for healthcare services and all kinds of other bills. FT approach is not yet sufficient for the producer to earn the income that he/she is entitled to on the basis of the Universal Declaration of Human Rights.
- FT should take into consideration that the cost of sustainable production is not the same as current costs faced by the producer. First, the farmer

needs the resources to achieve truly sustainable production. That means that calculations with more realistic costs are required, as in the living income/fair price approach.
- The Fairtrade premium is paid to the farmers' organisation, so the individual farmer cannot spend it the way he/she likes.
- The application fee for the Fairtrade certification and the annual fee make production costs even higher. It would seem more reasonable for these costs to be paid by the customer instead of by the producer.

In the case of the RA, the amount of the Sustainability Differential is not fixed. This makes it very difficult to assess the final income of the producer and therefore impossible to see whether the amount is sufficient. An advantage of the RA approach is the fact that the farmers can use the Sustainability Differential as they wish.

The price the farmer receives for his/her products should be a 'fair' price. Trade conditions, support to farmers, subsidies on inputs, better access to markets and other support measures help to lower production costs, but when the prices paid for their products are not sufficient, this does not solve the basic problem for farmers and workers of too low an income. Whatever other support coffee farmers may receive, the bottom line is what they gain with their work.

Important work on LI reference prices has been done by GIZ (Krain et al. (discussed earlier). This methodology has the advantage that it is a general method that allows the setting of prices against any benchmark including, e.g. poverty lines. Both current and improved farming practices can also be taken into account.

The chapter has also discussed the Living Income/Fair Price method in detail. It presents an approach to calculate fair prices based on the real conditions the farmer finds him/herself in. Rather than theoretical or optimal yields, this method accounts for actual yields on the ground.

From these calculations, conclusions can be drawn about whether prices should be raised or not. If this appears to be necessary, these calculations can provide a guide on what amount prices should be raised to. When fair prices are paid, this will have effects on a whole society. Income of both farmers and workers will rise, leading to more purchasing power in the rural areas. Because of multiplier effects, this will lead to more economic activity in the coffee-producing regions.

Fair prices should not be limited to VSS only. Governments and companies also have a role to play. Much can be learnt from the ongoing introduction of the Living Income Differential (LID) in cocoa. This LID was introduced in 2019 by the governments of Ghana and Cote d'Ivoire, to apply a premium on the export price of cocoa from the 2020/21 crop. This additional revenue was intended to increase the incomes of farming families to help them achieve a LI. A negative effect is that more cocoa is sold on the future market so that companies can

avoid direct purchase. However, it will be interesting to follow the development of this project and see if, and if so how, this model can be applied to coffee as well. This means that responsibility for fair prices will be down to not VSS alone but also governments and companies.

It should be kept in mind, however, that payment of fair prices to producers will only achieve its goal of economic and social development when workers are paid fair wages. If not, the money will remain with the (large) producers, both within and outside the country of production, and not help the poorer segments of the population.

7 Abbreviations

FAO	Food and Agriculture Organization of the United Nations
FLIRP	Fairtrade Living Income Reference Price
FLO	Fairtade Labelling Organisation International
FMP	Fairtrade Minimum Price
FT	Fairtrade International
FOB	Free on Board
GIZ	German Agency for International Cooperation
ILO	International Labour Organization
LI	Living Income
LW	Living Wage
NGO	Nongovernmental Organisation
PPP	Purchasing Power Parity
RA	Rainforest Alliance
SDG's	Sustainable Development Goals
SPO	Small Producer Organisation
UN	United Nations
VSS	Voluntary Sustainability Standards
WB	World Bank
WHO	World Health Organization

8 Where to look for further information

A book on Fair Prices is Bronkhorst, Ruud: *The Economics of Human Rights: Using the Living Income/Fair Price Approach to Combat Poverty*, Palgrave Macmillan, 2020. In this book, the Living Income/Fair Price Approach is analysed, and Living Income Reference Prices and the effects of the payment of living wages, income and fair prices on producers, labour, economy and environment are discussed. The book starts with history of the concept 'fair'.

On the subject of Living Wages, the standard work of Richard and Martha Anker is recommended: *Living Wages Around the World: Manual for Measurement*, Edward Elgar, 2017.

The *Global Living Wage Coalition* is engaged in both research and action on living wage, with the ambition of ensuring achieving a living wage for all.

Calculations of Living Wages can be found on their website https://www.globallivingwage.org/.

Calculations of Living Wages and minimum wages can also be found at the website of *WageIndicator.org*: https://wageindicator.org/.

The goal of the *Living Income Community of Practice* is to support activities focused on improving smallholder incomes towards living incomes, aiming to enable smallholder farmers to achieve a decent standard of living. Living Income calculations for selected areas can be found at their website https://www.living-income.com/.

InfoBridge Foundation (https://infobridge.org/) is developing a pilot training project on Fair Prices for agricultural researchers, practitioners and policy makers in developing countries.

9 References

Anker, R. (2011). *Estimating a Living Wage*. International Labour Organization.

Anker, R. and Anker, M. (2017). *Living Wages Around the World: Manual for Measurement.* Edward Elgar Publishing.

Bronkhorst, R. (2020). *The Economics of Human Rights: Using the Living Income/Fair Price Approach to Combat Poverty.* Palgrave Macmillan.

Coffee Barometer. 2020 https://coffeebarometer.org/.

FLO. Available at: https://www.fairtrade.net/.

FLO (2018). Available at: https://files.fairtrade.net/standards/Guidance_Document_for_Fairtrade_Coffee_Pricing_2_0_EN_April_2018.pdf.

FLO. Available at: https://files.fairtrade.net/Fairtrade_Minimum_Price_and_Premium_Table_EN_PUBLIC.pdf.

FLO. Available at: https://files.fairtrade.net/2019_FairtradeLivingIncomeReferencePrice_Model.pdf.

FLO. Available at: https://www.fairtrade.net/news/fairtrade-launches-its-first-living-income-reference-prices-for-colombian-coffee.

Global Living Wage Coalition. Available at: https://www.globallivingwage.org/.

Krain, E., Gyimah, J. O., Pumpuni, I., Kwapong-Akuffo, N. Y. and Kuntze-Fechner, M. (2021). *Analysis and Report of a Baseline Study for a Living Income (and Other Benchmarks) in Cashew- and Cocoa-Growing Regions of Ghana*. GIZ.

Panhuysen, S. and Pierrot, J. *Coffee Barometer 2020*.

Rainforest Alliance. Available at: https://www.rainforest-alliance.org/faqs/difference-between-rainforest-alliance-certified-fair-trade.

UN. 'Universal Declaration of Human Rights'. Available at: http://www.un.org/en/universal-declaration-human-rights/.

UN Sustainable Development Goals. Available at: http://www.un.org/sustainabledevelopment/hunger/.

Vaughan-Whitehead, D. (2010). 'Fair Wages'. *Edward Elgar World Bank*. Available at: http://povertydata.worldbank.org/poverty/home/World Bank.

Xavier, V. A. (2020). *True Price as Condition of Sustainability: The Global Coffee Crisis (1999–2003) and the Brazilian Amazon as Case Studies.* Campinas.