Fairtrade Living Income Reference Price for Coconut from Sri Lanka

explanatory note

Introduction

This document explains the figures and validation process behind the Fairtrade Living Income Reference Price for coconuts from Sri Lanka. 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 the mix of interventions to enable living incomes, and they inform price setting mechanisms for Fairtrade and other actors committed to sustainable trade.

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

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, full-time farmers 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 can be calculated with the following equation:

$$\text{Living Income Reference Price} = \frac{\text{cost of decent living} + \text{cost of sustainable production}}{\text{viable land area} \times \text{sustainable yields}}$$

Photo: coconut farmer Mr. Karunarathne - courtesy of Fairtrade Original, the Netherlands

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Establishing Living Income Reference Prices

In collaboration with coconut milk importer Fairtrade Original and ETC Lanka, Fairtrade collected and analyzed farm economic data from coconut producers in 2022, as a basis for calculating a Living Income Reference Price for coconuts from Sri Lanka.

A technical committee comprised of experts from the National Coconut Research Institute and the Coconut Cultivation Board in Sri Lanka was set up to provide guidance on defining a sustainable production model and identifying the required practices to implement this.

Baseline data for coconut production were collected from a sample of approximately 300 farmers from 10 producer organizations across the coconut triangle (Puttalam, Kurunegala and Gampaha districts) as well as Matara and Hambatota districts in the south, including 10% of non-Fairtrade farmers, and covering the main coconut-growing regions in Sri Lanka.

in November 2022, a stakeholder validation workshop was held with producer representatives and the technical committee to review the baseline results, ground these with local knowledge and expertise and agree on realistic target values for each of the variables in the price model.

Based on these variables, a Fairtrade Living Income Reference Price for coconut from Sri Lanka was 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.

Our baseline data show a typical coconut farmer family to be composed of four members, with two working age adults and two children.

The living income for a four-member family in Sri Lanka was estimated based on a comparative analysis of several calculations of the costs of decent living in the country, including a study by the Global Living Wage Coalition (GLWC) on tea estates, recent research in coconut growing areas by an independent consultant, Dr. H. Hänke, and the costs of decent living for rural Sri Lanka published by WageIndicator. The respective benchmarks were updated to September 2022 applying official inflation rates, and an overview is shown in the table.

Living income benchmark	GLWC	Hanke	Wage Indicator	agreed
region / product	tea estates	coconut	rural	coconut
household size	**4.5**	**4.8**	**4.1**	**4**
# working age adults in hh	2	2.8	2	2
monthly cost of decent living				
food costs	39,176	43,825	42,028	42,000
housing costs	10,775	16,284	37,193	20,000
non-food non-housing	19,095	42,485	13,018	38,000
provision (5%)	3,452	5,126	4,612	5,000
total per household per month	**72,498**	**107,720**	**96,851**	**105,000**
yearly costs of decent living	869,978	1,292,644	1,162,206	1,260,000
cost of decent living (pppd)	**530**	**730**	**777**	**863**

Table 1: Comparative analysis of living income benchmark calculations for Sri Lanka, updated to September 2022

The study by Hänke was commissioned as part of an initial scoping of the project, since the benchmark established for tea estates was not applicable in the coconut context. As a third reference, WageIndicator benchmarks have been assessed to sense-check the cost items.

Each cost item of the living income benchmark was discussed in the validation workshop, based on the various study results and particularly taking into account the coconut research. For the food costs, similar values were found by Hänke and WageIndicator and a monthly amount of 42,000 rupees per family was agreed.

Housing costs on tea estates were not considered representative for small-scale farmers. The cost of decent rural housing calculated by Hänke was therefore deemed more realistic, but was adjusted upward to 20,000 rupees per month in the workshop, considering the much higher WageIndicator value.

The costs for other essential needs for a family were further analysed and estimated at 38,000 rupees per month, especially because of the current high transport costs. The usual 5% was added as a provision for unexpected events.

This resulted in an applicable **living income benchmark of 1.26 million rupees per year** for a four-member household, or a daily cost of living of 863 rupees per person.

Farmers in Sri Lanka typically use some of their coconut produce for domestic consumption and might grow a variety of spices and fruits in between their coconut trees. The average value of food produced for own consumption in the baseline was 90,000 rupees throughout the year, which can be considered as an in-kind income and deducted from the cost of food.

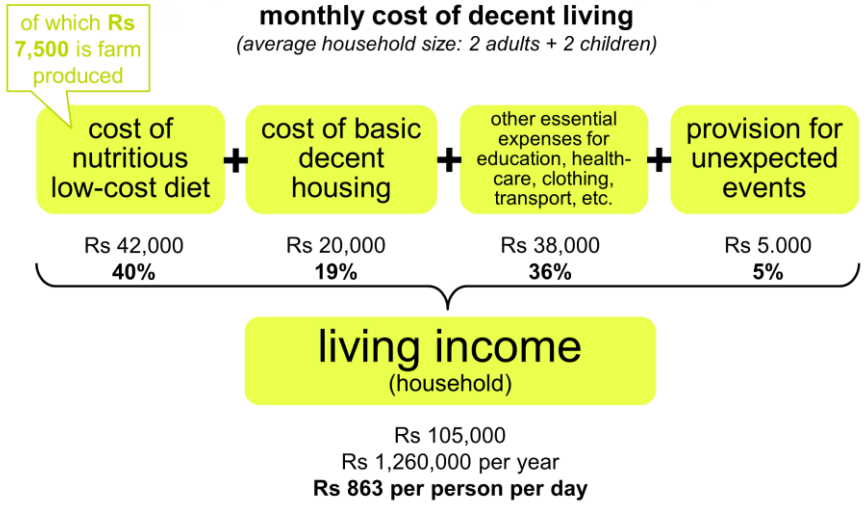


Figure 1: Approximation of the cost of decent living for a four-member rural household in Sri Lanka

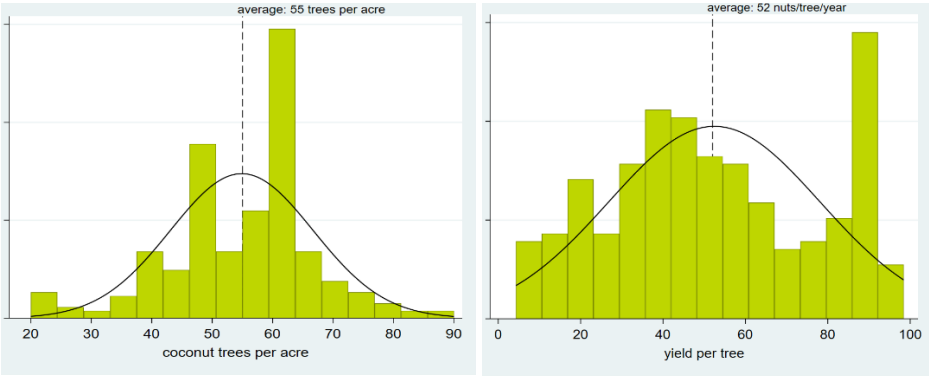
The **living wage** for hired labour on coconut farms is derived from the living income benchmark by dividing the yearly cost of decent living by the number of full-time equivalent workers in a rural family. Assuming the equivalent of 1.5 full-time workers (this is 75% of the working-age adults in the average household) and 246 working days per year, the daily living wage is estimated at 1,260,000 / 369, rounded to **3,415 rupees.**

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. In Sri Lanka, organic practices are predominant on coconut farms.

A key factor affecting productivity is the tree density. Coconut trees are either grown as a single crop or can be intercropped with other produce. For the price discovery we focused on farmers who depend primarily on coconut production for their family income and grow coconut as a monocrop.

The technical committee had previously recommended an optimal density of 64 trees per acre. Trees are harvested six times per year and each tree can yield 10-15 nuts per harvest. Baseline results show a wide variety of densities in practice, with an average of 55 trees per acre. The yield per tree also ranges from as little as 10 to a 100 nuts per year, averaging 52.



Figures 2 and 3: Distribution of tree density and yield per tree in the baseline

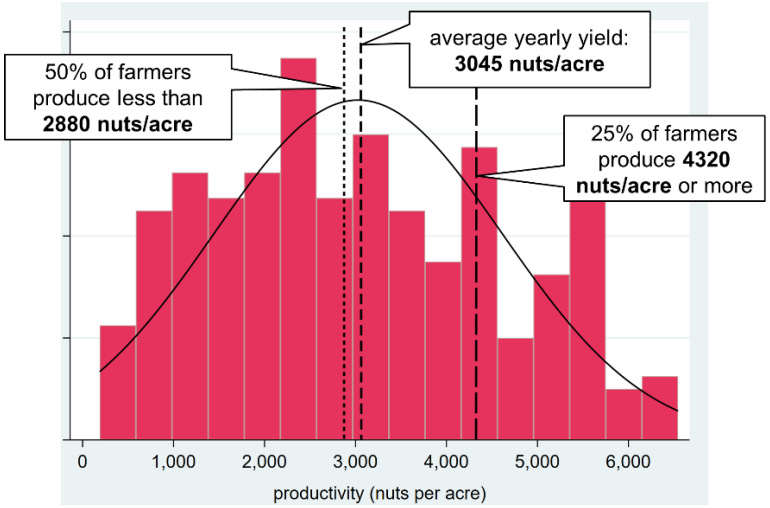


Figure 4: Distribution of yearly productivity per acre in the baseline

The maximum yearly production per acre according to the technical experts would be 64 trees x 15 nuts per tree x 6 harvests or 5,760 nuts per acre. However, the baseline shows an average productivity of 3,045 nuts and only a quarter of the farmers achieved yields of 4,320 nuts or more per acre.

A realistic sustainable target yield was discussed in the validation workshop and was agreed at (64 x 10 x 6) 3,840 nuts per acre.

Variable 3: Viable farm size

In accordance with the universal right to remuneration for work that provides a decent living[1], 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'.

[1]*Universal Declaration of Human Rights, article 23.3: "Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity."*

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 coconut area is calculated by dividing the available adult household labour force by the time household members spend working on an acre of land. For this exercise all activities in coconut farming were listed and the number of working days required per acre for each activity were defined. Subsequently, labour days were allocated to household members or hired workers, in a scenario in which the deployment of household labour is maximized and only external labour is hired after the household labour force is fully occupied.

	labour needs x acre		
activity	# days	# days hh labour	# days hired labour
fertilization *(fertilizer application; bio-dynamic practices)*	7.5	5.5	2
soil conservation *(clearing drains; terracing; cutting trenches)*	12.5	10.5	2
irrigation *(watering; mulching; planting cover-crops)*	8	6	2
weeding *(mechanical weed control)*	5	4	1
pest & disease control	5	5	0
(re)planting *(planting; renovation; intercropping)*	5	4	1
harvest *(tree climbing; pole harvesting)*	18	6	12
post harvest *(piling; husking)*	6	6	0
maintenance *(fencing; other)*	3	3	0
admin & others *(eg. delivery nuts to buyer)*	24	24	0
total # man-days	**94**	**74**	**20**
% non-harvest labour	100%	91%	9%
% harvest labour	100%	33%	67%
% total labour	100%	79%	21%
viable farm size (acre)		**5.0**	

Table 2: Overview of activities required to implement sustainable coconut production practices, the distribution of labour and resulting full-employment coconut area.

With two working-age adults in the household, the equivalent of 1.5 full-time workers multiplied by 246 working days a year for a total of 369 labour days is taken as the available household labour force. Family members can take care of most of the farming activities, except for the harvest, which in mainly done by hired labour. With maximum usage of their own labour, family members would have 74 workdays per acre. Hence, to fully absorb the available household labour, **a coconut area of (369 / 74) 5 acres would be required**. This is considered a viable farm size.

Variable 4: Cost of sustainable production

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

Baseline data of the actual farm investments in coconut production were analyzed, and average costs were compared to those of farmers who have yields of over 3,800 nuts per acre.

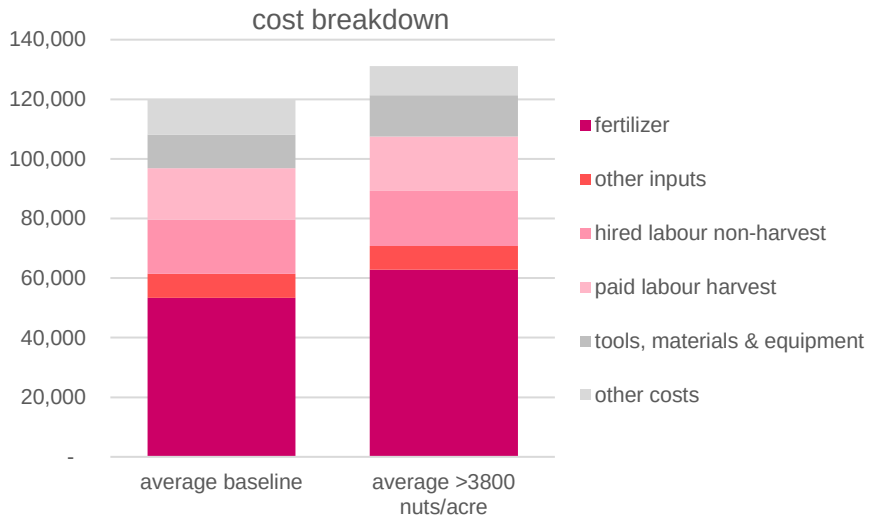


Figure 5: Average production cost breakdown per acre of baseline sample and of best performing farmers in baseline

During the workshop the required agricultural inputs and other production costs incurred for implementing sustainable agricultural practices in coconut production were further discussed. Table 3 provides an overview of the agreed costs of sustainable production per acre.

cost of sustainable production			
required practice	agri inputs (Rs/acre)	other costs (Rs/acre)	hired labour costs (Rs/acre)
fertilization	66,000	5,500	6,830
soil conservation	6,000		6,830
irrigation		2,500	6,830
weeding	6,000		3,415
pest & disease control	3,125		
(re)planting	1,750		3,415
harvest			40,980
post-harvest		1,000	
maintenance	2,000		
admin & misc		1,000	
total cost x acre	**84,875**	**10,000**	**68,300**

Table 3: Overview of sustainable production costs to produce 3,840 coconuts per acre

The main input cost for coconut production is fertilizer at 66,000 rupees per acre. Additional costs include inputs for soil conservation, weed and pest control, for a total of 84,875 rupees per acre. Costs of transportation, tools and materials sum up another 10,000 rupees per acre.

A total of 20 hired labour days per acre are required besides the household labour (see section on viable farm size). Paid at a living wage of 3,415 rupees per day, the labour costs amount to 68,300 rupees per acre.

The total cost of sustainable production is established at 163,175 rupees per acre. For a viable coconut area of 5 acres, the total cost of production would be 815,875 rupees.

Living Income Reference Price modelling

With the variables defined in the previous chapters, Living Income Reference Prices at farm gate were modelled for coconuts from Sri Lanka.

The following table summarizes the agreed key parameter values of the price model and the respective Living Income Reference Prices with varying levels of income dependency on coconuts. Three scenarios were compared:

i. 100% income dependency on coconut and a viable farm size of 5 acres
ii. 100% of financial income dependent on coconut, but producing part (18%) of the household's dietary needs on farm
iii. 75% income dependency on coconut and a smaller coconut area, occupying the labour availability of one household member.

scenario		i	ii	iii
food needs farm-grown		n/a	18%	n/a
household income from coconut		100%	100%	75%
(A) viable coconut area	acre	**5**	**4.6**	**3.8**
(B) sustainable yields	nuts/acre	**3840**	**3840**	**3840**
fertilizer package	Rs/acre	66,000	66,000	66,000
costs other agricultural inputs	Rs/acre	18,875	18,875	18,875
hired labour cost non-harvest	Rs/acre	27,320	27,320	27,320
harvest labour cost	Rs/acre	40,980	40,980	40,980
other costs	Rs/acre	10,000	10,000	10,000
total variable costs x acre	Rs/acre	163,175	163,175	163,175
(C) cost of sust production	Rs	**815,875**	**750,605**	**620,065**
value of farm-grown food	Rs	-	90,000	-
(D) living income	Rs	**1,260,000**	**1,170,000**	**945,000**
(C+D/AxB) **LIRP**	Rs/nut	**108**	**109**	**107**

Table 4: Living Income Reference Price modelling for coconuts with varying crop areas and respective percentage of living income to be generated from coconut sales. The hired labour costs are factored in at Rs 3,415 per day.

The resulting reference prices for each scenario are very similar. This gives a good level of confidence that the price discovery model works for different producer realities.

Based on the previously agreed viable farm size of 5 acres, the **Fairtrade Living Income Reference Price for coconuts from Sri Lanka is established at 108 rupees per nut** (US$ 0.29) 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.

Coconuts are often processed into coconut butter, milk and other products at origin before being exported. Therefore the price of the processed coconut products still needs to be calculated based on the Living Income Reference Price for the raw coconuts at farmgate level. Corresponding export prices will depend on the specific product, the processing costs and the operational costs incurred by the producer organization.

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.

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 achieving living incomes.