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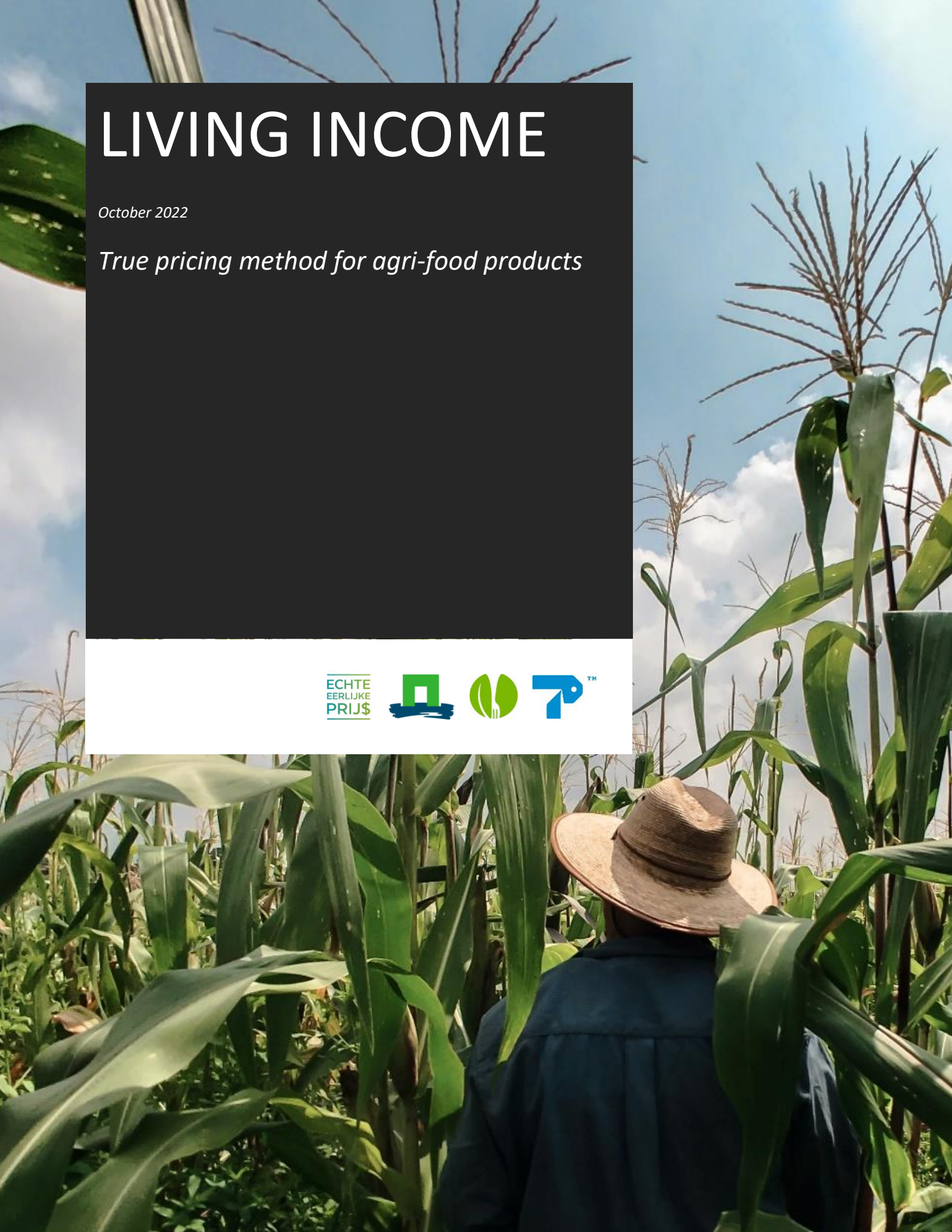
October 2022

True pricing method for agri-food products

Living income

Impact-specific module for true price assessment

True pricing method for agri-food products

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Relation to other components of the true price methodology for agri-food products

*This **Living income – Impact-specific module for true price assessment** was developed by True Price and Wageningen Economic Research within the PPS True and Fair Price for Sustainable Products.*

This document contains the key methodological aspects to measure and value one social impact of agri-food products and value chains: insufficient income, defined as an income below the living income.

*This impact-specific module is complemented by four **Social and human capital modules** and five **Natural capital modules**. The other social capital modules, developed within this project, are: 1) Occupational health and safety; 2) Animal welfare; 3) Consumer health; 4) Child labour. These impact-specific modules are preceded by the **Valuation framework for true pricing of agri-food products** (Galgani et al., 2021a), which contains the theoretical framework, normative foundations and valuation guidelines, and the **Assessment Method for True Pricing of Agri-Food products**, which contains modelling guidance and requirements for scoping, data and reporting (Figure 1).*

Together, these documents present a method that can be used for true pricing of agri-food products, and potentially other products as well.

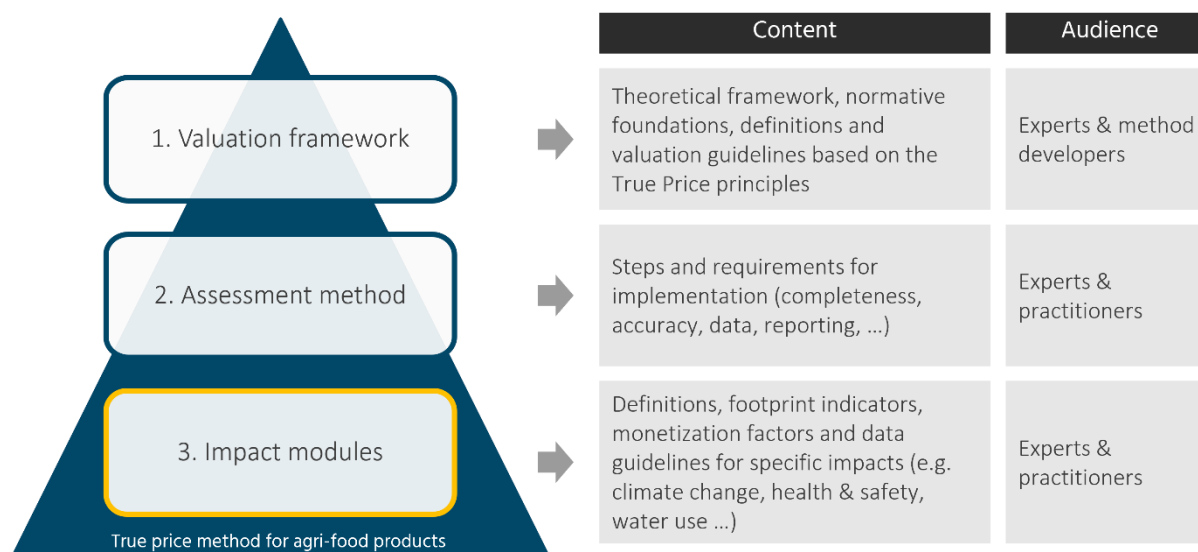|	Content	Audience
1. Valuation framework	Theoretical framework, normative foundations, definitions and valuation guidelines based on the True Price principles	Experts & method developers
2. Assessment method	Steps and requirements for implementation (completeness, accuracy, data, reporting, …)	Experts & practitioners
3. Impact modules	Definitions, footprint indicators, monetization factors and data guidelines for specific impacts (e.g. climate change, health & safety, water use …)	Experts & practitioners

True price method for agri-food products

Figure 1: Components of the true price methodology for agri-food products. This document is one of the impact modules.

Table of Contents

1   Introduction

The true price is the market price of a product plus social and environmental costs, representing negative effect, or impacts, on society and the environment of the its production and consumption. This document provides a method module for the assessment of the true price of a food product. It contains the key methodological aspects that guides the reader how to measure and value one of the social impacts of the true price: insufficient income.

This module is meant to be used together with the **True Pricing Assessment Method for Agri-food Products** (Galgani et al., forthcoming)**,** but it can also be of interest to readers that want to learn more about living income and living income gaps in agricultural value chains and in social LCA.

The module is organised as follows: Section 2 provides the definitions and scope relevant for the impact. Section 3 gives the rationale for including the impact in the True Pricing methodology. Section 4 specifies the components included in the quantification and valuation model. Section 5 details the footprint indicators and method of calculation to quantify the impact. Section 6 specifies the monetisation approach. In section 7, the limitations and areas for further development are discussed.

2   Definitions and scope

Insufficient income is an impact, or negative external effect, of the production of agri-food products and relies on the concept of a living income. The following definitions are used in this module:

- **Insufficient income** concerns smallholder farmers and other small entrepreneurs in the value chain that have an income below the so-called living income.
- **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." (The Living Income Community of Practice, n.d.).
- A **decent standard of living** means "being able to afford food, water, decent housing, education, healthcare, transportation, clothing, and other essential needs including provision for unexpected events." (The Living Income Community of Practice, n.d.)

The concept of living income relies on the following concepts (COSA & KIT Royal Tropical Institute, 2020):

- **Living income benchmark** is the net income required for a basic, but decent, standard of living.
- **Actual income** is the net annual income of the household.
- **Living income gap** is the difference between the living income benchmark and the actual income of a household.

These three concepts, including the relevant types of costs and income, are explained in more detail in Section 5.

Besides the above definitions, the method explained in this module builds on the following considerations:

- **Right-holders and types of enterprises**: This impact measures *the income of self-employed smallholder farmers and entrepreneurs*, specifically. Smallholder farmers can be understood as independent farmers who own, lease, rent or manage the land they work on, but typically own relatively small

1

amounts of land and produce relatively small quantities of products.[4] Entrepreneurs are people operating in agri-food value chains as a company, and may or may not employ a small set of full-time employees. An entrepreneurial venture in farming is typically between the size of a smallholder farmer and a plantation (or a similarly large agricultural venture), in terms of overall production. In some cases, entrepreneurs are also people working in the agri-food sector as individual contractors (but not as salaried employees) and this method can in principle also be applied to them. Neither smallholder farmers nor entrepreneurs receive a regular or set wage or salary for their work. They instead subsist off the profit earned through the sale of food products or services, including value addition, combined with possible income from off-farm sources.

The concept of living income is most developed and translated to practical guidelines[5] in the context of smallholder farmers. The method described here can in principle be applied to both smallholder farmers and entrepreneurs in the value chain, but the reader should keep in mind that some parts of the text might reflect the context of a smallholder farmer better than that of a small entrepreneur.

- **Geography:** The specific method described in this module is aimed at farmers and entrepreneurs in the Global South, but in general can be applied to (relatively) small farmers and entrepreneurs in industrialized countries as well. Applying this method to farmers and entrepreneurs in industrialized countries would most likely require adjustments to how the actual income and living income are defined (see Section 5 for more details).

- **Relation to insufficient wages:** The underpayment of contracted workers is covered by the concept of a *living wage*, not that of a *living income*. Underpayment of contracted workers is therefore considered a separate impact, called *'Underpayment in the value chain'.* This impact is out of scope for this project and remains an impact to be covered in a future module. However, the concepts of living income and living wage are closely related. Therefore, the structure of this module and the references provided can serve as an inspiration to include underpayment as an impact in the true price of a product.

  An important difference between the two is that living income is assessed for the entire household, while living wage is assessed per person (see Section 5.1.2). Additional effects experienced by hired labour and their related working conditions are covered in different impacts, such as lack of social security, excessive and underpaid overtime, and more.

- **Household level:** This module assesses insufficient income as the earning below a decent standard of living for *the entire household*, rather than a family. It is recognised that in many areas one or more families may live together in a household, preferring a more community-oriented way of living.

3   Background and rationale for including as part of the true price

This method takes a rights-based approach[6] to select the externalities to include in a true price assessment. The ability to earn a living income relates to various international human and labour rights. Three rights in particular establish this link:

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[4] A more in-depth discussion on defining qualities of smallholder farmers can be found in the ETI Smallholder Guidelines (The Ethical Trading Initiative, 2005).

[5] Such as the guidelines provided by the Living Income Community of Practice (Living Income Community of Practice, n.d.)

[6] In this context, achieving a sustainable society means achieving a society in which everyone's rights are respected, including those of future generations. Therefore, a sustainable product is a product for which no rights are violated. In the context of true pricing, it means that every right that is violated is regarded as contributing to an unsustainable impact. See also the documents *Valuation Framework for True Price Assessment of Agri-food Products* (Galgani et al., 2021b)*.

1. "The right to a standard of living adequate for the health and well-being of himself and of his family [...] and the right to security [...]." – Universal Declaration of Human Rights (UN General Assembly, 1948, art. 25)
2. "End poverty in all its forms everywhere" – Sustainable Development Goal 1 (UN General Assembly, 2015)
3. "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." – Universal Declaration of Human Rights (UN General Assembly, 1948, art. 23.3)

3.1   Negative effects of insufficient income

A household that cannot possibly earn a living income from all their income sources will never be able to have a standard of living that will ensure the health and well-being of the household. The household will inevitably fall into poverty if all of the earnings must be devoted to paying for the necessary essentials of life, if it is even enough to cover these. One thing that could be done is to take on additional work with whatever time may remain available. However, if the work that needs to be done exceeds a certain amount, other rights will be infringed on:

1. "Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay." – Universal Declaration of Human Rights (UN General Assembly, 1948, art. 24)
2. "The hours of work of persons [...] shall not exceed forty-eight hours in the week and eight hours in the day, except as hereinafter otherwise provided." – Hour of work (Commerce and Offices) Conventions (ILO, 1930, art. 3)

4   Model

Remediation cost is the basis for including insufficient income in a true price calculation. This section first describes the difference between remediation and internalization of negative external effects, and then describes the valuation model.

4.1   Solving the problem: remediation or internalisation

The true price assessment methodology focuses on providing transparency on the external costs related to the harm done and does this through an estimation of the costs to remediate the negative effects. However, it is agnostic on what would be the best approach to closing the true price gap in practice. Solving the problem at the root might well be a better solution than paying the true price gap directly as part of the price of the product. We consider paying the true price gap as a form of *remediation*, while solving the problem at the root as *internalisation* of an external cost.

Regarding the impact *Insufficient income*, paying farmers or entrepreneurs the living income gap directly, considered *remediation,* is not necessarily going to solve the underlying problems. Nonetheless, until the problem is solved, the farmer or entrepreneur experiences harm and has the right to remedy. On the other hand, we acknowledge that a variety of reasons might cause smallholder farmers and entrepreneurs to earn below the living income benchmark. Therefore, the best approach to solve the problem, *internalization* of the external cost, is highly dependent on the local context of farmers and entrepreneurs. For example, all the factors contributing to yield (depending amongst other things on the access to technical expertise) of farms and price formation mechanisms, determine the capability of the farmer to earn a living income. Internalisation

3

of several external costs can be interconnected. For example, ensuring that the parents in a household earn a living income could prevent children from being involved in child labour. Similarly, there is a link between yields, living incomes, and other environmental costs.

However, this module is not about how to eliminate living income gaps, and which stakeholder is responsible for *internalisation* of these external costs. Other documents exist that provide actionable guidance on internalisation of living income gaps (GIZ, 2020). Even though internalisation is an important aspect of steering on true prices, providing guidance on internalisation is outside the scope of the current module.

4.2   Valuation of negative effects through remediation costs

The true price is the sum of the market price and the true price gap. This gap reflects the harm done by violations of human rights, that occur during the production, consumption or end-of-life phase of a product, expressed as social and environmental costs. Insufficient income is one of the social costs considered. In a true price assessment, the *remediation cost* of an impact is taken into account.[7]

The remediation cost is the cost that should be incurred to remediate the harm caused (Galgani et al., 2021a). The concept of remedy aims to restore individuals or groups that have been harmed by a business's activities to the situation they would have been in had the impact not occurred.[8] Remediation of the impact of insufficient income would entail compensating the household, by paying back past living income gaps[9]. Therefore, a share of the living income gap that can be attributed to a product is included in the true price gap of that product, as an indication of the impact *Insufficient income*.

4.2.1   Are all living income gaps part of the true price gap?

One may argue that some farms or entrepreneurial businesses are simply too small or too inefficient (i.e., their yields are too low) to viably produce a living income for a household and should therefore be excluded when assessing the living income gap. However, the primary goal of the true price is to provide transparency on the external costs. In the context of an insufficient income, this is reflected by the living income gap of farmers or entrepreneurs who work in the value chain. For this purpose, the living income gap of any farm or business should be included in the true price assessment. As stated above, when aiming to solve the problem of an insufficient income, not only the price of the product, but the broader context of a farmer or entrepreneur should be considered.

5   Quantification

The quantification method for this module is largely based on the Anker & Anker method for calculating living wages (Anker & Anker, 2017) and the subsequently developed adaptation towards calculating living incomes (Grillo, 2018). These methods are included in calculating the living income benchmark and the actual income (Sections 5.1.2 and 5.1.3, respectively).

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[7] The remediation cost is defined as either compensation cost or restoration cost, plus in some cases prevention of re-occurrence cost and/or retribution cost, depending on the type of impact, as explained in the *Valuation Framework for True Price Assessment of Agri-Food products* (Galgani et al., 2021a).

[8] "Understanding remediation" from https://www.businessrespecthumanrights.org/en/page/349/remediation-and-grievance-mechanism

[9] In some cases, it can make sense to include an additional compensation, such as an interest rate for the foregone impact.

The module goes beyond the Anker & Anker methodology in two ways. First, it relates the living income gap to product level by dividing the gap by the amount of product produced (Section 5.1). This step is necessary to make the income gap comparable to both market prices and other impacts, in a true price calculation. Second, this module expands the Anker & Anker method for the calculation and comparison of living income gaps across multiple farms (Section 5.2).

5.1 Footprint indicator

The quantification of "insufficient income" is composed of only one footprint indicator: the living income gap.

Table 1: Overview of footprint indicators for Insufficient Income

Footprint indicator	Unit
Living income gap	EUR/unit output

The living income gap is calculated through three main components: living income benchmark, actual net total household income and produced output.

$$LIG = \frac{LIB - AI}{OP}$$

(1)

Where
LIG is the living income gap per unit of produced output (in EUR/unit output).
LIB is the living income benchmark (in EUR/year/household), as specified further in section 5.1.2.
AI is the actual net total income (in EUR/year/household), as specified further in section 5.1.3.
OP is the output produced (in unit output/year/household).

Central to the calculation is the **total living income gap per household**, which considers the average sized household in a given region (COSA & KIT Royal Tropical Institute, 2020). The total living income gap per household is the difference between the living income benchmark and actual total net household income of a household ($LIB - AI$). Importantly, the difference between the two cannot be negative. If actual income is higher than living income, the living income gap is considered to be equal to zero.[10]

The footprint indicator as used in the true price calculations is the **living income gap per unit of produced output**: the living income gap per household divided by the **output produced per household**. The output produced is the amount of the products produced in the year of measurement, measured or converted into the chosen unit (e.g., 1 kg of bananas). This is measured in unit of produced product per household (per year) for the product in scope of the true price assessment.

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[10] The true price only includes negative external effects as impacts to prevent netting of positive and negative effects, see (Galgani et al., 2021a)

It is important to ensure that the measured values are converted to the currency of the study and inflated to the year of measurement (if they do not already represent the measurement year)[11].

5.1.1   Allocating a share of the living income gap to a product

A household is likely to have multiple sources of income (either from selling different products/services or from activities beyond the farming/entrepreneurial activities), of which the income from activities in scope is only one. Therefore, only a part of the living income gap should be allocated to the product or service in scope. Different allocation approaches exist, and an allocation based on time investment per income source would give the most accurate representation of the share of the living income benchmark this income source should be providing (under the assumption of a certain level of efficiency). However, data on the time investment per product/service is often not available. An allocation based on net income could be a good proxy for time investment but these datapoints are often also not available. Therefore, the current method includes a revenue-based allocation approach, in line with the choice to use economic allocation (see also the Assessment Method for a more detailed discussion on allocation (Galgani et al., forthcoming)).[12]

Equation 1 assumes a farmer or entrepreneur has only one source of income, being the production of or value added to the product in scope. In this case, the total living income gap of the household is included in the true price gap of the product. In case of multiple sources of income, one additional step must be included to allocate a share of the total living income gap of the household to the product in scope:

$$LIG = \frac{\frac{R_P}{R_T} \times (LIB - AI)}{OP} \tag{2}$$

Where
R_P is the annual revenue generated by the household through the sales of the product in scope (in EUR/year/household)
R_T is the total annual revenue generated by the household (in EUR/year/household)

The following two paragraphs explain the living and actual income in more detail. The last paragraph of this chapter describes how to address the key challenges of measuring living income gap for a large sample of farms.

5.1.2   Living income benchmark

The living income benchmark includes the cost of living for the farmer's/entrepreneur's entire household.[13] For this reason, the required data points relate to the cost of living for the typical household over the course of a year. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing, and other essential needs including provision for unexpected events (Figure 2) (The Living Income Community of Practice, n.d.).

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[11] More information on currencies and year for a true price assessment can be found in the *True Pricing Assessment Method for Agri-food Products* (Galgani et al., forthcoming)

[12] Besides allocation based on output (e.g., revenue), other obvious approaches would be allocation based on input or throughput (e.g., labour costs or time investment).

[13] See definition and note on the choice to prefer households over families in section 2.

Figure 2: The cost of a basic, decent standard of living for a household (the living income benchmark) consists of different costs. Image from the Living Income Community of Practice.

The calculation of a living income benchmark is relatively simple, but may require additional research if the input data are not readily available:

$$LIB = C_F + C_H + C_{nF,nH} + P_{UE} \qquad (3)$$

Where

C_F is the cost of decent food (in EUR/household/year), or the costs required to feed a household a model diet. The diet should be based on local food staples and should support the household according to the kilocalorie amount required by the activity level (largely determined by type of work done) and age of the different household members. The total cost is calculated using the local market prices of the foods required (Grillo, 2018). If households produce much of the food they consume, the cost of a decent and varied diet can be reduced in the living income benchmark calculation.

C_H is the cost of decent housing (in EUR/household/year). Decent housing provides access to basic amenities like clean water, toilets and food storage and is located in a safe and habitable areas. The actual costs are based on normative rental prices in the case where most housing is rented and user costs in the case where most housing is owner occupied (Grillo, 2018).

$C_{nF,nH}$ are the non-food, non-housing costs (in EUR/household/year). These costs include costs for clothing, furniture and household equipment, transport, communication, recreational and cultural costs, healthcare, education and other miscellaneous products and services. This is calculated by creating a spending ratio on non-food, non-housing versus spending on food (Anker & Anker, 2017). The calculated cost of the model diet is then multiplied by this ratio (Grillo, 2018).

P_{UE} is the provision for unexpected events (EUR/household/year). These are additional costs for the household to allow for some savings for the future and unexpected events. Ideally, this should be 5% of the food, housing and non-food, non-housing costs combined (Grillo, 2018).

Values for the living income benchmark can be calculated using primary data, but this might be resource intensive if information on the different cost types is not readily available. Sources of secondary data provide living income reference values, calculated following the Anker & Anker methodology (Global Living Wage Coalition, 2021; Living Income Community of Practice, n.d.).

Keep in mind that living income benchmark values are region specific due to variations in cost types per region. Therefore, it is important to ensure that the living income benchmark that is used for the assessment is representative for the region of interest.

When using secondary data, the value for the living income benchmark might be provided for a household of a typical size. To obtain an estimation of the cost for a household of a different size and in the absence of primary data, the cost for a household of a typical size is divided by the number of household members of such a typical household, and then multiplied by the number of household members of the size of interest.

A more detailed explanation of the calculation method can be found in the Living Income Community of Practice's adaption of the Anker & Anker methodology (Grillo, 2018), combined with the Anker & Anker methodology for calculating living wages (Anker & Anker, 2017).

5.1.3   Actual income

Actual income measures the net total household income that the household receives from different sources, including in-kind income (Figure 3).

The actual income is calculated as follows:

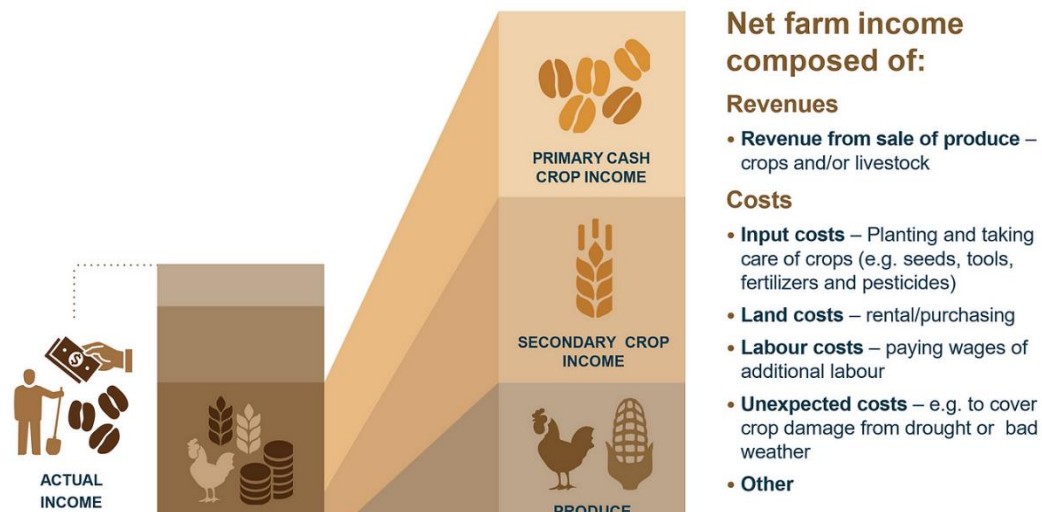$$AI = (R_{F/E} - C_P - C_R) + I_{nF/E} + I_I + I_O \qquad (4)$$

Where

Figure 3: The actual net income of a farmer, consisting of different sources of income and costs. Image from the Living Income Community of Practice.

$R_{F/E}$ is the farm or entrepreneurial revenue (in EUR/household/year), consisting of the revenue received from selling (farm) produce or providing services. For a farm, this can include one or two main cash crops, other crops and livestock or animal products, or products derived through value addition.

C_P is the production costs (in EUR/household/year), consisting of the costs needed to produce the produce, or add value. This can include things like cost of seeds, fertilizer, crop protection products, water or fuel for equipment as well as hired labour.

C_R is the reinvestment costs (in EUR/household/year), consisting of the costs required to reinvest, such as for new equipment or improved production methods.

$I_{nF/E}$ is the income from non-farm or non-entrepreneurial sources (in EUR/household/year). This includes working as a hired labourer (at other farms or institutions, and the sale of non-food products.

I_I is the in-kind income (in EUR/household/year), consisting of the *value* of food or materials from own production and consumed within the household itself. It can also include goods received from smallholder producer organisations or other organisations. It should be valued using local market prices. When calculating a living income gap, be sure that this input is considered here and not also subtracted from the food costs in the living income benchmark calculation.

I_O is the income of other sources (in EUR/household/year), consisting of all other sources of income, including subsidies and remittances received from other household members.

The actual net total household income is the income of a household over the course of one year. However, it is recommended to use the mean of the annual actual incomes over a period of 3 to 5 years to limit the influence of fluctuations in the income, caused by, for example, drought or crop rotation.

Detailed guidance on calculating actual income (with specific focus on using secondary data) can be found in the Living Income Community of Practice's guidance pieces (Rusman & Mesguich, 2020).

5.2   Aggregating the living income gap

When assessing the impact of insufficient income for a given value chain, it is common that the chain sources from multiple farms or entrepreneurs, affecting the income of multiple households. This section provides more information on how to aggregate living income gaps to one value. For more information on calculating the gap for multiple households, see the guidance piece prepared by the Living Income Community of Practice (COSA & KIT Royal Tropical Institute, 2020).

5.2.1   Region-specific living income benchmarks

If all the households being assessed are located in the same region, the living income benchmark will only need to be assessed once. If some households are located in sufficiently different regions (e.g., different countries), living income benchmarks will need to be calculated for every region, as the cost of a decent standard of living can highly differ between these regions. The living income gap then needs to be calculated with respect to the relevant living income benchmark for a (group of) household(s).

5.2.2   Households that earn more than the living income benchmark

Averaging the income of households that have a zero or negative living income gap (i.e., they have an actual net total household income that is equal to or higher than the relevant living income benchmark) with farms

that have a living income gap hides essential information. When using actual income and/or output produced data from individual households, a living income gap will be calculated for each household and then averaged. For households that earn equal to or more than the living income benchmark, the living income gap will be included in the average as zero.

5.2.3   Averaging living income gaps of multiple households

It is recommended to carry out a weighted average by output in order to aggregate the living income gaps of multiple households. As such, households that produce most weigh the most, and vice versa:

$$\text{LIG}_{agg} = \sum_{i=1}^{n}(LIG_i * \frac{OP_i}{OP_{tot}}) = LIG_1 * \frac{OP_1}{OP_{tot}} + LIG_2 * \frac{OP_2}{OP_{tot}} + \cdots + LIG_n * \frac{OP_n}{OP_{tot}} \qquad (5)$$

Where

LIG_{agg}	is the aggregated living income gap
n	is the number of households
LIG_i	is the living income gap of household i
OP_i	is the output produced of household i
OP_{tot}	is the total output produced by all households

It should be taken into account that living income gaps of households should only be averaged per lifecycle phase (e.g., cultivation). For each lifecycle phase separately, the averaged living income gap should be added to the true price gap. See the Assessment Method for more details on aggregating impacts across lifecycle phases (Galgani et al., forthcoming).

6   Monetisation

The monetisation approach for the impact Insufficient income represents the compensation costs for the living income gap to the farmer and interest accrued in one year (i.e., the time that the household did not earn a sufficient income). Table 2 provides a global monetisation factor and one specific for the Netherlands. This is different from the cost required to close the living income gap in future years, which can include the cost of different interventions aimed at improving yields, optimizing farm size and introducing other sources of income (Section 4.1).

The compensation for an insufficient income is the living income gap, already expressed in a monetary value and there does not require to be valued in a monetary unit (monetisation factor equals 1).

One can argue that the compensation cost for insufficient income should be corrected for an increase in consumer prices (inflation) due to delayed income (as the compensation will be paid with a delay with respect to when the income was supposed to be earned). The choice to correct for inflation in the monetisation factor is left to the reader. When correcting for inflation, the monetisation factor equals 1 plus the inflation rate.

Table 2: Monetisation factors

Footprint indicator	Inflation correction (yes/no)	Unit	Value - Global	Value - NL
Living income gap	No	EUR/EUR	1	1
	Yes	EUR/EUR	1.034	1.027

Data on the annual inflation rates of consumer prices are collected and published by The World Bank (World Bank, n.d.). The most recent global value is 3.4% for 2021. Preferably, the living income gap should be corrected using the inflation rate specifically for the country where the households earned their income. For the Netherlands, the most recently available rate provided by the World Bank is 2.7% for 2021.

7   Limitations and items for further research

7.1   Limitations

Living income benchmarks are region-specific and actual incomes are both region- and food product-specific. This leads to a variety of limitations. To begin with, previously researched values and readily available benchmarks may not be available for all regions and crops. These values may need to be calculated, which is best done with primary data. The data will have to be collected, which may imply large time and money investments. Secondary data values can be used, but this will reduce the accuracy and applicability of the calculated values.

It may be the case that some farms are simply too small or too inefficient (i.e., their yields are too low) to viably produce a living income for a household. This would lead to a living income gap that is too large for any stakeholder to be expected to pay under current market conditions. As mentioned before, the current methodology focuses on transparency of external costs related to violations of human rights. Therefore, the authors believe that the living income gap of any farmer or entrepreneur should, in principle, be included in the true price gap of a product. The effect on the numbers is not considered to be large. These farms that are small and inefficient might have a large living income gap, but they have low production. Therefore, their living income gap will be diluted when aggregating the living income gap of the larger population that need to be considered in a supply chain. Also, the allocation of the living income gap over different sources of income accounts to a certain extent for the responsibility a specific product has for the insufficient income of a household. The authors acknowledge that showing the living income gap as part of the true price gap to provide transparency does not imply that paying it is the solution (internalisation) of the problem. This is discussed in Section 4.1.

Additionally, the use of average household sizes may not accurately reflect the situation of the sample in question. This limitation is always true when using average values, but it may cause significant over- or underestimation of the gap in the case of insufficient income.

7.2   Items for further development

The methodology for insufficient income makes use of multiple well-developed calculation models, such as for living incomes and actual household incomes. Because of this, this impact is well-accepted, especially in relation to other social impact modules of this true pricing method. Insufficient income would thus benefit more from the development of tools and methods to more easily collect accurate and applicable primary data,

or of datasets of living income benchmarks for different products and regions of the world.[14] This would lower the time and money investments required to calculate region- and food product-specific living income gaps.

The method includes a revenue-based allocation of the living income gap to the product in scope. As acknowledged in the text, other allocation approaches exist. Further research into the validity of the suggested approach compared to other approaches is required to confirm the choice of using of a revenue-based allocation.

Additionally, the described insufficient income methodology does not consider all social securities in the calculations, despite the fact that social securities are necessary for living a healthy and decent life. In many places these securities are neither provided for free by the government nor provided by workplaces and must be paid by the household. In the context of the calculation for this module, the monthly costs of pension and/or retirement funds can make up a significant portion of available income, and would subsequently take away from other areas, such as extra savings for emergencies. It is thus an ongoing question whether these kinds of social securities should be included in these calculations, especially given their necessity for a healthy and decent life and the regularity of their payments.

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[14] Examples of useful secondary datasets include both the Worlddata.info dataset on cost of living across the world and the Numbeo calculator for cost of living (including the possibility for more granular breakdowns of food and non-food costs globally).

8   References

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