

# Measuring Smallholder Incomes: Towards better alignment and reporting of farm economic metrics

## A joint guidance document of the Committee on Sustainability Assessment (COSA), the ISEAL Alliance and the Sustainable Food Lab

Version 1.0, October 2016

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*This is a living document and our organisations would like to gather feedback and insights on metrics to  
improve future versions of this document.*

*Please share your thoughts and knowledge by [completing this five questions survey](#).*



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## INTRODUCTION

COSA, ISEAL and the Sustainable Food Lab are aligning our metric protocols and producing common guidance on smallholder agriculture sustainability measurement. To begin, we are developing this guidance for metrics related to farm and household income. This is not a new set of metrics, but a mutual guidance document for gathering data on commonly accepted smallholder income metrics.

### **Our aim is:**

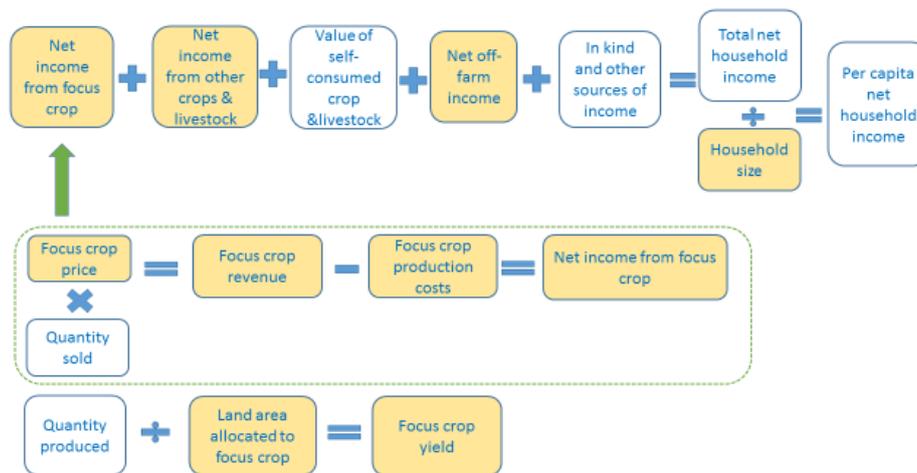
- To align (closest alignment possible) on metric guidance, which includes both definitions and guidance on data collection and reporting.
- To avoid having the same metrics being collected and reported in many different ways by similar actors conducting studies in the same regions/crops.
- To exchange best practices and share resources for data collection and reporting; and facilitate learning with the SFL and ISEAL communities of practice and COSA's partners.
- To help update, and in some cases expand, the ISEAL Guidance on Common Core Indicators, the SFL Shared Approaches Framework and COSA indicators.
- To inform the work around measurement being done by several actors working together on living income.

This set of metrics is based on data gathered at the farm level, typically through farmer surveys, on-farm observations, and farmer organization documentation. This collaboration builds on previous work done by our organizations as reflected in this public agreement: [“Partnering for Increased Learning in Smallholder Supply Chains”](#).

## CREATING A FARM ECONOMIC MODEL

Economic metrics are often calculated with the goal of understanding net household income and farm profitability. To do this effectively and consistently, we need to create a common framework and approach for data collection and reporting. The below Farm Economic Model (Figure 1) represents the individual household economic metrics outlined in this document (yellow boxes) and provides guidance on how they collectively feed into a net household income calculation.

Figure 1: Farm economic model



To evaluate whether farming households are earning enough for a decent standard of living (i.e. a [living income](#)<sup>1</sup>), one could compare a living income benchmark to the total net household income. These metrics can also be used to build a farm economic model for a group / groups of farmers. Farm economic models can be useful for tracking changes in the net incomes of farmers over time or to monitor changes in net income as related to program activities.

A metric that is outside the scope of this current document is the “net income value of self-consumed commodities and livestock”. While this document does provide some initial guidance on this topic, we do not present a complete methodology here. It is important to understand the value of agricultural or livestock products that are self-consumed or traded for items other than money to get a complete picture of a household’s net income. There are several methods that can be used to do this, at various levels of complexity that require separate guidance in order to be useful. COSA has done considerable work in this area, and we also include a couple of resources below for further guidance:

- [The Practitioners’ Guide to the Household Economy Approach](#)
- [Measuring Livelihoods and Environmental Dependence: Methods for Research and Fieldwork](#)

<sup>1</sup> Living income is the net income a household would need to earn to enable all members of the household to afford a decent standard of living. Elements of a decent standard of living thereby include: food, water, housing, education, health care, transport, clothing, and other essential needs including provision for unexpected events. (Living Income Practitioners’ Workshop hosted by ISEAL & GIZ, Eschborn, February 2015)

## PLACING HOUSEHOLD INCOME METRICS IN CONTEXT

Economic factors of sustainability are crucial to understanding farmer livelihoods and poverty levels in smallholder agricultural systems. While this document focuses exclusively on metrics to build a farm economic model, it is important to note that sustainability, by definition, necessitates balancing social, environmental and economic factors. We recognize that there is a tendency to oversimplify sustainability by prioritizing economic factors -like increased yields or incomes. While these aspects are critical, if a multi-dimensional view is not considered, there is a risk of missing factors critical to the success of projects, investments, and reputation. For example, if yields are increased by clear-cutting a forest, which results in soil erosion and silted waterways, this is not a sustainable outcome. Improving incomes may benefit the farming household as a whole, but income and expenditures may not be equitably controlled or distributed among household members, especially women. This can be problematic for projects or investments whose focus is limited to one or two desired outcomes. Economic metrics should therefore be both understood and interpreted in a broader social and environmental context. Users can reference the [Shared Approaches Framework](#), the [ISEAL Common Core Indicators](#), and the [COSA indicators](#) and resources for approaches to measure the multi-dimensionality of sustainability.

**Assumption:** These guidelines assume that the sustainability project or investment being measured is centred around production systems with a **focus crop** — a crop that is usually grown for formal (export or urban) markets, also defined as cash crops. This emphasis on a *single crop* -the crop that usually holds the most economic significance - is critical to the approach on metrics like yield and prices. These guidelines are generalized to be used with any focus crop (coffee, cocoa, sugar, wheat, cotton, etc.). Any other crops or livestock products the farmer produces are taken into account in a separate metric: 'Net income from other crops and livestock.' If the farming systems being examined do not produce a focus crop (i.e., primarily produce crops for local markets and/or consumption), additional guidance will be needed. COSA has developed additional indicators and a data collection approach for these situations in particular.

This guidance will need to be adapted to context (crop and region) to be most effective. That is, the user will need to consider and document local unit conversion factors, specific forms of a product sold (if a product undergoes processing, for example), specific cost factors relevant to particular crops, etc. so that all critical pieces of information are considered, contextualized and recorded.

## UNDERSTANDING THE METRICS TABLES

The table below serves as an illustrative guide to reading and interpreting the guidance in the metric tables that follow. The following guidance is tailored to those organizations doing Performance Monitoring and presents various levels of rigor in data collection and reporting. This means that the below approaches may not yield exact calculations of household income but are more useful to understanding directionality of results.

<b>Name</b>	Name of the metric
<b>Purpose of measurement</b>	Rationale for tracking this metric
<b>Definition</b>	Simple definition of the metric
<b>General guidance</b>	Guidance on <i>how to measure the metric</i> . The guidance highlights differences between approaches in performance monitoring and more in-depth studies, as well as tips on where common measurement errors occur.
<b>Guidance for reporting</b>	<p>Includes guidance for <i>ensuring that data is reported in a transparent and consistent way</i> that aids understanding and comparability. To do this, a number of recommendations for “footnotes” are included in each metric guidance. Two footnotes should be emphasized: 1) reporting units and conversion units; 2) data source (i.e., reporting whether data is based only on estimates/farmer recall or whether other verifiable sources of data were used to gather the information). Reporting the source of the data is essential to understand its potential accuracy. The list below includes typical data sources in farm system research. All of these options will not apply to every metric and we recommend reporting on each data source possible (where applicable and to the best of your ability).</p> <p>Data Sources</p> <ol style="list-style-type: none"> <li>1. Estimated/ farmer recall</li> <li>2. Calculation (<i>e.g. calculation of the production area based on the number of focus crop trees/plants and the distance between them</i>)</li> <li>3. Farm records (provided by farmers or producer organization)</li> <li>4. Extrapolation from a representative sub-sample where actual measurements have been taken (<i>e.g. extrapolation from a representative sub-sample where GPS measurements were taken to calculate farm size or production area</i>)</li> <li>5. Verification by a field level expert with an understanding of what is plausible and agrees with farmer’s estimates and/or information in farm records</li> <li>6. GPS measurement</li> <li>7. Other</li> </ol> <p>Please report these “footnotes” either in the body of any report containing farm economic information and/or in the methodology section.</p>

## METRICS GUIDANCE

Name	<b>Land area allocated to focus crop</b>
Purpose of measurement	Farm size and the area of land allocated to the focus crop are critical for understanding sustainability attributes in a farming system, including yield and productivity (key economic indicators). Although farm size is not part of the household income calculation, it is useful because it helps understand the profile of farmers and diversity of farm sizes in a system, which can be relevant information for targeting specific interventions.
Definitions	Land area allocated to focus crop production
General Guidance	<p>This metric focuses on <b>focus crop cultivation/production area</b> and <b>not harvested area</b> specifically. Please note that production area can be equal to or smaller than total farm area.</p> <p><b>When collecting the data:</b></p> <ol style="list-style-type: none"> <li>1. Make sure that reported focus crop area coincides with the cost and revenue data being reported</li> <li>2. Remember that the questions should be asked in local units that farmers understand consistently, but reported in standard units (metric or U.S./British)</li> <li>3. Consider that farms may contain multiple plots (or different discrete farm areas). Make sure to clarify with respondents which plots they are referring to and add all plots together and include areas where the focus crop is inter-planted with other crops. Where possible, collect density rates for intercropping and report these alongside <i>land area allocated to focus crop production</i> and <i>focus crop yield</i>.</li> </ol> <p>There is a <b>range of ways to collect farm area data</b>. The best approach will depend on project budget and desired accuracy in results.</p> <p>The simplest approach, which is typically used in <b>performance monitoring</b>, involves farmer recall (i.e., asking the farmer for their focus crop area). This is an approximate calculation or judgment of the size of land where the focus crop is produced. With this approach, information is not typically verified with GPS measurement, which requires physically walking the perimeter of focus crop areas and increases the time and costs of the data collection process. If recall is used, there are <b>ways to triangulate land area information</b> with other pieces of data collected (e.g., in coffee or cocoa systems you can ask about trees planted per unit land (density rate) and/or total number of trees planted to cross check reported farm areas). It is always advisable to work with local experts to make sure that estimated data reported falls within reasonable ranges. Another way to triangulate information is by looking at farm records. It is considered verified if the reported information on land area used for focus crop cultivation is within the range of plausibility and there aren't changes</p>

	<p>greater than 10% when compared with farm records (while we recognize that farm records are not 100% accurate, using them as a comparison point at least allows for some verification).</p> <p><b>In depth studies</b> with larger budgets and timeframes may use data collection techniques that increase the accuracy of the data. This includes, for example, walking the perimeter of the focus crop area to take GPS measurements for all the farms included in the sample or for a sub-sample of it. If the latter is statistically representative, one can then extrapolate the findings to the whole sample. Another way of increasing the level of confidence in the data is by involving a field level expert with an understanding of reasonable land areas used for focus crop cultivation. That third party can also verify that the production levels are realistic/reliable, taking into consideration the area cultivated, the productive plants, the average productivity for similar farms in the region, weather conditions, etc. This field level expert can double check if the reported information is beyond the range of plausibility. Well trained enumerators should be looking for all these sources of information to triangulate the data, but given time pressure it is sometimes hard to pay attention to all the variables, that is why having a third party check the data regularly can ultimately save time and increase data quality.</p>
<p><b>Guidance for reporting</b></p>	<p><b>Please include in a footnote</b></p> <ol style="list-style-type: none"> <li>1. The conversion factor from local land area units if applicable. Report in metric or U.S./British units (e.g., hectares, acres).</li> <li>2. Data Source             <ul style="list-style-type: none"> <li>○ Estimated/ farmer recall</li> <li>○ Calculation</li> <li>○ Farm records</li> <li>○ Extrapolation from a representative sub-sample where actual measurements have been taken</li> <li>○ Verification by a field level expert with an understanding of what is plausible and agrees with farmer’s estimates and/or information in farm records</li> <li>○ GPS measurement</li> <li>○ Other</li> </ul> </li> <li>3. The percent of total farm area dedicated to the focus crop should be calculated and reported alongside this metric. It is important to understand focus crop cultivation area as it relates to total farm size.</li> </ol>

<b>Name</b>	<b>Focus crop yield</b>
<b>Purpose of measurement</b>	Yield is often a critical measure of success in programs that work with smallholder producers for whom average yield is often below the potential. Increases in yield are often looked to as a channel for improved incomes for smallholder producers. Monitoring yield also helps us understand production efficiencies related to inputs and we can monitor the effects of sustainability initiatives on farm productivity.
<b>Definition</b>	Total volume focus crop harvested* per unit land allocated to focus crop**. (Often reported in kg/ha) *Total volume of focus crop harvested should be used to denote the total amount of production in the last production year **Land area allocated to focus crop refers to the area under cultivation for the focus crop and not just the area that was harvested
<b>General guidance</b>	<p>Focus crop yield relies on a <b>calculation</b> of the total amount of focus crop harvested divided by the production/cultivation focus crop area. If the farm is renovating plants or trees, yields will lag for a year or more before picking up again, depending on the crop. This is a contextual factor that should be noted when analysing and presenting results on yields. Collecting the age of plants in perennial systems can clarify this contextual factor.</p> <p>Because farmers sometimes hold focus crop harvested to wait for increases in price (that might span production years), <b>it is important to understand how much was harvested during the last production year</b> (i.e., not just the amount sold). It is also key to <b>define the last production year</b> so that all farmers are answering the question in the same way. In general, the last production year refers to 12 month period from the end of the last harvest to the end of the corresponding harvest before that and does not refer to the calendar year. It may be that there are multiple harvests during the production year.</p> <p>If cultivation area changes during the year, then calculate average cultivation area over the year (for increased accuracy, you can weigh the average by the number of months in which different cultivated areas were applied).</p> <p><b>For tree crops:</b> For triangulation purposes, it maybe be valuable to calculate production per productive tree category if the following information is available about the age structure/ number of trees: newly planted (1st year), young unproductive (e.g. year 2-4), juvenile phase (e.g. year 5-8), full productive phase (year 9-25), over-aged (year &gt;25). Although challenging in a diversified production system, it can be useful to use trees as the basis for this calculation in areas where there is great variation of planting densities.</p>
<b>Guidance for reporting</b>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. Conversion rate of local units for focus crop production area and volume of production</li> <li>2. Production year (MM/YY-MM/YY)</li> <li>3. How information about yields was calculated.</li> <li>4. Critical to specify data source:             <ul style="list-style-type: none"> <li>○ Estimated/ farmer recall</li> <li>○ Calculation</li> </ul> </li> </ol>

- Farm records
- Extrapolation from a representative sub-sample where actual measurements have been taken
- Verification by a field level expert with an understanding of what is plausible and agrees with farmer's estimates and/or information in farm records

<b>Name</b>	<b>Household size</b>
<b>Purpose of measurement</b>	By understanding the number of people that make up a household one can gain a better understanding of how many people are dependent on the income from the focus crop or other agricultural activities. This information can also be used to understand the profiles of farmers in the system and, if desired, can be expanded to give further insights into household composition, e.g., the gender of head of household, the number of children, education levels, etc.
<b>Definition</b>	Number of people, regardless of relationship, who normally (for at least 6 consecutive or non-consecutive months of the year) live in a particular residence, occupying it wholly or partially, and who together fulfil their nutritional needs and share expenses from a common pot.
<b>General guidance</b>	<p><b>“Normally live in the residence”</b> refers to those that usually live in the residence, even though they may be temporarily absent on the day of the interview for reasons such as work, vacation, illness, school, etc. It is helpful to ask the respondent to count family members from the youngest to the oldest to be sure to account for everyone.</p> <p>Please count also <b>domestic servants</b> who live in the residence for most of the year.</p> <p><b>People who do not live with household members in the same residence</b> are not considered to be normal residents, even if they are family or they send money or food to any members of the household being interviewed</p> <p>This metric can be as simple as asking for the size of the household or can be expanded to gather more information such as number of men, women, and children. In more in-depth studies, it is recommended to count the number of household members that work on the farm, those that do off-farm work as well as the members or the household who contribute to domestic work exclusively. Understanding the number of workers within a household (as well as their gender and age) gives a more complete picture of the family labor force and income generating capacity.</p>
<b>Guidance for reporting</b>	<p>It may be useful to also <b>gather and report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. The month/s in which the maximum number of household members was reached in order to understand the time(s) of the year that stretch the household resources the most. For example, if it is determined that the household size is 8, one can find out during which months the household supported 8 people and during which months fewer people were supported in order to understand when the highest demand for resources is.</li> </ol>

Name	<b>Focus crop price</b>
Purpose of measurement	Understanding the price that a farmer receives for the focus crop allows one to calculate the revenue from the focus crop and get a sense for whether farming the crop is attractive and profitable. By collecting price data, it is possible to compare the price the farmer receives to other market information like global prices, prices buyers receive, etc. It also helps us understand how instruments of differentiation (quality, certifications, etc.) impact prices.
Definition	Price(s) received by the farmer per unit of focus crop sold.
General guidance	<p><b>Price refers to</b> the amount paid for the focus crop from the buyer to the farmer at the point where the product is sold (e.g., on farm or after being transported to a local market or buyer)</p> <p>Sometimes the price includes <b>premiums</b> (i.e., additional payments for quality or certification), but often the farmer might not know the premium amount. Where possible, separate out the premium amounts from the price paid for a more comprehensive understanding of revenue received from selling the crop. Consider that premiums may be paid later in the season, so the timing of the survey will be important. It may also be wise to follow-up with local experts to get an estimate on the average premium payment.</p> <p>Below are some <b>recommendations for information to capture regarding price:</b></p> <ol style="list-style-type: none"> <li>1. The date(s) (MM/YYYY) associated with the price received.</li> <li>2. The form of product sold (e.g. for coffee—fresh cherry, green, parchment, etc.). Note that sometimes multiple forms are sold, so it is important to capture all types.</li> <li>3. Any information on annual bonuses or premiums received (and who paid them)</li> <li>4. The type of buyer that paid the price (e.g. farmer group, trader, marketing agent, intermediary, etc.)</li> <li>5. Make sure to record the units of the products sold (as referenced in the ‘Yield’ indicator).</li> </ol> <p>One can <b>calculate an average price</b> spanning all sales or ask for information on each sale (if there are multiple sales during the production year). By asking about the price and amount sold for each sale, the information will likely be more accurate, but this can significantly lengthen the survey.</p> <p><b>When presenting information to non-local audiences, prices should be converted from local currency</b> to other standard currencies such as USD or Euros. This can be done using the weighted average exchange rate during the crop year.</p> <p><b>Triangulation</b> with international prices, local prices and prices paid in the past three years could be a useful approach to understand the accuracy of information.</p>

	<p><b>Inflation</b> may need to be considered where inflation rates are high (~ and &gt; 20%)</p> <p><b>For performance monitoring</b>, the simplest approach involves asking the farmer for the total revenue received for focus crop sales during the last production year along with the amount sold (this can be estimated through farmer recall). Using that information, one can calculate the average price per unit sold. One could ask about the average price received per unit for all sales, but this would be less accurate. Note that it is important to ask (where applicable) about the form(s) in which the product was sold (e.g., coffee cherries versus parchment, etc.).</p> <p><b>For in depth studies</b>, one could ask about prices received by either different sales and/or by different buyers (this may be desirable in projects where there is a preferred buyer, such as a producer organisation buying from farmers, and the goal is to track the prices received from that buyer and to compare them to other buyers). If available, one could also unpack the components of prices received (the bonuses paid by whom for what quality of focus crop product). In depth evaluations are also an opportunity to verify information on prices. For example, if surveys are conducted at the level of individual farmers and they are asked about prices paid by the farmer organization (assuming that farmers are organized), it is recommended to triangulate the information with the records that the farmer organization has on payments to individual farmers. In these in depth studies we recommend comparing the data received on prices with international prices and prices received in the past 2-3 years, if this information is available. You may also explore perceptions that farmers have on transparency of prices.</p>
<p><b>Guidance for reporting</b></p>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. Specify data source: <ul style="list-style-type: none"> <li>○ Estimated/ farmer recall</li> <li>○ Calculation</li> <li>○ Farm records</li> <li>○ Verification by a field level expert with an understanding of what is plausible and agrees with farmer’s estimates and/or information in farm records</li> </ul> </li> <li>2. Conversion rate of local monetary units to standard units</li> <li>3. The form(s) of product sold</li> </ol>

<b>Name</b>	<b>Focus crop revenue</b>
<b>Purpose of measurement</b>	Focus crop revenue is necessary to calculate the profitability of the crop during a particular production year and is the basis from which one subtracts costs of production to understand net income from the focus crop.
<b>Definition</b>	Gross revenue from all sales of focus crop during the last production year
<b>General guidance</b>	<p>To obtain the gross revenue multiply the price(s) per unit of focus crop by number of units sold during the last production year. In the simplest <b>performance monitoring approach</b>, one could instead ask the individual farmer about total revenue from sales of the focus crop revenue (instead of price and sales information), but in this case it is strongly recommended to triangulate with information about prices and amounts sold.</p> <p>Remember that <b>there may be several prices a farmer receives</b> for the focus crop depending on season, quality and value addition. In these situations, we recommend multiplying the particular price by the volume of the product for which that price was received and adding these together. Please refer to the guidance on price for more information on this.</p> <p>Note that in some cases farmers may use some focus crop harvested for uses other than selling, e.g., in-kind payments to day laborers, household use/consumption, loan repayments, etc. If that amount is significant, the value of the amount used for other purposes should be taken into account when calculating household income. This information should be used to calculate the value of the self-consumed production.</p>
<b>Guidance for reporting</b>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. Specify Data Sources: <ul style="list-style-type: none"> <li>○ Estimated/ farmer recall</li> <li>○ Calculation</li> <li>○ Farm records (provided by farmers or producer organization)</li> <li>○ Extrapolation from a representative sub-sample where actual measurements or receipts have been taken</li> <li>○ Verification by a field level expert with an understanding of what is plausible and agrees with farmer’s estimates and/or information in farm records</li> </ul> </li> <li>2. Conversion of local monetary units to standard units (e.g., USD).</li> <li>3. The form(s) of product sold (i.e., raw product or various levels of processed product).</li> <li>4. The production year that the revenue is associated with</li> </ol>

<b>Name</b>	<b>Focus crop production costs</b>
<b>Purpose of measurement</b>	Understanding the costs of production allows one to calculate whether production of the focus crop is profitable and to what degree. When one understands the relative costs of production, he/she can get a sense for whether farmers will be able to afford to adopt recommended good agricultural practices that drive productivity and sustainability. Understanding the structure of the cost of production can also help develop/ target interventions.
<b>Definition</b>	<p>Total costs incurred during the last production year to produce the focus crop.</p> <p>These must include (if applicable) the costs of: rent of land, hired labor, crop protection, fertilizer, and planting material.</p> <p>These may also include (depending on the significance in the system): deductions by the buyer, energy costs, investments in new facilities and equipment and tools, traceability &amp; record keeping, training, reforestation, cost of certification/verification, opportunity cost of unpaid household labor, depreciation of machinery and facilities, crop insurance, interest on credit, coop fees, irrigation, as well as any other relevant costs.</p>
<b>General Guidance</b>	<p>Total production cost of the focus crop <b>is calculated by</b> summing the amount spent in the last production year in each of the categories outlined above</p> <p><b>The cost items included in the calculation will depend significantly on the most important costs in the system, the data collection strategy, and the budget allocated to it.</b> At a minimum, we recommend including (where applicable) costs associated with rent of land, hired labor, crop protection, fertilizer and planting material in any calculation of focus crop production costs. Rent of land has been included in this section because based on our experience when this cost exists it tends to make up a considerable proportion of the total cost of production. But, in some cases rent may not be a factor; in sharecropping situations the value of produce paid to the landowner should be captured as a cost.</p> <p><b>Costs should be associated with the focus crop production only</b> (i.e., if labor is hired for multiple crops, only the portion used for focus crop production should be included). One way to make sure that costs are correctly associated with the production of the focus crop is to ask for the percent of inputs that were used for the focus crop.</p> <p>When calculating costs, include <b>only expenditure coming from the household’s own revenue</b>, not from grant funds. It is advisable to include a note when significant farm costs—such as inputs or labor—are subsidized and the expected time frame of the subsidies.</p> <p><b>Costs of certification/verification</b> refers to audit costs (when paid by the farmer) and not the investments associated with changes to become certified. Investments, regardless of the reason for those, should be categorised under investments.</p> <p><b>Unpaid household labor is an opportunity cost</b>—understanding unpaid household labor is useful and complex and when included in the cost items it can bring a very different picture to the calculation of the net income from the focus crop. For that reason, we recommend</p>

	<p>that when this information is collected it should be reported separately from hired labor costs. To calculate unpaid labor costs, it is important to understand the amount of time household members spend on tasks related to focus crop production (in hours or days) during the last production year and multiply that by wage rate paid to hired laborers for the same work (or a regional average).</p> <p><b>To calculate cost per unit of land/output</b> (cost efficiency) divide the total cost of production by the units of land or the amount of focus crop produced.</p> <p>Consider the results in light of the context. For example, if the <b>focus crop is a perennial</b>, consider the age of the crop; in low price years, farmers tend <b>not to invest</b> (e.g., by replanting) and instead “mine” the existing plants. If this continues for several years the average tree/bush/plant age gets old or very old (“over-aged”). On the other hand, if prices are generally good, farmers tend to invest heavily and therefore may have high costs reducing the income of a particular year.</p> <p><b>Performance monitoring:</b> Gather information about total costs including—at a minimum—rent of land, hired labor, crop protection, fertilizer, and planting material. Note that while this is a minimum list, it is always important to include any additional costs that are significant in the system. In performance monitoring, the simplest approach would be to ask the farmer for the total amount paid for each of the cost components. Here, it is possible to rely on farmer recall.</p> <p><b>For more in depth approaches/ studies</b>, one could gather information about the cost categories beyond the minimum required to get a more complete sense of production related costs. In-depth studies also provide an opportunity to gather information in more detail. For example, in the case of hired labor, instead of asking about the total amount paid for hired labor during the last production year in general, one could ask for a breakdown of the number of people hired for each task, how many hours they spent and different wage rates, etc.</p>
<p><b>Guidance for reporting</b></p>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. The components that are included in the calculation of costs. If possible, break down each of the cost categories in addition to reporting total cost of production</li> <li>2. Production year (MM/YY- MM/YY) that the cost of production are associated to.</li> <li>3. Specify Data Sources:             <ul style="list-style-type: none"> <li>○ Estimated/ farmer recall</li> <li>○ Calculation</li> <li>○ Farm records (provided by farmers or producer organization)</li> <li>○ Extrapolation from a representative sub-sample where actual costs/receipts have been recorded</li> <li>○ Verification by a field level expert with an understanding of what is plausible and agrees with farmer’s estimates and/or information in farm records</li> </ul> </li> <li>4. Conversion of local monetary units to standard units (e.g., USD)</li> </ol>

<b>Name</b>	<b>Net income from focus crop</b>
<b>Purpose of measurement</b>	Net income from the focus crop allows one to understand how much money the focus crop contributes to household income and gives a sense for how attractive, important, and profitable the crop is for the household. If measured in concert with “Net Income from Other Crops and Livestock” or “Net Off-Farm Income” it allows one to compare the focus crop income with other agricultural and household income sources.
<b>Definition</b>	Focus crop revenue minus total cost for focus crop production.
<b>General guidance</b>	Use focus crop revenue (see previous metric guidance for “Focus Crop Revenue”) and subtract all focus crop production costs (see previous guidance for “Focus Crop Production Costs”). If possible, when this figure is calculated during the actual data collection process, it is good to ask the farmer if the final number gives a good indication of the net income from focus crop obtained in the last production year. To avoid pre-empting answers, one could first ask the farmer what the net income from focus crop was and then compare with the calculation. The focus crop net income figure can be used to determine net income per land unit, if desired (e.g., USD/ha).
<b>Guidance for reporting</b>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. Production year (MM/YY- MM/YY) that the net income is associated to.</li> <li>2. Conversion factor of local monetary units to standard units (e.g., USD)</li> </ol> <p>It is recommended to calculate and report on the percentage of household income coming from the focus crop.</p>

<b>Name</b>	<b>Net income from other crops and livestock</b>
<b>Purpose of measurement</b>	Net income from other agricultural activities (other crops and livestock) is important for understanding how the focus crop net income is related to other farm net income and to give a sense of the importance of the focus crop production to the overall economic situation on the farm. This metric also highlights dependence on focus crop production and can be used as a measure of risk and diversification.
<b>Definition</b>	Revenue from other crops and livestock minus total cost of producing other crops and livestock.
<b>General guidance</b>	<p><b>For performance monitoring</b>, at a minimum it is recommended to gather general data (i.e., total amounts) on revenue and costs related to the most important non-focus crop and/or animals/animal products produced on the farm (e.g., the 2-3 most important). It is worth keeping in mind that some smallholder farmers may have expenses that are shared across crops and those should be allocated to each crop proportionally.</p> <p><b>For in-depth studies</b>, which will give a more detailed understanding of the revenue and costs associated with other farm products, one could ask about all revenue generating products. It is still advised to only ask about the revenue and costs incurred for each product as a total amount, otherwise the survey can become quite long.</p> <p>Note that farmers may derive value from producing other agricultural products that is not explicitly monetary (for example, farmers may consume some of the crops or animal products that they produce, trade them, or produce crops for animal feed). This may be especially true of non-focus crop products. More complete approaches would seek to factor in the value of these other uses into the overall farm economic picture. That means that one would have to ask for the proportion of other crops/livestock used for family consumption, trade, waste, set aside for seeds, etc. in addition to the amount sold.</p>
<b>Guidance for reporting</b>	<p><b>Please report in a footnote:</b></p> <ol style="list-style-type: none"> <li>1. Whether the information is based on calculations of revenue and costs for the other crops and animals/animal products or if only the net income figure(s) were reported</li> <li>2. Whether the information includes the amount dedicated to self-consumption (value of products consumed or traded). For robust calculations, the value of self-consumed crops is critical to include and we recommend reporting this as a separate metric (we are aware that in some studies this information is lumped together with the net income value).</li> <li>3. Conversion of local monetary units to standard units (e.g., USD)</li> <li>4. If the most important crops or animal products were capped (top 2-3, top 5, etc.) or whether all revenue generating crops and products were recorded.</li> </ol>

Name	<b>Net off-farm income</b>
Purpose of measurement	Net off-farm income or net income from non-agricultural activities is an important component for calculating net household income, which takes all revenue streams—agricultural and non-agricultural—into account. It can also provide insights into the diversification of the household income, i.e., specifically how agricultural and non-agricultural activities contribute to the overall economic situation for the farming household.
Definition	Household income that is not related to the production of crops or animal products. This could include: net income from rent (land, equipment, infrastructure, etc.), businesses, off-farm wages, gifts, remittances, and/or government transfers.
General guidance	<p><b>For performance monitoring</b>, the simplest approach is to ask the respondent the total amount of net income that the household generates from off-farm activities. To help farmers think about all the different pieces of net off-farm income one may ask for the different income categories included in the definition instead of asking directly about the net-off farm income.</p> <p><b>For in depth studies</b>, one should gather details on revenue and specific costs—or expenses-- (where applicable) related to income generating off-farm activities:</p> <ol style="list-style-type: none"> <li>1. Net income from rent</li> <li>2. Businesses-- it is important to know how many months or weeks the activity was generating revenue for the household during the last production year, and what portion of the amount generated went to the household.</li> <li>3. Off farm wages-- it is often practical to ask about off-farm wages on the basis of each household member including their wage rate (weekly or monthly) and how many weeks or months were worked during the last production year.</li> <li>4. Gifts and remittances or government transfers-- it is important not to overlook in-kind benefits, gifts, remittances, and government transfers (conditional cash transfers, welfare support, etc.), as those can make a significant impact on household income even though they are not related to crop production or other employment or business revenue.</li> </ol>
Guidance for reporting	<p><b>Please include in a footnote</b></p> <ol style="list-style-type: none"> <li>1. Conversion factor for local monetary units</li> <li>2. All sources of net off-farm income considered</li> </ol>

## CONTEXTUAL INFORMATION

The table below outlines variables that one may look into to aid the analysis and have a better and more in depth understanding of the results

METRIC	CONTEXTUAL VARIABLES
LAND AREA ALLOCATED TO FOCUS CROP	<ul style="list-style-type: none"> <li>• Total land area</li> <li>• Geographical location</li> <li>• Amount of land owned versus rented, leased or borrowed</li> </ul>
FOCUS CROP YIELD	<ul style="list-style-type: none"> <li>• Age and variety of plants/trees</li> <li>• Level of mechanization</li> <li>• Production intensity (Low, medium, high)</li> <li>• Support services/training focused on productivity gains</li> <li>• Major disruptions that can affect crops</li> <li>• Productivity levels at national context</li> <li>• Target yield</li> <li>• Seasonal crop calendars</li> </ul>
HOUSEHOLD SIZE	<ul style="list-style-type: none"> <li>• Average household size in the region</li> </ul>
FOCUS CROP PRICE	<ul style="list-style-type: none"> <li>• International prices</li> </ul>
FOCUS CROP REVENUE	
FOCUS CROP PRODUCTION COSTS	<ul style="list-style-type: none"> <li>• Land tenure</li> <li>• Inflation</li> <li>• Subsidized services/products</li> </ul>
NET INCOME FROM FOCUS CROP	<ul style="list-style-type: none"> <li>• Satisfaction with profitability of crop (if you had more land would you plant more of this crop?)</li> </ul>
NET INCOME FROM OTHER CROPS AND LIVESTOCK	<ul style="list-style-type: none"> <li>• Seasonal crop calendars</li> </ul>
NET OFF-FARM INCOME	<ul style="list-style-type: none"> <li>• Typical off-farm employment in the region</li> </ul>
HOUSEHOLD INCOME	<ul style="list-style-type: none"> <li>• Perceived change in economic situation since entry into programme, by gender</li> <li>• PPI</li> <li>• Asset levels</li> </ul>

## ACKNOWLEDGEMENTS

This living document is a collaboration of the Sustainable Food Lab (SFL), ISEAL, and the Committee on Sustainability Assessment (COSA). The authors welcome comments and suggestions:

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We wish to thank the following reviewers for their expertise and contributions to this document.

Asya Troychansky (Root Capital)

Eberhard Krain (GIZ)

Friederike Martin (GIZ)

George Watene (Global Coffee Platform)

Henk Gilhuis (UTZ)

Ileana Resendez (Heifer International)

Jennifer Golden (World Cocoa Foundation)

Jessica Grillo (Rainforest Alliance)

Nora Duldig (Syngenta)

Sophie Grunze (GIZ)