

DIASCA Farmer Income & Costs of Production Working Group

Phase 1: Draft Metrics

June 28th, 2023

I. OVERVIEW

The purpose of the Farmer Income & Costs of Production Working Group is to convene the public and private sector to create common guidance regarding metrics and protocols to measure farm and household income. This work pulls heavily from collaborations between COSA and SFL, ISEAL, GCP, ICO, KIT, the Living Income Community of Practice, among others (see 'Appendix: List of Resources.') and the learnings from the many private sector partnerships of which COSA has been part. The overarching goals of this collaboration are:

1. Define indicators, tools and methods for data collection
2. Expert panel to review and validate indicators, tools, and methods
3. Presentation of finalized tools to be adopted by relevant stakeholders

II. BACKGROUND:

PHASE 1: METRICS (Semantics)

The first phase of this working group is focused on Indicators and Metrics. This is not a new set of metrics, but a consolidated set of guidelines for gathering data on commonly accepted farm actual income and cost of production metrics. Our purpose is to:

1. Align as closely as possible around metric guidance, which includes both definitions and instructions on data collection and reporting.
2. Enable shared learning about producer incomes, cost of production, and other key economic themes across companies, projects and investments by having standardized reporting guidelines.
3. To exchange best practices and shared resources for data collection and reporting, and facilitate learning with public and private partners.

This document breaks down the key metrics related to measuring household income, with an emphasis on the contribution of focus crop/ product profitability as well as productivity. Examining net income of the focus crop/ product sheds light on the overall economic viability of the farm, including whether revenue offsets costs. We include productivity metrics to understand farm efficiencies related to costs and inputs and also to help examine the effects of investments on farm output. The following metrics will be detailed:

Key Farmer Income & Cost of Production Metrics

Land area allocated to focus crop/ livestock farming
Focus crop/ product yield

Focus crop/ product price
Focus crop/ product revenue
Focus crop/ product costs of production
Net Income from the focus crop/ product
Net Income from other on-farm activities
Net Income from off-farm activities

Note: These indicators and guidelines assume that we are looking at systems with a focus crop or product — a crop or product that is usually grown/ produced for formal (export or urban) markets. This emphasis on a single crop/ product—the crop/ product 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 or product (coffee, cocoa, sugar, wheat, cotton, dairy, meat products, eggs, etc.). Any secondary crops or livestock products the farmer produces are considered in a separate metric: 'Net income from other on-farm activities.'

If the farming systems being examined do not produce a focus crop/ product for formal markets (i.e., primarily produce crops for informal 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 that are not currently included in this scope of work.

Note on Scope:

The metrics and guidance outlined in this document refer to actual income and costs of production only and do not address the related, but different, indicators and metrics on Living Income, Poverty Status, and Livelihoods. Actual income is a building block of those additional concepts, which the working group may choose to address at a later date. Resources on the following concepts can be found in the *Appendix*, but for context:

1. **Living Income** refers to households affording a decent standard of living. The net annual income of a household, which comes from a variety of sources, is sufficient to cover the cost of a decent standard of living for a typical household in a particular place. Elements of a basic decent standard of living include access to food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events
2. **Poverty Status** is represented by a ratio of: 1) farming households whose income falls below the established poverty benchmarks to 2) the farming households meeting or above the poverty benchmarks. The poverty benchmarks are established for each context and can consist of an International Poverty Line (World Bank), National Poverty Line (if available), etc. for a given location. To identify the households below the poverty benchmark, this indicator measures the difference between a farming household's net

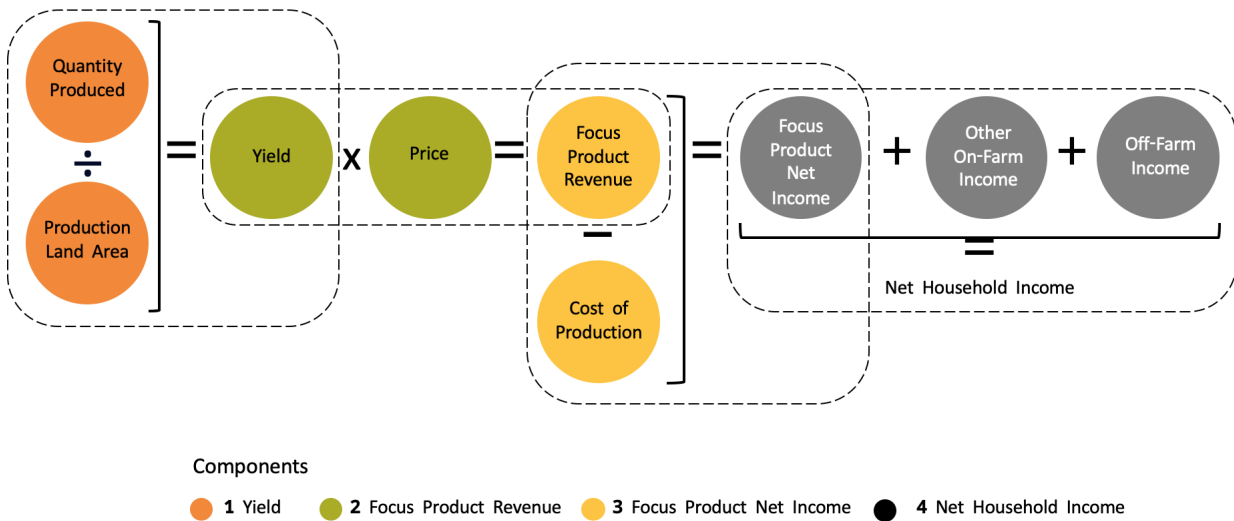
income per person per day, and the net income per person per day determined by the poverty benchmark.

3. **Livelihoods** - A broader concept with less formal agreement on the specifics of its definition. A person's livelihood is considered sustainable when it can cope with and recover from shocks and grow assets both now and in the future, while not undermining natural resource bases.

Creating a Farm Economic Model:

A common framework and approach for farm economic metrics is essential to facilitate consistent and standardized reporting. The below Farm Economic Model (Figure 1) represents the individual household economic metrics outlined in the Metrics section of this document and how they are used together to calculate household net income.

Figure 1. Farm Economic Model



*Please note that the sub-indicators for Yield have a bias towards cropping system contexts, as land area measurements in particular require certain considerations to be accurately reported in a standardized way. However, we note that for animal products yield will refer to the quantity of the animal product (meat, milk, eggs, etc.) produced by number of animals. We also note that in some other systems, yield calculations may be enhanced by understanding productivity based on other factors (i.e., by plant or by tree). Quantities produced will be informed by the specific crop or product produced. These nuances are explained further in the **Focus Crop/Product Yield indicator** explanation.

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. To evaluate whether farming households are earning enough for a decent standard of living (i.e., a living income), one could use this model and compare the net household income to a living income benchmark. Some poverty benchmarks (World Bank, National poverty lines, etc.) may refer to the amount of income per person in a household. For that purpose, we define household members as: 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 fulfill their nutritional needs and share expenses from a common pot.

Note that one metric that is outside the full scope of this current document is the “net income value of self- consumed crops and livestock”. While this document does provide some initial guidance on this topic, we do not present a complete methodology for it here. It is important to understand that in some systems (typically smallholder) the value of agricultural or livestock products that are self-consumed or traded for items other than money is important 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 Household Economy Approach: A resource manual for practitioners](#)
- [Measuring Livelihoods and Environmental Dependence: Methods for Research and Fieldwork](#)

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 vital 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 [ISEAL’s Common Core Indicators & Performance Metrics for Key Sustainability Issues](#) or the [COSA Indicators](#) and resources for approaches to measure the multi-dimensionality of sustainability. Other sets of crop/ product or sustainability issue focus indicators also exist by industry or theme.

III. INDICATOR/ METRIC TABLE OVERVIEW

The metrics used to calculate farm productivity, actual income and cost of production will be displayed in a table with the following fields detailed:

General Indicator/ Metric Structure

Indicator Name	Name of the indicator
Description	Explanation of the indicator in context
Metric	Indicator measurement
Unit	Standard unit for measurement
General Guidance	Guidance on how to measure the metric. The guidance highlights differences between approaches in performance monitoring and more in-depth studies, as well as tips on where common measurement errors occur.
Benchmarking	Alignment with other standards, norms or commonly accepted resources on this topic.
Performance Standard	Where feasible, instruction on how to interpret positive or negative performance on an indicator. Is often related to regional or crop/ product specific contexts.
Limitations	Shortcomings of the indicator as defined and considerations for improving reporting.
Calculation	How the metric is calculated using the specified data points collected.
Data Source	Acceptable sources of data to inform the indicator (e.g., farmer recall, activity or procurement records, etc.).
Survey Questions	The simple set of questions (Monitoring approach) that can be used with producers to collect the necessary data points on an indicator.
Validations	Instructions and guidance for ensuring data quality.

IV. ACTUAL INCOME AND COST OF PRODUCTION INDICATORS/ METRICS

Indicator Name	1. Land area allocated to Focus Crop/ Product
-----------------------	--

<p>Description</p>	<p>Total Farm size refers to total property size, including land used to grow crops, pasture, wooded areas, land covered by buildings, and any other area included in the property.</p> <p>Total farm size for focus crop/ livestock farming is the sub-section of the total farm size that is dedicated to the focus crop/ livestock farming.</p> <p><i>Note: Although land area is not used to define livestock farming productivity, the number of animals per area is important to assess carrying capacity and animal welfare.</i></p>
<p>Metric</p>	<p><u>Total farm size:</u> Total area of the farm (ha) (also broken down by each type of crop or livestock use)</p> <p><u>Total focus crop/livestock farming area:</u> Total area under focus crop/ livestock farming (ha) and (if relevant) can be broken down by individual plots and/or area that is productive, renovated, rehabilitated, or left to rest/ rotational grazing.</p>
<p>Unit</p>	<p>Best practice is to collect response in locally relevant units, and then perform conversion to a standard international unit (ha)</p>
<p>General Guidance</p>	<p>The farm area is the total land area that ANY household member either (i) owns (with or without ownership title), (ii) has rights to use (possession, assigned communal land, land reform titles, etc), (iii) has any land-use arrangement with third parties (loans, rentals), (iv) uses as a sharecropper.</p> <p>It is ok to rely on farmer recall although more rigorous estimates will include GPS or polygonal mapping data (especially important for compliance with the EUDR legislation). Consider that farms may contain multiple plots (plots are farm land areas that are not connected, or farm areas that are managed differently, or both). Make sure to add all relevant plots managed by members of a household together (that is, the farm area should coincide with the land used to account for the farm cost and revenue data being reported).</p>
<p>Benchmarking</p>	<p>SDG 1: End Poverty, target 1.4 GCP common indicators COSA-ICO Cost of production indicators</p>
<p>Performance Standard</p>	<p>Will depend on cropping/production system and regional context</p>
<p>Limitations</p>	<p>Farmers may not always know the precise area dedicated for focus crop/ livestock farming. This may affect the accuracy of calculations for other indicators such as yield, economic efficiencies, etc.</p> <p>Getting accurate plot size measurements can be challenging in smallholder production systems especially for a number of reasons (irregular plot sizes, different tenure and ownership arrangements,</p>

	<p>multiple traditional parcels, and steep slopes and/or heavy tree cover that makes it difficult to take physical measurements). There are a number of techniques to get accurate results from farmer recall, triangulating data with other sources (for example, plant or animal density rates) and GPS measurements in some cases when practical and affordable. However, calculating land areas dedicated to agricultural and livestock farming in a simple and cost efficient way still remains an active topic of discussion in the sustainability measurement community.</p>
<p>Calculation</p>	<p>Total focus crop/livestock farming area= sum of all farm areas (plots) dedicated to focus crop/product production</p>
<p>Data Source</p>	<p>Estimated/ farmer recall Farm records Calculation (number of trees or plants x average distance between them) GPS or polygon mapping</p>
<p>Sample Survey Questions</p>	<ol style="list-style-type: none"> 1. What is the total area of your farm, including all crops grown, and land used for pasture if any? _____ (unit) 2. What is the total area you use for focus crop/ or livestock farming? (This includes all focus crop/ livestock plots and any land where the focus crop is interplanted with other crops or where the focus animal shares space with other animals or products.) _____ (unit) 3. If you don't know exactly the area, about what percent of the total farm do you use for focus crop/ livestock farming? _____ % 4. How many [units] or what % of the focus crop area has been productive in the past year of production? 5. How many [units] or what % of the focus crop area has been renovated in the past year of production? 6. How many [units] or what % of the focus crop area has been rehabilitated in the past year of production? 7. In the past year of production, how many units of the livestock farming area were designated for rotational grazing or rest periods?
<p>Validations</p>	<p>Data validation should ensure that:</p> <ul style="list-style-type: none"> - All areas are reported in number (decimal) formats - The total area planted in the focus crop/ livestock farming should be less than the total farm size.

	<ul style="list-style-type: none"> - Area or % of focus crop area that has been productive should be less than or equal to the total focus crop area, or 0 - Area or % of focus crop area that has been renovated should be less than or equal to the total focus crop area, or 0 - Area or % of focus crop area that has been rehabilitated should be less than or equal to the total focus crop area, or 0 - Area or % of livestock area left for rotational grazing or rest periods should be less than or equal to the total livestock farming area
--	---

Indicator Name	2. Focus Crop/Product Yield
Description	<p>Cropping systems: Total volume target crop harvested per unit of land allocated to target crop</p> <p>Livestock systems: Quantity of meat/milk/eggs produced in standard units/ number of animals or other appropriate metrics considering the production system</p>
Metric	<p>Cropping systems: kgs of focus crop in most common form produced/ ha of focus crop productive area (or other standard unit relative to individual crops or products). In some crops, productivity measurements may also be improved by looking at production amounts per tree, plant, etc.</p> <p>Livestock systems: Quantity of product (e.g., meat/milk/eggs) produced /number of animals (other metrics may be appropriate in some cases, e.g., unit of weight gain per unit of feed consumed, etc.)</p>
Unit	Best practice is to collect response in locally relevant units, and then perform conversion to a standard international unit (e.g., kgs of standard international form/hectare or other productivity unit)
General Guidance	<p>Measuring yields is one of the most important ways that we understand agricultural/ livestock farming productivity. Many interventions in agricultural systems are designed to increase yields because: 1) yields may be below potential and 2) it offers a channel to improve the incomes of producers. Measuring yield also helps us understand production efficiencies related to inputs and it helps us examine the effects of sustainability initiatives on farm productivity.</p> <p>The approach requires knowing:</p> <ol style="list-style-type: none"> 1. Focus crop productive area (requires local land area unit conversion to hectares) 2. Amount harvested (requires local unit conversion to kgs or other standard unit). Amount sold can be a suitable proxy where harvested

	<p>amounts are unknown (i.e., many smallholders will only know production volumes when their product is weighed at the collection site)</p> <p>3. Form of focus crop/ product (will require conversion to most common form exported (i.e. GBE for coffee, FFB for palm, etc.)</p> <p>4. Livestock systems require knowing the number of animals, the livestock type, the breed, the quantity of product produced by the animals (in weight, volume or number of units).</p> <p>5. For livestock farming where the farmer is not selling a final product like eggs, milk or meat, calculating the feed conversion ratio (FCR) can help to provide a good idea of how productive the farm is. The FCR is the amount of feed consumed per unit of milk/ egg produced or weight gain in beef or any other livestock type production (for example, a lower FCR indicates better feed efficiency and higher productivity. $FCR = \text{Total Feed Consumed} / \text{Total Weight Gain or Product Produced}$).</p>
Benchmarking	<p>COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics: https://thecosa.org/iseal-sustainable-food-lab-cosa/</p> <p>SDG 2- Zero Hunger</p> <p>ISEAL Common Core: Production - Yields</p> <p>GCP common indicators</p> <p>COSA-ICO Cost of production indicators</p>
Performance Standard	<p>Can be benchmarked to crop-specific and regional or national productivity averages</p>
Limitations	<p>Amount harvested may not be known in all cases. Where unknown, amount sold can be a suitable proxy (i.e., many smallholders will only know production volumes when their product is weighed at a selling point).</p> <p>This approach also does not consider the amount held by producers, which can be significant for larger farms, but for smallholders is usually nominal (and when smallholders do hold crops, it is often for less than a year).</p> <p>Other factors to take into consideration to understand productivity include: age and varieties of plants/ trees/animals; level of mechanization, production intensity.</p>
Calculation	<p>Total volume focus crop harvested/ unit land allocated to focus crop (reported in kg/ha or other appropriate units). Yield can also be understood as production per tree or plant (kg/tree) in applicable crops or on a per animal basis in livestock systems (total amount of production divided by number of productive animals).</p>
Data Source	<p>Estimated/ farmer recall</p> <p>Farm records</p> <p>Calculation (number of trees or plants or animals x average amount harvested per plant, tree or animal)</p>

<p>Sample Survey Questions</p>	<p>In traditional cropping systems:</p> <p>1. What is the total area you use to produce the focus crop? (This includes all focus crop plots and any land where the focus crop is interplanted with other crops.) _____ ha</p> <p>2. Write the total quantity of the focus crop harvested in the last production year _____ kg</p> <p>This could also be broken down by individual plots where relevant.</p> <p>3. What is the total number/ volume of livestock products (eggs, milk, etc.) per animal produced per day? _____kg</p> <p>Meat production:</p> <p>4. What is the average daily live weight gain per animal? _____ kg</p>
<p>Validations</p>	<p>Harvested volume = number (decimal format) Area = number (decimal format) Form and units for focus crop or product should be specified Some systems can benefit from cross checking land area productivity with other measures (output per tree, etc.)</p>

<p>Indicator Name</p>	<p>3. Focus Crop/Product Price</p>
<p>Description</p>	<p>The amount received per unit of focus crop/product sold</p>
<p>Metric</p>	<p>Average price received per unit of focus crop/product--reported in USD / kg (or other standardized unit for the relevant crop or product)</p>
<p>Unit</p>	<p>Best practice is to collect response in locally relevant currency and units, and then perform conversion to a standard international unit (USD/unit of crop or product)</p>
<p>General Guidance</p>	<p>Understanding the price that a farmer receives for the focus crop/product allows us to calculate the revenue from the focus crop/product and get a sense for whether farming the crop or product is attractive and profitable. Higher sales prices incentivize production and investments in the focus crop/product. Lower prices may significantly impact livelihoods, especially where farmers are dependent on that product for a majority of their income. By collecting price data, it is possible to compare the price the farmer receives to other market information like global prices or the prices buyers receive. It also helps us understand how instruments of differentiation (quality, certifications, etc.) impact prices and overall producer incomes.</p>

	<p>The simple approach involves asking for the total revenue received from the focus crop/product during the last production year as well as the amount sold (and the form of the product). The average price per unit can then be calculated. For multiple sales, calculate the price average of sales.</p> <p>For a more accurate response, an alternative approach is to ask about the price received per each sale (with the associated premiums, deductions, and bonuses included).</p>
Benchmarking	<p>COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics: https://thecosa.org/iseal-sustainable-food-lab-cosa/ SDG 2- Zero Hunger ISEAL Common Core: Business Resilience- Lowest and highest price (per kg) received for product GCP Common indicators COSA-ICO Cost of production indicators</p>
Performance Standard	<p>Can be benchmarked to the global reference price (i.e., ICO, ICCO for coffee) or by regional or national averages</p> <p>Price should be higher than the cost of production to indicate focus product farming profitability</p>
Limitations	<p>The simple approach does not detail premium, bonus, or deduction amounts, etc. which may affect the price the farmer receives. Often, farmers may not know these amounts specifically and they can be paid at different times during the year.</p>
Calculation	<p>Price/unit= Total focus crop or product revenue /(units) of (form) sold</p>
Data Source	<p>Estimated/ farmer recall Sales records or purchase records from buyer</p>
Sample Survey Questions	<p>Simple Approach: 1. Write the total quantity of the focus crop/ product sold during the last production year _____ kg (will include relevant forms if necessary--e.g., in coffee systems producers may sell green beans, fresh cherries, etc.)</p> <p>2. How much money did you receive (in total for the production year) from sales of the focus crop/ product? _____</p> <p>Complete Approach: Ask for the price received per sale (if known) and average across sales.</p>
Validations	<p>Revenue= Specified currency (decimal format) Amount sold= Specified currency (decimal format)</p>

	Farmer recall estimates can be triangulated with purchase or sales amounts and should be less than production amounts unless the product was stored for later sale.
--	---

Indicator Name	4. Focus Crop/Product Revenue
Description	Gross revenue from all sales of focus crop or product
Metric	USD/farm earned for all focus crop/product sales (Can be reported by land area or other product specific units for comparability)
Unit	Best practice is to collect response in locally relevant currency and units, and then perform conversion to a standard international unit (USD; USD/land area)
General Guidance	<p>The simple approach (which avoids the additional time and resources necessary for detailed accounting while still providing good results) is to ask for the total revenue from sales of focus crop as a whole during the last production year. This indicator can also be reported on a per hectare basis to allow comparability across projects and regions. More complex approaches will ask for the value of each sale and sum those for the production year.</p> <p>This indicator is a Sub-metric for Net Income from Focus Crop/Product Production (or Profit).</p>
Benchmarking	<p>COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics: https://thecosa.org/iseal-sustainable-food-lab-cosa/ SDG 2- Zero Hunger ISEAL Common Core: Business Resilience- Net revenue over last year from product produced according to standard GCP Common indicators</p>
Performance Standard	Can be benchmarked to crop and/or regional or national averages.
Limitations	When looking at changes in revenues from year to year, it is important to consider the impacts from changes in prices, bonuses, premiums or deductions, or in yields or land area devoted to the focus crop for additional context.
Calculation	<p>[Total Revenue]*(conversion factor to USD)/ farm or ha under focus production OR Price(s) per unit of focus crop (See "Price" Indicator)* the number of units sold during the last production year (See "Yield" Indicator).</p>
Data Source	<p>Estimated/ farmer recall Sales records or purchase records from buyer</p>

Sample Survey Questions	<p>How much money did you receive (in total for the production year) from sales of focus crop? _____</p> <p>More advanced methodologies will ask for the total amount of USD received per each sale and sum those for the production year.</p>
Validations	<p>Revenue= Specified currency (decimal format) Land area= Number (decimal format) Farmer recall estimates can be triangulated with purchase or sales quantities and/or price data.</p>

Indicator Name	5. Focus Crop/Product Costs of Production
Description	Total costs incurred during the last production year to produce the focus crop/ product
Metric	<p>USD/farm. Sum of costs, direct and indirect, across all relevant categories (see 'General Guidance') for the crop during the last production year.</p> <p>(Can be reported by land area or other product specific units for comparability.)</p>
Unit	Expressed as USD value per farm (or by land area)
General Guidance	<p>Cost of Production is an essential component to understanding producer profitability. Not only does the indicator feed directly into Focus Crop/Product Net Income (Focus Product Revenue-Costs), but it is used in calculations for cost efficiencies of inputs. This is important because many sustainability interventions designed to increase incomes target more efficient input use. Additionally, tracking costs of production can help identify the largest sources of costs within a system, which can be used to develop interventions. Tracking costs of production also helps give a sense of the affordability of production in order to understand the long-term economic viability of the system.</p> <p>The simple approach asks only about the main costs in the production system that typically account for the vast majority of total costs (and the total amount spent on each during the last production year). By focusing on the main costs in a system, this provides a good sense of the economic picture on the farm without adding substantial detail to the approach.</p> <p>Main costs for crops typically include (at a minimum):</p> <ul style="list-style-type: none"> -Fertilizers -Pesticides -Hired Labor -Planting material/ Renovation costs

	<p>-Energy -Irrigation & water</p> <p>Main livestock costs will include: feed, housing, restocking, veterinary care, transportation, processing, etc.</p> <p>Full cost accounting approach includes additional items, for example: deductions by buyers, rent of land, capital assets, cultivation practices, traceability and record keeping, costs of standards or certifications, planting and reforestation costs, training costs, interest on credit, transportation, crop/product insurance, cooperative fees, or the value of unpaid family labor (although any important costs in a system should be captured).</p> <p>Costs should be associated with the focus crop production only (i.e., if labor is hired for multiple crops, only the portion used for the focus product production should be included). One way to make sure that costs are correctly associated with the production of the focus crop/product is to ask for the percent of inputs that were used for the focus crop/product.</p> <p>When calculating costs, include only expenditures coming from the household's own revenue. If inputs are provided as technical assistance for free or at a subsidized cost on a persistent, substantial, and systematic basis it is recommended to account for the value of the input as a cost in the calculation (at an appropriately determined rate).</p> <p>This indicator is a Sub-metric for Net Income from Focus Crop Production (or Profit).</p>
<p>Benchmarking</p>	<p>COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics: https://thecosa.org/iseal-sustainable-food-lab-cosa/ SDG 2- Zero Hunger ISEAL Common Core: Business Resilience - Total production costs for production according to standard over last year (labor, fertilizer, chemicals, equipment, energy, water) ICO Transparency at Origin COSA Indicators GCP common indicators</p>
<p>Performance Standard</p>	<p>Can be benchmarked to cropping system and/or regional or national averages</p>
<p>Limitations</p>	<p>It is important to consider the results in light of the context: for example, in low price years, farmers of tree crops tend not to invest (e.g., by replanting) and instead "mine" the existing plants. If this continues for several years the average 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</p>

	income of a particular year. Inflation rates may also affect the context for production costs.
Calculation	Calculation: USD total cost of inputs + equipment use + labor for production of the focus product (Can be divided by unit of production or land area)
Data Source	Estimated/ farmer recall Farm records
Sample Survey Questions	<p>For cropping systems: the most important costs in a system should be included--typical costs included below:</p> <ol style="list-style-type: none"> 1. How much did you spend (in total for the last production year) on fertilizers for the target crop? 2. How much did you spend for all pesticides used for the target crop on this farm in the last production year? 4. How many seedlings did you plant during the last production year? For those seedlings, what was the average price per seedling? 5. How many permanent and casual laborers of each type did you hire in the last production year? (Permanent means a laborer works at least four days a week for more than 6 months a year.) <p>Labor can be asked by breaking down the number of workers, number of days and typical daily pay per type of labor for both permanent and temporary workers. Permanent labor types include: managerial/supervisory, technical services, general labor, and indirect support activities. Temporary labor includes: focus crop production, harvesting, processing.</p> <p>For livestock systems: questions should consider the cost of feed, housing, restocking, veterinary care, transportation, processing, labor etc.</p>
Validations	Costs=Specified currency (decimal format) Main costs in a system should be specified before an assessment with producers to ensure that the right costs are considered

Indicator Name	6. Net Income from the Focus Crop/ Product
Description	Total revenue from focus crop/product sales less total costs for focus crop/product production
Metric	USD per farm Can be reported by land area or other product-specific units
Unit	Focus crop/product Revenue and Costs should already be reported in USD (resulting from the Revenue and Cost indicators).

General Guidance	This is a calculation of the “Focus Crop Revenue” indicator- “Focus Crop Costs of Production” indicator. No additional data points are required.
Benchmarking	COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics: https://thecosa.org/iseal-sustainable-food-lab-cosa/ SDG 2- Zero Hunger ISEAL Common Core: Business Resilience- Net revenue over last year from product produced according to standard
Performance Standard	Positive number indicates that focus crop/product production is profitable
Limitations	Changes in focus crop net income year to year will need to be considered in context e.g., changes in prices received, input costs, shocks to the system, or changes in land area devoted to focus production. Many of these factors may not be within the farmers direct control.
Calculation	Total Revenue-Total Costs for Focus Crop Production (USD)/ farm
Data Source	<i>Calculation.</i>
Sample Survey Questions	<i>Calculation.</i>
Validations	Ensure that the revenue and cost data refer to both the same production year and the same production units. That is, costs associated with other products sold or products produced during different time periods should not be associated with the current year focus crop/product revenue figures.

Indicator Name	7. Net Income from other On-Farm Activities
Description	Net Income from all other farm activities (revenue - costs) Refers to other commodities, livestock & by-products, or on-farm services provided
Metric	USD/Farm
Unit	USD
General Guidance	This includes both the revenue and costs for all other productive farm activities, which could include other crops and products and/or farm services. Beyond the focus crop/product, it is important to understand other crop and animal products produced on the farm, the amount sold, revenue generated, and costs incurred for producing those crops or products. This helps us calculate the Net Income from the other

	<p>crops/ products and also factors into the Net Household Income calculation.</p> <p>Diversified agricultural systems (those that rely on more than a single crop for income) are more economically and environmentally resilient. Producers that produce multiple crops or products for sale are more insulated from shocks like crop failures, they produce an increased variety of foods that can be consumed (improving food security and dietary diversity) and contribute to biodiversity and the environmental health of the farm.</p> <p>Tracking revenues from other crops also gives a picture of how focus crop/product and non-focus revenue contribute to the overall economic situation on the farm and reveals the degree of dependence on focus crop/product production to generate income.</p>
Benchmarking	COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics
Performance Standard	<p>Farms with some levels of diversification are considered more resilient in the sense that all of the income from the farm is not dependent solely on the focus crop or product.</p> <p>Positive number indicates that other on farm activities are profitable</p>
Limitations	<p>This indicator should always be understood in light of the broader general economic context that includes changes in prices, yields, or land area devoted to the focus crop or other crops.</p> <p>Note that this indicator does consider generally the value of crops or products that are not explicitly monetary (for example, farmers may consume or trade some of their crops, or feed crops to animals). Assessments of smallholder systems or those with greater poverty risk should consider expanding the assessment to get a more holistic understanding of the producer’s economic situation, if applicable.</p>
Calculation	Sum of each additional crop or product Revenue- Costs to produce that crop or production
Data Source	Estimated/ farmer recall Farm records

<p>Sample Survey Questions</p>	<p>Did you produce any other crops/livestock or other products besides the target crop/product during the last production year? If yes, write the five most important crops/ products in the table, and write the % of production that was sold or traded (not for family consumption). If for sale or trade, write the total revenue received for the crop over the year (either in actual money or the value of the items received in trade) and an estimate for the total cost of production. See <i>tables below</i>.</p> <table border="1" data-bbox="581 499 1455 850"> <thead> <tr> <th>Other Crop(s)/ Product(s)</th> <th>% For sale or trade (not family consumption)</th> <th>Revenue from sales or trade (actual money received or value of items received in trade)</th> <th>Cost of production (estimate)—e.g., fertilizers, pesticides, pay to workers, etc.</th> </tr> </thead> <tbody> <tr><td>1</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td></tr> </tbody> </table> <table border="1" data-bbox="565 894 1482 1245"> <thead> <tr> <th>Animal/ animal product</th> <th>% For sale or trade (not family consumption)</th> <th>Revenue from sales or trade (actual money received or value of items received in trade)</th> <th>Cost of production (estimate)</th> </tr> </thead> <tbody> <tr><td>1</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td></tr> </tbody> </table> <p>Did you receive any income during the last production year from renting land or other items? If so, how much? _____</p>	Other Crop(s)/ Product(s)	% For sale or trade (not family consumption)	Revenue from sales or trade (actual money received or value of items received in trade)	Cost of production (estimate)—e.g., fertilizers, pesticides, pay to workers, etc.	1				2				3				4				5				Animal/ animal product	% For sale or trade (not family consumption)	Revenue from sales or trade (actual money received or value of items received in trade)	Cost of production (estimate)	1				2				3				4				5			
Other Crop(s)/ Product(s)	% For sale or trade (not family consumption)	Revenue from sales or trade (actual money received or value of items received in trade)	Cost of production (estimate)—e.g., fertilizers, pesticides, pay to workers, etc.																																														
1																																																	
2																																																	
3																																																	
4																																																	
5																																																	
Animal/ animal product	% For sale or trade (not family consumption)	Revenue from sales or trade (actual money received or value of items received in trade)	Cost of production (estimate)																																														
1																																																	
2																																																	
3																																																	
4																																																	
5																																																	
<p>Validations</p>	<p>Monetary Units: Specified currency (decimal format) Other on farm revenue amounts should be consistent with the percentage of the overall farm revenue dedicated to the additional crops or products. That is, if the focus crop or product makes up a certain percentage of overall farm income, the inverse of that should be reflected in the amount reported in this indicator.</p>																																																

<p>Indicator Name</p>	<p>8. Net Income from Off-Farm</p>
<p>Description</p>	<p>Net Income from all other household income-generating activities (revenue - costs) Refers to other earnings (off farm employment, business revenue, and gifts & remittances)</p>

Metric	USD/Household (all members)
Unit	USD
General Guidance	<p>Diversified revenue streams (those that rely on more than a single source of income) are more economically resilient in the face of shocks. Producers that have other sources of income besides agricultural production--remittances, government transfers, off-farm wages, or income from businesses--are more likely to create a steady income stream for their families in the face of different economic or environmental factors that may impact their agricultural systems.</p> <p>Tracking revenues from other sources also gives a picture of how different streams of income contribute to the overall economic situation on the farm and reveals the degree of dependence on each source of revenue.</p> <p>Information should be obtained on all household member income-generating activities.</p>
Benchmarking	<p>ICO Transparency at Origin indicators COSA, SFL, ISEAL Guidance on Reporting Farm Economic Metrics Global Living Wage Coalition</p>
Performance Standard	<p>Households with some levels of diversification are considered more resilient in the sense that all of the income is not coming from a single source.</p> <p>Positive number indicates that other on-farm activities are profitable.</p>
Limitations	This indicator does not factor in asset values, capital or credit.
Calculation	Sum of all other off-farm business revenue streams- costs incurred to generate that revenue.
Data Source	<p>Farmer Estimates/Recall Household records</p>
Sample Survey Questions	<p>Has the household received any money such as remittances from friends/relatives, gift money to pay for health or education, or any other money not earned from a job in the last production year? If yes, how much did you receive during the last production year from these sources?</p> <p>In the last production year, did you or any other member of your household earn income off the farm? If yes, fill out the below table.</p>

	Off-farm Income Source	Months worked per year	Amount typically brought home after expenses (answer rate basis next)	Rate basis
	1			<input type="radio"/> Monthly <input type="radio"/> Weekly <input type="radio"/> Daily
	2			<input type="radio"/> Monthly <input type="radio"/> Weekly <input type="radio"/> Daily
	3			<input type="radio"/> Monthly <input type="radio"/> Weekly <input type="radio"/> Daily
	4			<input type="radio"/> Monthly <input type="radio"/> Weekly <input type="radio"/> Daily
	5			<input type="radio"/> Monthly <input type="radio"/> Weekly <input type="radio"/> Daily
Validations	<p>Monetary Units: Specified currency (decimal format)</p> <p>Ensure that income from all household members is included. For reference, we define household members as: 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 fulfill their nutritional needs and share expenses from a common pot.</p>			

Appendix: List of Resources

This work pulls from several collaborations and co-created resources on topics of Income and Cost of Production, including:

1. SFL, COSA, ISEAL Alliance: “Measuring Smallholder Incomes” Towards better alignment and reporting of farm economic metrics” (October 2016): <http://sustainablefoodlab.org/wp-content/uploads/2015/12/Guidance.Farm-economics-metrics.Nov2016.pdf>
2. GCP Common Indicators and Technical Specifications for Coffee Sustainability Overview: <https://www.globalcoffeeplatform.org/our-work/tools/coffee-data-standard/#integration>
Coffee Data Standard: <http://datastandard.globalcoffeeplatform.org/en/latest/>
3. The Anker Living Income methodology: <https://www.living-income.com/measurement-living-income>
4. The Anker Living Wage methodology: <https://globallivingwage.org/about/anker-methodology/>
5. Living Income Community of Practice- LICOP: <https://www.living-income.com/>
6. LICOP Actual Income, prepared by The COSA and KIT: <https://www.living-income.com/measurement-actual-income>
7. Global Living Wage Coalition: <https://globallivingwage.org/about/>
8. ICO CPPTF Technical workstream II: Transparency at Origin on Cost of Production and Actual Income (currently developed for coffee but that can be applied to any agriculture commodity): <https://ico.thecosa.org/indicators/>
9. Farmer Income Lab: <https://www.mars.com/sustainability-plan/thriving-people/increasing-farmer-income/farmer-income-lab-publications>