The Living Income
Community of Practice

Federal Ministry for Economic Cooperation and Development
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
iseal alliance
Sustainable Food Lab

Looking to measure incomes and the income gap?

How do you measure household income when working towards a living income?

How do you approach calculating the living income gap?

What to do if data is missing or absent?

FAQ v.1.0 Oct 2021

To suggest corrections or ideas for improving the FAQ: please contact Adam@isealalliance.org.

Purpose of this FAQ

This FAQ is designed to help LI CoP members understand how to approach measuring smallholder household incomes and the living income gap.

- Measurement of smallholder incomes and the living income gap is key to understanding and taking action to improve livelihoods. However, smallholder incomes can be multifaceted and complex, and for many reasons, it is unlikely that any two measurement approaches will be the same.
- When working towards living income however, aligning around measurement is important wherever possible. Alignment can support collective understanding, warrant comparability across actors and contexts, and ensure credible claims and well-informed decisions around income improvement.
- Recognizing that it is difficult for a single actor to shift incomes in dynamic smallholder environments; alignment around measurement can open opportunities for partnerships and collaboration to scale up interventions.
- This FAQ aims to support users identify an approach to measuring incomes and the income gap, orienting to relevant income measurement concepts and principles and providing direction to appropriate guidance.

Before reading through this resource we recommend you first review our FAQ on living income benchmarks*

Click here to access the benchmarking FAQ

Acknowledgements

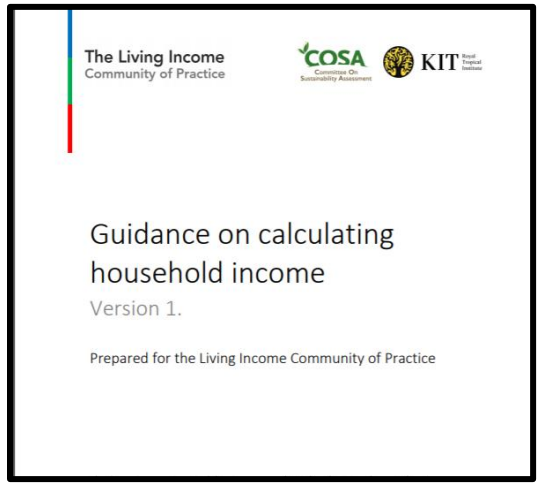
This FAQ was prepared with invaluable voluntary support from the Living Income CoP Technical Advisory Committee (TAC). Thank you to our TAC members:

Jildemarie Brouwer (*Akvo*) **Dr. Levison Chiwaula** (*University of Malawi*), **Jessi Grillo** (*Heartwood*), **Rik Habraken** (*KIT*), **Kristin Komives** (*ISEAL*), **Eberhard Krain** (*formerly GIZ*), **Lisa Minère** (*IDH*), **Aaron Petri** (*Fairtrade International*), **Carlos de los Rios** (*COSA*), **Andrea Rusman** (*Impact Institute*), **Kealy Sloan** (*Sustainable Food Lab*), **Dr. Marcelo Tyszler** (*formerly KIT*) & **Yuca Waarts** (*Wageningen University and Research*).

Guidance resources underpinning this FAQ

For full details on everything covered in this FAQ see the following guidance documents:

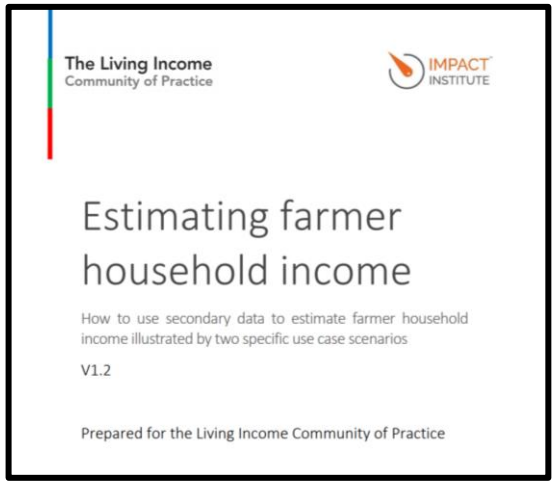
1. Income measurement



Key principles, elements and considerations for measuring actual incomes of farming households.

(incl. sample context and field collection surveys)

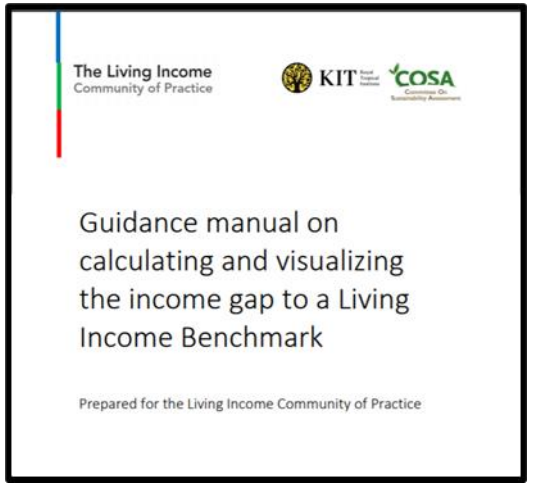
2. Income estimation



How to use secondary data to estimate incomes for use cases when field data is absent.

(incl. framework for data sourcing and calc. models)

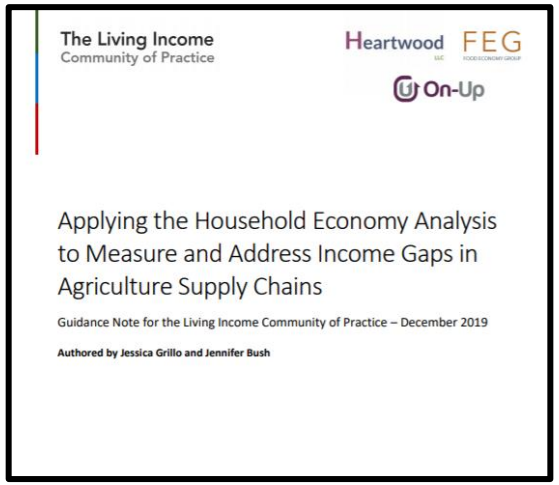
3. Gap calculation



How to adjust data and calculate, report and visualise the living income gap.

(incl. calculation and visualisation models)

4. HEA framework



A useful framework for gap measurement and potential bank of existing data sources.

(incl. example data collection tables)

*Developed with invaluable support from the Technical Advisory Committee.

Structure of the FAQ

Part 1: Income measurement basics

- What is actual income in the context of living income?

Part 2: Approaching income measurement

- How do I define my income measurement approach?

Part 3: Collecting and sourcing income data

- How should I collect or source actual income data?

Part 4: Calculation, visualization and reporting

- How do I calculate, visualize and report the gap?

SECTION 1:
Income measurement basics

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What is actual income and its constituent elements in the context of living income?

SECTION 1: Income measurement basics

Questions covered:

- What is actual income?
- How does actual income fit into the living income story?
- Why is actual income a household concept?
- What income sources should be measured?
  - What is ‘net farm income’?
  - What is ‘net off farm income’?
  - What is ‘other income’?
- Do I need a living income benchmark?
- Where can I find existing benchmarks?
- What guidance is there on measuring incomes and the income gap?

What is ‘actual income’?

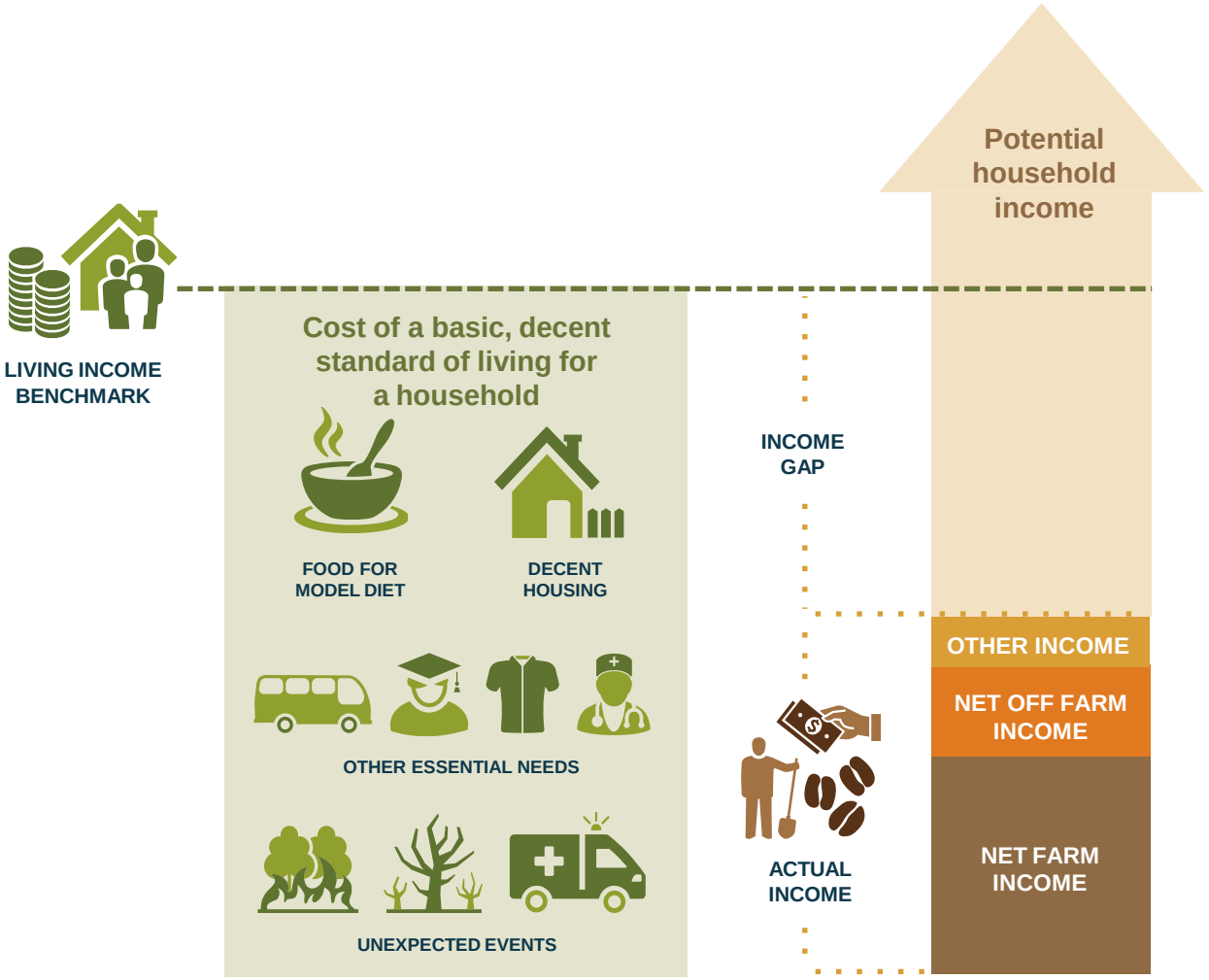
In the context of living income **actual income is:**

“The net income earned by all members of a household in a particular place.”

- It is usually **described annually** (a 12-month period).
- An important distinction is that it is **described in the context of a household**, and **not a nuclear family*.**
- The term household is defined as **a shared economic pot** that represents those **living together under one roof and sharing resources.**

Click here for an explanation of why actual income is a household concept.

How does actual income fit into the living income story?



- The living income story can be seen as **an equation with income and costs accounted for on each side.**
- On one side, there is the **living income benchmark** which accounts for living costs – specifically 'an estimate of the cost of a **decent standard of living** for a household'.
- On the other, there is **actual income**, which encompasses **all income sources and income related costs** of a household.
- The difference between a living income benchmark and actual household income is **the income gap**.

Why is actual income a household concept?

A household is referred to instead of a nuclear family because:

- In many smallholder contexts it is **normal for non-family members to live under the same roof,** pool income and share resources.
- The concept is more comprehensive; **better reflecting the economics of shared incomes**, and **intra-household dynamics**.

How household size and composition* is determined will affect:

- Your **approach in income measurement,**
- Your **approach to calculating the income gap. The household size and composition measured **ultimately needs to match** that of the living income benchmark you are comparing with. **Adjustments may be required after collecting income data to ensure comparability.**

Click here for more information on how to define and measure household size.

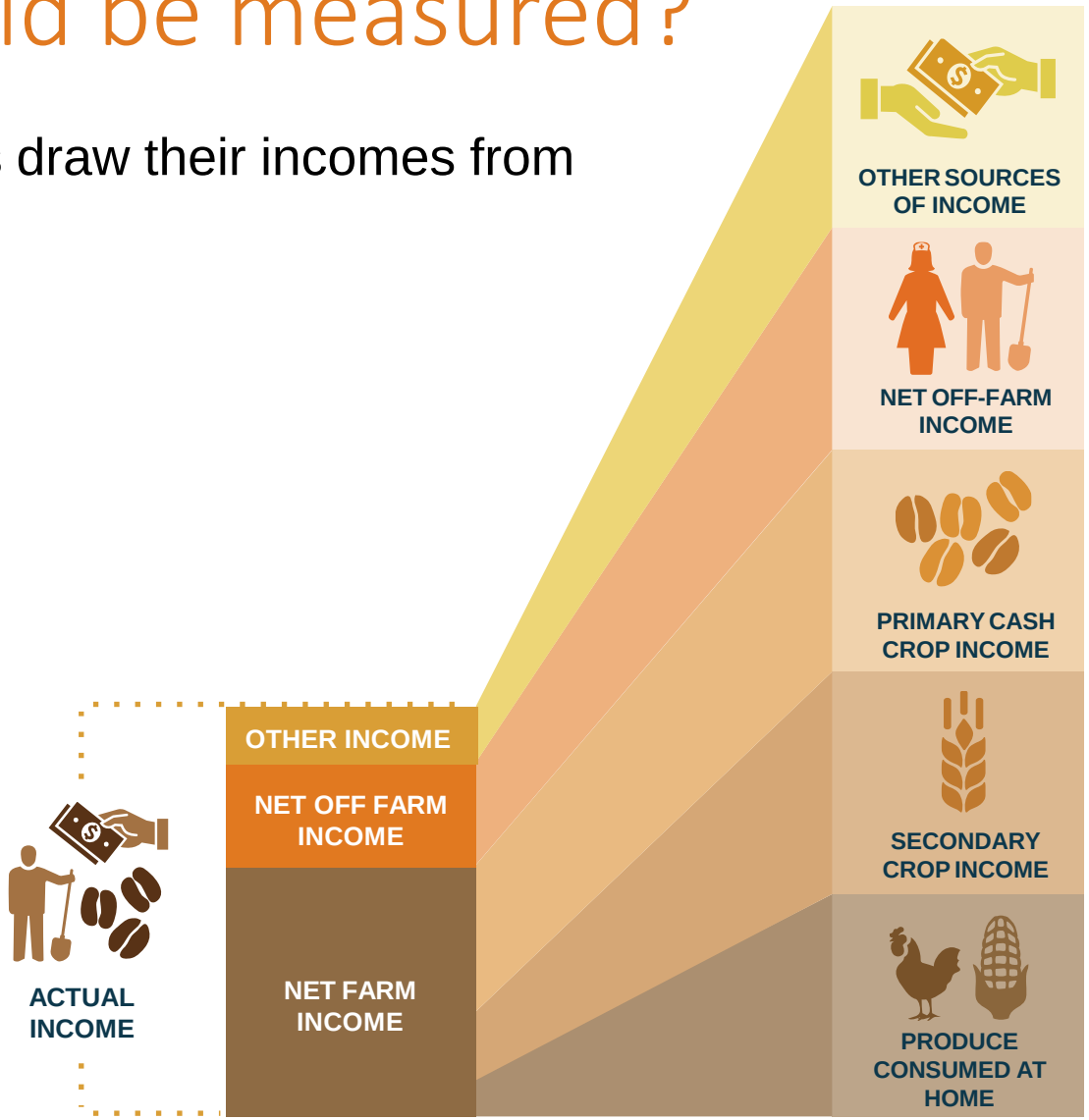
What income sources should be measured?

- Evidence shows that smallholder households draw their incomes from a variety of sources.

- These can be generally categorized into 3 (which can then be further subdivided):
  - **Net farm income**
  - **Net off farm income**
  - **Other income**

- Actual household income is **the sum of the net incomes across these sources.**

***Note** – Be aware that farm income or income from a specific crop of interest may not be the largest source of income for a household. Enumerating other sources is therefore important.

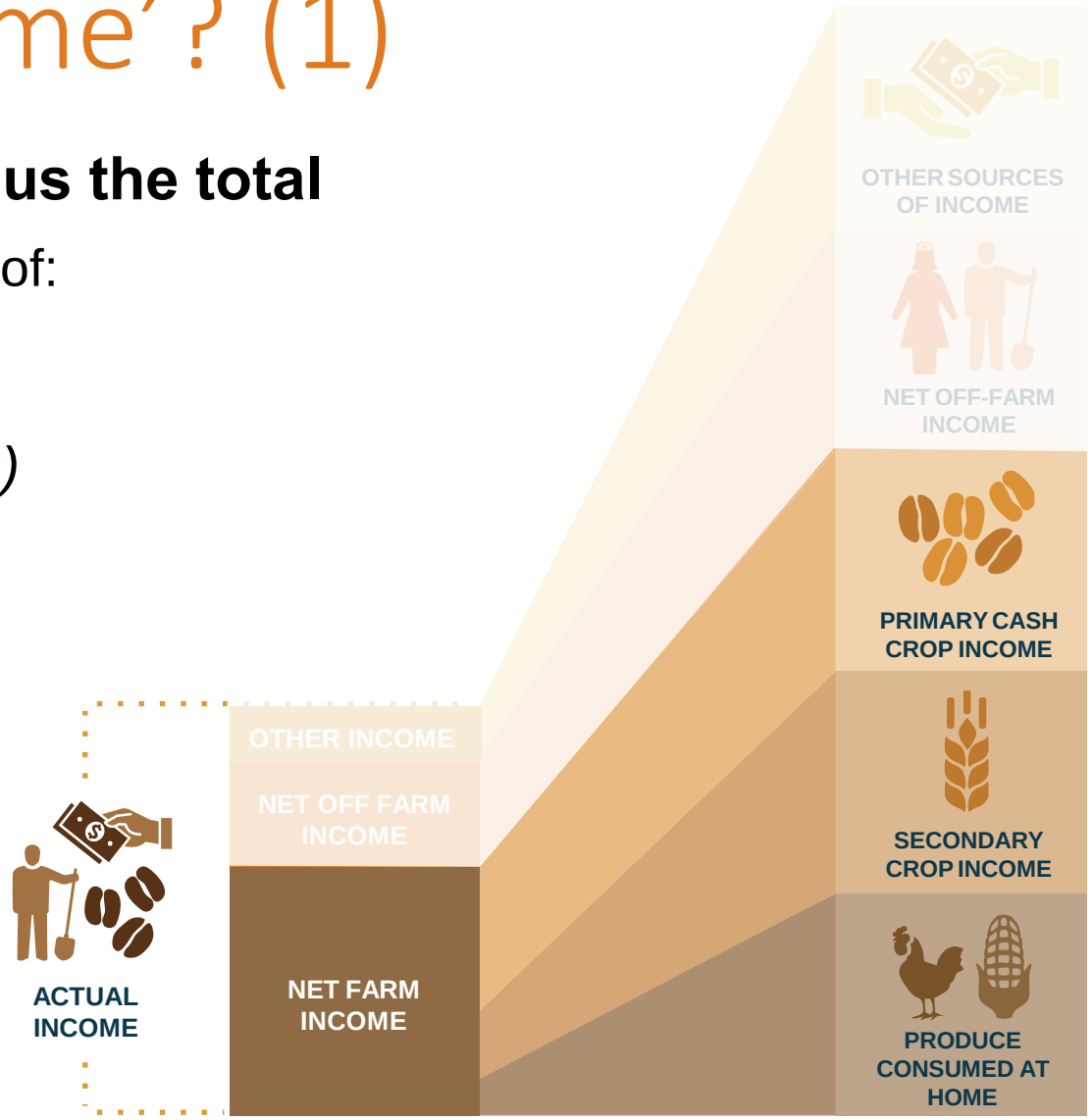


What is ‘net farm income’? (1)

‘The total value of farm production minus the total costs of farm production’. It is composed of:

- **Total value of production**
  (Total production x Av. price farmer receives)
  Can come from three main sources:
  - Primary crop (e.g. cacao, coffee);
  - Other crops;
  - Livestock; livestock products, and by-products

- **Note:** It is important to consider total value of production rather than the value of sales.



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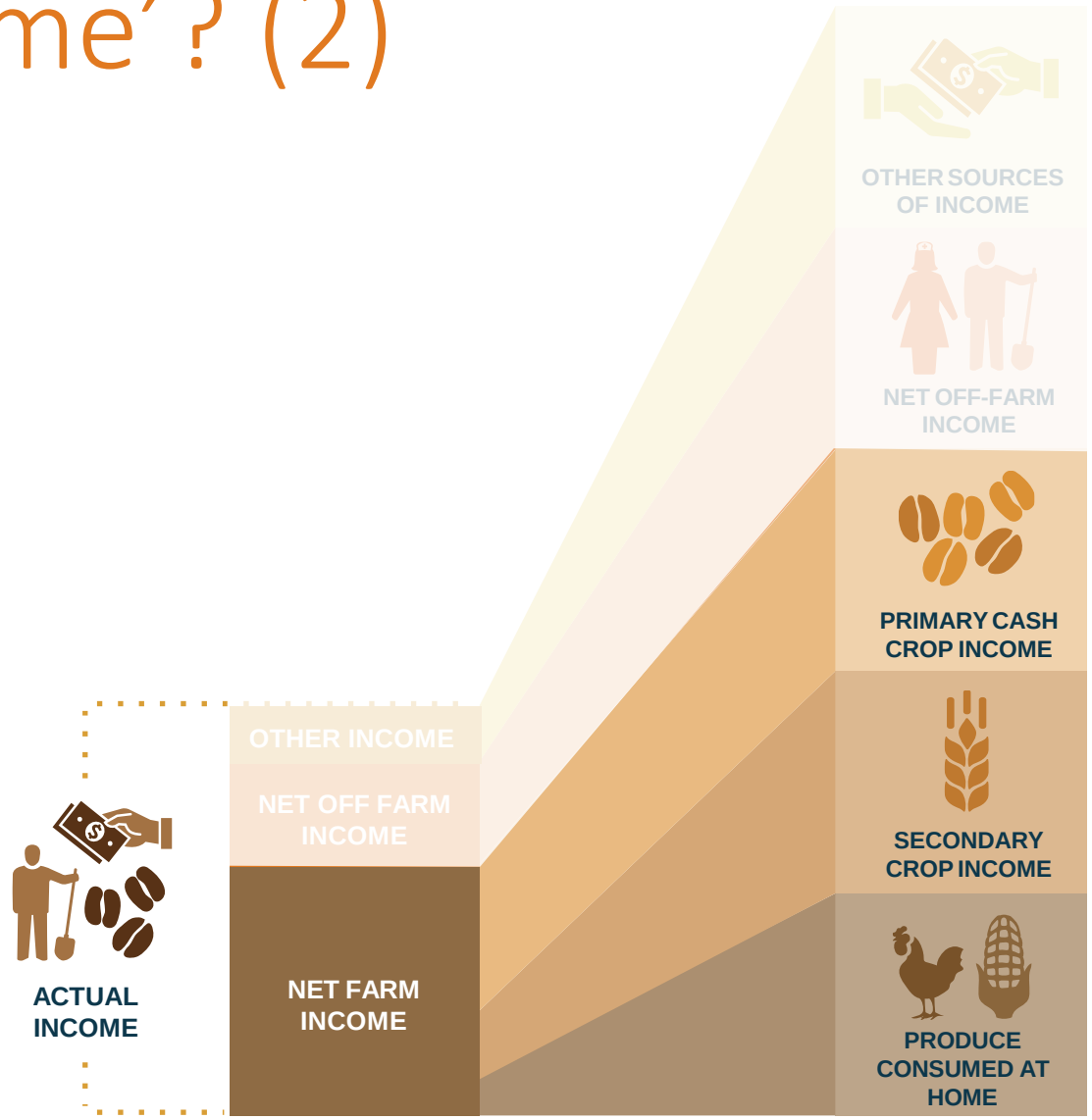
What is ‘net farm income’? (2)

Total costs of production. The sum of:

- **Direct (input) costs** – Hired labour, fertilizers, pesticides, seeds, credit, production related transportation.
- **Indirect costs** – Taxes, security, cooperative membership fees.
- **Depreciation and costs of operation and maintenance** - for productive assets and vehicles.
- **Opportunity costs and amortized costs of establishment** – Cost of land and the establishment of perennial crops.

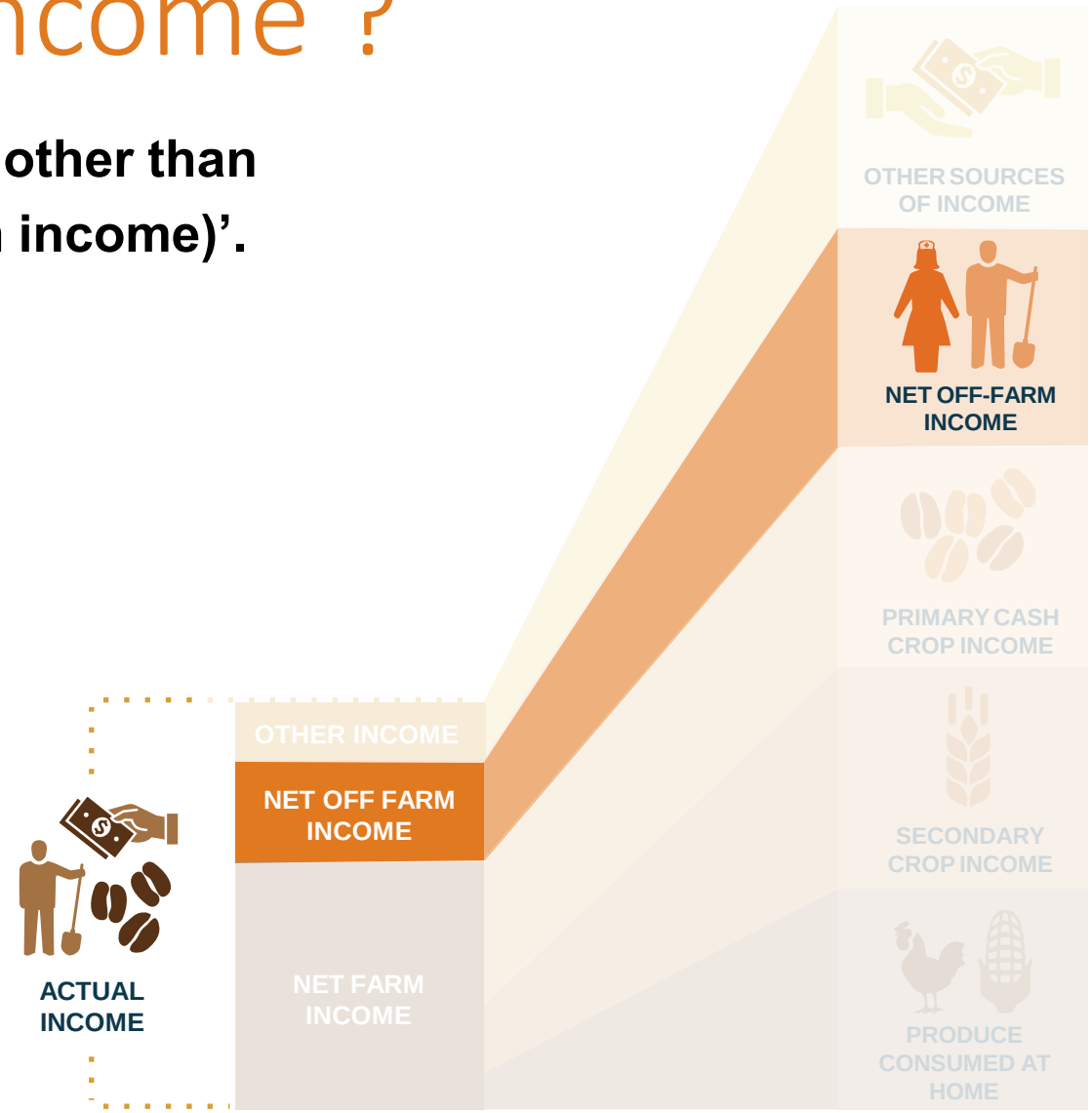
Note: Not all costs are relevant in all contexts. Understanding operational context is important to inform what costs should be prioritised for measurement and data sourcing (see this slide).



What is ‘net off farm income’?

‘Income coming from all economic activities other than the production of agricultural products (farm income)’.

- This can come from a variety of sources and compose a sizeable proportion of net income.
- Generally categorised into:
  - **Self-employment** - ownership of a business that produces and sells goods or services.
  - **Wage employment** - income received from all household members for labour with third parties. Can be an implicit employment contract arrangement, or agreed informally.



Note: Enumeration should consider income related tax, deductions, and costs.

What is ‘other income’?

‘Income from non-farm and non-labour sources.’

Sources include:

- **Public and private transfers/transactions -**
  - E.g. From land rentals or sharecropping.
- **Gifts**
- **Remittances**
  - From non-household sources (e.g. government, non-profit organizations, former household members or relatives)

Do I need a living income benchmark?

- If looking to measure actual income **to understand the living income gap**, **a living income benchmark is required** (e.g. Anker LI benchmark).
- **Understanding the gap to a living income** will help to **inform and support action**.
- The **lack of a benchmark should not hold up income measurement** however. **Income data** can still be used to **inform action on income improvement.**
- In absence of a LI benchmark, **other benchmarks** such as poverty lines and cost of living assessments **can be referenced** to better understand the income situation.
- To support decision making several levels of benchmarks can be visualised together to form an **income ladder**.

SEE THE BENCHMARKING FAQ FOR MORE DETAIL

Where can I find existing benchmarks?

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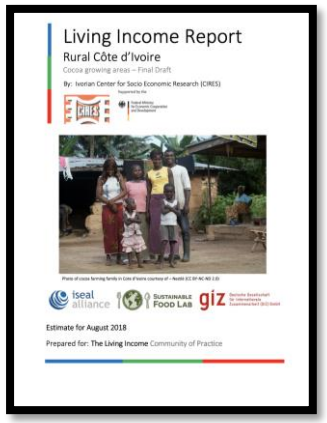
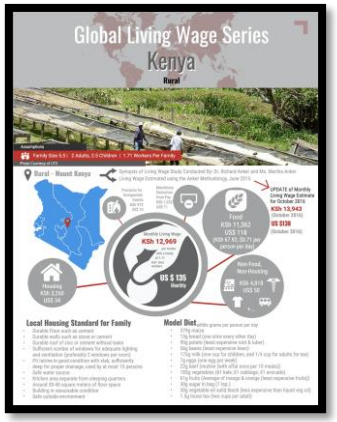
www.living-income.com



Living income benchmarks available for the cocoa industry in Ghana & Cote d'Iviore.
Also Excel database with summary of living income benchmarks published in other locations.

GLOBAL LIVING WAGE COALITION

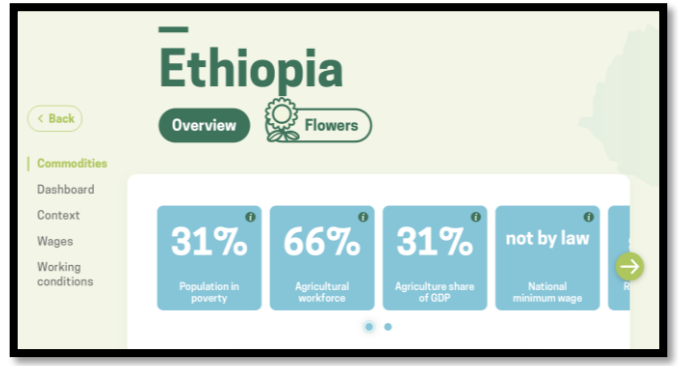
www.globallivingwage.org



Living wage estimates available in 26 countries, with application in multiple industries

ALIGN

www.align-tool.com

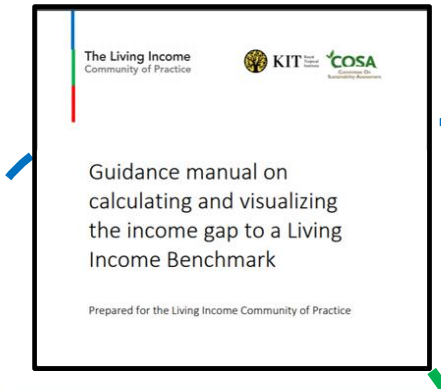


Website with ambition to eventually host information on all available living income and living wage benchmarks.

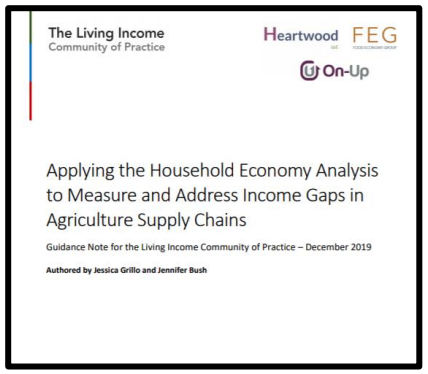
What guidance is there on measuring incomes and the income gap?

Click on guidance documents to access directly…

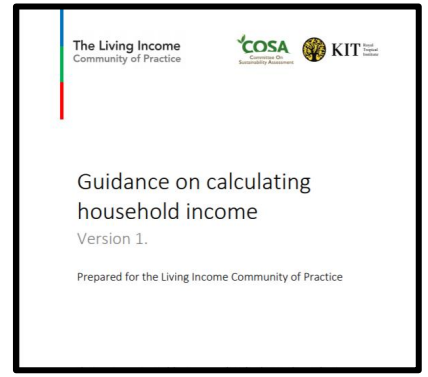
Income gap calculation



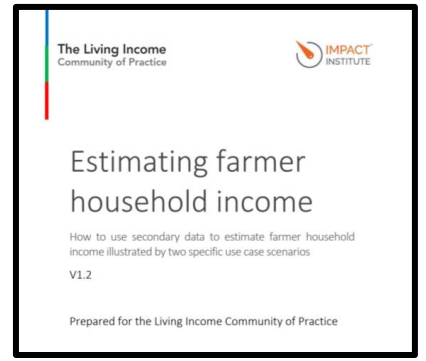
HEA framework



Income measurement using primary data



Income estimation using secondary data



SECTION 2:
Approaching income measurement
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How do I define my income measurement approach?

SECTION 2: Approaching income measurement

Questions covered:

- How do I measure actual income?
- What methods can be applied to collect income data?
- How do I decide which methods to use?
  - What is my use case and why is it important?
    - How does my use case influence my measurement approach?
    - How do I choose an approach based on my use case?
    - What other measurements might I need to satisfy my use case?
  - Why is understanding context important?
    - How do I understand context?
  - Why is my starting point and capacity important?

How do I measure actual income? (1)

There is no silver bullet to measuring actual incomes relative to living income. For reasons explained over the coming slides, no two approaches are the same.

However, **all should align with** the following **principles to ensure validity and comparability**:

- **Attempt to enumerate all elements of net household income:** Net farm income (production related revenue and costs), net off farm income (wages and self-employment) and other income (e.g. remittances)
- **Be transparent about your approach**, including specific measurement and reporting decisions.

"Actual income is the net income earned by all members of a household in a particular place."

How do I measure actual income? (2)

- As smallholder incomes are often composed of several sources and associated costs, measuring actual incomes can be complex. **It does not have to be.**
- The key is to **define a feasible, cost effective measurement approach** that **generates accurate, representative, and fit-for-purpose data**.
- As with any form of measurement, the **more precisely you measure,** the **more time and resources** are required.
- As getting precise income data is difficult, **measurements of actual household income are nearly always estimates.**
- The important question is **'does my estimate of income and the living income gap give me the confidence to know, say, or do what I ultimately want to?'**

"Could you state exactly what your net income was last year? Imagine also owning a farm and a small business with costs to consider…"

What methods can be applied to collect income data?

Several methods can be used to measure the different elements of actual household income:

- **Farm level household recall surveys** – e.g. applied by KIT, COSA, IDH and Laudes Foundation.
- **Farmer field book assessments and record keeping** – e.g. applied by Agri Logic, Rainforest Alliance, Wageningen University and Research, and Fairtrade Int..
- **Mixed methods frameworks** – e.g. Fairtrade Int. and Household Economy Analyses by Save the Children.
- **Focus group discussions and expert interviews** (Always applied in combination with other methods to ensure accuracy and account for sensitivities) – e.g. Fairtrade Int. reference pricing approach.
- **Secondary data sourcing, extrapolation, and modelling** – e.g. secondary data applied in entirety by Impact Institute (True Price), and partially by GIZ (referencing crop gross margin tables). Modelling approach applied by Rainforest Alliance and Agri Logic.

For pragmatism and flexibility, **a combination of methods can be applied in a smart mix and modular approach** to enumerate different income components (e.g. on farm, off farm, and other).

Any measurement approach will likely apply a mix of methods to some degree. Applying a mix is **recommended for triangulating** and **validating data**, and **filling data gaps.**

How do I decide which methods to use?

The income measurement methods and approach you apply will ultimately depend on:

Your use case – What is your purpose for measuring the gap? What are you trying to understand or achieve by measuring it? Beyond the income gap, are you looking to explore other things with the data?

The operational context – What are key determinants of income for your farmers in their location? What are the norms and practices that determine income revenues and related costs within their context?

Your starting point and capacity – What income related data do you have/ already exists? Do you have capacity to collect the data? What is your budget and timeline?

What is my use case and why is it important?

- Your use case is your **intended purpose** for measurement, or in other words your **objectives and key intended uses** for the data.
- It affects your **data needs** (accuracy, precision, and level of detail), **the calculation process**, and the **reporting indicators** and **visualisations**.
- It will in-part determine the **relative importance**, **weight** and **approach** you take to enumerating each of the elements of **net actual household income**.
- Presented on the next slide are **several common use cases** identified across the living income community…

"What do I ultimately want to be able to know, say or do with the income data I collect?"

Income measurement use cases identified in the LI CoP

Use case	Description
One-time estimate	Assessment of living income, farmer income and the income gap for one region and one crop. This allows for understanding the magnitude of the problem in a place for a given crop and motivates possible interventions and strategies.
Living income gap hotspot analysis	Used to get gap estimates for different commodities and or regions in order to compare them. This allows to assess in which region, and for which crop the biggest gaps lie and thereby prioritize decision-making for which regions and crops to focus on.
Progress towards closing the gap	The assessment of living income gap estimates and their evolution over time. The goal is to monitor progress for a given region and crop to report on progress and shape next steps or interventions for that specific region and crop.
Progress of specific farmers	The assessment of living income gap estimates of specific farmers and their evolution. The goal of this use case is to assess and report on progress for a given region and crop in a specific value chain.
Effect of programs	The assessment of living income gap estimates before and after a specific intervention. Interventions can be financial (e.g. price increases) and non-financial (e.g. training provision on yield improvement).
Program design	The detailed assessment of the income gap in order to inform the designing of comprehensive place-based and income improvement programs.
Profit/production costs	The assessment of the relationship between profit and production costs enables the assessment of measures to be taken in order to improve farmer productivity. The goal of this use case is to specifically identify profitability improvement measures.
Reference price estimate	An estimate of what price farmers need to get for a decent livelihood in a specific region for a specific crop, farm size and productivity level. The goal of this use case is to inform crop/commodity price discussions.

How does my use case influence my measurement approach?

- Different income measurement **use cases require different levels of data detail to satisfy.**
- The **methods used to measure** [different income elements]**, and the meticulousness** with which they are approached **should be suited to the data requirements of your use case.**
- The **table on the right** provides a very rough sense of the **data and measurement scope requirements of** different income measurement use cases[1].
- This **does not however mean data collected to satisfy one use case cannot be used towards another**. E.g. data collected for a one time estimate of the gap, might also be used to make decisions.

Understanding the gap size (Magnitude)	Monitoring progress (Directionality)	Defining interventions (Decision making)
Living income gap hotspot analysis	Progress towards closing the gap	Program design
A one-time estimate of the gap	Effect of programs	Reference price estimate
	Progress of specific farmers	Profit/production costs

Measurement scope broadens

Generally level of detail required increases[2]

1. Living Income CoP is currently developing a more detailed framework for practitioners that connects uses cases with measurement requirements.
2. The meticulousness of measurement is also a choice driven by organisational priorities and capacity.

How do I choose an approach based on my use case? (1)

Think about your use case and **the level of detail that might be required** for measuring the **different elements of actual income** - farm, off farm, other and their sub-components (e.g. production costs).

A combination of approaches can be used to enumerate or estimate different income elements relative to your use case (see next slide).

To reduce costs, **use more intensive methods to measure income elements that require deeper consideration**,

Use **less intensive methods to enumerate others** and **triangulate data**.

"Which elements of actual income might I need to pay more attention to in relation to my use case?"

How do I choose an approach based on my use case? (2)

Listed below are popular income measurement approaches and a **very rough guide** to the **level of detail, accuracy, and precision you might expect** from their data outputs:

- **Farmer field book assessments and record keeping** - High detail, precision and accuracy.
- **Farm level household surveys** - High detail, variable precision and accuracy (due to recall issues).
- **Mixed methods** - (some combination of focus groups, surveys and or secondary data) – Medium detail and precision, high accuracy.
- **Focus group discussions and expert interviews** - Low detail, medium to low precision and accuracy *(but good qualitative data for understanding directionality and 'why?').*
- **Income estimation and modelling using secondary data** - Low detail and less precision and accuracy.

THIS IS A VERY ROUGH GUIDE. **Resources required** and **data detail, accuracy, and precision can increase or decrease** depending on your **level of effort**, **sampling approach**, and **specific decisions made** when applying each method.

What other measurements might I need to satisfy my use case?

Depending on your use case, there **may be additional information beyond** **what is needed for actual income measurement** that is useful to capture for additional analytical and decision-making power.

Examples include:

- **Value of unpaid labour -** requires data on days/hours worked
- **Daily/hourly income rate -** requires data on days/hours worked
- **Yields and profitability of productive land -** requires data on production area sizes
- **Developing a Farm Economic Model -** Requires a range of contextually relevant data on farm characteristics.
- **Understanding the reasons for income compositions -** Requires qualitative data.

These will require you to expand your measurement approach with additional questions, or the sourcing of additional information.

'What other questions might you want to answer with the data? What other information might be useful?'

Why is understanding operational context important?

- **Smallholder household income compositions vary across contexts**. This is because **norms and practices that determine income revenues and related costs can differ** relative to the crops being grown, agricultural conditions, cultural and geographic factors and so on…

- It is important to **ensure that your measurement approach is fit for purpose** and you are not wasting resources trying to collect irrelevant data.

- **Understanding which income elements are relevant** in your focus context, **and their relative importance**, will **help you to shape and your measurement approach** and **better understand measurement resource requirements.**

- Building contextual understanding is also important as it will allow you to **account for factors that may require methodological adjustments** (e.g. low literacy rates, lacking farmer and financial records, and recall limitations).

'What are the key determinants of income and associated costs for your farming households?'

How do I understand context?

To understand context, some form of pre-assessment is required. Below are examples applied in the Living Income community:

- **A short household context survey** – e.g. COSA
- **A community focus group exercise** – e.g. Household Economy Analysis
- **A review of secondary data and interviews with local experts**– e.g. KIT
- **A combination of the above** – e.g. LI CoP Cote D'Ivoire and Ghana pilots

- A sample context assessment checklist can be found in Appendix 2 (p21) of 'Guidance for calculating household income'. This can be used to frame any of the above approaches.

- Pre-assessment need not be exhaustive. What is important is that it is able to identify the norms and what is typical within the context of concern.

"Are there any significant costs (e.g. tools or vehicles), secondary income sources, or land expenses that are typical for households in your measurement location?"

Why is my starting point and capacity important?

- **This affects your measurement and calculation approach** and possibly **what you can say and do** with results.
- It influences **your specific measurement or estimation methods,** the **intensity and meticulousness with which you collect or source the data**, your **approach to sampling** etc…
- Collecting data **costs time and resources** - It's important to **balance pragmatism and feasibility** with **diligence and accuracy** when undertaking any sort of measurement exercise.
- **Most important is that you have the capacity to satisfy the data granularity requirements for your use case.** If you lack the capacity to do so, you may need to leverage additional resources, consider collaborating with other actors, or **rethink your use case**.

"What data do we have or already exists? Do we have the resources to collect the data needed for our use case? Within what timeline do we need results?"

SECTION 3:
Collecting and sourcing income data

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How should I collect income data in the field? What is important to consider when measuring? How can I use secondary data to support and produce income estimates?

SECTION 3: Collecting and sourcing income data

FAQs around measuring incomes in the field - skip here

- What approaches can I take to collect income data in the field?
- What is a HEA? How can it be used to measure actual income?
- What is an adequate sample size for measuring incomes?
- How do I define a household when collecting income data?

FAQs around measuring 'net farm income' - skip here

- What are depreciation and costs of operation and maintenance?
- What are opportunity costs and amortized costs of establishment?
- Do I account for livestock, wood stock and farm by-products?
- Should I measure food produced & consumed by the household?
- How do I measure the value of food produce consumed?
- Should I measure the value of unpaid labour?

SECTION 3: Collecting and sourcing income data

FAQs around leveraging secondary sources to estimate incomes - skip here

- Can secondary data be used to estimate incomes?
- How can secondary data be used to estimate incomes?
- How do I approach estimation using secondary data?
- How do I design a secondary data framework?
- Are there example frameworks I can leverage?
- How should I structure secondary data sourcing?
- What secondary data sources should I consider?
- How do I select the most appropriate data sources?
- How do I calculate and model results?

FAQs around measuring incomes in the field

Points covered in this section of the FAQ can be explored in more detail in 'Guidance on calculating household income'

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What approaches can I take to collect income data in the field?

Several approaches can be used to collect actual income data in the field. Popular approaches include:

- **Farmer field book assessments or record keeping** – e.g. applied by Agri Logic, Rainforest Alliance, Wageningen University and Research, and Fairtrade International.
- **Farm level household recall surveys** – e.g. used by KIT, COSA, IDH and Laudes Foundation.
- **Focus group discussions and expert interviews** - e.g. Fairtrade Int. reference pricing approach.
- **Mixed methods approaches with some combination of focus groups, surveys and or secondary data** – e.g. the Household Economy Analysis by Save the Children.

A combination can be used to enumerate the different elements of actual income in a modular way.

Secondary data can be used to **support triangulating primary data** (e.g. by referencing gross margin tables for key and focus crops) and to **fill data gaps** - especially when collection capacity is limited.

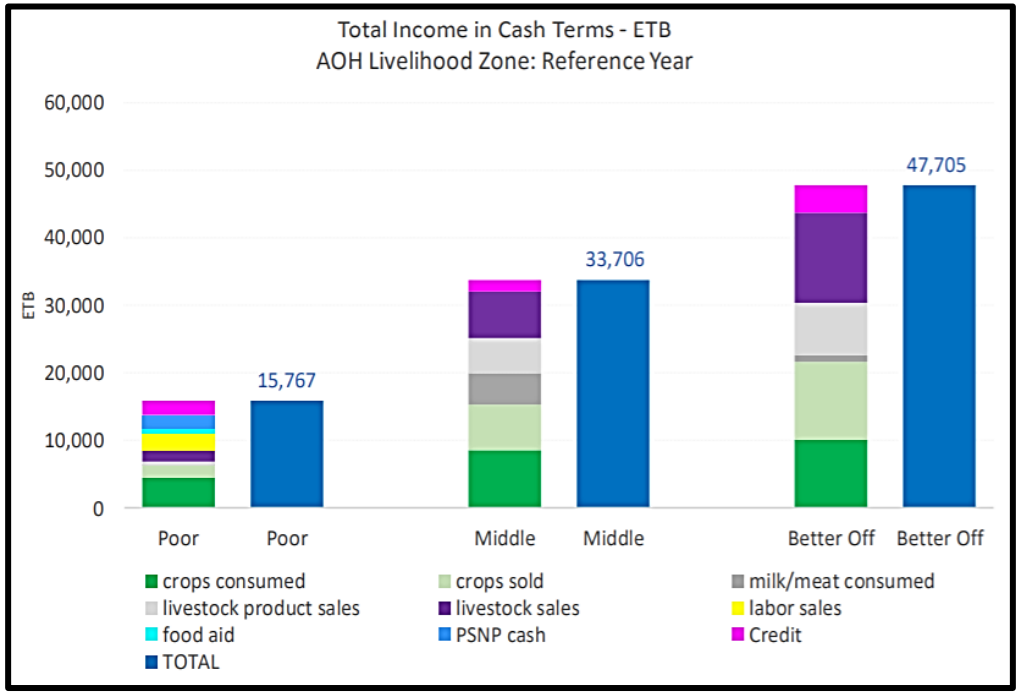
What is a HEA? How can it be used to measure actual income?

- **The Household Economy Analysis** is a **livelihoods-based analytical framework** that can be leveraged and referred to for income and living income gap measurement and calculation in the field.

- It combines baseline with current year data to dynamically **measure income gaps and economic change at the household level**.

- **Provides a measure of local livelihoods:** food (incl. subsistence production), cash income and expenditure. **Can be employed using a mix of focus groups, surveys and secondary data**.

- Measures mixed income livelihoods – from cash crops, other farm income, and off-farm income.



HEA output demonstrating the relative contribution of different food and income sources to total income.

- Previous assessments also a **potential source of secondary data** and **actual income baselines**. **Over 500 HEA studies have been completed in over 70 countries.**

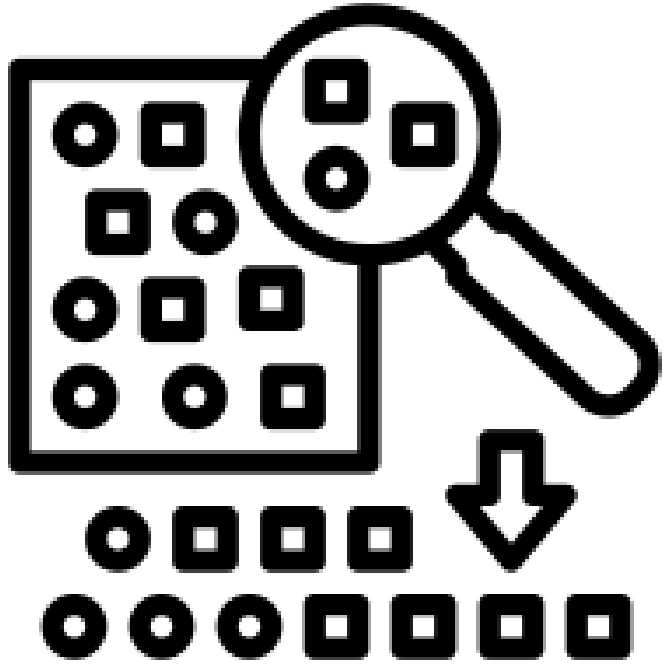
What sample size is adequate for measuring incomes? (1)

If you do not intend to collect income data for all households in the field, **sampling is required**.

Sample size depends on 3 factors:

- **Use case**/purpose for measurement.
- **Representativeness** of the population (scientific/statistics based approach).
- **Capacity and resources** available for data collection.

The **next slide provides examples** of how you might define sample size **based on your use case** and **statistical representativeness**.



"What samples size is feasible that ensures the resultant data is fit-for-purpose and representative of the broader population I am interested in?"

For more detail search 'sampling' on The M&E Universe website.

What sample size is adequate for measuring incomes? (2)

This table has been adapted from a resource developed by Wageningen University and Research:

Use case (Sampling purpose)	What conclusions can be drawn?	Recommended sampling approach
1. **Obtain information** on the income status across a farmer group in a country **e.g. for program design**	What is the current situation regarding incomes? **Need for data from sufficient number of randomly selected households**	Square root sampling approach **Margin of error:** > 5/7.5% **Confidence interval:** 95%
2. **Monitor trends** in incomes of households representative of a **supply chain / farmer group** in a country.	What is the change over time in incomes for a typical farming household in a supply chain/country? **Need for data from representative group of farmers at supply chain or farmer group level.**	**Margin of error**: 5-7.5%. **Confidence interval:** 95% **Possible:** take into account Minimally Detectable Effect (MDE)*
3. **Monitor trends** in incomes of specific **program participants** in a farmer group / supply chain	What is the change over time in the situation of program participants? **Need data representative of program group participants at supply chain/farmer group level**	The population is the group of program participants. **Margin of error:** 5-7.5%. **Confidence interval:** 95% **Possible:** take into account MDE*
4. **Evaluate impact** of intervention(s) on supply chain / farmer group **program participants**	What impact have program interventions made on the situation of participants? Only possibly by also assessing "the counterfactual". **Need for data from representative group of farmers at supply chain/ farm group level and comparison group.**	**Margin of error:** 5-7.5%. **Confidence interval:** 95%. Sample decided also based on MDE*

*MDE: the smallest improvement you want to be able to detect with an impact evaluation.

(Y. Waarts, V. Janssen & H. Pamuk, 2021)

How do I define a household when collecting income data? (1)

- **Enumerating household size and composition is key** when measuring actual incomes relative to living income.
    - **Household members** are defined as the **people living under one roof sharing resources** (**economic unit**). Household members do not need to be related.
    - **Household composition** is the **number of income earners** (e.g. adults) and **dependents** (e.g. children and elderly) living in the household. It is useful to disaggregate by gender.
- **Household size and composition should ideally be self-defined by the sample population.**
- When conducting surveys **ensure the difference between a self-defined household, the economic unit** (shared basket) and **income earners vs dependents is properly explained.**

How do I define a household when collecting income data? (2)

- **Contextual circumstances** and **cultural norms** can **complicate understanding household size and composition** (e.g. where polygamy is practiced or household sizes are particularly large).

- In these circumstances, it is possible to **consider using Adult Equivalence Scales to support calculations.**

- **When comparing incomes to living income benchmarks**, it is also important to **be aware that some benchmarks represent nuclear families rather than households,** and so size and composition may differ to that of your income population.

- It is therefore **important to be conscious of possible size and composition differences** when calculating the gap, and adjust where necessary to ensure comparability. Click here to learn more.

- **Most important is that you are transparent about any decisions made or caveats regarding household definition when reporting.**

FAQs around measuring ‘net farm income’

Net farm income **is often the most complex income source to enumerate** for smallholder households as part of actual income calculations.

It is unsurprising therefore, that the Living Income Community of Practice has several frequently asked questions on the topic. Understanding and enumerating **‘cost of production’** is a particular challenge.

Points covered in this section of the FAQ can be explored in more detail in ‘Guidance on calculating household income’

The Living Income Community of Practice

What are depreciation and costs of operation and maintenance?

- **Depreciation** accounts for the **decreasing value of assets over time** due to **use, wear and tear and obsolescence.** For farmers, this applies to productive assets (e.g. farm tools) and vehicles. Enumeration accounts for costs of replacement and operation.

- **Costs of operation and maintenance of productive assets and vehicles** include the costs of fuel, repair equipment and so on.

- In general, smallholders do not have significant productive assets or vehicles. However **in contexts where they are typical** and **have significant value** they **should be included in production cost measurements** as part of net farm income calculations.

- Prior to commencing measurement activities, **use a context assessment to identify the presence and importance** of enumerating **different types of depreciation** and **amortized costs**.

- Where relevant, enumeration can be particularly **useful for use cases** that **aim to define effective income improvement interventions**.

Note - See p11 of '<u>Guidance on calculating household income</u>' for more details on how to approach measurement.

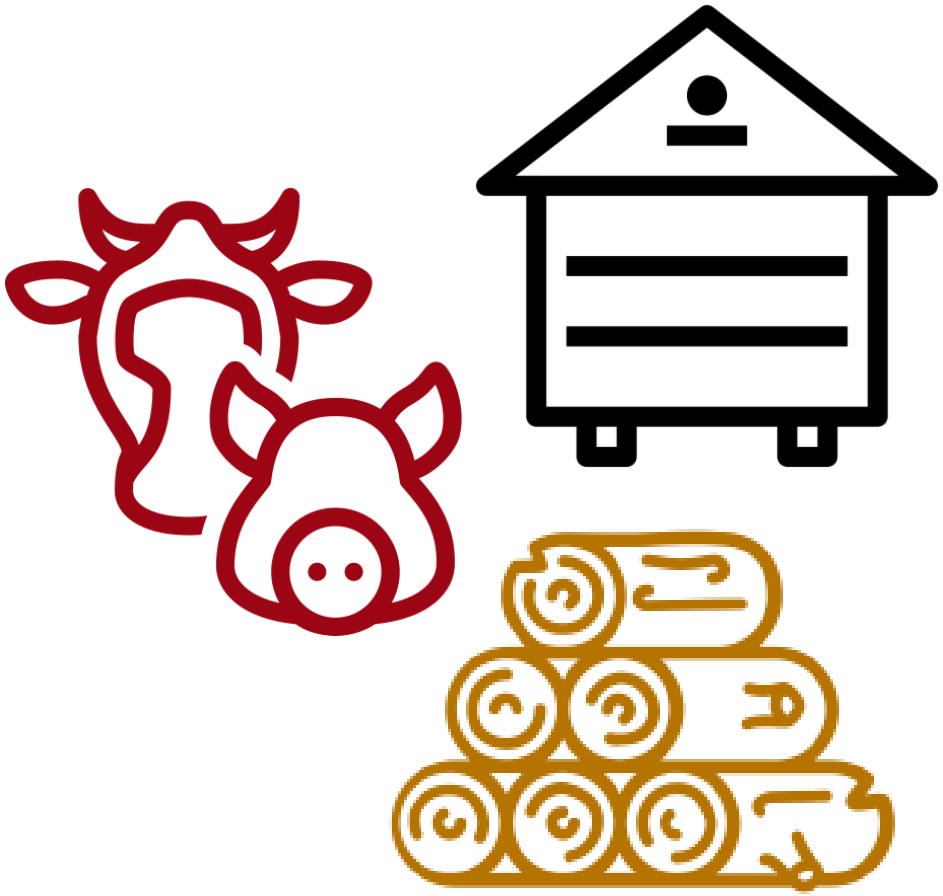
What are opportunity costs and amortized costs of establishment?

- Opportunity costs **represent the potential income a farmer misses out on when choosing one alternative over another**.
- In smallholder contexts, the opportunity cost of land can be important, **especially for landless farmers** or those **renting land** to expand their farm productive area. In this instance the opportunity cost is the **income that a farm owner would have received if they rented land.**
- **Amortized costs of establishment*** refer specifically to the **establishment of tree crops** (e.g. Cocoa) and the **spreading out of costs over time** for the **replacement of old trees** with new trees.
- **Enumeration** of either cost **is context dependent**. Measuring **opportunity costs of land is only necessary** when a **significant percentage of farmers are involved in temporary land agreements** (e.g. rentals or sharecropping). **Amortized costs** are only relevant where there is **tree based production**.
- When planning measurement activities, a **context assessment can be used to determine whether either is important in a given context.**

Note - An approach for valuing amortized costs of establishment is presented on p12 of 'Guidance on calculating household income'.

Do I account for livestock, wood stock and farm by-products?

- **Livestock*, wood stock** and **other farm by-products** can be **significant sources of income** for smallholder households. Contextual conditions often determine their presence and mix.
- **Where relevant**, **revenues and associated production costs** for any of these income sources **should be enumerated** through your actual income estimation approach.
- **A** context assessment can **determine whether and which of these additional income sources are significant** for enumeration for a given farm or region.
- Use this assessment to **understand how significant these sources are** and to **help you define the level of detail for measurement** relative to your use case and resources available.



Note- Livestock is often a means of savings and resilience. Thus, the value of stock change may be considered as a sort of income.

Note - For details on how to measure and a link to an example survey see p7, 8 and 23 of 'Guidance on calculating household income'

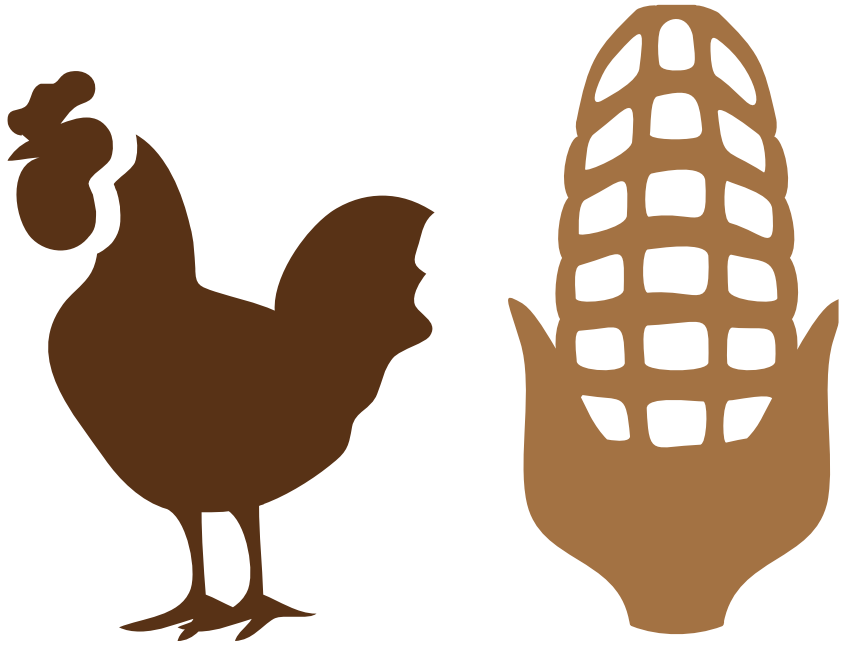
Should I measure food produced & consumed by the household?

- **Farming households often produce products** (crops, livestock or by-products) that they **consume as food rather than sell**. As such, this can be an **important source of non-cash income.**

- **Accounting for produce consumed by the household is therefore recommended** as part of net farm income calculations.

- As **living income benchmarks** **account for the cost of decent food**, and because **farm produce consumed** by the household would have **otherwise been sold as a source of income**, considering its cost is important for **balancing the books.**

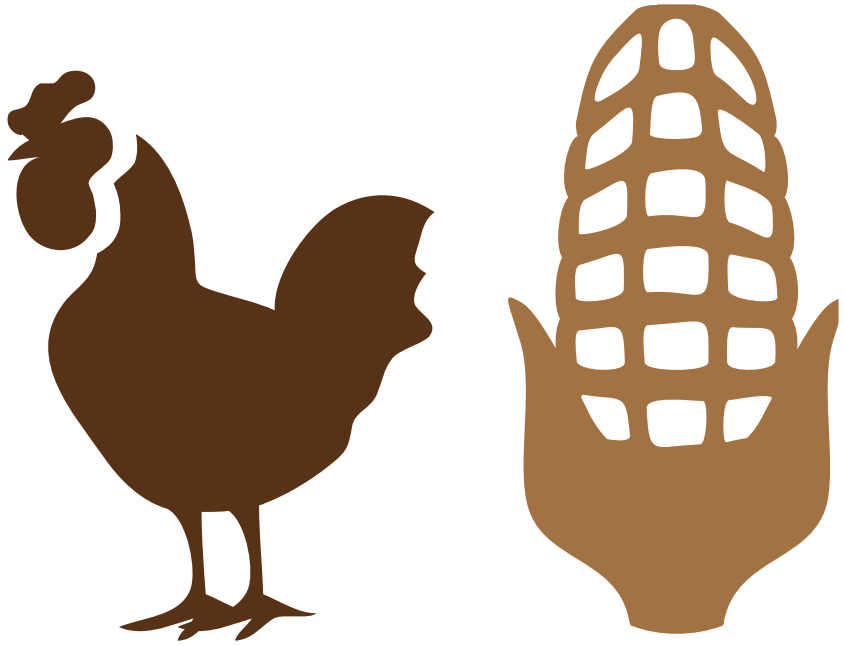
- Including this value in calculations will give **a more accurate picture of the living income gap** and **reduce the gap size**.



Note - See p8 of 'Guidance on calculating household income' for more details and justifications.

How do I measure the value of food produce consumed?

- We recommend measuring food produce consumed by **enumerating any unsold production at the farm gate price** as part of **total production value.**
- To estimate production value, we advise using local average prices received by farmers for products.
- **Market prices** for total production can also be used*, but this is **only recommended if the products would typically be sold at market**.
- **A context assessment** can be used to **determine and justify this choice. Be transparent** when reporting.
- When enumerating total production value, pay special attention to understanding **crop losses (e.g. from storage) as an alternative to food produce consumed.**



*Caveats for using farm gate vs market prices are described in both 'Guidance on calculating household income' (p8) and 'From Living Wage to Living Income' (p12).

Should I measure the value of unpaid labour?

- In smallholder contexts, **unpaid labour** can **often account for a large percentage of overall farm labour**. Its valuation is therefore typically included in attempts to calculate **crop production costs**.

- If your **goal is only to calculate actual household income, enumerating unpaid labour** as a component of **net farm income** is **not necessary.** It is however **very useful.**

- **Enumerating unpaid labour is required for certain gap measurement use cases; particularly where there is a need for an accurate value of overall production costs** of a specific crop.

- Requisite use cases include **assessing crop profitability**, **understanding farm labour allocation**, and **calculating living income reference prices.**

- Unpaid labour **can be valued by determining the time farmers/labourers invest in all activities** and **considering the market price for such time** (e.g. referring to prevailing wages).

Note – For more details on how to treat unpaid labour see p12 of 'Guidance on calculating household income'.

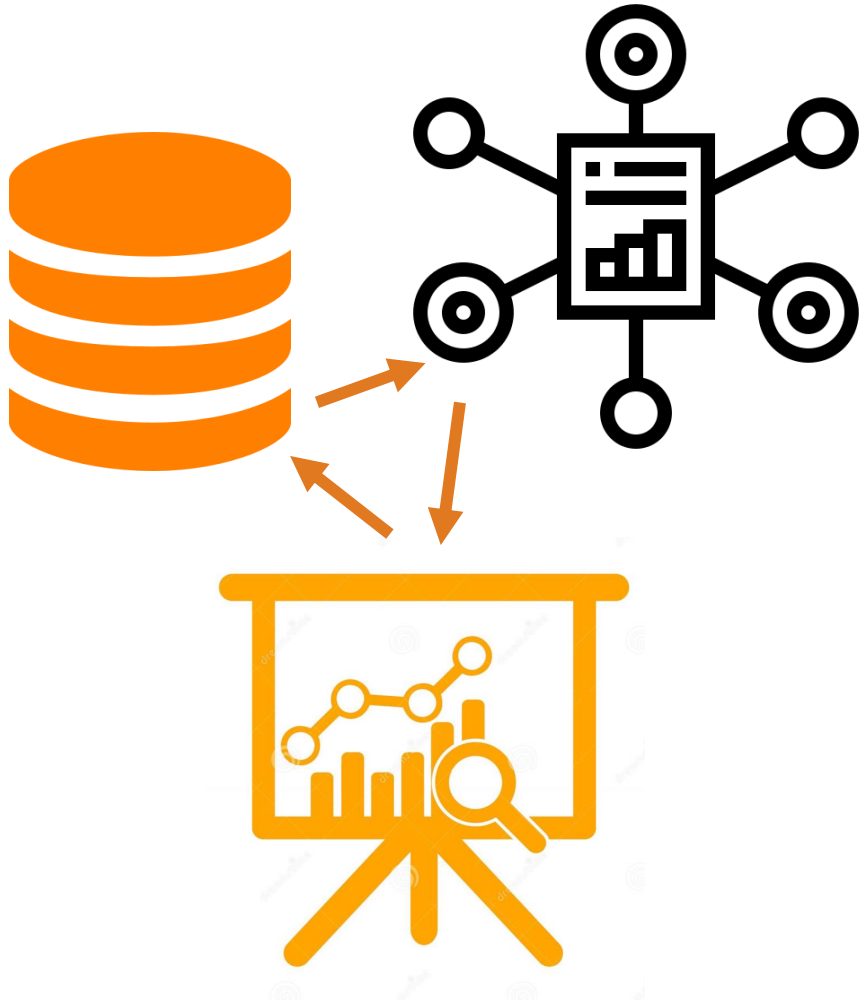
FAQs around leveraging secondary sources to estimate incomes

***Points covered in this section of the FAQ can be explored in more detail in 'Estimating farmer household income'**

The Living Income Community of Practice

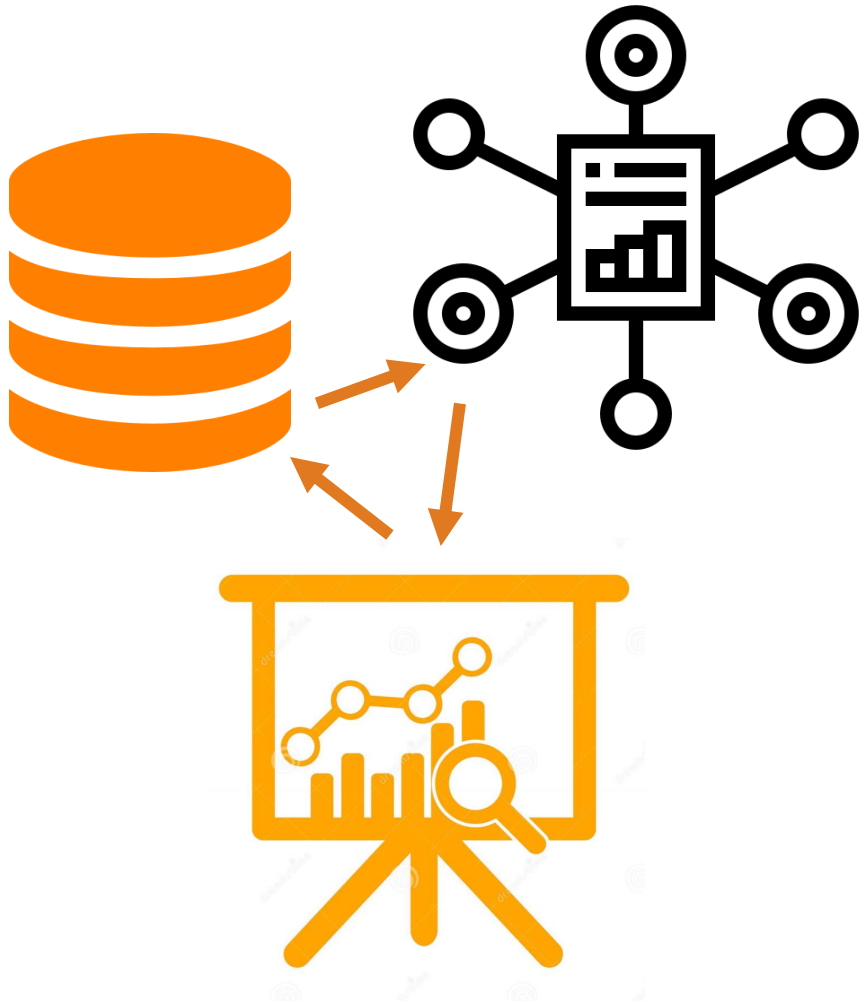
Can secondary data be used to estimate incomes?

- **Collecting primary data** can be **challenging, time intensive** and **costly**.
- Secondary data on actual incomes can be used to both **supplement, cross reference** and **validate primary data.**
- It can also be used **in its entirety to generate full actual income and gap estimates**.
- Using secondary data for income estimation comes with **several potential limitations** however:
  - It can be **challenging to source data** that is **specific to** and **representative of** your **target households.**
  - Sourcing and using secondary data to obtain an **accurate understanding of intra household dynamics** (e.g. to support strategy definition) **is difficult**.



How can secondary data be used to estimate incomes?

- In terms of accuracy and precision, secondary data is **no substitute for more granular** and **scope specific primary data you collect in the field.**
- However, it can be **very useful for supplementing primary data to fill data gaps**, and for **validating and triangulating primary data** for **any** **income and gap measurement use case**.
- Relative to you use case and context, it is **especially useful for approximating values for income elements that require less attention** to detail.
- It can also be **used in entirety for producing quick and informative** income and gap **estimates** for **use cases** that do **not require high levels of detail** (e.g. one time estimates and hotspot analyses).



How do I approach estimation using secondary data?

The following steps are advised for estimating incomes and the gap using secondary data:

1. **Design a framework** based on your measurement use case, scope and key required variables.
2. **Structure a database and source data** – use a data hierarchy based on your framework design to help select and prioritise data sources.
3. **Use the data to calculate income estimates** using identified and prioritised sources. Refer to and use models, formulas and assumptions for data extrapolation or adjustment as is necessary.
4. **Produce and interpret results**, identifying insights, assumptions and limitations.

Be transparent! – state that your approach is based on or used secondary data.

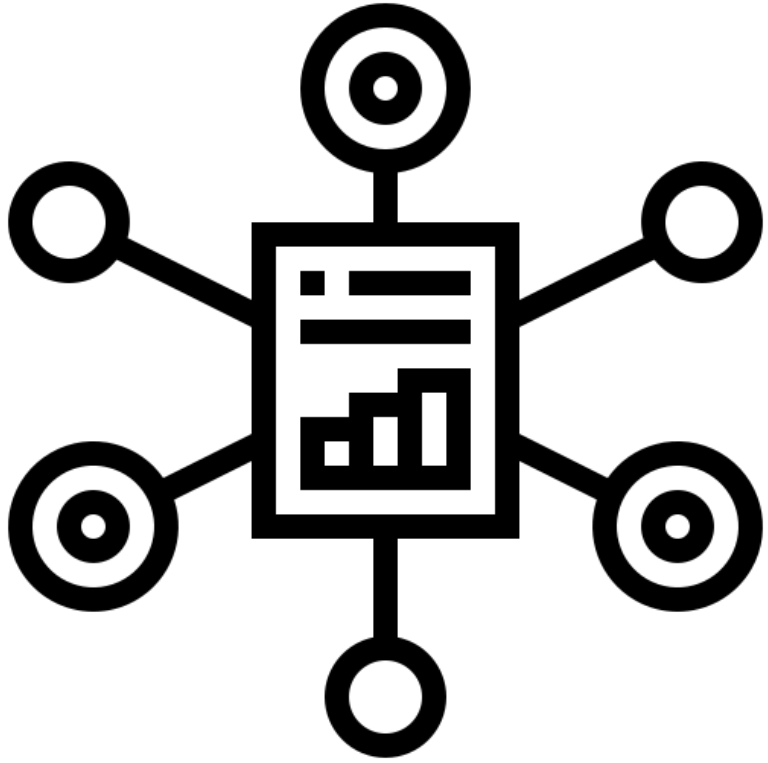
How do I design a framework for income estimation?

- **Where partial primary data is available**, a framework can be used to **fill gaps with secondary data**. **Where primary data is not at all available**, apply a **full estimation framework**.

- First, **define the scope of you household income assessment.** This includes **country**, **region**, **crop**, **year** of analysis, whether the assessment relates to **certified or non-certified** farmers, and so on.

- Then, based on this scoping, **define which variables are likely to be found directly** from secondary sources, **which may need to be extrapolated** from other data points, and **which may not be available**.

- Approaches to estimating income **range from very granular estimates**, where each data point is known and validated, **to lower granularity**, where some input data points are derived/estimated.



Are there example frameworks for specific use cases?

Below are the **minimum income variables required** to estimate incomes and the gap for two specific use cases.

ORANGE variables are likely to be found directly in secondary sources and **BLACK** variables can be extrapolated from secondary sources. Other parts of the income equation (e.g. other crops) are extrapolated at a later stage.

A one time estimate of farmer income:

- Farm area (main crop)
- Yield (main crop)
- Price (main crop)
- Variable costs (main crop)
  - Input costs
  - Labour costs
  - Transportation costs
- Farm income net of variable costs (main crop)
- Fixed costs (total)
- Net off-farm labour income
- Other income (non-farm, non-labour)
- Household size

Monitoring progress towards closing the gap:

- Farm area (main crop)
- Yield (main crop)
- Price (main crop)
- Variables costs (main crop)
- Farm income net of variable costs (main crop)
- Fixed costs (total)
- Net off-farm labour income
- Other income (non-farm, non-labour)

Click here for detailed guidance on sourcing and estimating these two use cases (developed by Impact Institute).

How should I structure secondary data sourcing?

- **Finding appropriate secondary sources** for your **scope**, **use case** and required **granularity can be overwhelming**, especially when there are multiple sources that can answer the same question.

- To satisfy an estimation framework it is important to consider secondary data sources in a structured manner, and to **classify data according to a data hierarchy**.

- **The table on the right lists data characteristics** or 'metadata' that can be used to structure a database of secondary sources. This can then be used to support prioritizing data sources for inclusion in your calculation.

Variable	Description
Variable name	Name of the variable as found in the original source
Variable category	Actual income component the variable refers to
Region	Region to which the data point refers to; can be a region, a country, a district…
Crop/sector	Crop/sector to which the data point refers to
Year	Year to which the data point refers to
Unit	Measurement unit in which the data point is expressed
Value	Raw data point as found in the original source
Comments	Use this column for any reasoning and information that is not in other columns, e.g. calculation or measurement approach, scope of the original study, limitations of the study
Citation	Direct copy of the sentence in the report, page number and/or table number
Source name	Author and title of source
Source type	Type of source, e.g. peer-reviewed study, international database, national statistics
Source link	Link to web page where the source can be found

An example of how to fill out a table like the one presented on this slide can be found on **p31 of 'Estimating farmer household income'.**

What secondary data sources should I consider?

- **International databases:** Database compiling large amounts of data for different countries and regions and commodities. *E.g. FAOstat, ILOstat and World Bank.*
- **Sector reports:** Reports conducted by research institutes on a specific matter in a sector. *E.g. Cocoa Barometer.*
- **National statistics:** Statistics compiled by national governments. *E.g. Uganda Bureau of Statistics.*
- **Household surveys:** Statistics compiled by national governments and research institutes and the underlying data of sector reports on household characteristics. *E.g. Ghana Living Standards Survey.*
- **Academic studies:** Research conducted by academia on specific issues in a given sector, as well as the underlying data, generally published in renowned journals. *E.g. Journal of Rural Studies.*
- **Company data:** Statistics compiled at company level. *Several companies collect data in-house on the farmer income variables of their key producers.*
- **Certification schemes:** Statistics compiled by certification schemes on their key producers. Several certification organizations collect data on a regular basis on the farmer income variables of their key producers. *E.g. Fairtrade International or the Rainforest Alliance.*
- **Other studies:** Any source that does not fall in the categories defined above. *This includes, amongst others, the data collected by first buyers and program implementers.*

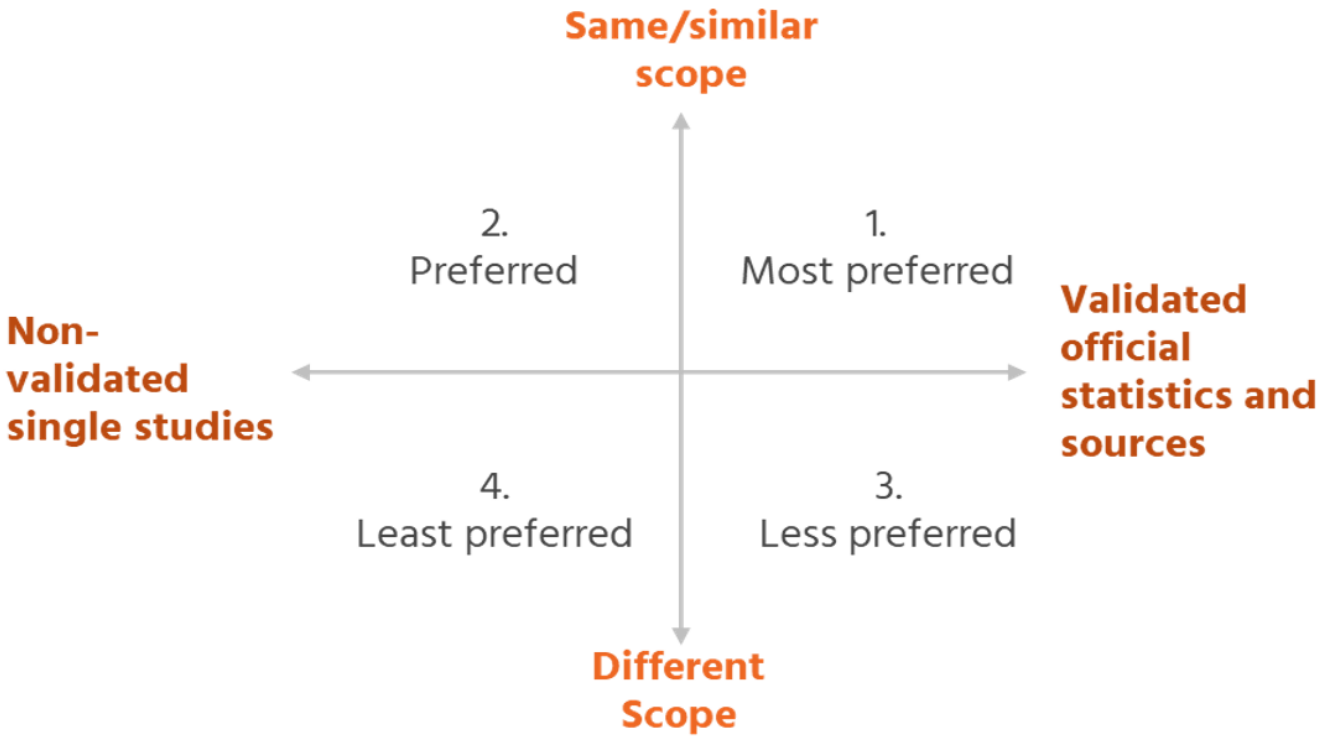
The benefits and limitations of these different data sources and **a full framework** that ranks them by their relevance to the different elements of actual income can be found on **p17 and 18 of '[Estimating farmer household income]'.**

How do I choose the most appropriate data sources? (1)

- **A data hierarchy can be used to prioritize and select data sources** from an identified pool.
- You should **prioritise sources** based on their **relevance to your scope/ context** and **their credibility** (i.e whether, and how, they have been validated).

- **Scope includes year, country / region and primary crop.** Depending on your use case, ensuring data **scope relevance will be more important for some variables** than others (e.g. matching years is important for yield data but less so for land size).

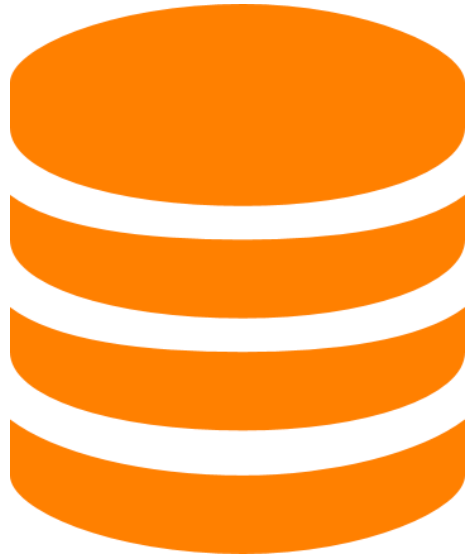
- **Generally, validated studies or official statistics have preference over non-validated single studies.** Treat any statistics with care however. There is also a trade-off, between how robust some results are vs. how applicable they are in a certain setting.



How do I select the most appropriate data sources? (2)

To assess the relevance of data sources to **your scope and context**, include the following **data characteristics** in your **data hierarchy**:

- **Year** - Is the secondary data from a different year?
- **Country** - Is the secondary data about a different country?
- **Producer type** - Are producers referred to in the source the same? (e.g. plantations vs. smallholder)
- **Agricultural sector** - Is the sector of the study an agricultural sector? (e.g. national average for agriculture instead of coffee?)
- **Certification status** - Is the data about certified farmers? (e.g. Fairtrade instead of sector)



If the preferred data point from the data hierarchy is not available, the user should always **use the most conservative estimate** – i.e. the source that provides the lowest contribution to household income.

A framework that ranks these secondary data source characteristics against their relevance for providing data on different elements of actual income can be found on **p20 of '**[Estimating farmer household income](#)**'.**

How do I calculate and model results?

- Once you have a good overview of the potential data sources, the next step is to build the calculation framework.

- **The specifics of the calculation framework are going to depend on your income and gap measurement use case**. This dictates what income elements you will have sourced data for and how you bring those elements together.

- The Living Income Community of Practice has developed specific calculation frameworks for the two use cases previously described – '**a one time estimate of the gap**' and '**monitoring progress towards closing the gap**'.

- An example framework for calculating and modeling 'a one time estimate of the gap' can be seen on the next slide. **For full details and guidance on calculating these use cases see 'Estimating farmer household income'**

Example: Calculation framework for a one-time gap estimate

Read as steps from the top down

H – High M – Medium L - Low

ID	Variable	Calculation	Granularity	Availability	Suggested approach
1	Farm area (main crop)		M	H	Source directly
2	Yield (main crop)		H	H	Source directly
3	Price (main crop)		H	H	Source directly
4	**Production value (main crop)**	**1 * 2 * 3**		**L**	**Farm area (main crop) * Yield (main crop) * Price (main crop)**
5	Variable costs (main crop)		M	M/L	Source directly (if available)
6	Labour available in household		M	H/M	Source directly
7	**Required labour**			**L**	**Farm area * Labour intensity * (Yield / Farm area)**
8	**Labour costs**	**(7 – 6) * 13**		**L**	**(Required labour – labour available in household) * Average wage**
9	**Gross profit (main crop)**	**4 - 5**		**L**	**Production value (main crop) – Variable costs (main crop)**
10	% farm income net of variable costs (other sources)		L	M/L	Source directly (if available)
11	Fixed costs (total)		L	L	Source directly (if available)
12	**Net farm-income (total)**	**(9 / 10) - 11**		**L**	**Gross profit (main crop) / % farm income net of variable costs (other sources) – Fixed costs (total)**
13	Average wage		M	H	Source directly
14	Labour participation rate		L	M	Source directly
15	**Net off-farm labour income**	**(7 – 6) * 13 * 14**	L	**L**	**Net off-farm labour income = (Required labour – labour available in household) * Average wage * Labour participation rate**
16	Other income (non-farm, non-labour)		L	M/L	Source directly, if available
17	**Total farmer income**	**12 + 14 + 16**		**L**	**Net farm-income (total) + Net off-farm labour income + Other income**

SECTION 4:
Calculating, visualizing and reporting the income gap

How do I calculate the income gap? How do I make sure my data is comparable? How can I visualize the gap?, and more…

***Points covered in this section of the FAQ can be explored in more detail in 'Guidance manual on calculating and visualizing the income gap to a Living Income Benchmark'**

SECTION 4: Calculating, visualizing and reporting the gap

Questions covered:

- How do I calculate the income gap?
- How do I make sure my data is comparable?
- Can I calculate the gap for different farmer segments?
- What indicators can I use to calculate and report the gap?
  - How can I use ‘gap of the mean income’ to calculate the gap?
  - How can I use ‘gap of the mean income’ to visualise the gap?
  - How can I use ‘gap of the median income’ to calculate the gap?
  - How can I use ‘gap of the median income’ to visualise the gap?
  - How can I use ‘share below the benchmark’ to calculate the gap?
  - How can I use ‘share below the benchmark’ to visualise the gap?
- How can I incorporate value of food crops consumed?

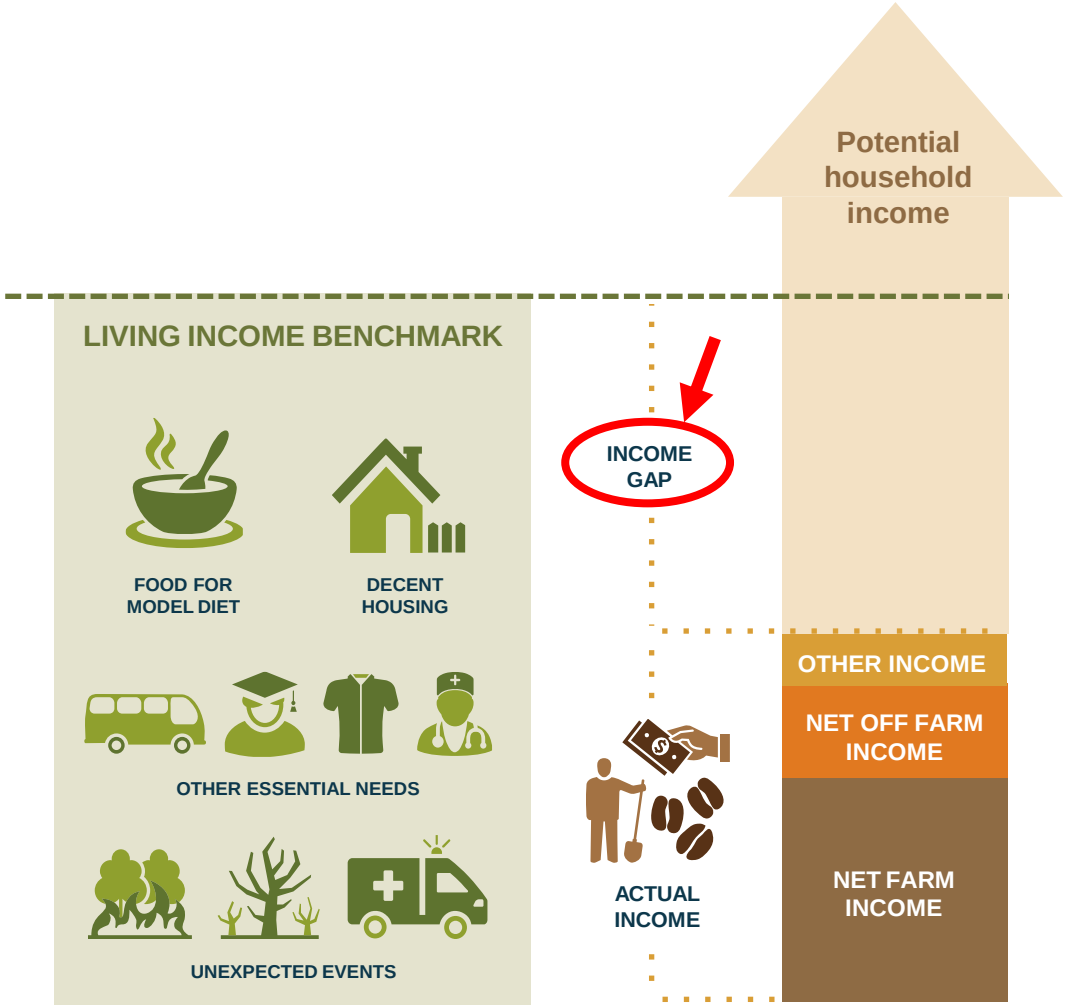
How do I calculate the income gap? (1)

Your specific approach will depend on your use case and what income data you have available (influenced by your data sourcing approach). More generally:

To calculate the gap to the Living Income Benchmark, two essential variables are required:

- **Total household (net) income:** estimate of the total actual household income, including all members of the household and all sources of income, net of agricultural production costs (inputs and paid labour).

- **Living Income Benchmark value:** this must be at a minimum a single value. It can be further detailed by groups/segments or adjusted for each household.

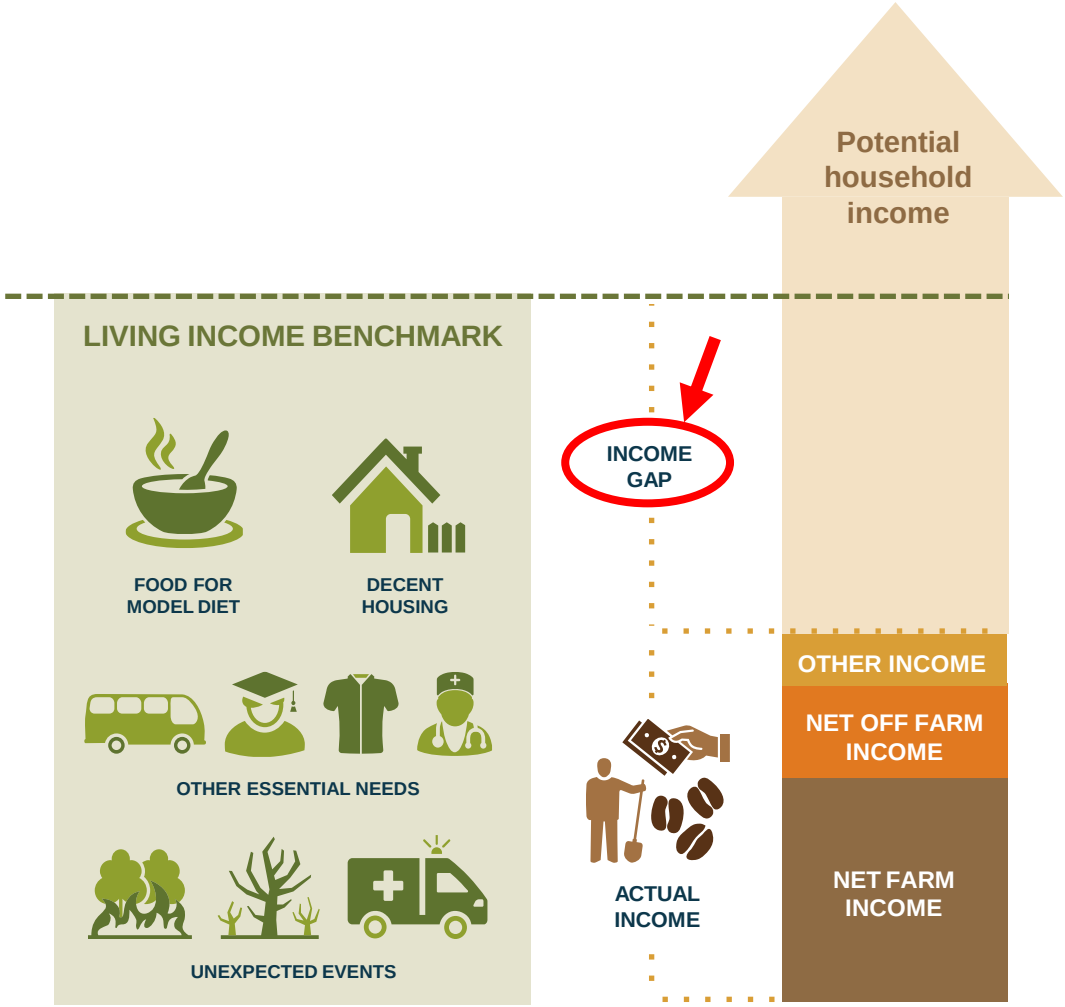


How do I calculate the income gap? (2)

Non-essential, but highly recommended variables to include in a gap calculation are:

- **Total household (net) income from the main income source:** estimate of the total income from the main source, net of agricultural production costs (inputs and paid labour) if this is an agriculture related income source.

- **Value of food produced and consumed by the household (if valued):** will give better insight into the income gap (Click here to learn more). If not included, be transparent that it has not been and why.



How do I make sure my data is comparable?

To calculate gaps of actual income to a LI Benchmark, data needs to be comparable. Consider:

- **Timeframe –** Do the timeframes of the benchmark and the income data match? (E.g. Daily, monthly, and yearly values). *We advise adjusting both values to a yearly timeframe to account for seasonality.*
- **Time period & currency –** Are the values in the same currency and referring to the same moment in time (e.g. this year vs. last year)? *Use exchange rates for currency adjustments and the Consumer Price Index (CPI) to align time periods and account for inflation.*
- **Geographic region –** Are the income data and the Living Income Benchmark referring to the same or similar region? *If mismatched, you may need push for, or measure a, new benchmark for the reference region. Conversions of benchmarks across space are possible, but have several caveats and limitations.*
- **Household size and composition –** Are the household/family size and compositions comparable? If slightly different, a linear approximation can be applied, but for greater accuracy more sophisticated household equivalence scales can be used. The greater the difference the more caution we advise in making adjustments.

For more on when and how to make data adjustments to ensure comparability see page 8 of **'Guidance manual on calculating and visualizing the income gap'.** This guidance includes how to approach comparison across countries and with other benchmarks (e.g. World Bank Poverty Lines).

Can I calculate the gap for different farmer segments?

- For greater insight, you may wish to **calculate the gap for different farmer segments**; especially if looking to prioritise and **cater** **income improvement strategies** to different farmer groups**.**
- Farming households can be segmented around features like **household compositions** or participation in **different programs**.
- **Cluster analyses** can also be undertaken that **segment farmers based on common household characteristics** (click here for an example).
- When groups are created, the **same data comparability considerations should be accounted for** between the benchmark and the income data for each identified group.
- It is **especially important to consider how different household compositions** of the different **groups affect the comparison with the benchmark**, and **what adjustments might be needed** to account for that.

For more details see page 20 of '**Guidance manual on calculating and visualizing the income gap**'**.**

What indicators can I use to calculate and report the gap?

Three main indicators that can be used to calculate, visualise and report the income gap:

- **Gap of the mean income**
- **Gap of the median income**
- **Share of those below the Living Income Benchmark**

Each has benefits and limitations described over the next few slides, along with visualisations that break down the gap for different farmer segments based on household characteristics (for demonstration purposes only).

We strongly recommend minimally reporting the **gap of the median income (as a share of the Living Income benchmark)** and the **share of those below the LI Benchmark.**

Calculation and visualisation options are available for each indicator using STATA and Excel (R coming soon)

An additional but more complex indicator that can be used is the **Foster-Greer-Thorbecke (FGT) index**. For details see pages 18 and 30 of '**Guidance manual on calculating and visualizing the income gap**'.

How can I use 'gap of the mean income' to calculate the gap?

A simple but powerful indicator, which allows a quick indication of the magnitude of the problem in a region. Can be calculated in level values or as a share of the benchmark.

In level value:

$$\boldsymbol{Gap = mean(Living\ income\ Benchmark) - mean(total\ household\ income)}$$

As a share:

$$\boldsymbol{Gap(\%) = \frac{mean(Living\ income\ Benchmark) - mean(total\ household\ income)}{mean(Living\ income\ Benchmark)} * 100}$$

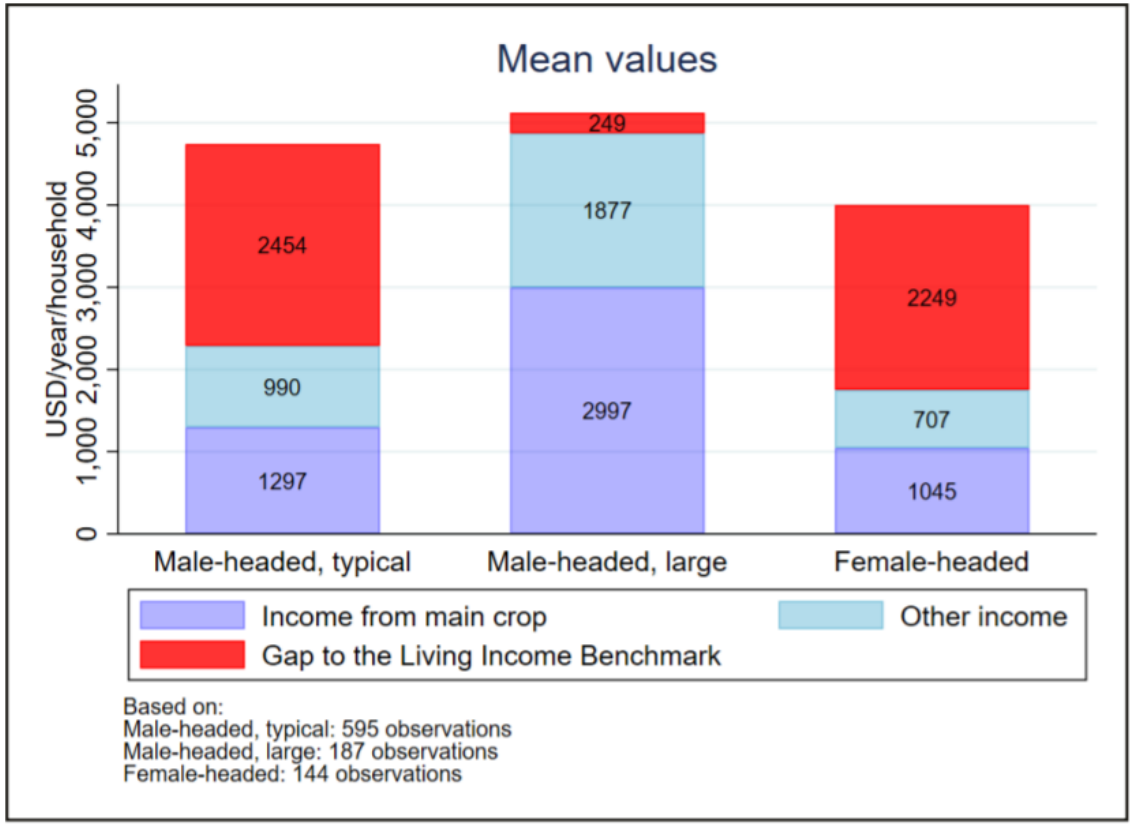
Benefits: Simple, easy to calculate, communicate and explain.

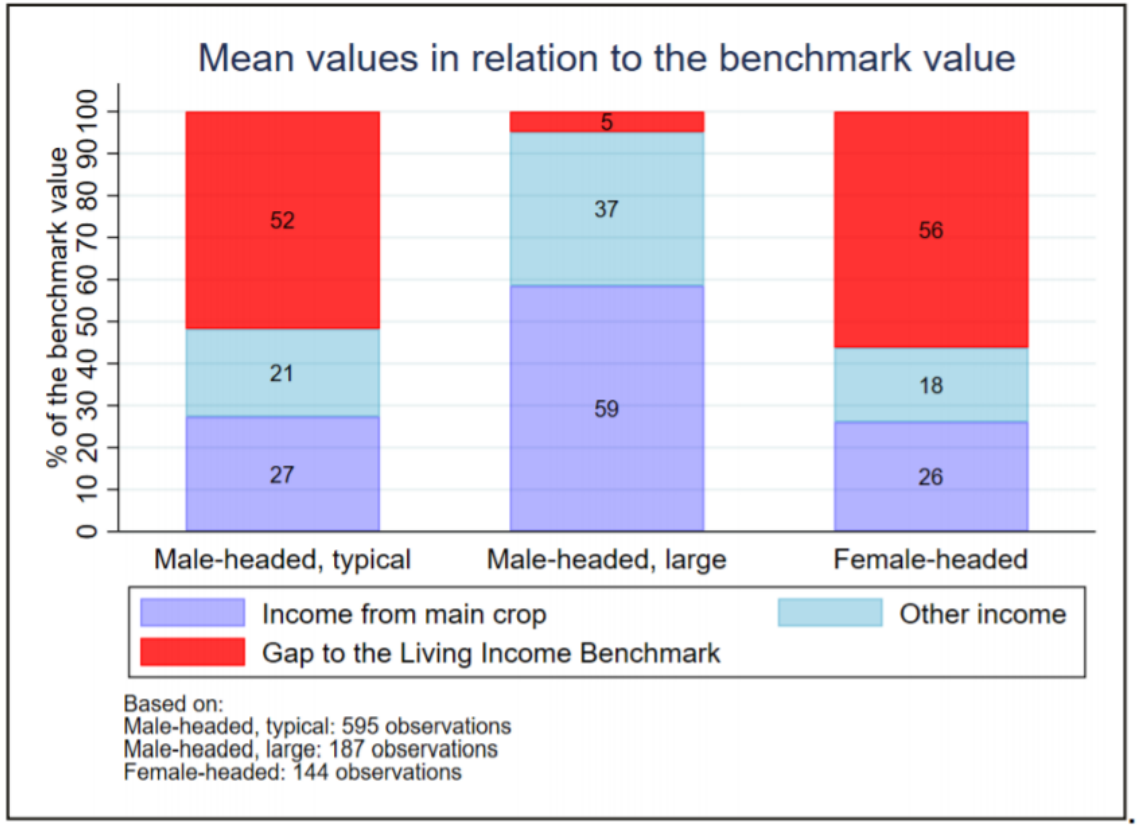
Limitations: Sensitive to outliers (i.e. extreme low or high values). Equal weighting of household incomes can hide household's far below the benchmark.

For more details see page 13 of '**Guidance manual on calculating and visualizing the income gap**'.

How can I use ‘gap of the mean income’ to visualise the gap?

Example of gap of the mean income visualised across different farmer segments:





For more details see page 22 of ‘Guidance manual on calculating and visualizing the income gap’.

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How can I use ‘gap of the median income’ to calculate the gap?

A slightly more sophisticated indicator, which provides a very good indication of the magnitude of the problem for a typical farming household. Again, can be calculated in level values or as a share of the benchmark.

In line value:

$$\boldsymbol{Gap = Median(Living\ income\ Benchmark) - Median(total\ household\ income)}$$

As a share:

$$\boldsymbol{Gap(\%) = \frac{Median(Living\ income\ Benchmark) - Median(total\ household\ income)}{Median(Living\ income\ Benchmark)} * 100}$$

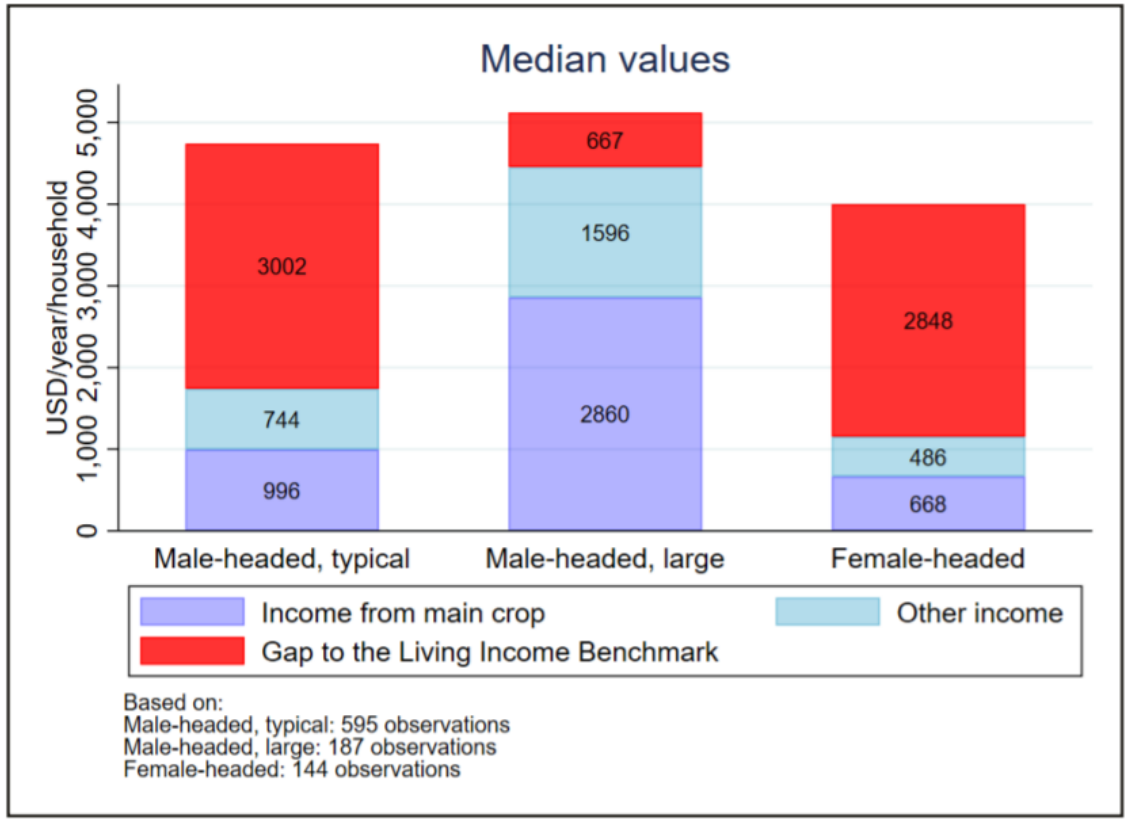
Benefits: Simple, powerful, easy to communicate. Less effected by outliers. Accounts for income distributions that are often skewed in reality. Avoids the need for benchmark value per household.

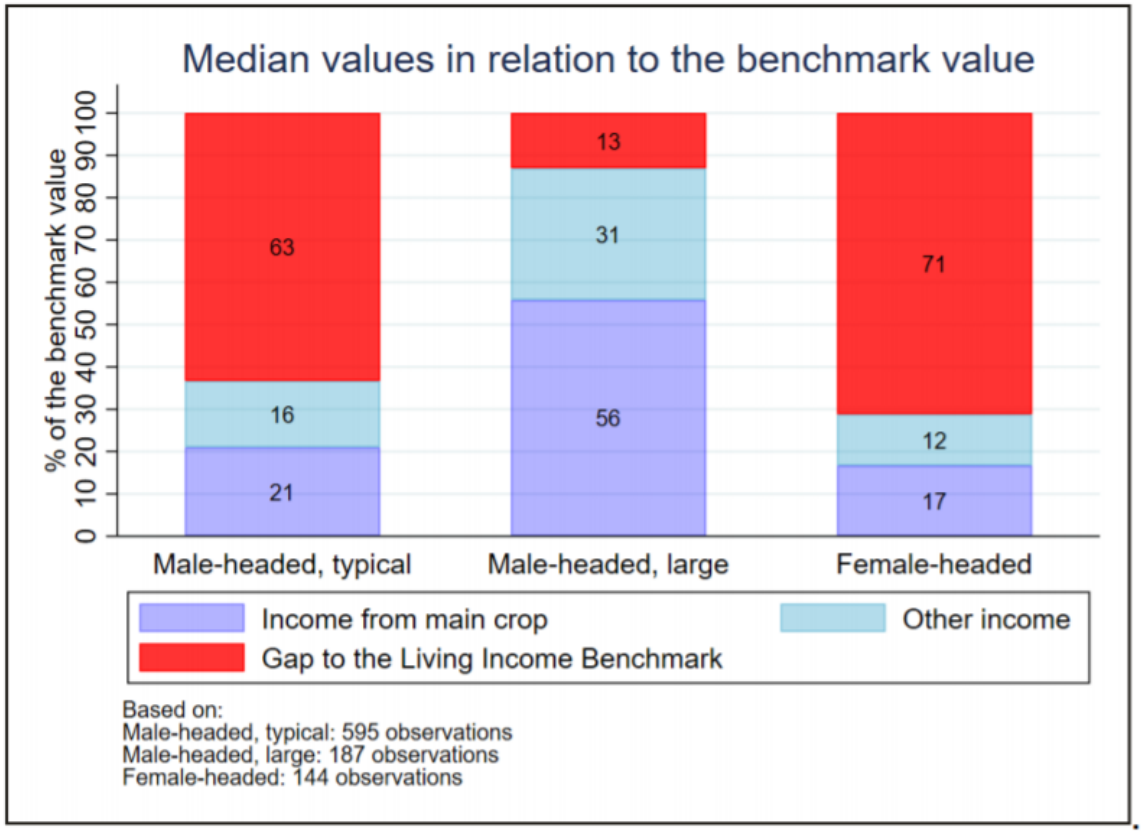
Limitations: Can still hide existence of poor households (although better than using mean values).

For more details see page 15 of ‘Guidance manual on calculating and visualizing the income gap’.

How can I use ‘gap of the median income’ to visualise the gap?

Example of gap of the median income visualised across different farmer segments:





For more details see page 24 of ‘[Guidance manual on calculating and visualizing the income gap]’.

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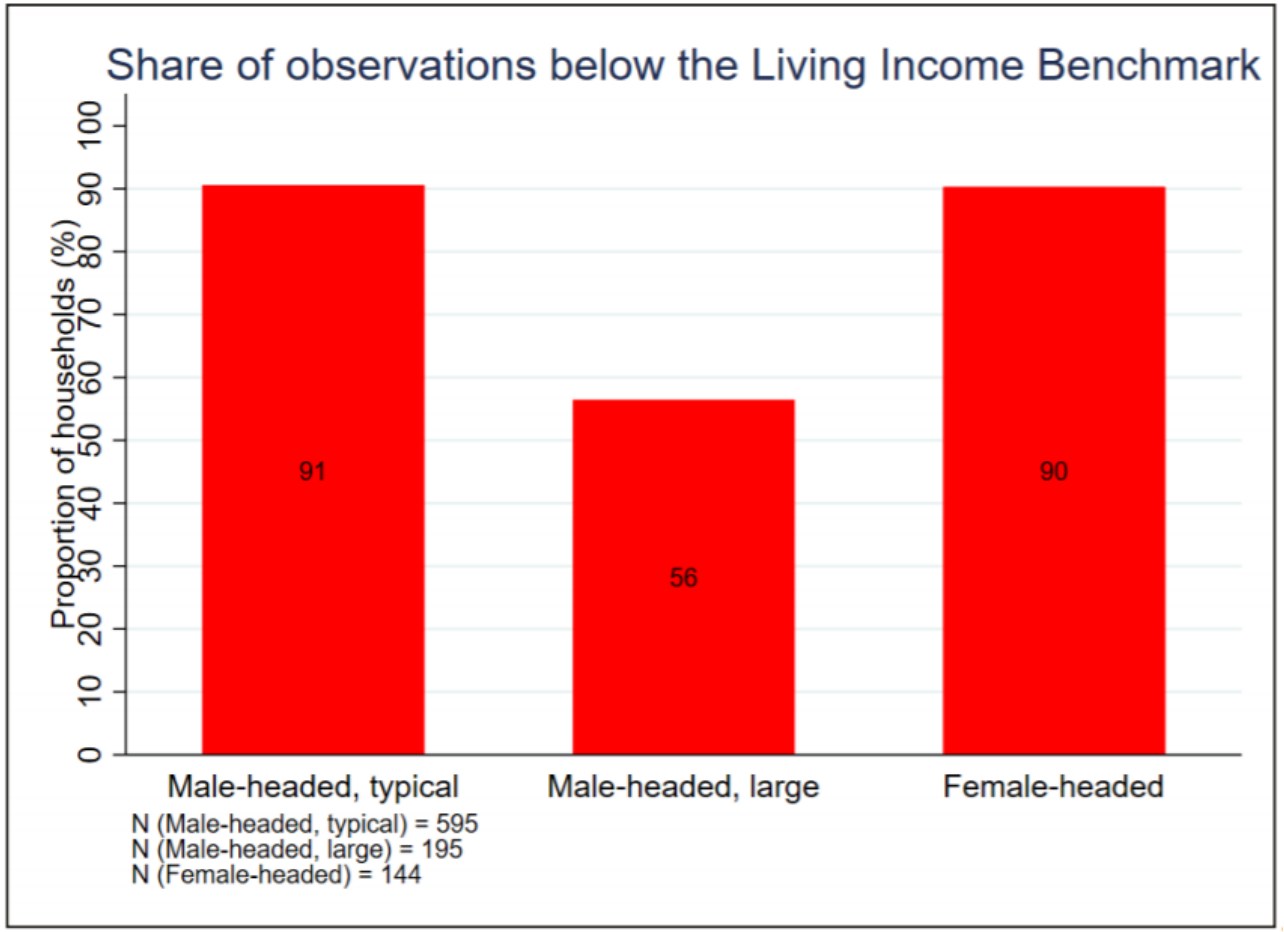
How can I use ‘share below the benchmark’ to calculate the gap?

Provides insights into how many are directly affected by not earning a living income.

Requires a benchmark per household – which involves either adapting the benchmark value per observation or using a common value of the benchmark per observation and assuming this is a valid approximation.

Benefits: Simple, very informative, reflects the size of the population of interest failing to reach a basic but decent standard of living.

Limitations: Can only be calculated if total household income per observation is available (rather than aggregated data). Limitations associated with benchmark adjustments.



For more details see page 17 of ‘Guidance manual on calculating and visualizing the income gap’.

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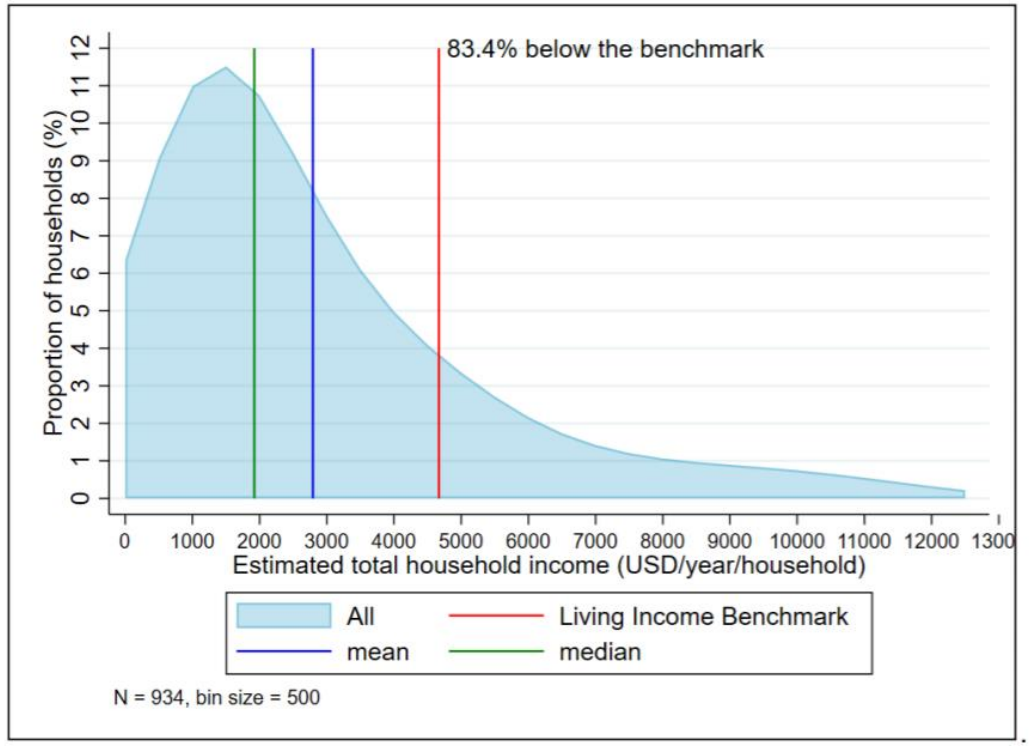
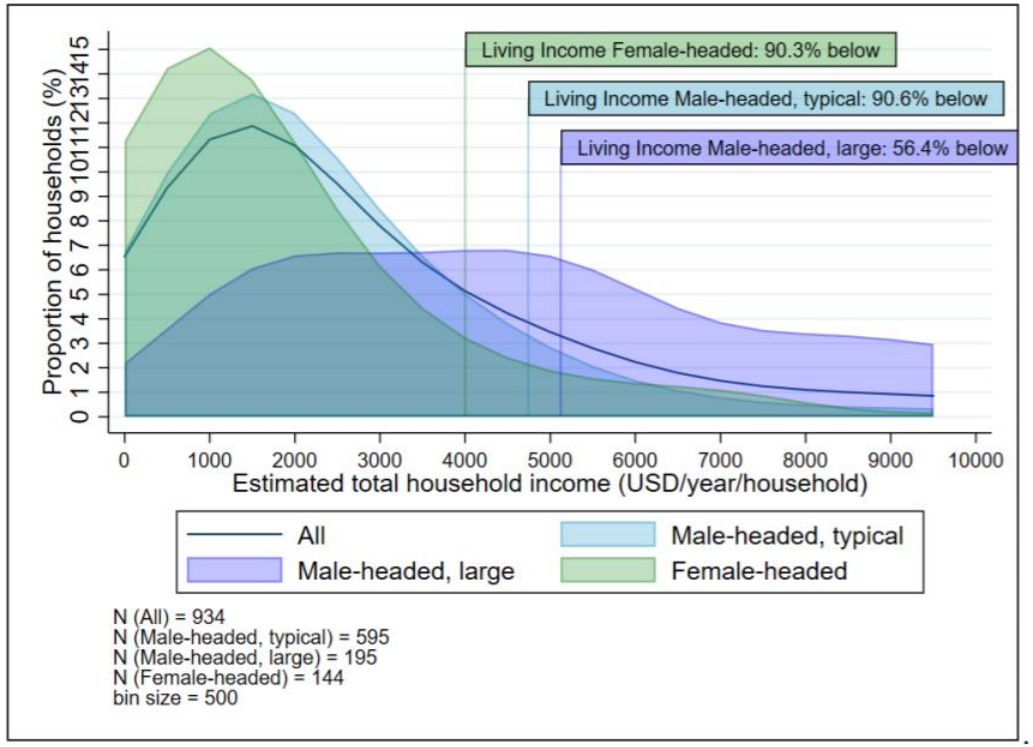
How can I use ‘share below the benchmark’ to visualise the gap?

Share below the benchmark can also be visualised in more detail using distribution graphs. This can be done for your entire population, or for different farmer segments with adjusted benchmarks relative to their household compositions.

Using these it is possible to assess how the incomes are distributed, how concentrated they are and what the potential effects are of the extremes of the distribution.

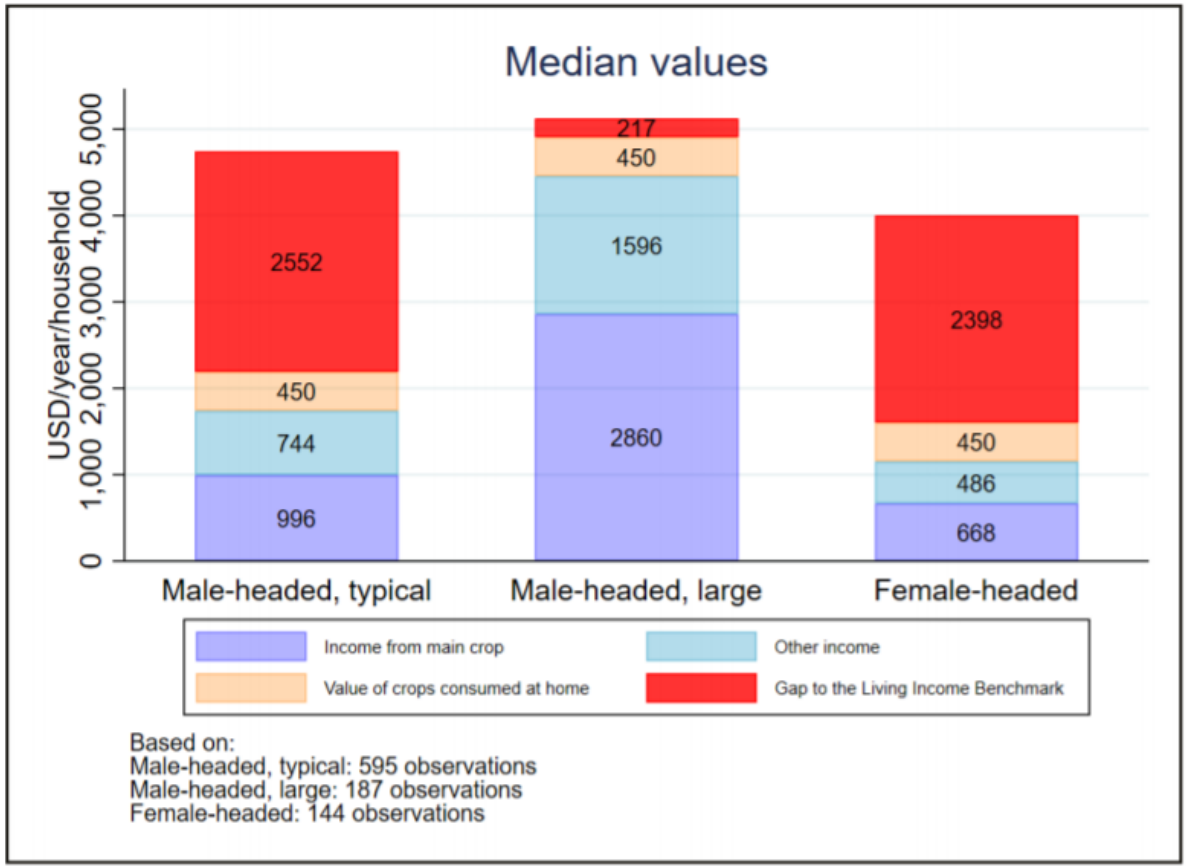




For more details see page 26 of ‘**Guidance manual on calculating and visualizing the income gap**’.

How can I incorporate value of food crops consumed?

- Food costs are an important component of the Living Income Benchmark and the intrinsic **value of food produced and consumed at home** can be an **important source of non-cash income**.
- **Including value of crops consumed** in the calculation of indicators will **reduce the gap.**
- To include in the calculation, they need to be added to the total net household income as any other source of income, ensuring any necessary data adjustments are made for comparability.
- **We advise this be reported separately** to allow readers to understand what is actual cash income and cash-valued income is.



Gap of the median income including value of crops consumed at home

For more details see pages 19 and 25 of '**Guidance manual on calculating and visualizing the income gap**'.

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END

For more information and access to all guidance materials visit:
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Email specific questions to:
livingincome@isealalliance.org