Living Income Webinar Series Exploring options for measurement and analysis of living income gaps: insights from a case study of Madhya Pradesh cotton farmers. ^{15th October 2020}



Today's webinar speakers



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Suchitra Yegna Narayan, independent researcher and data analyst



Agenda

- 1. Framing for this webinar
- 2. Brief background to the pilot study
- 3. Insights from activities:
 - Collecting data for assessing actual household income
 - Understanding the living income gap
 - Using a farm economic model to strategize programme interventions
- 4. Q&A
- 5. A word on LiCoP resources: guidance manual on calculating and visualizing the income gap to a Living Income Benchmark

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Framework for measurement

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1. Measure income of farming households using a household survey

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4. Create farm economic model to demonstrate how income and gap information can be used to inform strategy

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Brief background



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Background to this study

ISEAL pilot included:

- Small scale household survey to test questionnaire
- Estimation of living income gap using proxy measures for living income
- Development and testing of a farm economic model
- Pilot testing of LiCoP resources

- The Laudes Foundation and many other companies, organisations, and initiatives in the cotton and textile sectors and beyond have expressed interest in improving understanding of current cotton farmer incomes and possibly adopting living income as a goal for their work with farming communities.
- Laudes Foundation already has extensive monitoring systems in place for cotton projects, but these do not cover all aspects of farmer income.
- Key question: What would it take to adapt a living income approach and measure income gaps for farmers in Laudes' current projects... and in future landscape approaches?









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Site location, geographic and demographic profile





- Jhabua district in the northwest of central Indian state of Madhya Pradesh
- Typical cotton-production landscape with arid climatic conditions
- Economically and socially marginalised community
- Low literacy levels
- Site of organic cotton project by Laudes

Laudes Foundation is an independent foundation here to advance the transition to a just and regenerative economy. Founded in 2020, Laudes Foundation is part of the Brenninkmeijer family enterprise and builds on six generations of entrepreneurship and philanthropy

In particular, we advance the industry-changing work of C&A Foundation. Learning from these experiences, we work persistently and collaboratively to influence capital and transform industry, starting with the built environment and fashion industries

Laudes ——— —— Foundation

Rationale for the ISEAL living income study and way forward

- Focus initially was on cotton income as our strategy was commodity focused.
- One of the lessons from our programme was that for overall economic development of cotton farmers we need to focus on the farming system as a whole. Income from only cotton is not sufficient. Farmers grow multiple crops.
- We are piloting a jurisdiction based landscape model where we foster agriculture ecosystems which conserve and enhance natural resources and build community resilience while enabling businesses to source responsibly.
- One organisation can't lead this change. Multiple organisations focusing different value-chains need to work together for farmers to earn a decent income.
- We want to take the findings of the study and other future research in this area to a locally governed multi-stakeholder body to motivate them to collectively own the vision of working towards ensuring living income for producers.

Activities and insights: Collecting data for assessing actual household income



Living Income household survey instrument



• Purpose:

- Capture data that was essential to assess the actual income status of the sample households and allow an assessment of the living income gap
- Learning points:
 - What data points are needed?
 - How different is a survey for estimating the income gap from other common farm household surveys?
 - Could quicker, less intensive methods be used to capture income data?
 - Are the data needs for calculating the gap the same as the data needs for other use cases (e.g. farm economic model to inform strategy?)
 - How could household survey data be best combined with or best complement existing monitoring information?

What information is needed to capture household income, in order to assess the income gap?



Guidance on calculating household income (2020) (includes model survey) Composition of household incomes for agricultural smallholders

Essentials for actual income calculation



Value of home-grown food and wage labour matter a lot to the income calculations

Sales from crops accounts for only 17% of HH income on average but if value of home-grown food is included, the share of agriculture in HH income is 47%. Earnings from wage labour play a significant role in total household income earnings. (Sample size for pilot = 61)



Mean net income from cotton

- Mean net income from other crops
- Mean income from livestock rearing
- Mean income from wage labour
- Mean income from other sources
- Mean value of home consumed crops and livestock

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PRODUCE CONSUMED AT HOME

Often ignored, but critical component of value of farm activities.	Lack of awareness of value (by hhs and practitioners)	Important for considering strategy options
How to value home consumption: Farm price or market price?	Additional complexity for info gathering on crops – qty sold, wasted/lost, consumed	Cost side of production for home consumption hard to capture, particularly if product not also sold

Market price used for calculation of living income estimate (See 'From Living Wage to Living Income' – July 2018)

Paid labour is also critical

301	•	Duration of work as wage lal					Income received per period	
	A. Code of household	पिछले साल कितने अवधि के लिए उ	मजदूरी कर	के आय अ	प्रति अवधि प्राप्त हुई आय			
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	Code from Section	Number of days, weeks, months, or						
		years, worked in last year पिछले साल					(enter number in INR)	
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1			1	2	3	4		
2			1	2	3	4		

Unpaid labour information is not collected because it does not directly add cash to the family – the value of the return to family labour is already counted through crop revenue and value of home consumed food

Would be useful for understanding profitability of a single crop

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Information
Informati

How to collect information on other sources of non-farm income efficiently?

SECTION-1: Identification of the Household and Household Details/सेक्शन - 1 : घर की पहचान और घर की जानकारी

To begin, I would like to ask you a few questions about your household. By household we mean your family members (including elders, children, and other members) who eat food cooked from the same choolah/in the same kitchen. शुरू करने के लिए, मैं आपसे आपके घर के बारे में कुछ सवाल पूछना चाहूंगा. घर से हमारा मतलब आपके परिवार के सदस्यों (बड़े-बुजुर्गों, बच्चों, और अन्य सदस्यों सहित) से हैं, जो एक ही चुल्ले से / एक ही रसोई में पका हुआ खाना खाते हैं.

Fill in details for all ADULTS in the household (>18 years old)			Are/do any of the adults ?										
	102	103	104	105	106	107	108	109	110	111		112	
	First name पहला नाम	Relationship to head of HH घर के मुखिया के साथ संबंध See table with codes at bottom of page पृष्ट के नीचे के भाग में टेबल देखें जिसमें कोड्स दिये गए हैं	Sex लिंग	Age उम्र (If <1, <u>then '</u> 0') (यदि एक साल से कम है तो '0' लिखें)	Attending school? स्कुल जाना ? 0- नहीं (No) → 107 1-हां (Yes) ↓ 106-1	Involved in cotton production on own farm? खुद के खेत में कपास के उत्पादन में शामिल 0- नहीं (No) → 108 1- हां (Yes) ↓ 107-1	Involved in production of other crops on own farm? खुद के खेत में अन्य फसलों के उत्पादन में शामिल ○ 0- नहीं (No) → 109 ○ 1- हॉ (Yes)	Work as hired labourers? किराए पर मजदूरी के तौर पर काम करना ○ 0-नहीं (No) → 110 ○ 1-हां (Yes) ↓ 109-1	Have business / trading activity/store /artisanal? व्यवसायिक/व्यापारिक गतिविधियाँ/स्टोर/कारीगर ○ 0-नहीं (<u>No)</u> → 111 ○ 1-हां (<u>Yes)</u> ↓ 110- 1	Have salaried job? मिलतीहै? ○ 0-नहीं (<u>No)</u> → ○ 1-हां (<u>Yes)</u> ↓	जॉब जिसमें सैलरी 112 111-1 and 111-2	Receive a pension (r widow destitute? पेंशन प्राप्त होता है पेंशन,गरीब विधवा) ○ 0-नहीं (<u>No)</u> → children ○ 1-हां (<u>Yes)</u> ↓ 1	old age pension, (वृद्धा वस्था Table for .12-1 and 112-2
					106 1	107.1	108-1	100 1	110.1	111 1	111 0	112.1	112.2
					Check if applies	Check if applies	Check if	105-1 Check if applies	Check if applies	Check if applies	Total amount	Check if applies	Total amount
					check il applies	check in applies	applies	check in applies	check it applies	check it applies	received in year	check if applies	received in year
1.			○ 1-पुरुष(M)○ 2-महिला (F)		(<u>Yes)</u>	() १-हां (<u>Yes)</u>	(<u>Yes</u>)) १-हां (<u>Yes)</u>	(Yes)	() 1-हां (Yes) →		() 1-हां (Yes) →	
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3.			○ 1-पुरुष(M) ○ 2-महिला (F)		(<u>Yes)</u> 1-हां (<u>Yes)</u>	() 1-हां (<u>Yes)</u>	(<u>Yes)</u> ∩ 1-हां (<u>Yes)</u>	(<u>Yes)</u> 1-हां (<u>Yes)</u>	○ 1-हां (<u>Yes)</u>	() 1-हां (Yes) →		(Yes) →	
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5.			○ 1-पुरुष(M)○ 2-महिला (F)		() 1-हां (<u>Yes)</u>	() 1-हां (Yes)	() 1-हां (<u>Yes</u>)	() 1-हां (<u>Yes)</u>	() 1-हां (<u>Yes)</u>	() 1-हां (Yes)		() 1-हां (Yes) →	

Navigating choices: capturing crop or product revenues and costs

How many crops or products to consider?

At what level of disaggregation should costs be collected? (e.g. land per crop?)

ACTUAL

INCOME

NET INCOME

FROM FARM



Net farm income composed of:

Revenues

• Revenue from sale of produce – crops and/or livestock

Costs

- **Input costs** Planting and taking care of crops (e.g. seeds, tools, fertilizers and pesticides)
- Land costs rental/purchasing
- Labour costs paying wages of additional labour
- Unexpected costs e.g. to cover crop damage from drought or bad weather

• Other

All above costs could be accounted for through the reinvestment of revenues.

Different choices depending on your use case: think ahead!



Are you going to want to:

- assess the profitability of different crops, perhaps even crops that are now marginal?
- model changes in land use?

Do you need survey data for these purposes?

Beyond just measuring the gap



THE RELEVANCE OF CONTEXT

Access to irrigation affects cropping options



Use field tests and secondary data

Typical secondary crops

Two distinct farming seasons

'QUICK AND DIRTY' AND 'DETAILED' APPROACHES

Testing 'quick and dirty' vs. detailed methods

Households struggle with accounting for expenses, thinking about losses and value of farm grown food: over reports share of income from farming One example: Total household income + game to allocate share of income across sources

Mean results on total hh income were comparable to full analysis, but distribution was off (medians differ)

Understanding the living income gap



Living Income Benchmark





Living Income proxy benchmarks ladder





Benchmarks

2009	2011		
Tendulkar Poverty Line – INR 27.4 per capita per day (2009 prices)	International Poverty Line – PPP \$ 1.9 per capita per day (2011 prices) – using PPP \$ conversion rate, this is INR 29.5 per capita per day		
Rangarajan Poverty Line day (2009 prices) 2009	e – INR 32.7 per capita per		



Timeline Conversion



World Bank GDP deflators

- GDP most general measure of a country's overall strength and health, as well as price level.
- GDP deflator captures changes in government consumption, capital formation, international trade, and most importantly household final consumption expenditure over the years
- Ratio of GDP in current local currency 3to GDP in constant local currency.

Available for India from 1960 up to 2019

Correction from 2019 to 2020 uses average rate of inflation of 6.67% between 1960 and 2019

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- Tendulkar Poverty Line INR 48.76 per capita per day
- Rangarajan Poverty Line INR 58.19 per capita per day
- International Poverty Line INR 43.60 per capita per day
- These are for an assumed household size of 5 (national average for India); therefore multiplied by 5, and 365 to get the benchmark per household per year

Benchmarks (2020 prices)



Household Size Correction of Benchmarks

Sample household size is 5.66



Can be corrected in two ways

At the average – multiplying the benchmark by the correction factor of 5.66/5

For each household – creating a benchmark value for each household by multiplying the benchmark by the correction factor of household size/5. The mean of this variable is the benchmark for comparison

Using a farm economic model to strategize programme interventions for target households



Farm economic models are a useful way to explore potential effects of specific interventions on different farm variables and household income (in theory). These can help strategize future interventions for target farmer groups.

The first step to setting up a farm economic model is landing on a profile of a 'typical farm'. Imp: what is 'typical' is not the average value from the dataset.

A 'typical household' organic cotton producing household as basis for the farm economic model:

- What is a typical farm plot size?
- What is typical HH size and what is typical composition of HH?
- What is/are the cropping seasons? How is the farm 'typically' used in these seasons?
- What are the other typical income-generating activities of a HH with this profile in this region?
- What is the typical extent of food grown and set aside for home consumption?

We developed three levels or 'tiers' of models with increasing complexity and sophistication.

Tier 1 – BASIC FARM MODEL	Tier 2 – ADVANCED FARM MODEL	Tier 3 – FULL INCOME MODEL			
Set up to model effects of change only in relation to cotton production.	Set up to model effects of change in all farm-related production and costs. Allows	Image: Set up to model effects of change in farm production and costs and other sources of HH			
	consideration of full use of farm across both farming seasons and trade-offs on land-use and home consumption vs sales.	income such as livestock earnings and wage labour.			
Key variables in the model:	Key variables in the model:	Key variables in the model:			
Land under cotton, productivity, (yield), price, sales, (revenue from cotton), costs of cotton cultivation, (net income from cotton)	Land use under different crops across each season, productivity, price, sales for cotton and other cash crops, food set aside for home consumption, farm cultivation costs (across seasons), net income for each season and total net income from cultivation.	All variables in Tier 2 that provide (net) revenue from cultivation, and additionally, (gross) earnings from livestock, (gross) earnings from wage labour by days spent by each working adult.			

Snapshot of Tier-2 of the farm economic model developed by ISEAL

The model was set up by each farming season (kharif or cotton season and rabi season).

In order to fully model trade-offs about land-use, it is essential to gather data on land under each crop, in each season. This also allows the model to understand impacts on value of homegrown food.

As we did not collect this (only total farm plot size and land under cotton were collected), assumptions were made on how farm plot was divided across other crops in both seasons.

Detail around cost of cultivation matters but you can apportion total farming costs across crops based on land-use.

Income from farming season 1 - Rain-fed or Kharif season					
Income from the cotton crop					
Variable	Hypothetical values				
Size of plot farmed during the kharif season (ha)	0.81				
Share of this plot on which organic cotton is grown (%)	40.00				
Share of this plot on which other crops are grown (%)	60.00				
Land under organic cotton cultivation (ha)	0.32				
Productivity from organic cotton (quintals/ha)					
Total production of organic cotton (quintals)					
Price for organic cotton (INR/quintal)					
Possible additional price premium for organic cotton (INR/quintal)					
Total revenue from organic cotton for the season (INR)					
Income from secondary crop 1 production during cotton season: Soy bean					
Land under soybean during cotton season (ha)	0.34				
Productivity from soybean (quintal/ha)					
Production of soybean (quintal)					
Price of soybean (INR/quintal)					
Revenue from soybean (INR)					
Income from secondary crop 2 production during cotton season: Maize					
Land under maize during cotton season (ha)	0.15				
Productivity from maize (quintal/ha)					
Production of maize (quintal)					
Sales of maize (quintal)					
Quantity of maize kept aside for home consumption (quintal)					
Price of maize (INR/quintal)					
Revenue from maize (INR)					
Total revenue from farm activities in kharif season					

This simple illustration allows a comparison of the net effects of different strategies that could be adopted to influence cotton production. The use of an FEM helps take the analysis of the living income gap into a first discussion of options available for closing the living income gap.

Nature of intervention	Extent of change	Effect on total net household income
Increase in sale price for organic cotton	20%	6.2%
Additional price premium for organic cotton	Additional of INR 500 / quintal as premium for organic cotton	2.8%
Increase in total land area under cotton cultivation in kharif season	Shift in total land area under cotton cultivation from 40% to 75% of the kharif season (and related reduction in land under soy-bean)	4.8% 🕇
Increase in average productivity of cotton	30%	9.3% 🕇
Reduction in overall cotton farming costs	50%	7.8%



Guidance manual on calculating and visualizing the income gap to a Living Income Benchmark: How should my organisation go about measuring incomes and the living income gap?



Answer: it depends...

- On the use case What is your purpose for measuring the gap? Affects data needs and granularity, the calculation process, and reporting indicators and visualisations.
- On your starting point and capacity What income related data do you have/ already exists? Do you have capacity to collect data? Affects the route you take to the calculation and may effect what you can ultimately say and do.
- On the operational context What are the norms or what is typical within the context of concern? What are key determinants of income and associated costs for your farmers? Affects data enumeration needs and calculation.
- On additional choices is there other things you are looking to explore with the data? Affects data needs and collection.

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LI CoP guidance available and in the pipeline

Developed with invaluable support from the Technical Advisory Committee composed of technical experts.

1. Measuring income	2. Gap calculation	3. HEA framework	4. Gap estimation		
The Living Income Community of Practice	The Living Income Community of Practice	The Living Income Community of Practice	ESTIMATING FARMER		
Guidance on calculating household income Version 1. Prepared for the Living Income Community of Practice	Guidance manual on calculating and visualizing the income gap to a Living Income Benchmark Prepared for the Living Income Community of Practice	Applying the Household Economy Analysis to Measure and Address Income Gaps in Agriculture Supply Chains Guidance Note for the Living Income Community of Practice – December 2019 Authored by Jessica Grillo and Jennifer Bush	HOUSEHOLD INCOME Detrage Web Mathies - September 200 COMMINGS		

Key principles, elements and considerations for measuring actual incomes

(incl. sample context and field collection surveys)

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

(incl. calculation and visualisation models)

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

(incl. example data collection tables)

How to use secondary data to estimate the gap for use cases when field data is missing.

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

Key lessons from the guidance (so far...)

- Enumerating on-farm, off-farm, and other income sources as well as associated costs is required for gap measurement
- Get an understanding of the context to determine which income and cost elements are important.
- Make collection choices that fit your intended purpose
- Consider the need for data adjustments on either the income or benchmark side to enable comparability.
- Carefully consider how you use gap indicators and visualisations they affect what you can say and do.



New lessons: Estimating the gap with secondary data

- Use cases become even more important when it comes to estimating the gap.
- Affects data attribute and granularity requirement.
- Can use a hierarchical framework to help select and prioritise data sources.
- Modelling and data extrapolation valuable tools in estimation, but consider limitations.



Figure 3: Data source selection framework

Literature to explore the living income concept, gap and applications

- Guidance manual on calculating and visualizing the income gap to a Living Income Benchmark, The Living Income Community of Practice, 2020.
- Guidance on calculating household income, The Living Income Community of Practice, 2020. ٠
- Living Income Report Rural Ghana March 2020 Update, The Living Income Community of Practice, 2020.
- Applying the Household Economy Approach to Measure and Address Income Gaps in Agriculture Supply Chains, The Living Income Community of Practice, 2019.
- Living Income Report Rural Ghana, The Living Income Community of Practice, 2018. ٠
- Living Income Report Rural Côte d'Ivoire, The Living Income Community of Practice, 2018. ٠
- Analysis of the income gap of cocoa producing households in Côte d'Ivoire, Royal Tropical Institute (KIT), 2018. ٠
- Analysis of the income gap of cocoa producing households in Ghana, Royal Tropical Institute (KIT), 2018. ٠

Towards a decent standard of living for smallholder farmers







Visit https://www.livingincome.com/events to get more information

Community of Practice Updates

22 October Implementing living income requirements in standard systems Register: https://attendee.gotowebinar.com/register/2085502387309574670

Towards a decent standard of living for smallholder farmers







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Questions? Email us at:

livingincome@isealalliance.org

iseal

TOOLS to support organisations in developing their strategies to closing the income gap.

ALIGN is a guidance tool for agri-food companies aiming to reduce complexity around the topic of living wage and living income.

Evidensia is an evidence platform that aims to make it easy for sustainability practitioners to work with evidence on the impacts of supply-chain sustainability approaches.

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Thanks!

