

Standardization of Living Income benchmarking and knowledge gaps in farmer income assessment in cocoa farming. How to proceed?

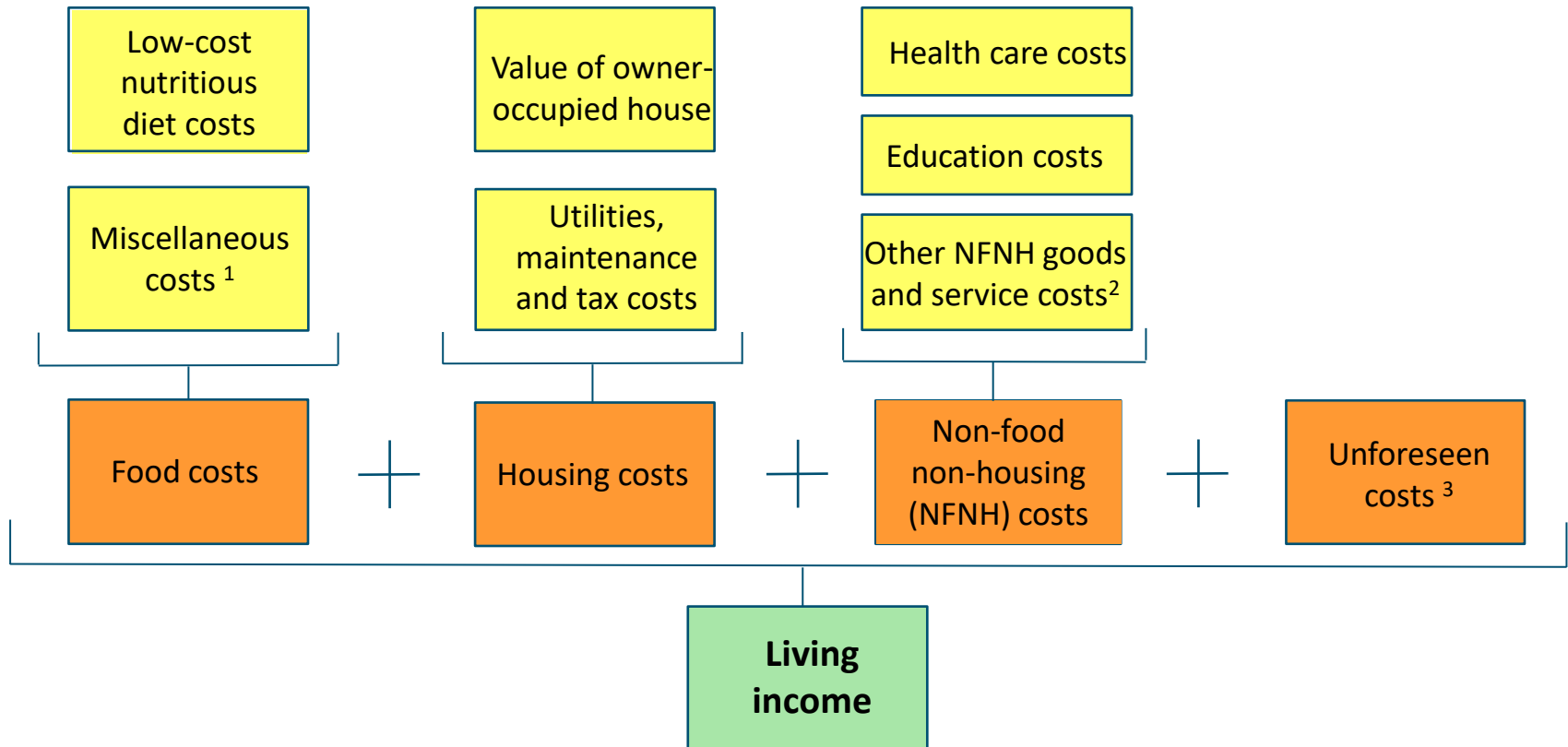
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Research questions

- How to calculate Living Income?
- Do cocoa producers earn a living income?
- Which scenarios can we imagine to increase income?
- What variables underlie income differences?
- What are methodological challenges and progress?
- How to reach LI for cocoa farmers?

WUR simplified living income approach



¹ 16% of Low-cost nutritious diet costs (10% variation, 4% food waste, 2% salt etc).

² Other NFNH goods and services costs: 20% of total Food, Housing, and NFNH costs.

³ Unforeseen costs: 10% of total Living income.

WUR simplification of Anker & Anker

	A&A	WUR
Unit	Reference household (FTE)	Household = Nb of Adult Equivalent (AE)
Household	4-6 persons, 1-2 FTE	AE: 1st adult 1; 2nd adult 0.7; child 0.5
Sources for hh size assessment	Census data, national statistics, survey, % unemployment etc.	Survey data study region (eat from same pot)
Food requirements	Needs based on: sex, age, size, activity of each family member	2500 kcal/AME (plus nutrition rules); male 1 AME; female 0.82 AME; <18 0.75 AME
Data sources	Local food prices & current diet	Local FGD, key informants, market prices, food groups
Calculation procedure	Iterative adaptation of current diet to fit needs & reduce costs	Living income diet tool : optimization to lowest cost diet based on food groups
Education & housing	Secondary data, FGD, rapid local survey	FGD & key informants

Data sets used for LI study for cocoa *

Data set	Country	Data year	Number of respondents
KIT	Ghana	2015/2016	1,384
	Côte d'Ivoire	2015/2016	992
WUR	Ghana	2010/2011	385
	Côte d'Ivoire	2011/2012	944
Cargill	Côte d'Ivoire	2017/2018	93,952
Ghent University	Ghana	2013/2014	731

*Different years, only two studies for both countries, different purposes of data collection

*Converted to \$ PPP 2018

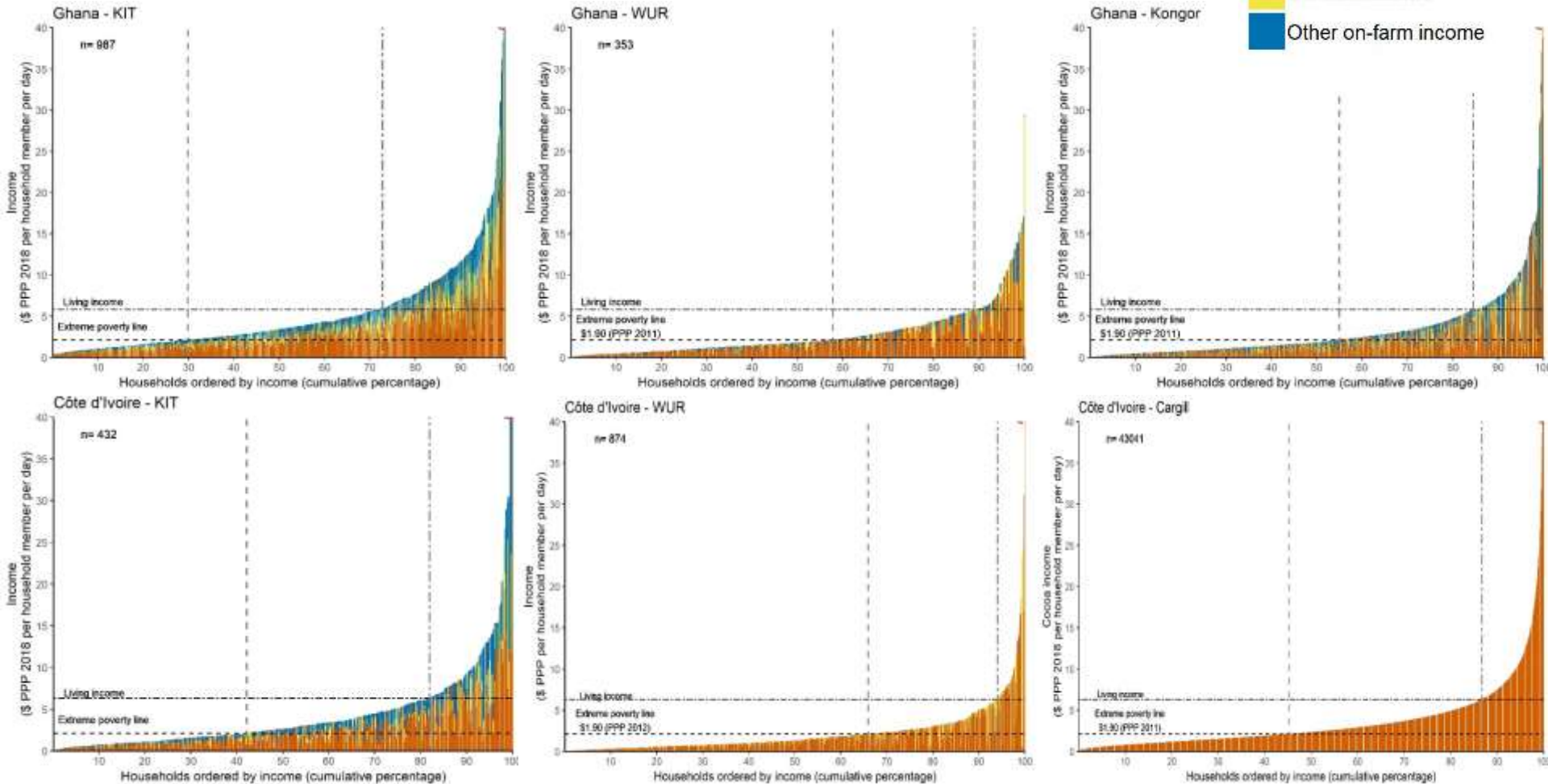
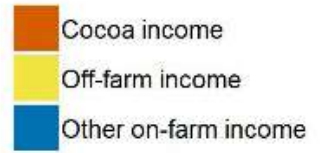
Income calculations cocoa farms



- Gross cocoa income
 - Household cocoa production * cocoa price
- Other on-farm income
 - Other crops, livestock
- Other off-farm income
 - small business, wage labour, remittances
- Income is standardised to \$ PPP*2018/AE/day
 - Comparable across countries and between years
 - Compared to WB poverty line of \$1.90 PPP 2011 which equals \$2.12 PPP 2018 per person per day
 - Compared to LI \$ PPP 2018/AE/day

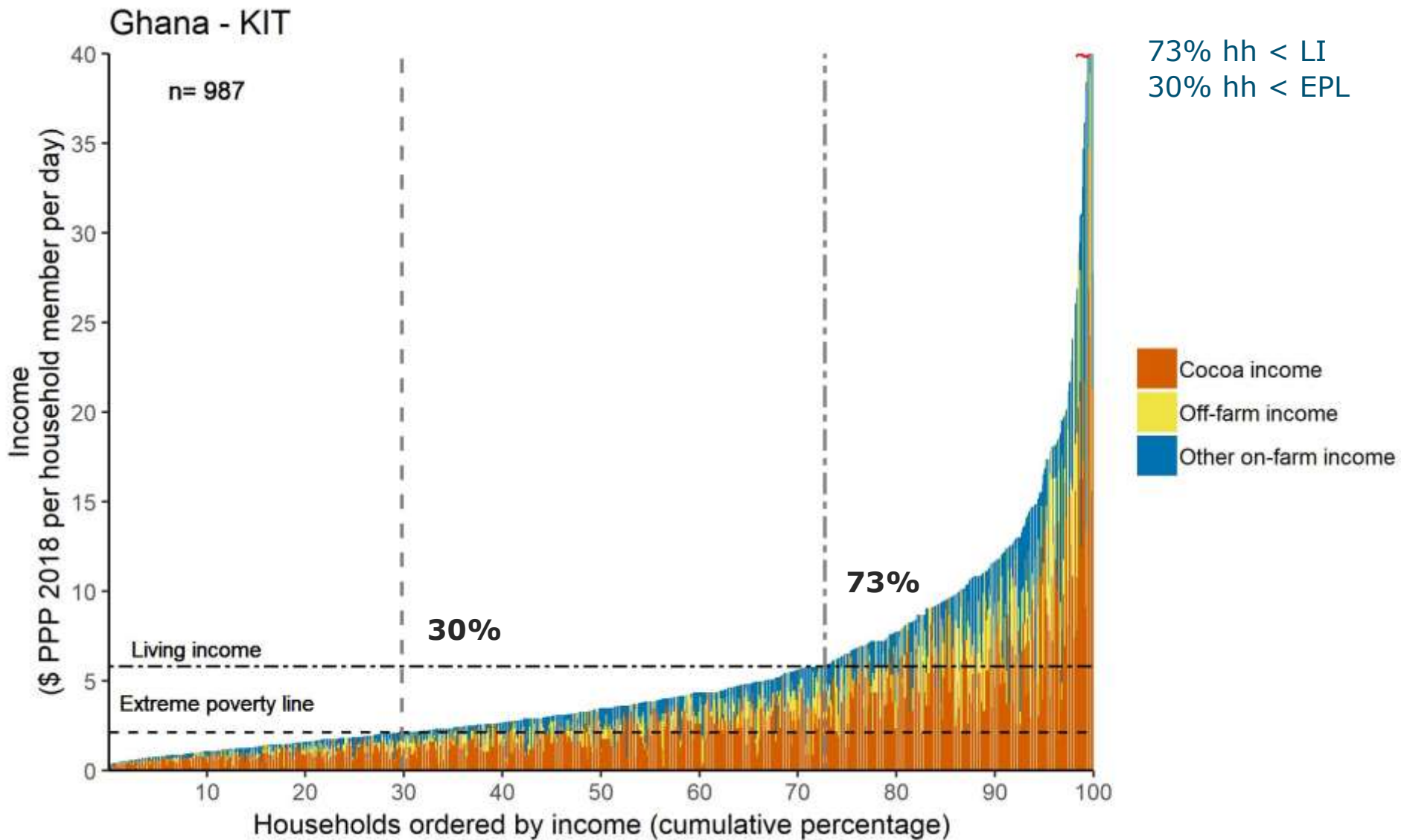


All data give similar outcomes

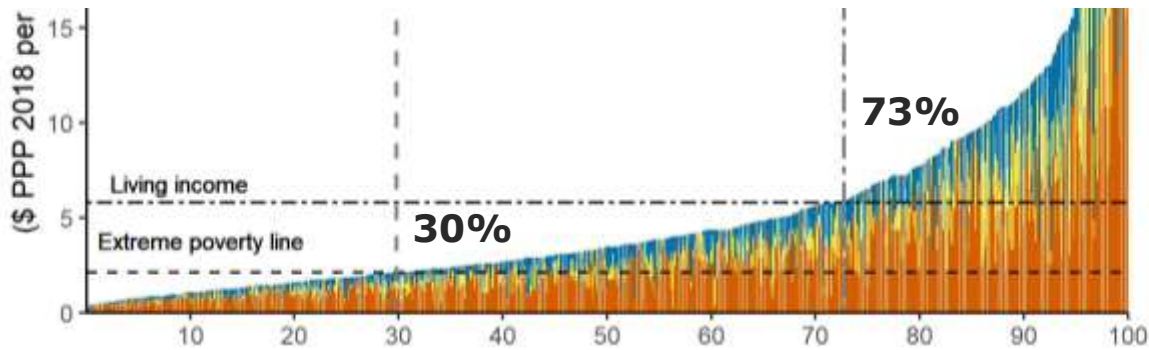


Many producers below the EPL (30-66%)
 Most producers below the LI benchmark (73-94%)
 Cocoa is important (largest) part of income

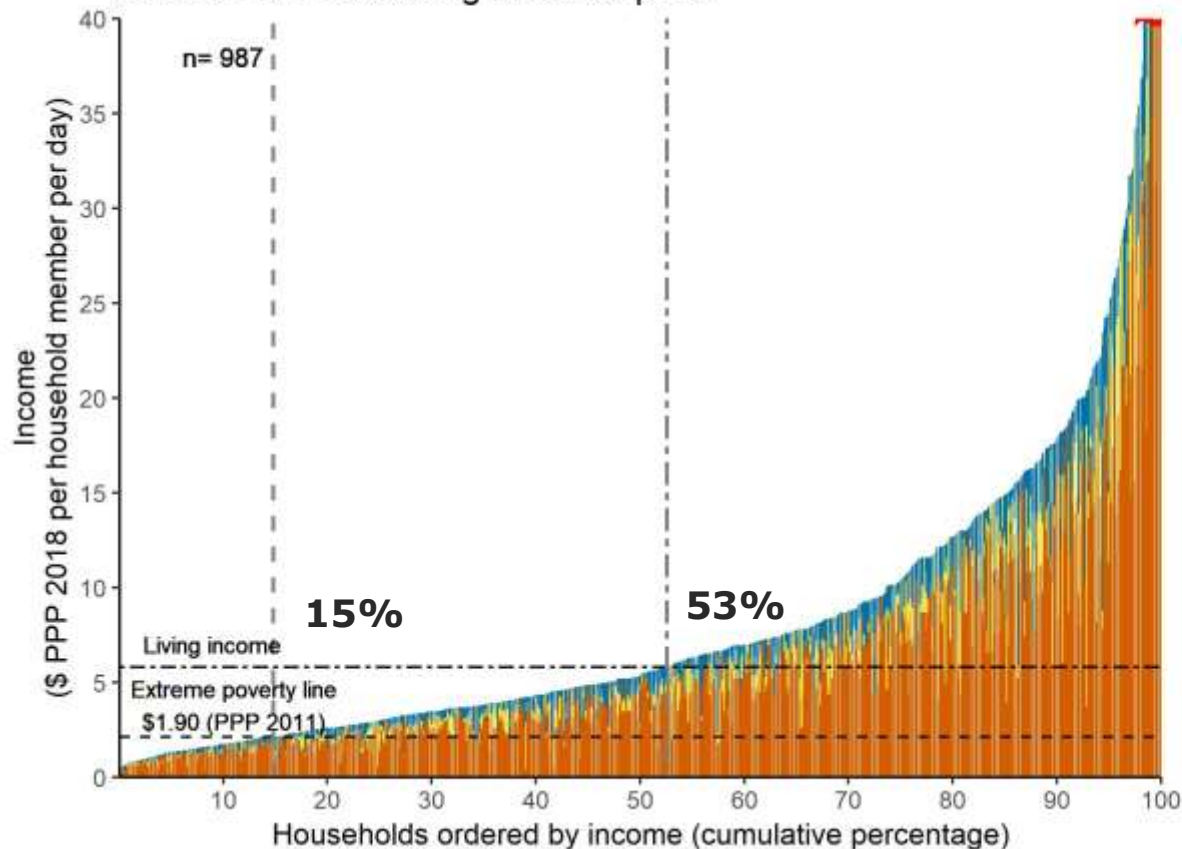
Have a closer look



Scenario: Cocoa price doubles



Ghana - KIT - Doubling of cocoa price



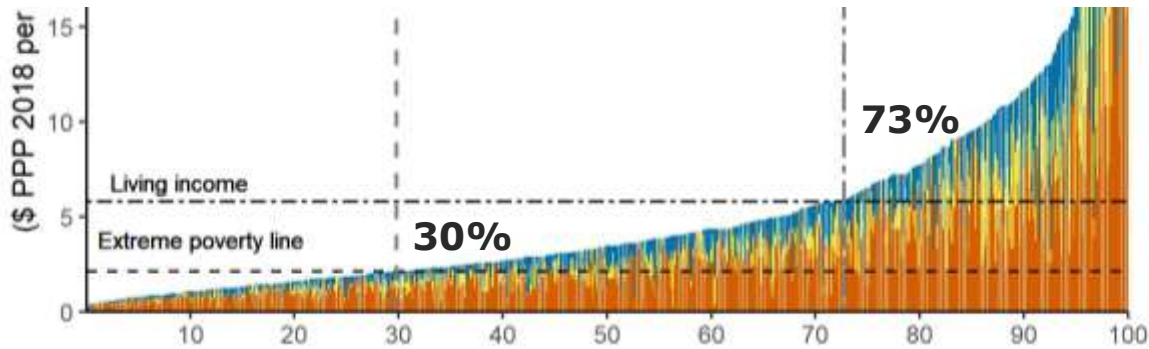
Less hh < LI
(73-53%)
Less hh < EPL
(30-15%)

Poor benefit the least (low yields)

Rebound effect:
higher prices → more expansion & intensification → overproduction → lower prices & more deforestation?



Scenario: Yields increase to 1,500 kg/ha

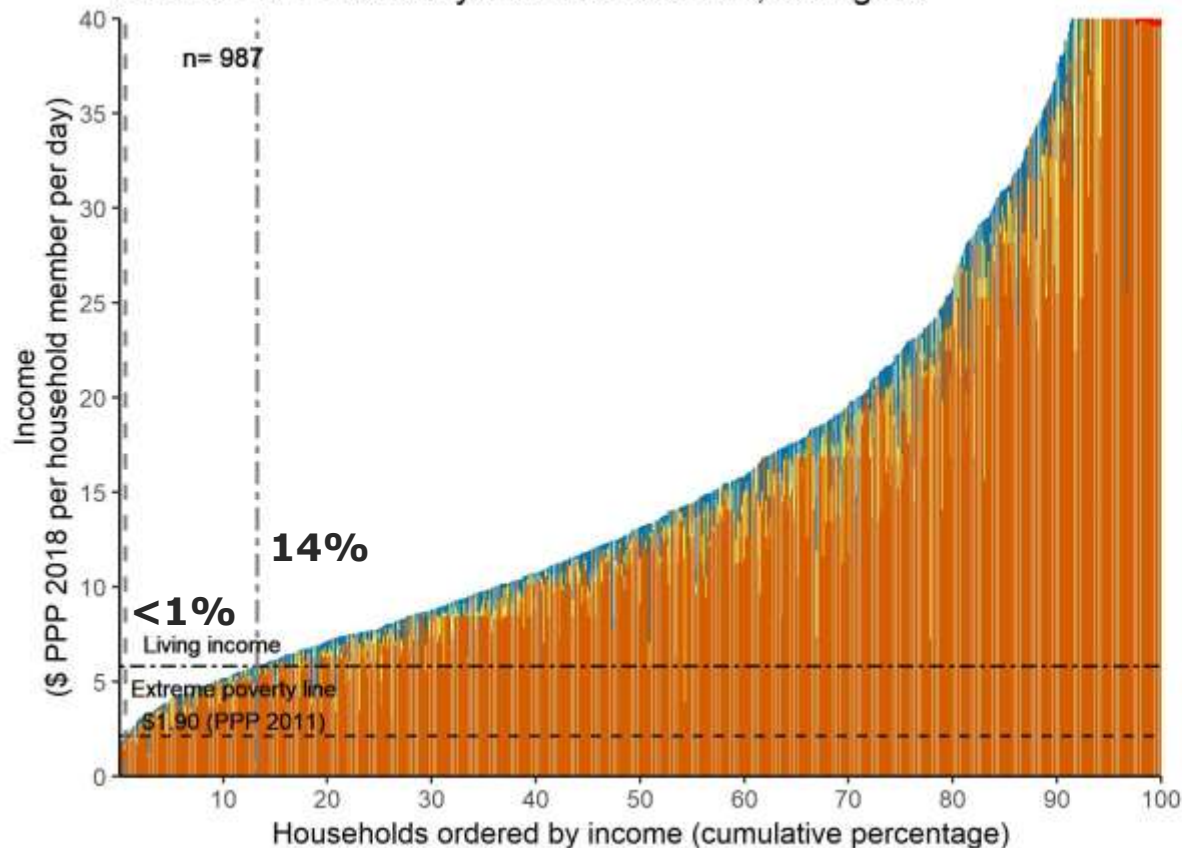


Less hh < LI
(73-14%)

Less hh < EPL
(30-<1%)

Poorest benefit
the most (have
lowest yield)

Ghana - KIT - Cocoa yields increase to 1,500 kg/ha



High investments
needed (inputs,
credit, training) →
most difficult for
the poor

Rebound effect as
result of over-
production →
lower prices



Variables related to income levels

	Ghana		Côte d'Ivoire		
	pppd	year	pppd	year	
Income (\$ PPP 2018)					
Number of household members (#)	-0.36	0.09	-0.22	0.23	More hh members: Higher income/hh/year Lower income/hh member/day
Number of productive household members (#)		0.10		0.25	
Dependency ratio (-)	-0.17	ns	-0.19	ns	More total land, more cocoa land, more cultivated land, higher yield →
Total available land (ha)	0.36	0.52	0.15	0.38	Higher income/hh/year and Higher income/hh member/day
Cocoa land (ha)	0.36	0.56	0.36	0.55	
Cultivated land (ha)	0.35	0.54	0.29	0.58	
Fallow land (ha)	0.18	0.15	ns	ns	Higher income dependency on cocoa → Higher income /hh/year but → Lower income/hh member/year
Yield (kg/ha)	0.37	0.45	0.40	0.50	
Dependency on cocoa (proportion of total income)	-0.20	0.26	-0.19	0.29	

- Segmentation of households based on different resource endowments such as total (or cocoa) farm size and labor to land ratio, may provide further insight in potential pathways towards achieving living income.

Methodological challenges & progress

- For better assessment of actual **income** of cocoa farmers, we need data on **other income sources** and on **relation between costs** (inputs & labour requirements) **and yield** (revenue) to calculate **net income**
- Agreeing on **data collection methodology, definitions, and pooling data for analysis** of actual **income** may increase comparability and save costs eg via <http://CocoaSoils.org> data infrastructure and partnership
- For **Living Income**, a **standardized method** increases transparency and comparability. One candidate: WUR-Living Income Calculation Tool at <https://models.pps.wur.nl/models> (including LI diet tool)
- Large attention for LI with cocoa companies and governments in cocoa producing and cocoa buying countries
- Living Income Community of Practice aims to provide tools for data collection and calculations of living income
- IDH has benchmarking for living wage assessment & could also support benchmarking for living income

How to reach a Living Income for farmers?

- Many cocoa farmers have too little area to reach a living income based on cocoa, even when prices increase: Land consolidation?
- For smaller farms yield increase may lead to LI but this needs large investment: Difficult for the poorest? Cash transfers?
- (New) pathways to LI needed:
 - Additional and alternative income sources (also jobs outside agriculture), but scarce
 - Agroforestry for higher income & climate change mitigation, but also needs substantial cocoa yields to prevent expansion
- Farmer **segmentation** may be useful to design interventions towards Living Income, that are **more specific/appropriate** for farmers with different resource endowments.
- **New policies** in companies, buying countries and producing countries are needed, eg to prevent rebound effects (production quota?, reward for preventing expansion?)

Thank you!

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