

# RuLIS

## Rural Livelihoods Information System

A joint **FAO – World Bank – IFAD** initiative



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# Context

- Large data gap in agriculture, especially on socio-economic variables
- Large and increasing demand of information, from the sub-national to the global level
- **FAO work on**
  - Promoting and supporting integrated data collection (AGRISurvey, the 50by2030 initiative)
  - Wider use and dissemination of existing data (RuLIS)

# Motivation

- **Information on rural income and livelihoods are sparse and scarce**
  - lack of a systematically organized data repository linking different aspects of rural livelihoods in support of decision making for reducing rural poverty
- **Increasing demand, also with the 2030 Sustainable Development Agenda**
  - Need to design and implement policies that pursue the Sustainable Development Goals (SDGs), and monitor progress, notably on SDG indicators 2.3.1 and 2.3.2 (income and productivity of small scale food producers) and targets 5a (women access to land)
  - information required on rural poverty, smallholders (productivity and incomes), social protection, decent employment, migrations, sustainability, resilience; sex-disaggregated
- **Household-level data not harmonized across-countries**
- **Household surveys under-utilized;**
  - increases the visibility of available surveys,
  - reduces costs of using detailed data, by providing ready-to-use and customized indicators
  - guide the improvement of data availability and quality at national level

# Building on previous and ongoing projects

A number of projects aimed at gathering information on rural incomes and livelihoods:

- The **Rural Income generating activities (RIGA)**: research on computing comparable income and employment variables from LSMS-type surveys
- The **Smallholder Data Portrait (SHDP)**: research on rural transformation and smallholders and a set of indicators on small holder farmers
- The **Gender and Land Rights Database (GLRD)**: Sex-disaggregated data on land ownership
- The **World Agricultures Watch (WAW)**: documenting structural change; territorial indicators and typologies

# How will RuLIS look like?

## Data: indicators and micro-level variables

- 115 ready-made indicators from household surveys
- 277 micro-level variables, when micro-data are publicly available
- Relevant macro indicators from other sources (World Bank, FAO, UNDP)
- A section allowing customized indicators

### different types of users:

- less experts (mostly indicators);
- intermediate (can use customized indicators)
- more expert (mostly variables)

## Research products – in the pipeline

- FAO, IFAD and World Bank papers and presentations
- A portal linking other projects
- Outlet of technical papers using the data

Dissemination of new data sets being collected at household and farm level (AGRISurvey, the 50by2030 initiative)

# Indicators in ten clusters:

- 1) Income and Productivity
- 2) Poverty and Inequality
- 3) Employment and Education
- 4) Social Protection
- 5) Land
- 6) Livestock
- 7) Inputs, Technology and Credit
- 8) Infrastructure and Services
- 9) Shocks and Migration
- 10) Sample Characteristics

# Cross-tabulation of indicators by “qualifiers”

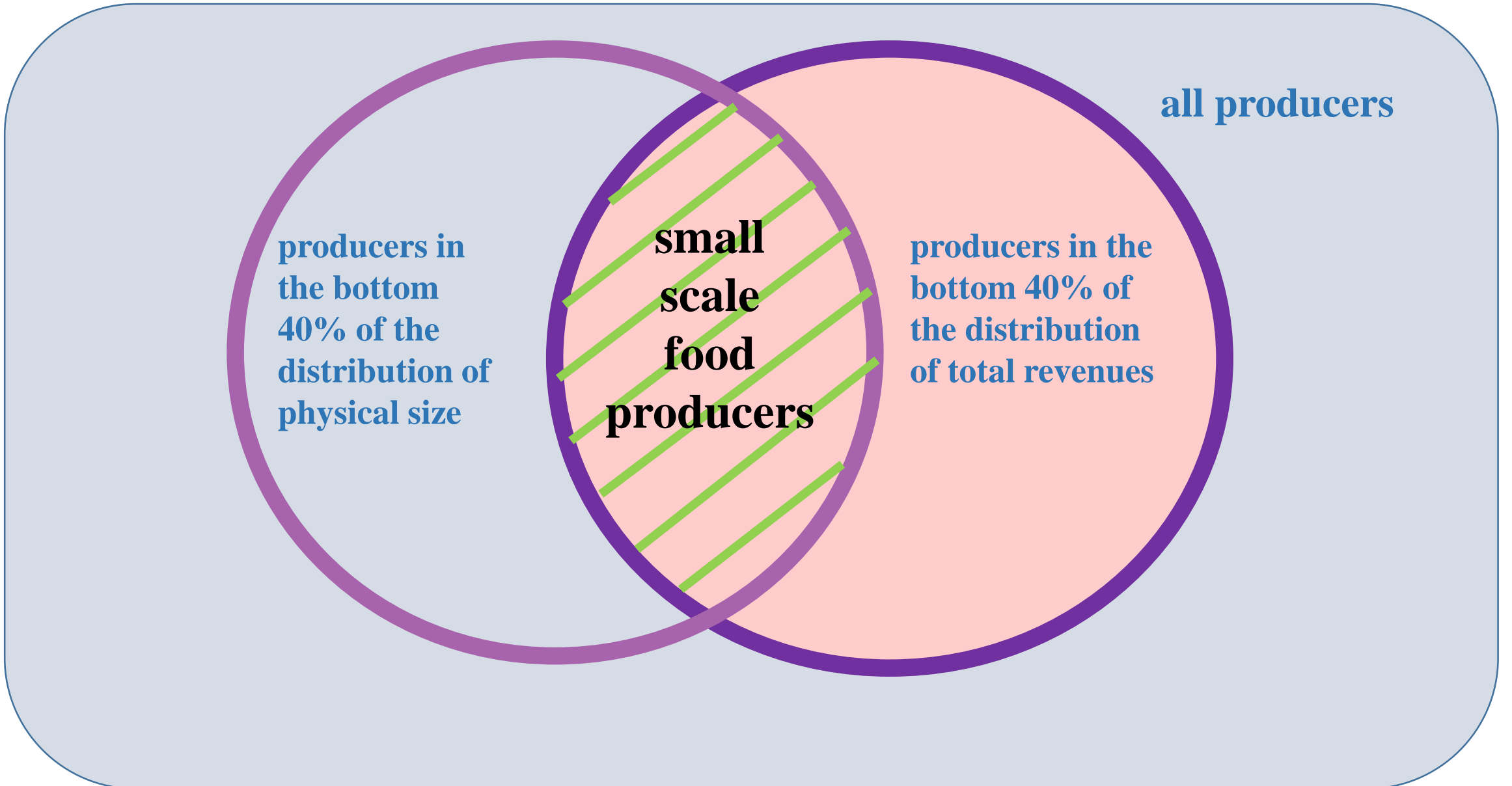
Category	Qualifier	Description
Area	Rural	Based on national definitions
	Urban	
Share of income from agriculture	Income from agriculture greater than 30%	Only for hhs involved in agriculture
	Income from agriculture lower than 30%	
	No income from agriculture	
Farm holding size	Small scale ag producers	Based on the definition adopted by the IAEG-SDG
	Non-small scale ag producers	
Sex	Only male adults in the household	Male for the individual-level data
	Only female adults in the household	Female for the individual level data
	Both male and female adults in the household	
Expenditure Quintiles	Quintile 1	Based on consumption expenditure
	Quintile 2	
	Quintile 3	
	Quintile 4	
	Quintile 5	

# “small scale food producers” based on the definition adopted by the SDG monitoring framework

- a **combination of two criteria:**
  1. the **physical size** of the food producer, as expressed by the amount of operated land and number of livestock heads in production, and
  2. the **economic size** of the food producer, as expressed by its revenues, with a cap at \$PPP 34,387
- The **thresholds** that identify small scale producers correspond to the 40th percentile of the distribution of the three criterion variables in each country
- This relative criterion allows taking into account the **specificity of small scale food production** in each country, while maintaining international comparability
- The definition and the computation of indicators 2.3.1 and 2.3.2 was **tested on a sample of countries for which micro-data at the farm level were available** to FAO



# “small-scale food producers”



# Where does RuLIS stand?

- A pool of 57 surveys processed jointly by FAO and the World Bank
- Core-team and a technical consultation group
- Expert consultation (November 2016)
- List of indicators and template STATA and R script
- Peer-review (Cornell and Rome “Tor Vergata” Universities)
- Outliers detection and validation, in collaboration with Rome “Tor Vergata” University
- Validation with countries (ongoing)
- First batch of data ready for publication (December 2018)

# 57 Surveys – 38 countries, 28 LSMS, 17 -ISA

Armenia	Integrated Living Conditions Survey	2010	Mali	Enquête Agricole de conjoncture integree aux Conditions de Vie des Me	2014/15
Armenia	Integrated Living Conditions Survey	2013	Mexico	Encuesta Nacional de Ingresos y Gastos de los hogares	2014
Bangladesh	Household Income-Expenditure Survey	2010	Mongolia	Socioeconomic Survey	2014
Bolivia	Encuesta de los Hogares	2008	Mozambique	Inquérito sobre Orçamento Familiar	2008
Bulgaria	Multitopic Household Survey 2007	2007	Nepal	Nepal Living Standards Survey	2011
Burkina Faso	Enquete Multisectorille Continue	2014/15	Nicaragua	Encuesta Nacional de Hogares sobre Mediación de Nivel de Vida	2014
Cambodia	Cambodia Socio-Economic Survey	2009	Niger	National Survey un Household Living Conditions and Agriculture	2011
Cameroon	Fourth Cameroon Household Survey	2014	Niger	National Survey un Household Living Conditions and Agriculture	2014
Cote d'Ivoire	Enquete Niveau de Vie des menages 2008	2008	Nigeria	General Household Survey	2011/12
Ecuador	Encuesta sobre Condiciones de Vida	2006	Nigeria	General Household Survey	2015/16
Ecuador	Encuesta sobre Condiciones de Vida	2014	Pakistan	Pakistan Social and Living Standards Measurement Survey	2013-14
Ethiopia	Ethiopia Socioeconomic Survey	2013/14	Panama	Encuesta de Niveles de Vida 2008	2008
Ethiopia	Ethiopia Socioeconomic Survey	2014/15	Perù	Encuesta Nacional de Hogares	2014
Georgia	Integrated Household Survey	2013	Perù	Encuesta Nacional de Hogares	2010
Georgia	Integrated Household Survey	2015	Perù	Encuesta Nacional de Hogares	2015
Georgia	Integrated Household Survey	2014	Rwanda	Integrated Household Living Conditions Survey	2013
Ghana	Ghana Living Standards Survey	2012/13	Senegal	Enquête de Suivi de la Pauvreté au Sénégal	2011
Guatemala	Encuesta Nacional de Condiciones de Vida	2011	Serbia	Living Standards Measurement Survey	2007
Guatemala	Encuesta Nacional de Condiciones de Vida	2014	Sierra Leone	Integrated Household Survey 2011	2011
India	India Human Development Survey	2005	Tanzania	National Panel Survey	2012/13
India	India Human Development Survey	2012	Tanzania	National Panel Survey	2010/11
Iraq	The Iraq household socio-economic survey	2007	Tanzania	National Panel Survey	2008/09
Iraq	The Iraq household socio-economic survey	2012	Timor Leste	Living Standard measurement	2007/08
Kyrgyzstan	Integrated Sample Household Budget and Labor Sur	2013	Uganda	The Uganda National Panel Survey	2009/10
Kenya	Integrated Household Budget Survey	2005/2006	Uganda	The Uganda National Panel Survey	2010/11
Malawi	Second Interated Household Survey,	2004	Uganda	The Uganda National Panel Survey	2011/12
Malawi	Fourth Integrated household Survey	2013	Uganda	The Uganda National Panel Survey	2013/14
			Vietnam	Household Living Standards Survey	2010

# 1) Income and Productivity

- Agricultural income (livestock, crop, fishery, forestry, ag wage), share of total income (%)
- Non-agricultural income, share of total income (%)
- On-farm income (livestock, crop, fishery, forestry), share of total income (%)
- Median income from farm activities, PPP (constant 2011 international \$)
- Agricultural wage, share of total income (%)
- Average daily income per capita, PPP (constant 2011 international \$)
- Transfers (public and private) as a share of total income (%)
- Concentration index (Herfindahl) of total income (real number)
- Agricultural output per labour day, PPP (constant 2011 international \$)
- Value of crop used for own consumption, share of total value of crop production (%)
- Value of production per hectare/year, PPP (constant 2011 international \$)
- Average annual income from agriculture, PPP (constant 2011 international \$)
- Average daily wage in agriculture, PPP (constant 2011 international \$)
- Low pay rate in agriculture (%)

# Way forward

- A first product, ready to go public with 57 surveys (December 2018)
- Expand on poverty indicators
- Expand coverage (countries, surveys also from the past)
- Strengthen partnerships, especially at country level, to expand and further validate
- Enlarge and enhance the community of users/contributors

# Computing income

## 17th ICLS:

- household income includes monetary or in kind receipts received by members of the household at annual or more frequent intervals

but

- excludes windfall gains or irregular and one-time receipts.
- RuLIS considers:
  - Agricultural income (income from farming, agricultural wages)
  - Non agricultural income (wage and own account)
  - Transfers – public and private
  - “other” incomes (rents from assets)

# Computing agricultural income

- **Wages** earned in agriculture – challenges of family labour
- **On-farm** income includes:
  - crops
  - livestock
  - forestry
  - fisheries and aquaculture
- All are in fact **gross incomes**, defined as **operating surpluses** (i.e. revenues minus operating costs) without assets depreciation

**Gross Income = Revenues – Costs + (Stock Variation, when available)**

- Monetary variables reported in **constant PPP** and **deflated**, in order to take into account the inflation occurred during the data collection period.

# Computing on-farm income: crops

## Crop income

Revenues (+)	Costs(-)
<b>A. Crop production</b>	
Crop sold	Inputs paid in cash
Crop for own consumption	Land Rent
Crop used as feed	Technical assistance/extension costs
Crop stored	Crop saved for seed
Crop used for byproducts	Crop used for paying labour
Crop given as gift	Crop used for paying rent
Crop saved for seed	Crop used for paying inputs
Crop used for paying labour	Crop given out in sharecropping agreement (sharecrop out)
Crop used for paying rent	Crop wasted
Crop used for paying inputs	
Crop given out in sharecropping agreement (sharecrop out)	
Crop wasted	
<b>B. By-products production</b>	
By-product sold	Crop used for by-products
By-product used for barter or used for payment in kind	Total value of input purchased, comprise those reimbursed in kind
By-product used for own consumption	
By-product given as gift	
<b>C. Sharecropping activities</b>	
Crop received in sharecropping agreements	



# Livestock

Revenues (+)

Costs(-)

## A. Livestock activities: change in the cash value of the stock at the average price

livestock sold (alive)

livestock bought

livestock gifts given away [component can only be kept if stock variation is possible to construct]

livestock additional expenditures

crop used as feed

technical assistance/extension costs

## B. Livestock products and by-products production

livestock by-/products sold

livestock by-/products pay away

livestock products self-consumed

livestock by-/products credit away

livestock by-products self-used [also a cost in crop, for ex. dung used as fertilizers]

livestock by-/products add. expenses

livestock by-/products pay away

livestock by-/products credit away

**C. Livestock stock variation** = Closing/End-of-Year value – Initial/Beginning-of-Year value, if available, or otherwise it is set to zero.

# Fisheries and Forestry

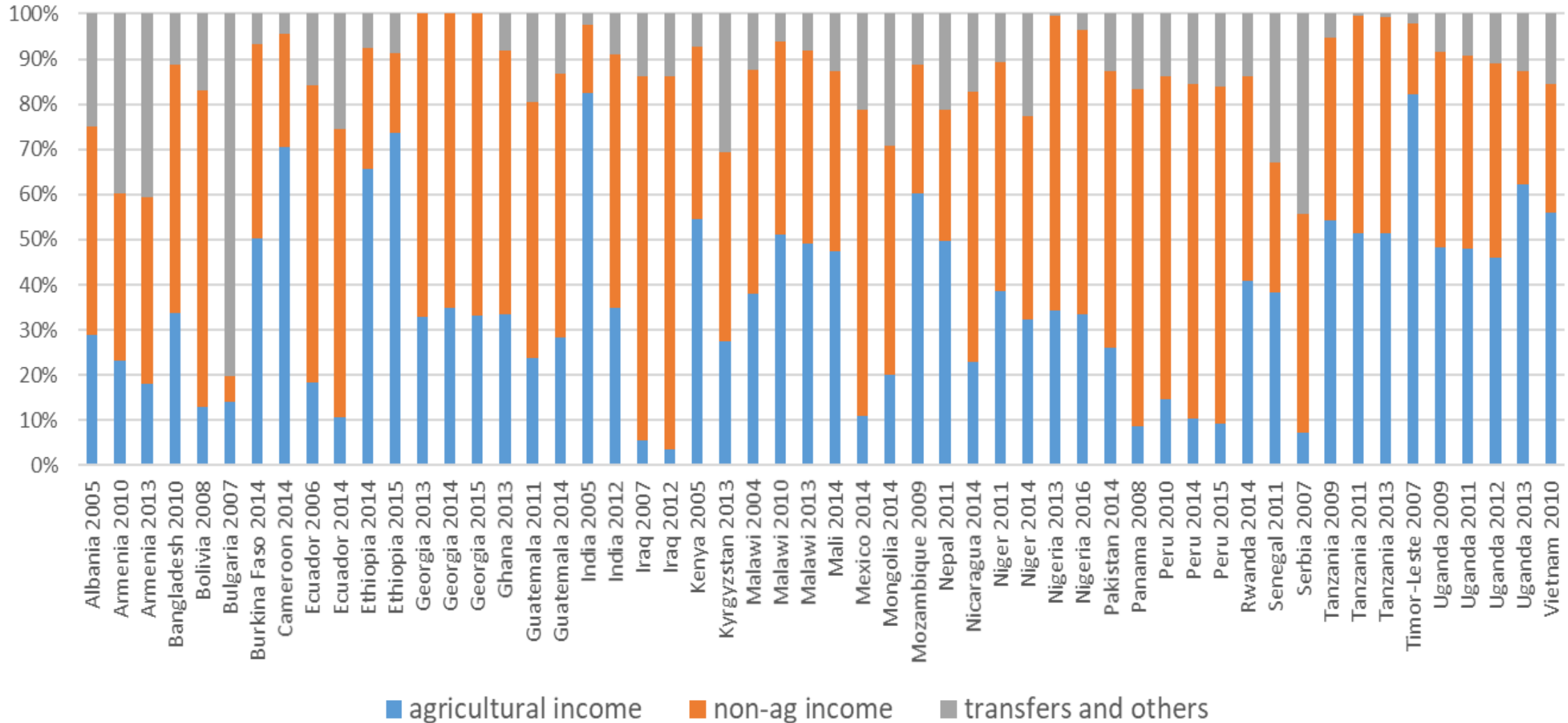
## Fisheries income

Revenues (+)	Costs (-)
<b>A. Fish-catching and processing activities</b>	
Captured fresh fish sold	Fishing gear expenditures
Captured processed fish sold	Hired labour expenditures
Captured fresh fish for own consumption	
Captured processed fish for own consumption	
<b>B. Trading activities</b>	
Traded fresh fish sold	Fresh fish purchases
Traded processed fish sold	Processed fish purchases
	Other related costs
<b>C. Rental of fishery gears</b>	

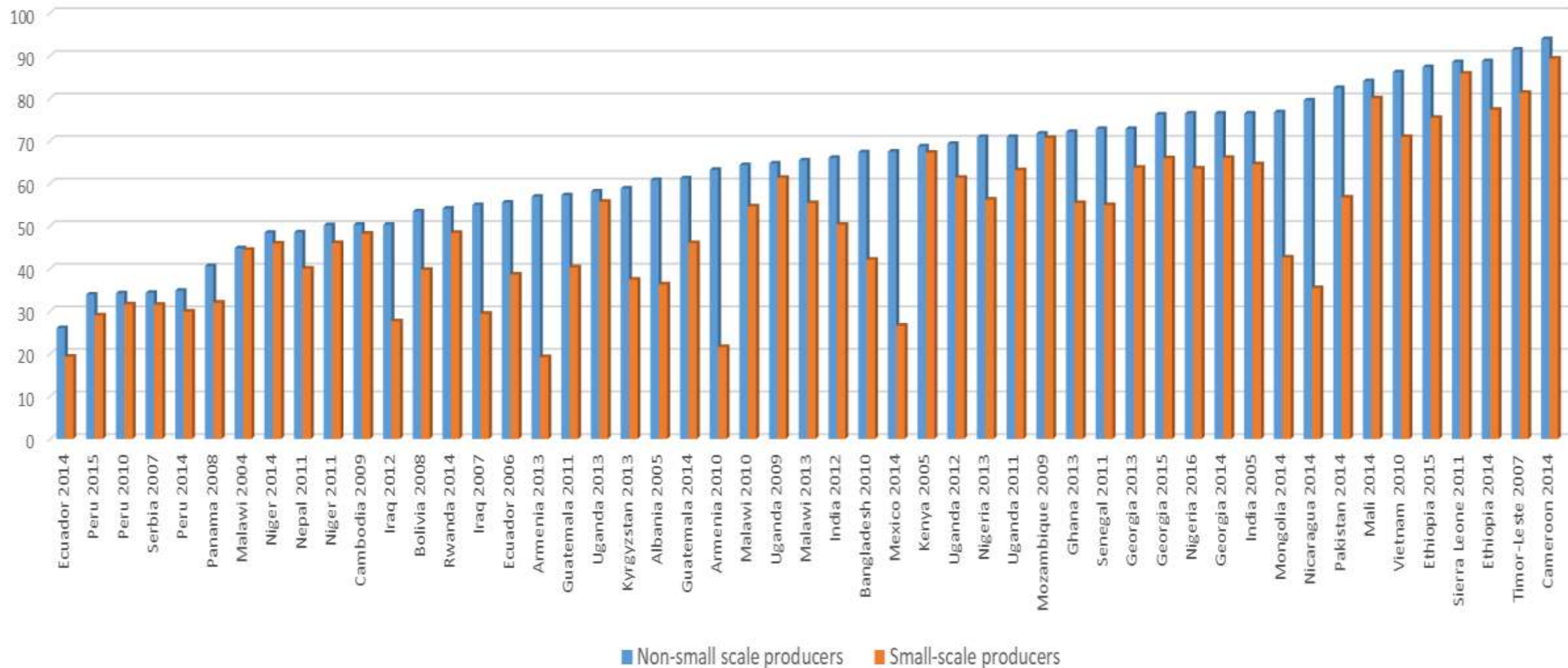
## Forestry income

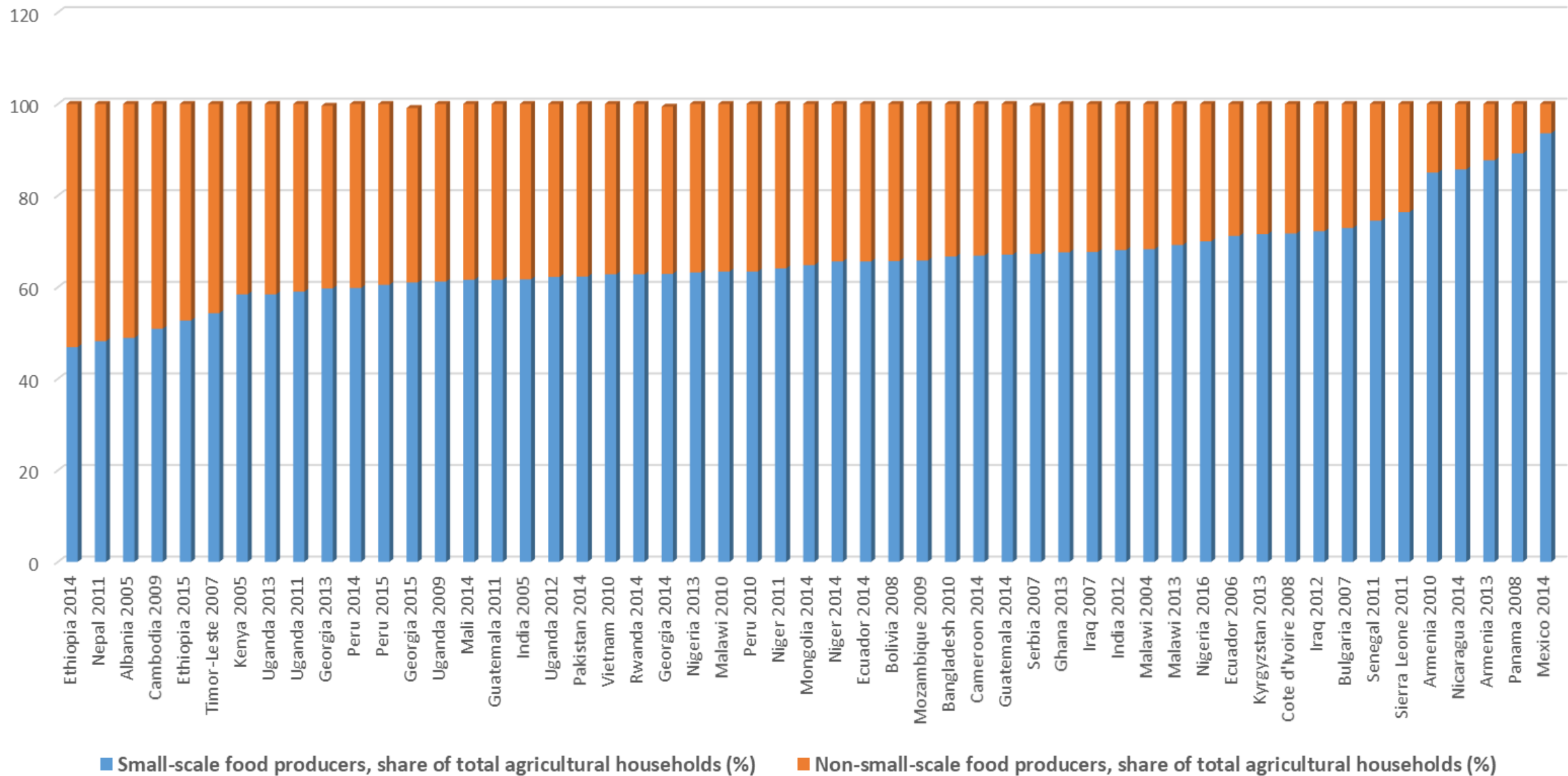
Revenues (+)	Costs (-)
Income from forestry production	Input costs (seedlings, fertilisers, hired labour, etc.)
Income from forestry services	Machine rental costs
	Land rental costs
	Other related costs

## Income components

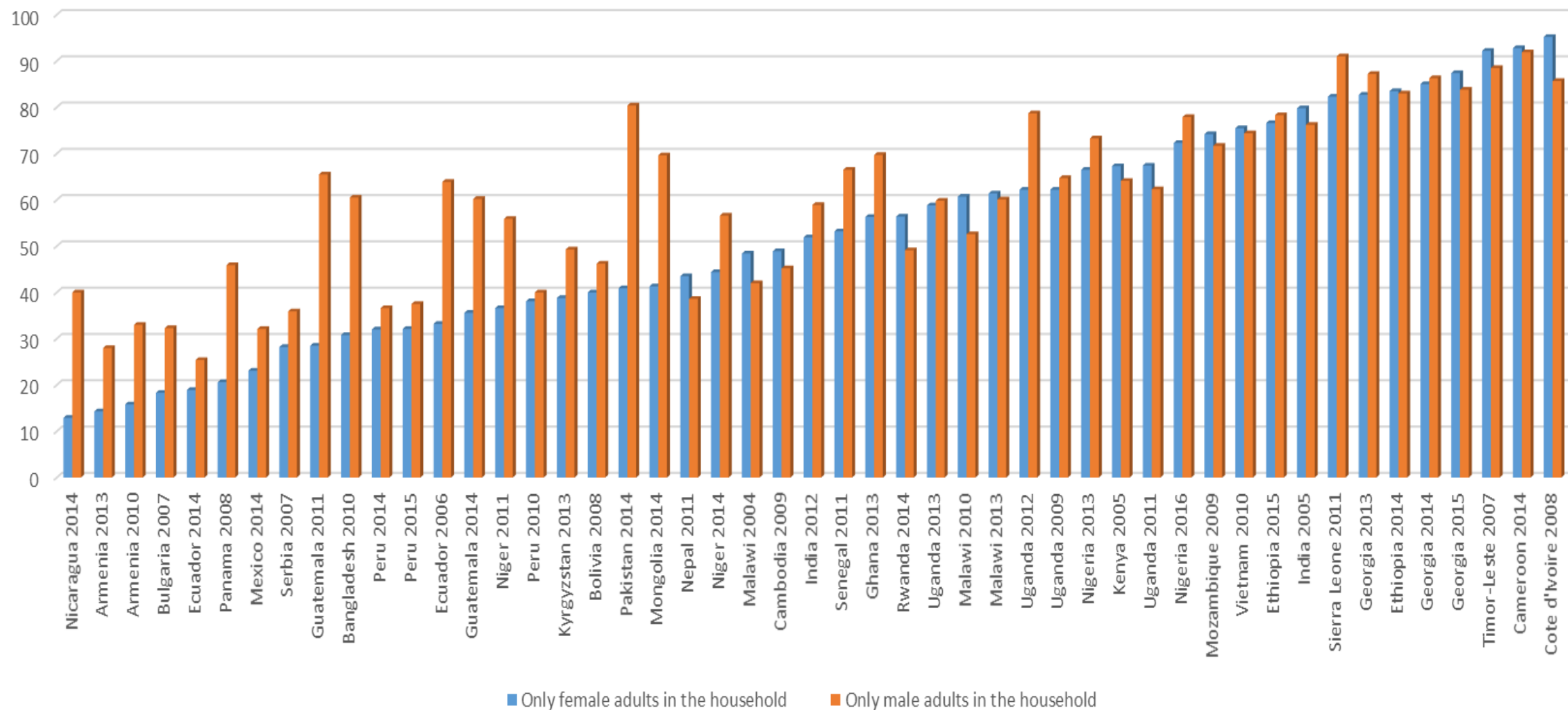


## Agricultural income (livestock, crop, fishery, forestry, ag wage), share of total income (%)

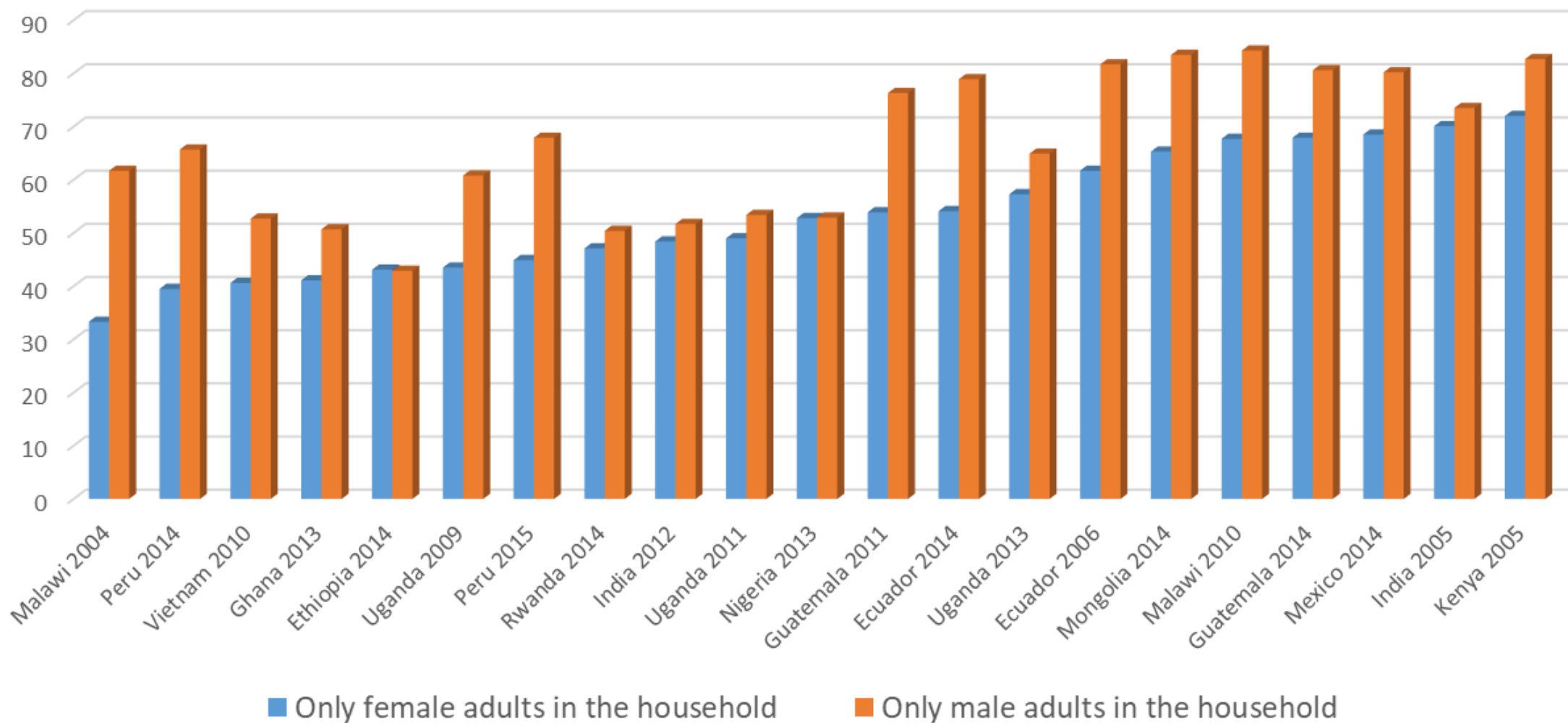




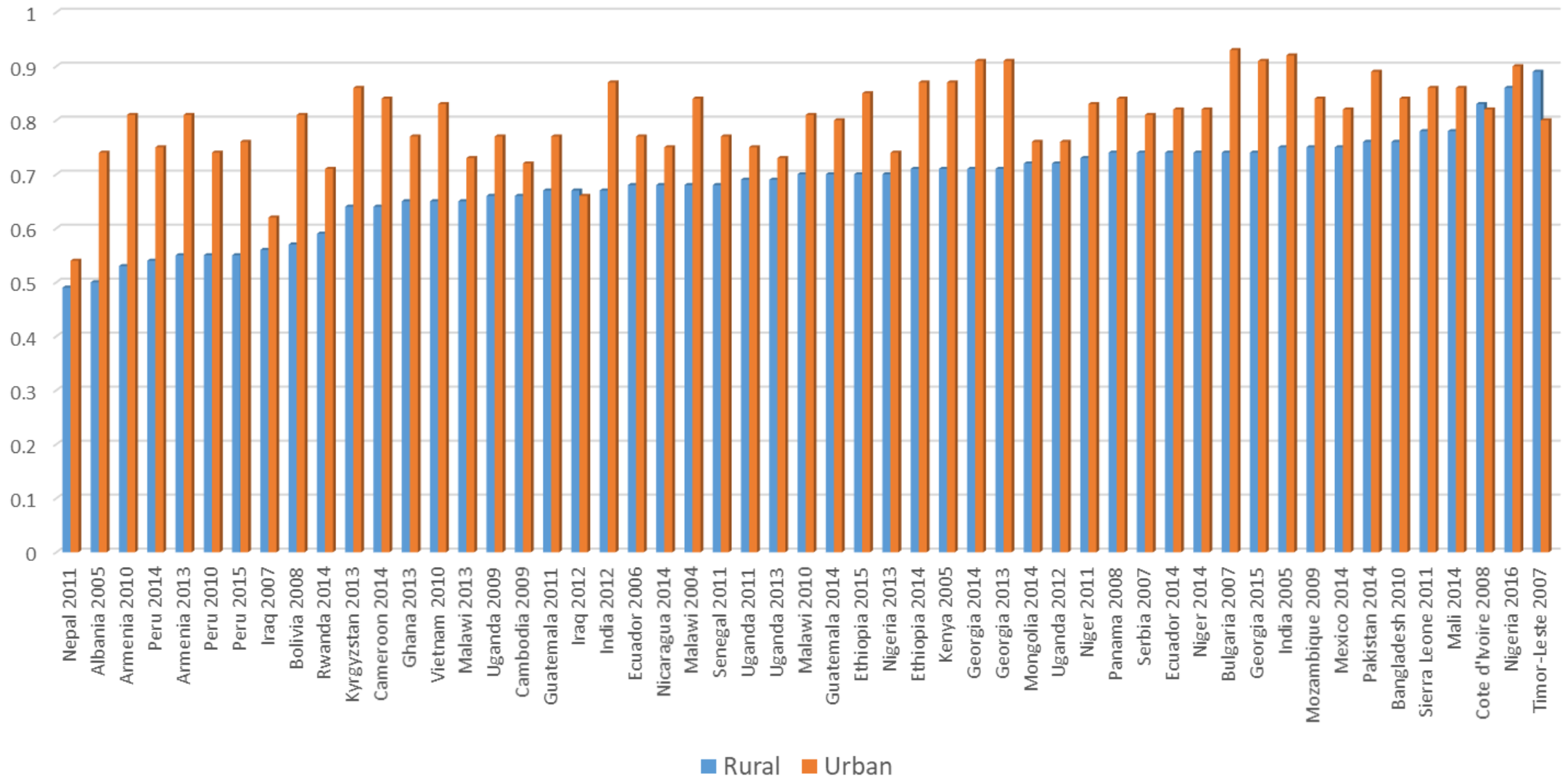
## Agricultural income (livestock, crop, fishery, forestry, ag wage), share of total income (%)



## Agricultural wage, share of total income (%)

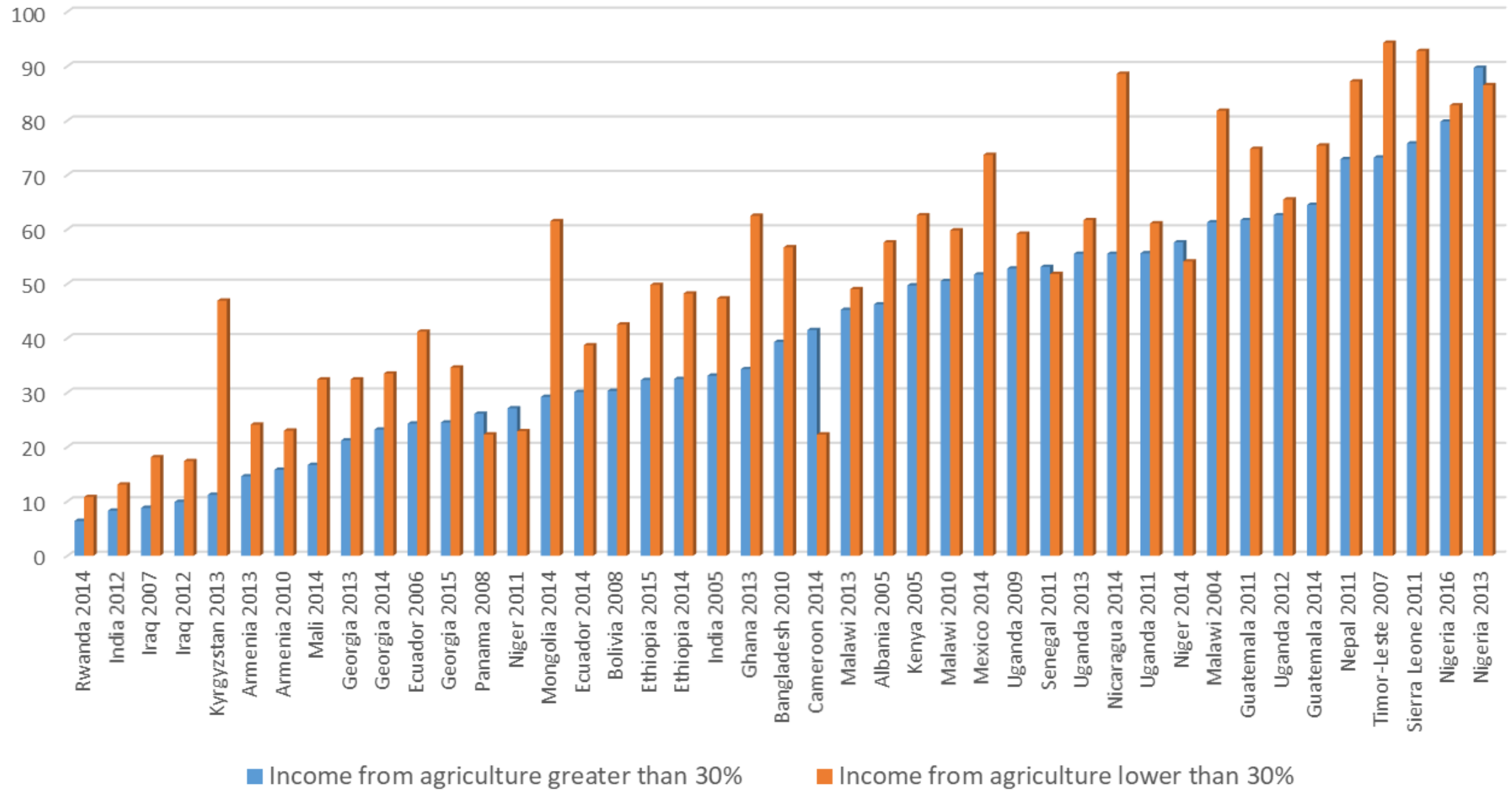


## Concentration index (Herfindahl) of total income (real number)

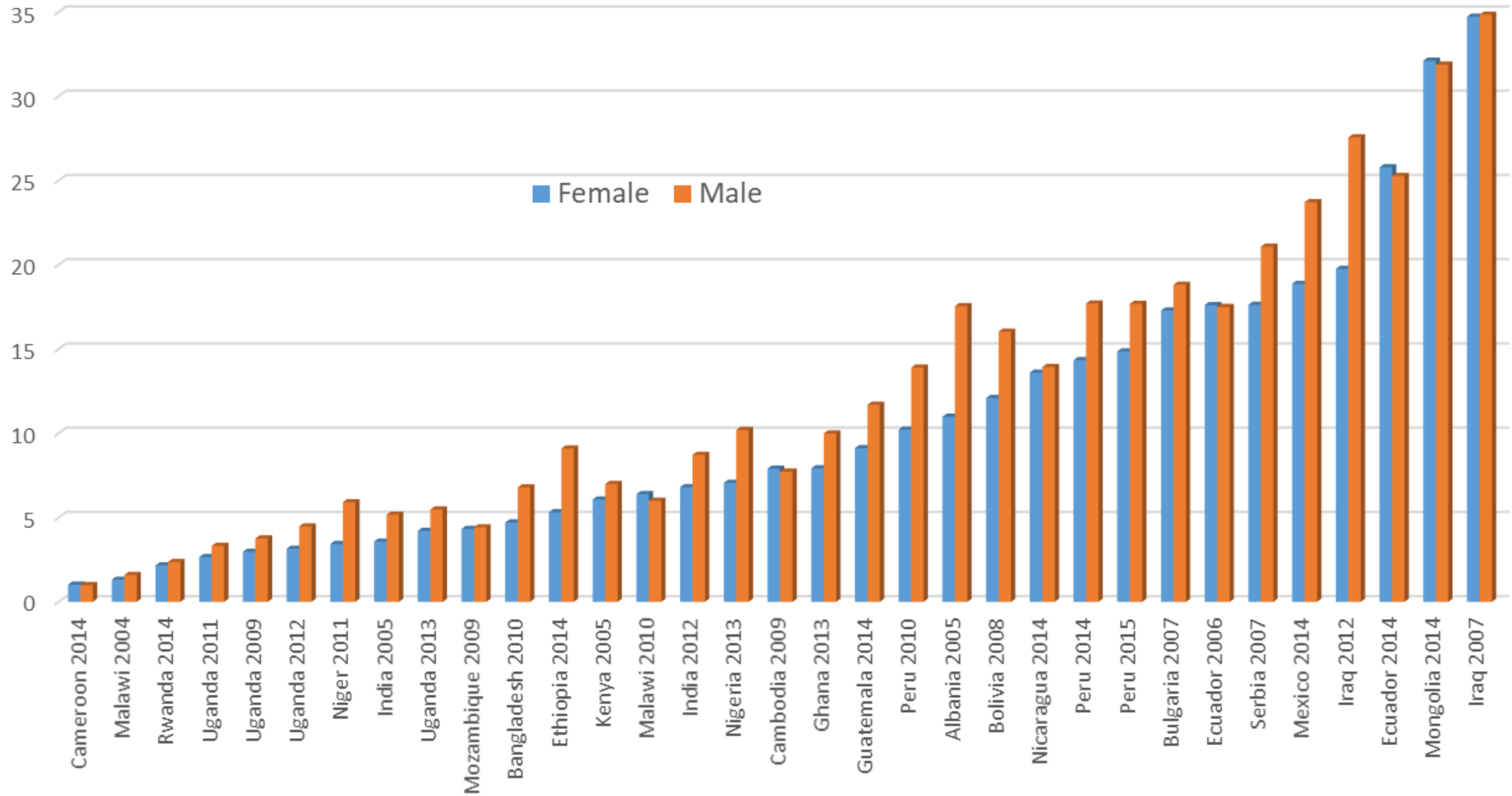




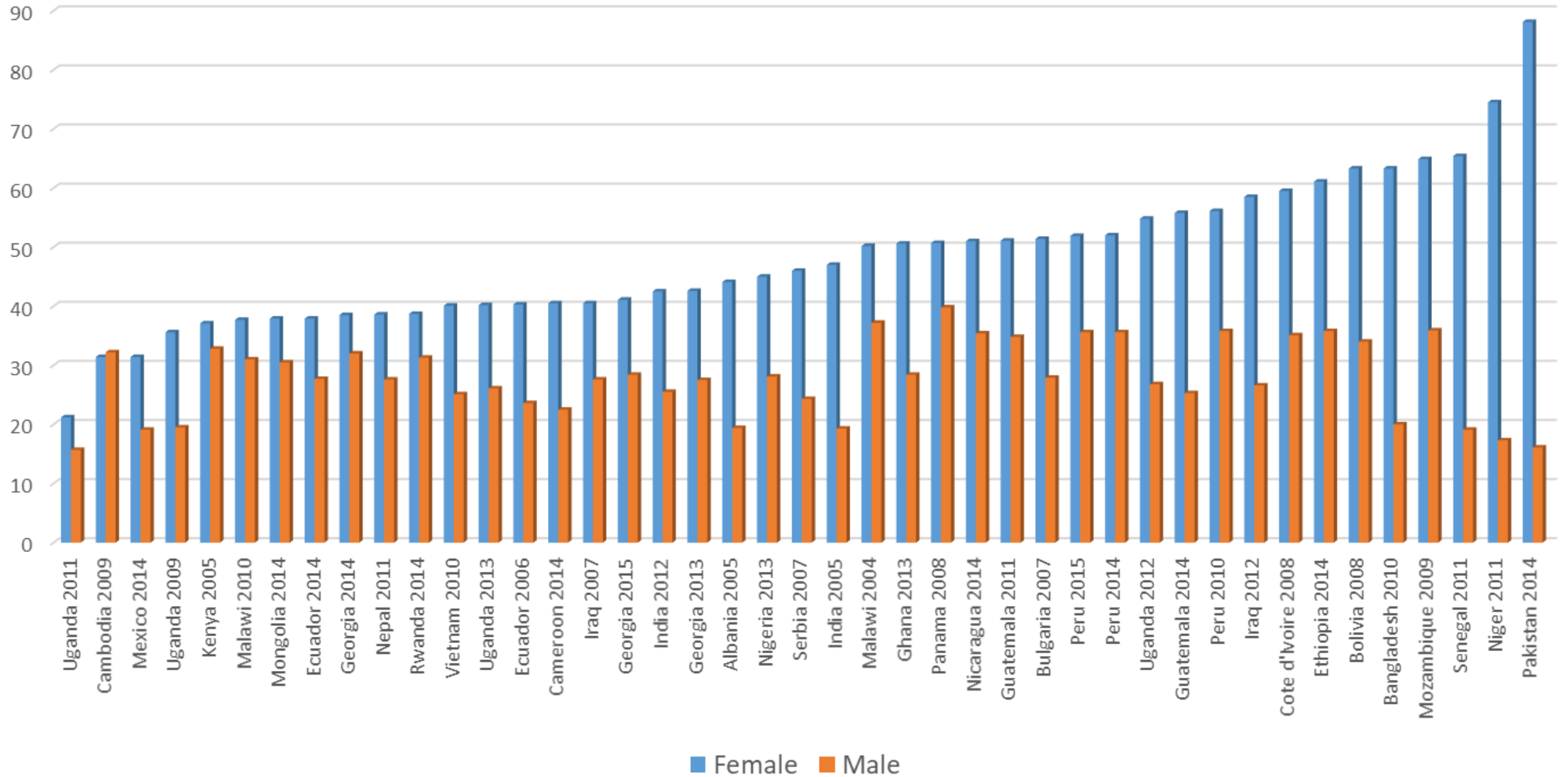
## Value of crop used for own consumption, share of total value of crop production (%)



Average daily wage in agriculture, PPP (constant 2011 international \$)



Low pay rate in agriculture (%)



Thank you