



Food and Agriculture Organization
of the United Nations

Data for monitoring SDG indicators 2.3.1 and 2.3.2

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Identifying the target population

Data required and main data sources

Data required to identify small-scale food producers based on the proposed approach:

1. Land
2. Livestock herds
3. Revenues of agricultural production (plus PPPs and national CPIs)

$$R_k^t = \sum_k V_{ik}^t p_{ik}^t$$

V_{ik}^t includes:

- Crop revenues
- livestock revenues
- Fishery revenues
- Forestry revenues

Data required and main data sources

Data on these three variables are found in the following data sources:

- National Agricultural Surveys collecting data **at farm level** -- eg the AGRISurvey project FAO
- Household surveys integrated with a module on agricultural activities (e.g. WB LSMS-ISA and similar surveys)
- Administrative data sources such as farmers' registries.

Implementation of the proposed approach (1): Physical size of the holding

1. The **amount of land** available to an agricultural producer should be considered in terms of “**operated land**”, which is defined as the amount of land effectively used.

Includes

Land cultivated with permanent crops
Land cultivated with temporary crops
Land rented in
Fallow land (land left uncropped and not dedicated to grazing)

Excludes

Land rented out
Forest land
Land abandoned prior to the reference period

2. The **number of livestock** available to a producer must be considered in terms of **Tropical Livestock Units (TLU)**. This unit of measurement standardizes different livestock types in a single measure through conversion factors valid for specific livestock varieties in each region of the world.

Implementation of the proposed approach (2): Tropical Livestock Units conversion table

Region	Cattle	Buffalo	Sheep	Goats	Pigs	Asses	Horses	Mules	Camels	Chickens
Near East North Africa	0.70	0.70	0.10	0.10	0.20	0.50	0.40	0.60	0.75	0.01
North America	1.00		0.15	0.10	0.25	0.50	0.80	0.60		
Africa South of Sahara	0.50		0.10	0.10	0.20	0.30	0.50	0.60	0.70	0.01
Central America	0.70		0.10	0.10	0.25	0.50	0.50	0.60		0.01
South America	0.70		0.10	0.10	0.25	0.50	0.65	0.60		0.01
South Africa	0.70		0.10	0.10	0.20	0.50	0.65	0.60		0.01
OECD	0.90	0.70	0.10	0.10	0.25	0.50	0.65	0.60	0.90	0.01
East and South East Asia	0.65	0.70	0.10	0.10	0.25	0.50	0.65	0.60	0.80	0.01
South Asia	0.50	0.50	0.10	0.10	0.20	0.50	0.65	0.60		0.01
Transition Markets	0.60	0.70	0.10	0.10	0.25	0.50	0.65	0.60		0.01
Caribbean	0.60	0.60	0.10	0.10	0.20	0.50	0.65	0.60		0.01
Near East	0.55	0.60	0.10	0.10	0.25	0.50	0.56	0.60	0.70	0.01
Other	0.60	0.60	0.10	0.10	0.20	0.50	0.65	0.60		0.01

Implementation of the proposed approach (3): Economic size of the holding

Revenues from agricultural activities include those generated by crop, livestock, fisheries and forestry.

CROP REVENUES (PPP)

- Crop sold
- Crop for own consumption
- Crop used for feed
- Crop stored
- Crop used for byproducts
- Crop given as gift
- Crop saved for seed
- Crop used for paying labour
- Crop used for paying rent and/or inputs
- Crop given out and/or received in sharecropping agreement

LIVESTOCK REVENUES (PPP)

- Livestock sold (alive)
- Livestock gifts given away
- Livestock by-/products sold
- Livestock products self-consumed
- Livestock by-products self-used
- Livestock by-/products pay away
- Livestock by-/products credit away

Similar criteria apply for the computation of revenues from tree crops and fishery products

Data to compute
indicators 2.3.1 and 2.3.2

Average labour productivity -- indicator 2.3.1

Indicator 2.3.1 monitors productivity as “The volume of production per labour unit by classes of farming, pastoral, forestry enterprise size.”

This results in the following formula:

$$\text{Agricultural Labour Productivity} = \frac{\text{Volume of Production}}{\text{Labour input}}$$

In order to standardize and aggregate different agricultural activities, FAO proposes to quantify the volume of production by taking the monetary value of the agricultural output (revenues) expressed in constant PPPs.

Labour productivity -- indicator 2.3.1

Computation of the agricultural output: According to the International Standard Industrial Classification (ISIC), revision 4, it comprises

1. crop activities;
2. livestock activities;
3. fisheries;
4. forestry.

Revenues can be computed using the same methodology adopted to identify the economic size of agricultural holdings.

Important: Monetary variables need to be deflated and standardized using PPP conversion factors

Labour productivity to monitor indicator 2.3.1

Computation of the labour input: different approaches are available to measure this denominator:

- Number of workers,
- Number of days worked,
- Number of hours worked.

Although the most accurate measure of labour volume seems to be the **number of hours worked in a year**, problems of data availability make **the annual number of working days** the most viable option.

What type of labour to be considered: all forms of paid and unpaid labour, including family labour, hired labour and exchange labour.

Labour productivity -- indicator 2.3.1

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Agricultural income -- indicator 2.3.2

These income components refer to **gross income** that is defined as the **operating surplus** (i.e. revenues minus operating costs) without taking into account the depreciation of assets as such information is usually not available from most data sources. In formula:

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

All the monetary variables should be **expressed in constant PPP** and **deflated**, in order to take into account the inflation occurred during the data collection period.

Agricultural income -- indicator 2.3.2

Crop income

Revenues (+)	Costs(-)
A. Crop production	
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. By-products production	
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	
C. Sharecropping activities	
Crop received in sharecropping agreements	

Agricultural income -- indicator 2.3.2

Livestock income

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.	

Agricultural income -- indicator 2.3.2

Fisheries income

Revenues (+)	Costs (-)
A. Fish-catching and processing activities	
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. Trading activities	
Traded fresh fish sold	Fresh fish purchases
Traded processed fish sold	Processed fish purchases
	Other related costs
C. Rental of fishery gears	

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



MOST LOW-INCOME AND LOWER MIDDLE-INCOME COUNTRIES CURRENTLY CANNOT PRODUCE THREE CRITICAL **SDG2** INDICATORS THAT SHOULD BE COLLECTED THROUGH AN AGRICULTURAL SURVEY:

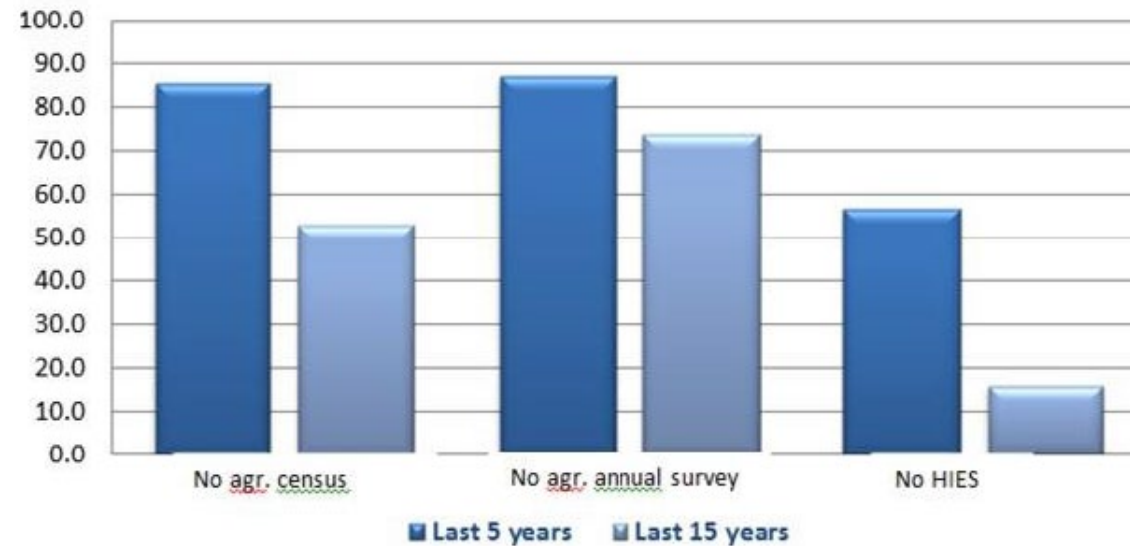
2.3.1 *Labor productivity*

2.3.2 *Small-holder income*

2.4.1 *Land under sustainable production*

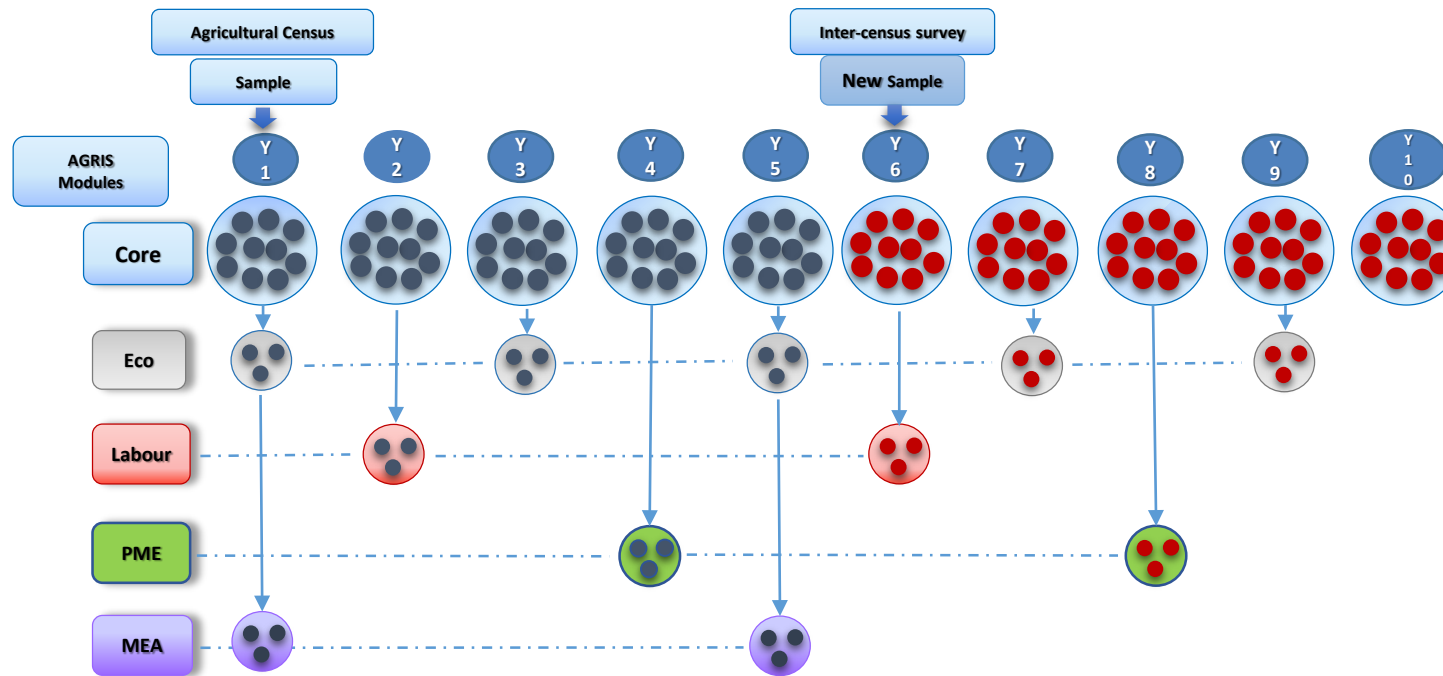
THE ISSUE

Data on agriculture is insufficient and/or of poor quality in many countries



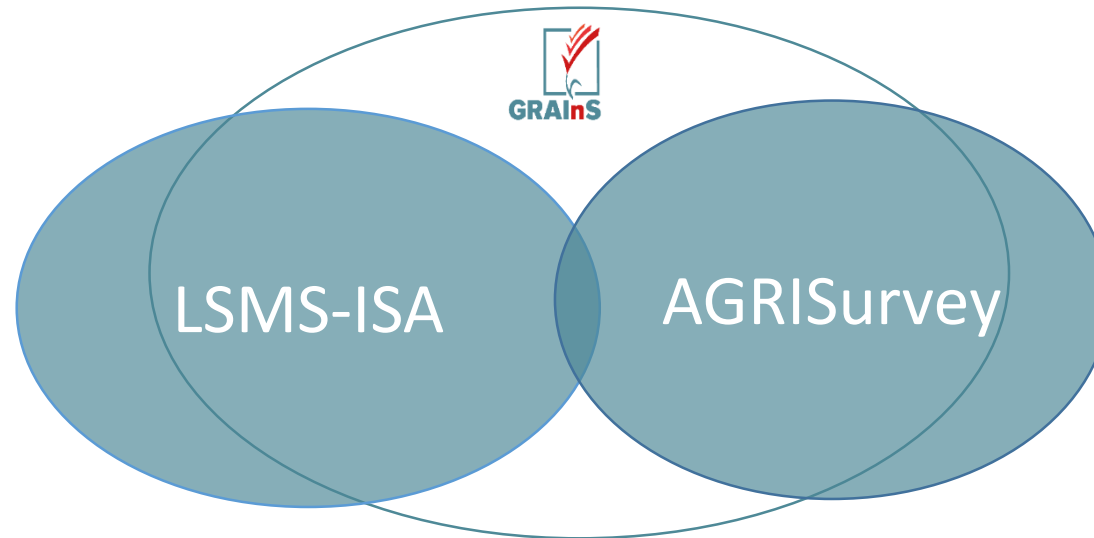
Percentage of IDA Countries that didn't conduct agricultural censuses or surveys in the past 5 years and 15 years (FAO 2015 internal review)

AGRISURVEY – MODULAR STRUCTURE



AGRISurvey operates within GRAInS

the Global Rural and Agricultural Integrated Survey Partnership



The Partners



**50x
2030**
DATA-SMART
AGRICULTURE

The 50by2030 initiative



Food and Agriculture
Organization of the
United Nations



ILIFAD
Investing in rural people



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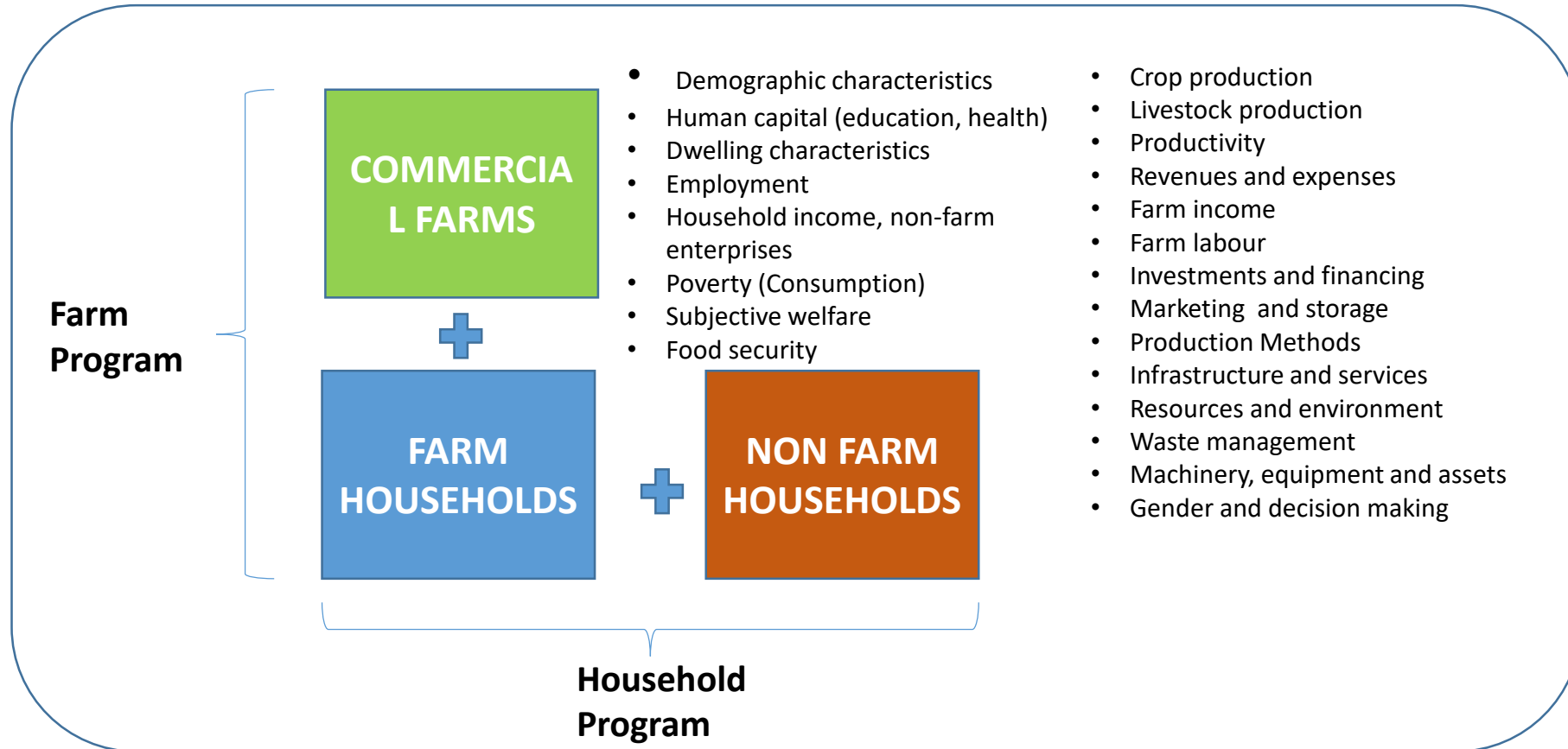


ITALIAN AGENCY
FOR DEVELOPMENT
COOPERATION



P. Singh

The vision for the 50by2030 initiative: An Integrated Farm and Household survey model



An integrated model (draft)

