Food and Agriculture Organization
of the United Nations

Agricultural Integrated Surveys
(AGRISurvey)

## Filling the Data Gaps in Agriculture

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Defining the Context

o Need for more accurate, detailed, timely and cheaper statistical data on the agricultural and rural sector, at farm level

o Data collection still weak in many countries, even for basic data items, which hinders the efforts to develop sound and empiric-based national policies, to target programs, encourage investments, and measure progress

o 2030 Development agenda: SGDs add new pressure and widen data gaps particularly

o SPARS: demand for "agricultural integrated surveys"

A Tool to Solve the Problem
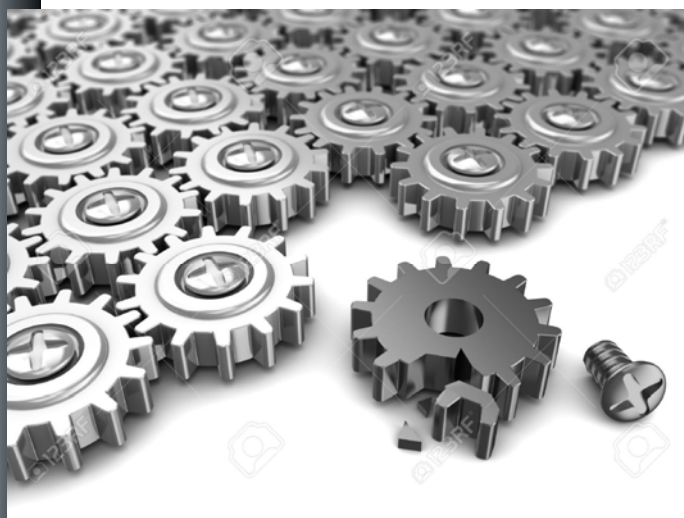
FAO's Agricultural Integrated Surveys Project

(AGRISurveys)

AGRISurvey Objectives

- A general methodology that needs to be customized to the specific situation of each country (data needs, existing surveys)
- Data needs:
  - *Minimum Set of Core Data* (Global Strategy)
  - Inform policy design and implementation, and support research
  - Contribute to SDGs monitoring (4 indicators: direct; 15: partial)
  - Representative estimates at sub-national level (region, province)
- Lay the foundations of an efficient agricultural statistical system
- Affordable to allow sustainable country implementation

AGRISurvey Specifications

Statistical Units	All agricultural holdings • Household sector (INCL. SMALL HOLDERS) • Non-household sector
Modular Structure	• Synchronized with the Agricultural Census and operates over a 10-year cycle to provide a regular flow of quality data • Core Module: yearly data collection on current agricultural production (crop and livestock) integrated with key economic, technical and socio-demographic statistics • Rotating Modules : thematic data to be collected with lower frequency (2-5 years): economy, labour, production methods & environment, machinery-equipment-assets.
Sample design	• Versatile sampling strategy, able to meet different country situations • Multiple waves for data collection possible (labour, economy) • Panel/Rotating sample for the core module • The same sample or a Sub-sample of the core module for the rotating modules
Data collection	• Face-to-face interviews using CAPI • Questions = Subjective => link with objective measurements

AGRISurvey: Topics covered

AGRIS collects data on the technical, economic, environmental and social dimensions of agricultural holdings
- Survey programme based on a modular approach, collecting data on the structural characteristics of the farm
- Being conceived as one element of a larger information system: combination with other data sources (e.g. administrative data, GIS, remote sensing observation)

AGRIS collects sex-disaggregated data on key topics:
- to identify male / female headed holdings
- to assess women's contribution to agriculture:
  - labour
  - access to and control of productive assets, resources and services (SDG indicator 5.a.1 on women's rights over agricultural land)

AGRIS collects data on the RESILIENCE of agricultural households
- AGRIS improves the assessment of agricultural households' capacity to absorb shocks of economic, climatic or environmental nature and it considers the understanding of their strategies to limit adverse effects on their livelihoods.

AGRISurveys: Recommended Modules flow

	Years	1	2	3	4	5	6	7	8	9	10
Core Module	AH Identification	•	•	•	•	•	•	•	•	•	•
	Crop + livestock production	•	•	•	•	•	•	•	•	•	•
	Other key variables	•	•	•	•	•	•	•	•	•	•
Rot. Module 1	Economy	•		•		•		•		•	
Rot. Module 2	Labour		•				•				
Rot. Module 3	Production Methods and Environment				•				•		
Rot. Module 4	Machinery, Equipment and Assets	•				•					

FAO's Vision for AGRISurveys

Strengthen national agricultural statistical systems in partner countries through technical **assistance**, so that **countries** can **gradually take over** the implementation of the Integrated System of Agricultural Surveys (AGRIS).

AGRISurvey does not impose a model or standard questionnaires to partners countries. Rather, it builds on national practices and national priorities.

We encourage countries to adopt the **principle of 'rotating thematic modules'** and to consider the AGRIS **indicator list**

The **core module** is essentially a production questionnaire – repeated **every year** – which allows monitoring key indicators in a timely manner, thus establishing trends

Covers also essential structural data on the holding and the household (for HH sector) and essential data on inputs (including labour), and production methods

- **Implementation**
  - Annual survey
  - Normally fielded once a year, after main harvest:
    - captures productions for the last agricultural year.
    - specific reference date/period for selected data items (ex: livestock)
  - … or can be fielded in several waves (multiple ag campaigns)

CORE MODULE - cntd

1. Identification and general characteristics of the holding

Location, holder, manager, respondent, main activity, main destination

2. Production methods

3. Agricultural productions

Crops: last 12 months

Crops: next 12 months

Livestock

Meat, milk, eggs and other animal productions

Aquaculture and fisheries

4. Economy

Income

Expenditures

Credits and access to finance

Access to information

5. Production shocks and coping mechanisms

6. Demographics [HS-AH only]

7. Labour

Labour input on the holding

8. Holding housing dwelling and assets [HS-AH only]

Main production indicators

- ✓ Land according to main land use types
- ✓ Area planted/harvested by crop / per farm
- ✓ Production by crop (and by harvest)
- ✓ Crop area on which fertilisers / PPP are applied
- ✓ Area irrigated during the reference year
- ✓ Share of own-use/ selling/ other uses by crop
- ✓ Share of certified/uncertified varieties used
- ✓ Crop cultivated with production/marketing contracts
- ✓ Number of heads by livestock types/ per farm
- ✓ Patterns of births (by type of livestock)/herd movement
- ✓ Milk production by type of livestock by heard/ by animal/Total
- ✓ Total meat production by type of livestock/ Average carcass weight
- ✓ Egg production by farm/ by hen/Total
- ✓ Intentions for the next agricultural year (by crop, by livestock type)

The **Economy module** focuses on farm's budget (incomes and expenses).

Provide data to measure production costs and profitability for different production systems and farm types

Provide data to calculate different productivity measures (+ core + labour modules)
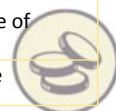
Implementation
- (Sub-)sample of the core module, results at national/province level
- Fielded **every other year**, as budgets may change quickly
- Holding from the non-household sector: 1 wave of data collection
- Holding from the household (HH) sector:
  - Option A: 1 visit = 1 wave of data collection
  - Option B: multiple waves of data collection (3 or 4) - recommended to ensure better quality data (ie., shorten the recall)

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1. Identification and general characteristics of the holding
2. Income
Agricultural income
Income from processing of agricultural products and diversification activities
Subsidies and transfers received, linked to the agricultural production of the holding
Other sources of income for the household, not linked to the holding [AH-HS only]
3. Expenditure
Expenditure linked with the agricultural production
Other expenditure
Taxes and licenses
4. Investment, financing and insurance
Capital investment
Loans and financing
Insurance
5. Marketing, commercial networks and storage
6. Development of on-farm processing activities

Key economic indicators
- ✓ Farm income
- ✓ Value of agricultural production
- ✓ Revenues from agricultural production (crop, livestock, forestry, fishery);
- ✓ Revenues from other non ag. activities of the holding (ie., food processing, etc.)
- ✓ Costs of production per land unit, disaggregated by cost categories and expressed for specific inputs (eg., cash costs, in-kind costs, labor costs, seeds costs);

Productivity measures
- Gross productivity per value of production
- Gross productivity per volume of production
- ✓ Estimation of household income

The **Labour module** collects detailed data on labour input in agriculture; the organization of labour in the holdings, in particular identification of age- and sex-specific roles; payments and modalities

Provide data to calculate labour productivity (+ core + economy modules)

Implementation
- (Sub-)sample of the core module, results at national/province level
- Fielded **at least twice in the 10-year cycle**
- 1 or multiple wave/s of data collection Multiple-visit approach is recommended to ensure better quality data (ie., shorten recall periods)

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1. Overview of the holding activities and labour force		Key labour-related indicators
2. Household Members: time worked and main activities [AH-HS]		✓ Labour input (time) on the holding provided by HH, external workers and contractors
	Agricultural work, for each household member	✓ Total cost of labour on the holding
	Non-agricultural work, for each household member	✓ Average wage of paid workers
		✓ Proportion of workers paid only in kind
3. Household Members: payments and benefits [AH-HS]		✓ Proportion of holdings facing lack of labour force
		✓ Proportion of holdings using contractors
4. External workers: demographic and educational profile		✓ Proportion of workers receiving benefits and estimated value of benefits
5. External workers: time worked and main activities		✓ Key demographic characteristics of workers
6. External workers: payments and benefits		
7. Contractors : activities carried out and payments		

PRODUCTION METHODS & ENVIRONMENT MODULE

The **Production Methods & Environment** questionnaire collects data on the production processes adopted by the holdings, and their environmental impact. This allows to identify the ag. practices applied and their potential sustainability

Enable an analysis of the costs of production for different types of agricultural production methods (when linked with the economy module)

Implementation:
- (Sub-)sample of the core module, results at national/province level
- Fielded **at least twice over the ten-year period**
- One wave of data collection
- Collects mainly categorical variables

PRODUCTION METHODS & ENVIRONMENT MODULE

1. **General characteristics, prospects for development**
2. **Use of Natural Resources**
   Energy sources
   Soil management
   Irrigation and drainage
3. **Crops production methods**
   Fertilizers
   Plant protection products (PPP)
   Crops and seeds varieties
   Structure of permanent crops plantations
   Pollination practices
   Rice cultivation
4. **Livestock production methods**
   Type of livestock production system (derived)
   Animal breeding and reproduction
   Animal housing, manure management, equipment and transportation of animals
   Feed and use of pastures

5. **Organic farming**
6. **Agro forestry**
7. **Access to and use of services, infrastructure and common**
   Access to agricultural information
   Infrastructure (incl. IT, communications, access to market)
   Access to natural and common property resources
8. **Greenhouse gas and the environment**
9. **Adaptation to climate change and mitigation strategies**
10. **Waste management**

PRODUCTION METHODS & ENVIRONMENT MODULE

Large variety of indicators that contribute to distinguish farms based on the type of livestock production system or crop production methods
Contributes to the analysis of farm productivity, together with other elements (other sections of this questionnaire and from the core), and to the compilation of AEI

Key indicators, (not exhaustive list)
- Proportion of holdings by type of energy used
- Proportion of holdings by type of soil management
- Proportion of holdings by irrigation method used
- Proportion of holdings by crop production methods used
  - Type of fertilizers, seeds, plant protection products, etc.
- Proportion of holdings by type of manure management
- Proportion of holdings by type of feeding/watering practices

MACHINERY, EQUIPMENT & ASSETS MODULE

The **Machinery, Equipment & Assets** module gathers information on the physical equipment used in the holdings - types, numbers, age and ownership of machinery and equipment used on the farm

Provides information on key assets, incl. non-residential buildings

Collects data on livestock and land ownership disaggregated by sex and age for HH sector

Implementation
- (Sub-)sample of the core module, results at national/province level
- Fielded **twice over the ten-year period**
- 1 wave of data collection

MACHINERY, EQUIPMENT & ASSETS MODULE

1. Machinery and Equipment

(types & quantities in use, access & ownership)

     Manually operated equipment

     Animal powered equipment

     Machines for general farm use

     Specialized agriculture machinery and equipment

2. Non-residential buildings or structures used by the holding

3. Assets [HS-AH only]

     Land and livestock ownership

     Household dwellings

     Drinking water

     Household assets

Contributes to the analysis of farm productivity, together with other elements (from core and economic modules)

Information on ownership will be a useful element for social and gender related indicators

Together with the information collected in the core module, provides data needed for socio-demographic and gender related indicators

# AGRISurvey contributions to SDG Data Needs

#	Indicator Title	Coverage
2.3.1	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	Complete
2.3.2	Average income of small-scale food producers, by sex and indigenous status	Complete
2.4.1	Proportion of agricultural area under productive and sustainable agriculture	Partial
5.a.1.a	Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex	Complete
5.a.1.b.	Share of women among owners or rights-bearers of agricultural land, by type of tenure	Complete

AGRIS METHODOLOGY HANDBOOK

AGRIS
Handbook on the Agricultural Integrated Survey
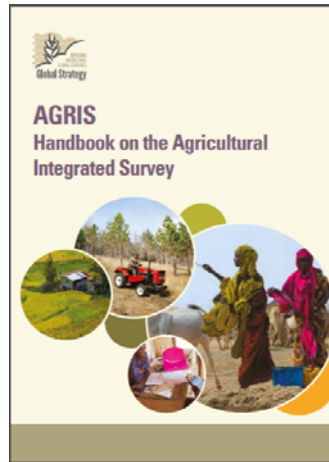
Global Strategy improving Agricultural and Rural Statistics

http://gsars.org/en/tag/agris/

Rationale

Scope

Data items

Definitions and classifications

Survey cycle

Questionnaires

Sampling strategy

Data access

IMPLEMENTING AGRIS: how we work

Resources: resources have been mobilized to support countries implementing the AGRIS methodology. Supporting Donors are:

- United States Agency for International Development (USAID)
  - **4 countries (IDA)** funding technical assistance and data collection until 2021
- Bill & Melinda Gates Foundation (BMGF)
  - **15-20 countries** funding technical assistance and support in fundraising and resource mobilization at national level to fund the data collection until 2021
- 50 x 2030 Initiative (USAID, BMGF, Australia, Germany, Italy)
  - **50 countries (IDA) funding technical assistance and data collection until 2030**

Thank you !