Agricultural Integrated Surveys (AGRISurvey)

Filling the Data Gaps in Agriculture

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Defining the Context

- Need for more, better, cheaper and faster statistical data on the agricultural and rural sector, at farm level

- 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

- 2030 Development agenda: SGD$s$ add new pressure and widen data gaps particularly

- SPARS: demand for “agricultural integrated surveys”
A Tool to Solve the Problem

FAO’s Agricultural Integrated Surveys Project (AGRISurveys)
AGRISurvey Specifications

- A generic methodology, developed by the Global Strategy to improve Agricultural and Rural Statistics (GSARS), to countries for further customization + implementation
- Generate representative estimates – national/province/district
- Inform policy design and implementation, improve market efficiency and support research
  - Contribution to SDGs monitoring (4 indicators: direct, 15 : partial)
  - Global Strategy Minimum Set of Core Data
- Lay the foundations of an efficient agricultural statistical system
- Be affordable and manageable 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 Specifications

Topics covered and data items

AGRIS covers technical, economic, environmental and social dimensions of agricultural holdings

- Keeping its nature of farm survey – eg not commodity
- Being conceived as one element of a larger information system

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
# AGRISurveys: Recommended Modules flow

<table>
<thead>
<tr>
<th>Core Module</th>
<th>Years</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>AH Identification</td>
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<td>Crop + livestock production</td>
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<tr>
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<tr>
<td>Rot. Module 1</td>
<td>Economy</td>
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<td>Rot. Module 2</td>
<td>Labour</td>
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<td>Rot. Module 3</td>
<td>Production Methods and Environment</td>
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<tr>
<td>Rot. Module 4</td>
<td>Machinery, Equipment and Assets</td>
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</tbody>
</table>
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)
- Results at province or district level
### Core Module - contd

#### 1. Identification and general characteristics of the holding
- Location, holder, manager, respondent, main activity, main destination

#### 2. Production methods

#### 3. Agricultural productions

<table>
<thead>
<tr>
<th>Crops: last 12 months</th>
<th>✓ Land according to main land use types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops: next 12 months</td>
<td>✓ Area planted/harvested by crop / per farm</td>
</tr>
<tr>
<td>Livestock</td>
<td>✓ Production by crop (and by harvest)</td>
</tr>
<tr>
<td>Meat, milk, eggs and other animal productions</td>
<td>✓ Crop area on which fertilisers / PPP are applied</td>
</tr>
<tr>
<td>Aquaculture and fisheries</td>
<td>✓ Area irrigated during the reference year</td>
</tr>
<tr>
<td>✓ Share of own-use/ selling/ other uses by crop</td>
<td></td>
</tr>
<tr>
<td>✓ Share of certified/uncertified varieties used</td>
<td></td>
</tr>
<tr>
<td>✓ Crop cultivated with production/marketing contracts</td>
<td></td>
</tr>
<tr>
<td>✓ Number of heads by livestock types/ per farm</td>
<td></td>
</tr>
<tr>
<td>✓ Patterns of births (by type of livestock)/herd movement</td>
<td></td>
</tr>
<tr>
<td>✓ Milk production by type of livestock by heard/ by animal/Total</td>
<td></td>
</tr>
<tr>
<td>✓ Total meat production by type of livestock/ Average carcass weight</td>
<td></td>
</tr>
<tr>
<td>✓ Egg production by farm/ by hen/Total</td>
<td></td>
</tr>
<tr>
<td>✓ Intentions for the next agricultural year (by crop, by livestock type)</td>
<td></td>
</tr>
</tbody>
</table>

#### 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]
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)
### ECONOMY MODULE

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

### 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 (i.e., food processing, etc.)
- Costs of production per land unit, disaggregated by cost categories and expressed for specific inputs (e.g., 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 **twice in the 10-year cycle**
- 1 or multiple wave/s of data collection Multiple-visit approach is recommended to ensure better quality data (i.e., shorten recall periods)
## LABOUR MODULE

<table>
<thead>
<tr>
<th>Section</th>
<th>Key labour-related indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overview of the holding activities and labour force</td>
<td>✅ Labour input (time) on the holding provided by HH, external workers and contractors</td>
</tr>
<tr>
<td>2. Household Members: time worked and main activities [AH-HS]</td>
<td>✅ Total cost of labour on the holding</td>
</tr>
<tr>
<td>Agriculture work, for each household member</td>
<td>✅ Average wage of paid workers</td>
</tr>
<tr>
<td>Non-agricultural work, for each household member</td>
<td>✅ Proportion of workers paid only in kind</td>
</tr>
<tr>
<td>3. Household Members: payments and benefits [AH-HS]</td>
<td>✅ Proportion of holdings facing lack of labour force</td>
</tr>
<tr>
<td>4. External workers: demographic and educational profile</td>
<td>✅ Proportion of holdings using contractors</td>
</tr>
<tr>
<td>5. External workers: time worked and main activities</td>
<td>✅ Proportion of workers receiving benefits and estimated value of benefits</td>
</tr>
<tr>
<td>6. External workers: payments and benefits</td>
<td>✅ Key demographic characteristics of workers</td>
</tr>
<tr>
<td>7. Contractors: activities carried out and payments</td>
<td></td>
</tr>
</tbody>
</table>
The Production Methods & Environment questionnaire collects data on the production processes adopted by the holdings, and their environmental impact. This allows characterizing ag technologies, and their potential sustainability.

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

**Implementation:**
- (Sub-)sample of the core module, results at national/province level
- Fielded *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
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
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
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
MAIN CROSS-CUTTING THEMES

**GENDER**
- AGRIS recognizes the value of gender indicators and sex-disaggregated data, and strives to enhance their availability.
- To the extent possible, data are disaggregated by sex - especially on labour and asset ownership.
- In addition, AGRIS can easily accommodate the monitoring of SDG indicator 5.a.1 on women’s rights over agricultural land.

**RESILIENCE**
- 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.
## AGRISurvey contributions to SDG Data Needs

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

Global Strategy improving Agricultural and Rural Statistics

http://gsars.org/en/tag/agris/
Thank you!