Data collection vehicles: towards and integrated agricultural survey system

Short Training Course on Agricultural Cost of Production Statistics
1 – General recommendations

• **Ensure quality at all levels**: conception, data collection, processing, data analysis and dissemination

• **A permanent quality monitoring program** and continuous improvements

• **Test all data collection tools and methods** before launching the data collection operations.

• **Have a complete and up-to-date farm records.**

• Disseminate **widely and freely** data and metadata.

• **Develop and maintain linkages** between statisticians, respondents and data users.
Mainly depends on:

- **Objective(s)** of the analysis
- **Budgets** and financial resources
- **Human resources** and technical expertise
- **Legal requirements**
- **Existing strategic frameworks or policies.**
2 – Choice of the data collection method (2/2)

Definition of the NEEDS
Improve commodity specialization, identify efficient farming practices, better targeting of monetary transfers, measure pollution abatement costs

Size of the BUDGET

Definition of the OUTPUTS and INDICATORS
Total variable costs, Total cash costs, Net returns per hectare
Examples of characteristics/properties required:
- Level of precision and accuracy
- Breakdown by activity, by farm type, agro-climatic area, Frequency

Determination of the DATA COLLECTION STRATEGY
Sample survey vs. other approaches, stratification, size of the sample, periodicity of the data collection
Recordkeeping practices and level of literacy of the respondent

Level and maturity of the Statistical infrastructure

Source: Handbook of cost of production statistics, page 25
• Questions need to be designed according to:
  
  o **Respondent’s capacity to answer the questions**, related to his level of education/literacy
  
  o The level of detail and sophistication of farm records.

• **Cross-checking the responses allows to verify and validate the information provided by the respondent:** eg. Consistency in fertilizers input per ha, etc.

• **A first data check on the field by the enumerator helps reduce the major part of errors** related to the complexity of the questionnaire.
3 – Key parameters of a data collection strategy

• **Sector coverage**: which enterprises and which activities.

• **Geographical coverage**: national or sub-national

• **Frequency** of the data collection

• Observation, analysis and sampling **units**
  
  -> **The choice of a unit of observation is crucial**: It shall determine the data quality (is the respondent able to answer?), the data comparability and reusability (in household surveys, for example)

• **Reference period**: crop year, calendar year, quarter, etc.
4 – Choice of the data collection frequency

Mainly depends on:

• **The variability of the phenomenon**: annual production cycle, stable agricultural practices, etc.

• **The existence of regulatory requirements**, national or international, that are dictating the frequency to adopt.

• **The line with the practices of the statistical agency**: the habit of undertaking an annual survey...

• **The line of the available human and financial resources**: for instance, do they allow to undertake a specific annual survey or only every second or third year?

• **The implication in terms of the respondent burden**: are the respondents already involved in one or in several surveys?
• Also called **stand-alone surveys**: the objective is to undertake a survey focused on the topic of cost of production.

**Main advantages include:***

  o **A better targeting and a better coverage** of the population of interest.

  o **A sampling procedure adapted** to the objective of the CoP estimate, and possibly less complex than the multiple objective surveys.

  o **A survey period** adapted to the farmers practices.

  o **A better training of the enumerator on the CoP topics**, which usually involves complex concepts.
5 – Specific CoP surveys (2/2)

• The main drawbacks are:

  o Like any other additional survey, it results in:

    ▪ Additional costs
    ▪ A logistical and organisational challenge
    ▪ An additional respondents burden.

  o Difficulty in ensuring consistency between the various concepts used in the various surveys

  o This lack of integration affects:

    ▪ Data comparability
    ▪ The possibilities of reuse and crossing with other data
Also called omnibus surveys:

- It is a survey where CoP estimate is one of the objectives (alongside with the output measurement, for example).
- The survey may be carried out once or, in most cases, sequentially in several rounds.

The benefits correspond to the disadvantages of the stand-alone survey... and vice versa.

A multi-purpose survey is heavier to manage than a specific CoP survey: the benefit of integration on the quality of answers can be diminished by the negative effects related to the length of the questionnaire.
• Whether they have one specific goal or more, CoP surveys must be part of an integrated survey system.

• An integrated survey system consists mainly, for each survey, in:
  
  o Meet a set of standards, classifications and common concepts
  
  o Adopt an survey strategy based on common records and appropriate sampling methods

• This holistic approach is recommended by the United Nations Statistics Division.
In addition to these general principles, the specificity of this Integrated Survey System for Agriculture (AGRIS) is to:

• Propose a surveys sequence between two agricultural census - about 10 years

• **Use multiple sample frames** (list / area frame) to identify and geo-reference agricultural households and commercial

• Set a basic data set to collect and complementary themes.

• **Make use of auxiliary data sources:** administrative, professional organizations, private sector, etc.

• **Adopt a wide and open data dissemination strategy,** for micro-data and metadata.
## Example of an agricultural integrated survey system

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*Source: AGRIS, FAO*
“Typical” or “representative” farms.

Hybrid approaches – survey + typical farms.

Model based methods.

Methods based on auxiliary data: administrative, private sector, etc.

-> These methods will be substantiated in specific presentations.
9 – References


