Data collection vehicles: towards and integrated agricultural survey system

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

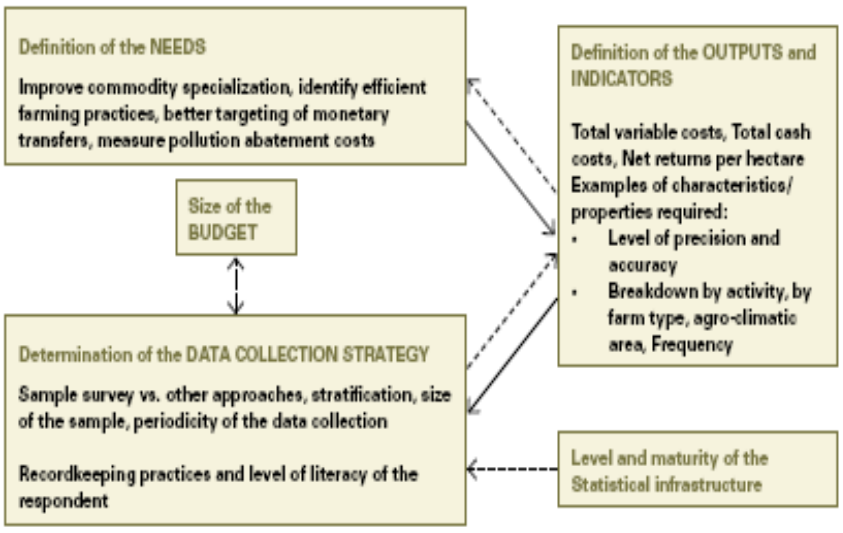
- **Ensure quality at all levels**: conception, data collection, processing, data analysis and dissemination
- **A permanent quality monitoring program** and continuous improvements
- **Test all data collection tools and methods** before launching the data collection operations.
- **Have a complete and up-to-date farm records**.
- Disseminate **widely and freely** data and metadata.
- **Develop and maintain linkages** between statisticians, respondents and data users.

2 – Choice of the data collection method (1/2)

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)



Source: Handbook of cost of production statistics, page 25

3 – Questionnaire design: general information

- **Questions need to be designed according to:**
  - **Respondent's capacity to answer the questions,** related to his level of education/literacy
  - 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 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?

5 – Specific CoP surveys (1/2)

• Also called **stand-alone surveys**: the objective is to undertake a survey focused on the topic of cost of production.

Main advantages include :

- **A better targeting and a better coverage** of the population of interest.
- **A sampling procedure adapted** to the objective of the CoP estimate, and possibly less complex than the multiple objective surveys.
- **A survey period** adapted to the farmers practices.
- **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**:
  - Like any other additionalsurvey, it results in:
    - **Additional costs**
    - **A logistical and organisational challenge**
    - **An additional respondents burden.**
  - Difficulty in **ensuring consistency** between the various concepts used in the various surveys
  - This lack of integration affects:
    - Data **comparability**
    - The **possibilities of reuse and crossing** with other data

6 – Multipurpose surveys

- 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.

7 – Towards an integrated survey strategy (1/3)

• 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.

7 – Towards an integrated survey strategy (2/3)

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.

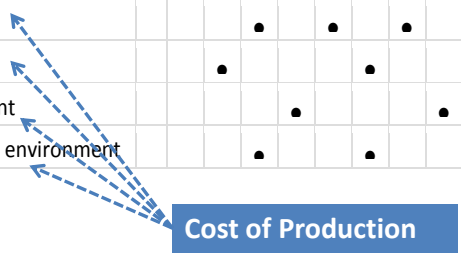
• **Adopt a wide and open data dissemination strategy**, for micro-data and metadata.

7 – Towards an integrated survey strategy (3/3)

Example of an agricultural integrated survey system

		Years	0	1	2	3	4	5	6	7	8	9	10
Agricultural Census			•										
AGRIS Core Module	AH Roster			•	•	•	•	•	•	•	•	•	•
	Crop production			•	•	•	•	•	•	•	•	•	•
	Livestock production			•	•	•	•	•	•	•	•	•	•
AGRIS Rot. Module 1	Economy					•		•		•		•	
AGRIS Rot. Module 2	Labour force				•				•				•
AGRIS Rot. Module 3	Machinery and equipment						•				•		
AGRIS Rot. Module 4	Production methods and environment					•			•				•

Source: AGRIS, FAO



8 – Other data collection methods

- **"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

- **Global Strategy to Improve Agricultural and Rural Statistics** (2016), Handbook on Agricultural Cost of Production Statistics, Handbook and Guidelines, pp.27-32. FAO: Rome.

- **Global Strategy to Improve Agricultural and Rural Statistics** (2015), Handbook on Master Sampling Frames for Agricultural Statistics, Handbook and Guidelines. FAO: Rome.

- **Global Strategy to Improve Agricultural and Rural Statistics** (2015), Guidelines for the Integrated Survey Framework, Handbook and Guidelines. FAO: Rome.

- **Statistics Division of the United Nations** (2013), Guidelines on Integrated Economic Statistics, Economic and Social Affairs. UN: New-York