Capacity building for research: promoting inclusive development of agricultural value-chains, 1-3 September 2014

Sampling, questionnaire and interview design

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Recall yesterday's topic: Governance analysis

Recap yesterday's topic:
Example when we observe 'services' aspects of governance, this is what we want to get

Types of services	Provider	Available for different VC actors	Degree of satisfaction with the services	How to improve

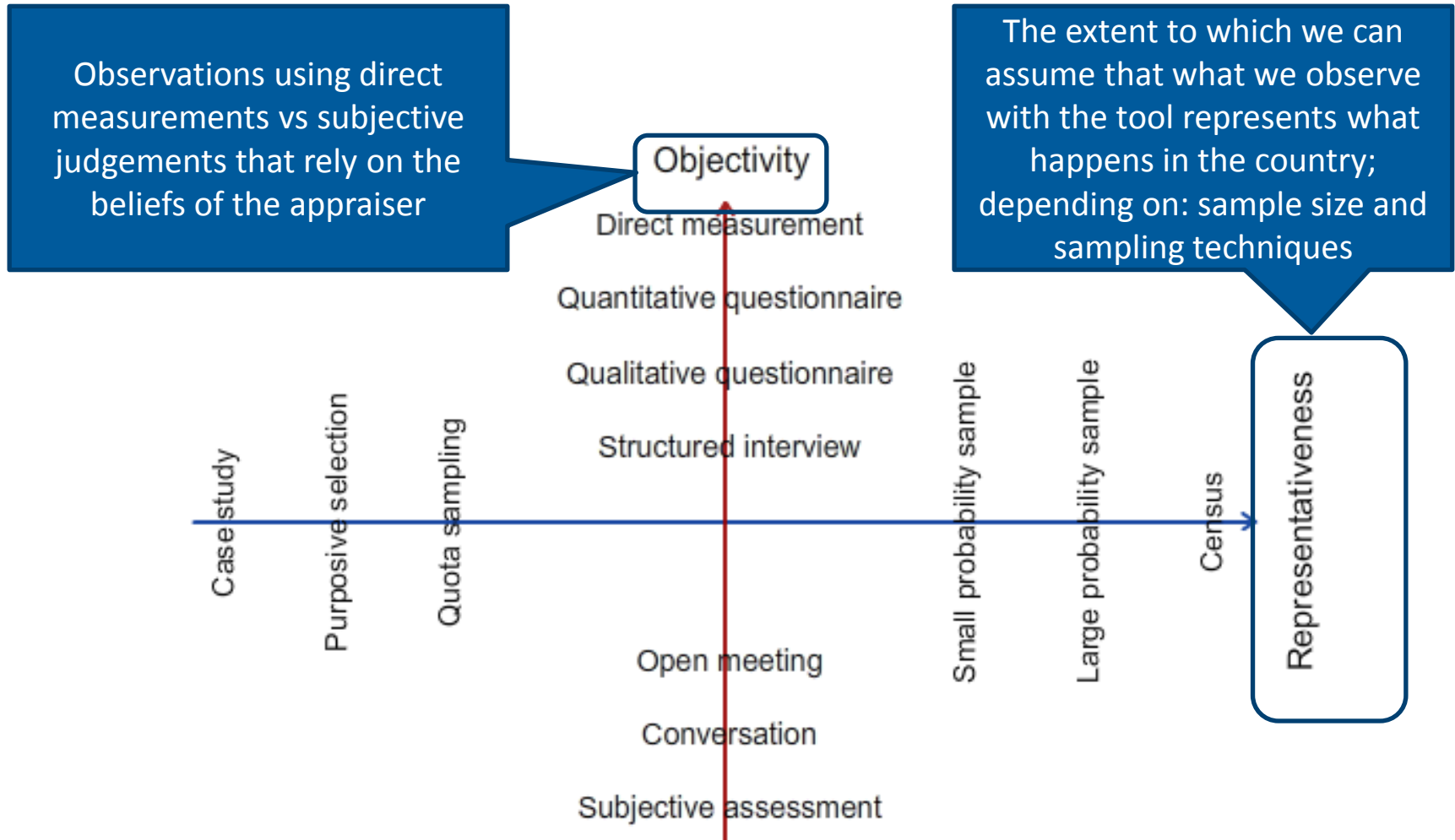- *Improving data collection techniques will enhance the accuracy, validity, and reliability of research findings.*

Outline

1. Different types of data collection
2. Basic primer of sampling
3. Questionnaire design
4. Interview design
5. Data analysis

1. Different types of data collection

Representativeness and objectivity

Observations using direct measurements vs subjective judgements that rely on the beliefs of the appraiser

The extent to which we can assume that what we observe with the tool represents what happens in the country; depending on: sample size and sampling techniques

Objectivity

Direct measurement

Quantitative questionnaire

Qualitative questionnaire

Structured interview

Case study

Purposive selection

Quota sampling

Small probability sample

Large probability sample

Census

Representativeness

Open meeting

Conversation

Subjective assessment

Source: LSMS-ISA (World Bank)

How to select methods

- Redundancy with other studies
- Logistics: costs, time available, staffing, access to records
- Sampling: framing availability, sampling size
- Depth of information
- Generalisability
- Sensitivity of issue

→ In most cases, methods are used in sequence:

- Provide explanation
- Used in instrument development

Total survey quality
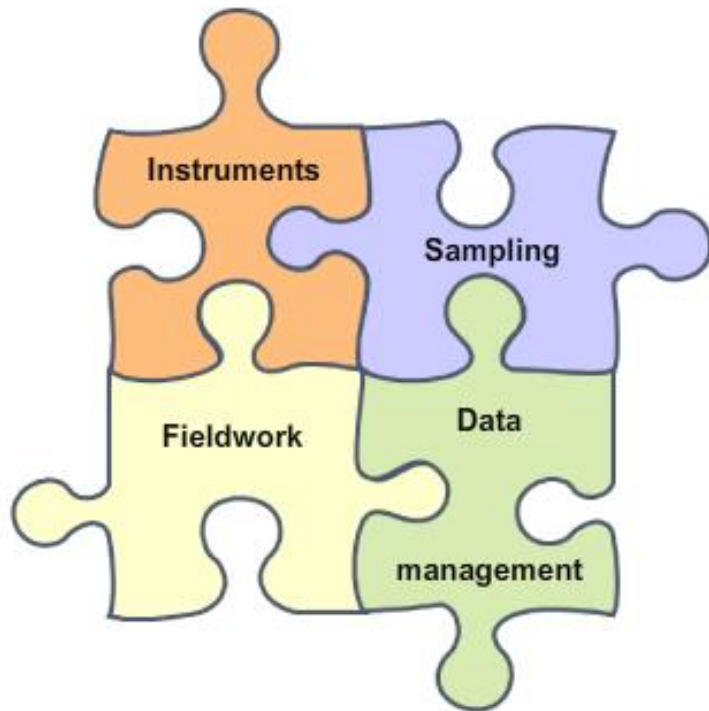
Regardless of the methods chosen, quality research includes collecting quality data.

Training on household survey

- Useful resource: http://go.worldbank.org/FZIIVCYCQo
- Adopt a similar approach to the World Bank's LSMS-ISA training workshop
  - The Living Standards Measurement Study - Integrated Surveys on Agriculture (LSMS-ISA) is a $19 million household survey project established by the Bill and Melinda Gates Foundation and implemented by the Living Standards Measurement Study (LSMS) within the Development Research Group at the World Bank.

Data collection: By participants

Household survey

Middle-segment of value chains
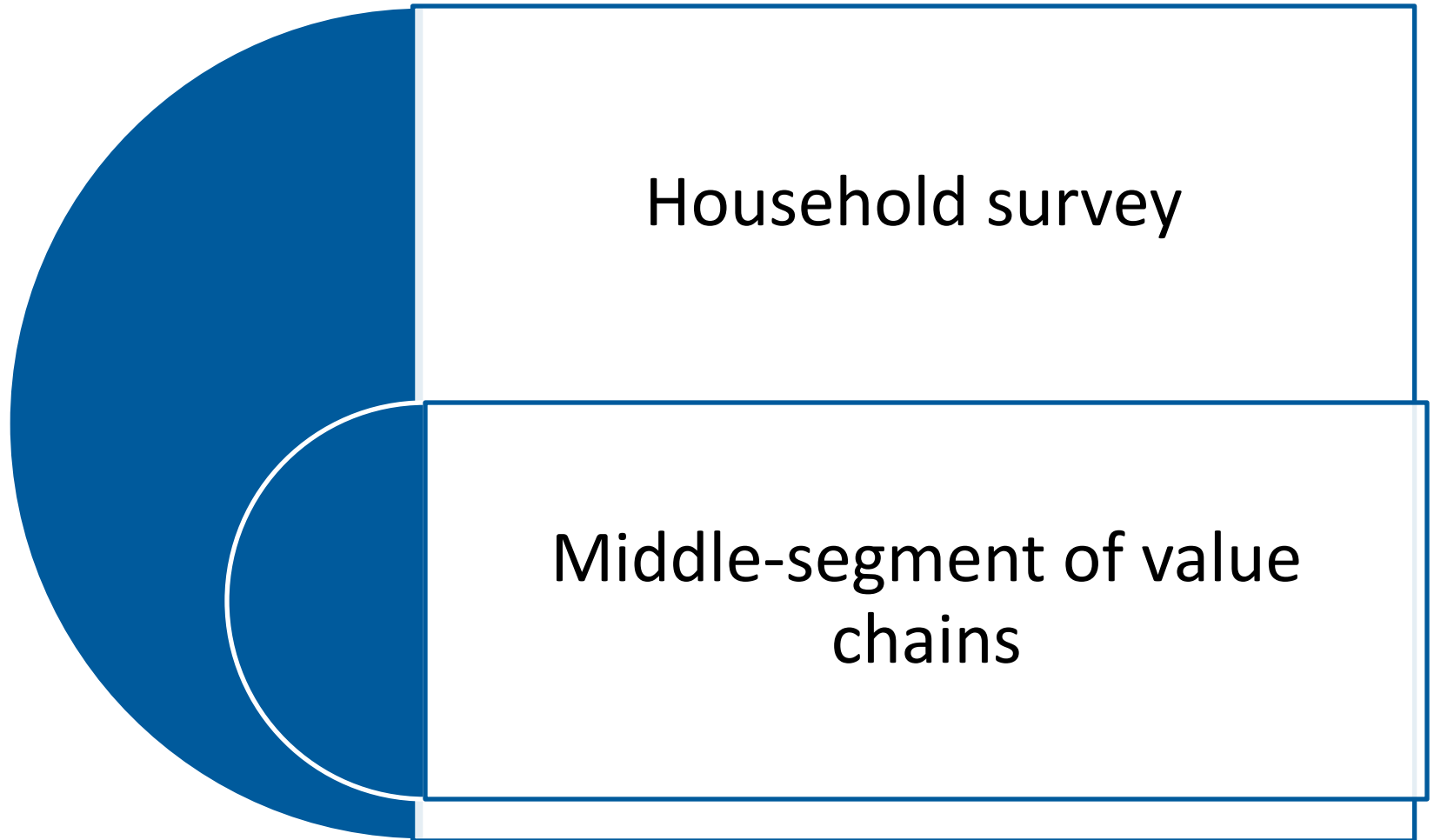
Interviews

- Interviews to gather opinions, perception, attitudes.
- Interviews to gather background information:
  - Expert knowledge
  - Facts, descriptions of process
- Some interviews may include both aspects

Types of interviews

Unstructured
- Free-flowing; vary much by the respondent
- Can take a long time

Semi-structured
- Used often in policy research
- Using a guide with questions and aspects that **must** be covered.
- To ensure complete and consistent information across different interviews.

Structured
- Questions are fixed and asked in a specific order.
- Similar to a survey

Example

Unstructured
- I'm here to understand how you operate your farm.

Semi-structured
- Could you describe how you improve your farm performance?
- PROBE: How do you monitor your farm performance?
- PROBE: What do you do to increase feed quality?
- PROBE: Do you receive any support from governments or NGOs?

Structured
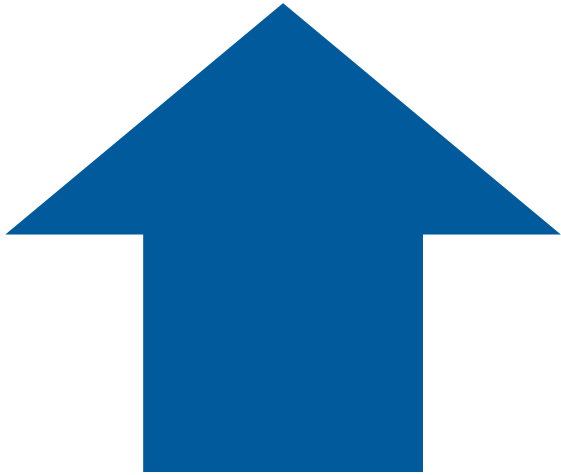- Do you monitor your farm performance:
- [ ] Yes
- [ ] No
- [ ] Other

2. Sampling

Sampling

- World Bank: "Sampling is said to be hard and better left to experts".
- RAND: "Get sampling help!"
- Risti: Agree, will only do (a very brief) introduction to some sampling methods.

Generalisability claims

- Random and structured

Inferences

- Non-probability sampling

Non-probability sampling

- Convenience sampling eg grab or opportunity sampling;
  - useful for pilot testing;
  - cannot scientifically make generalisations about the whole population from this sample.

- Quota sampling
  - Segmented into mutually-exclusive sub-groups, then judgement is used to (non-randomly) select sample from each segment.

- Purposive sampling
  - A limited number of people that have expertise or knowledge in the area being researched.

- Snowball sampling
 - Locating informant-rich key informants

Simple random sampling

If sampling frame is large, this method is not practical.

Source: http://faculty.elgin.edu/dkernler/statistics/ch01/1-4.html
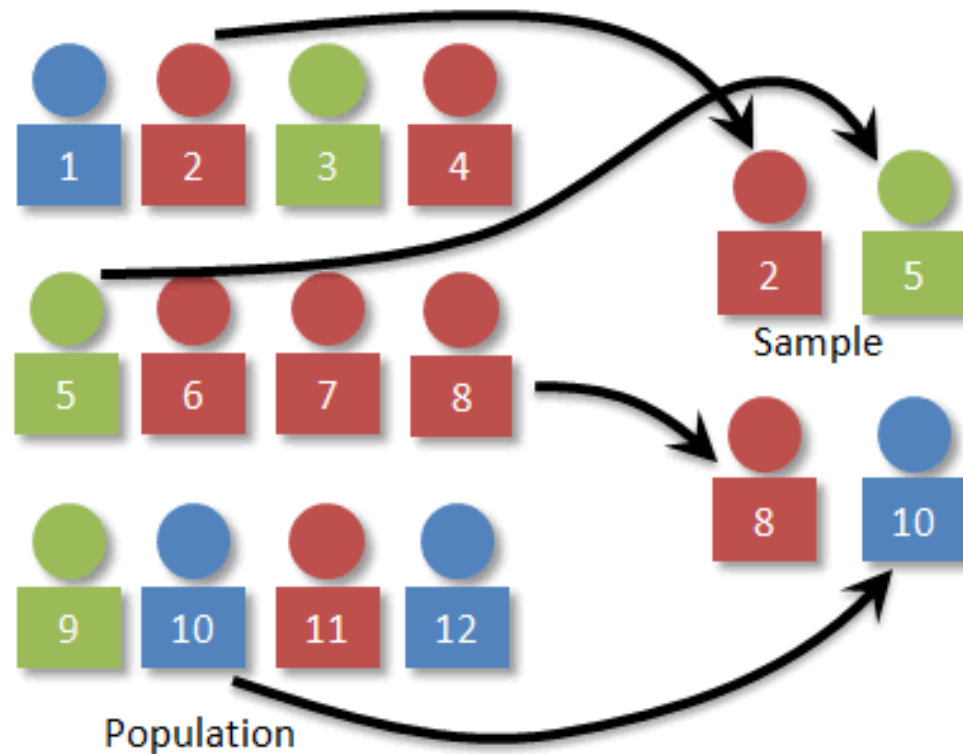
Stratified sampling

Non-overlapping groups; Individuals within each group (stratum) should be similar in some way; Proportional sample from each stratum.

Source: http://faculty.elgin.edu/dkernler/statistics/ch01/1-4.html
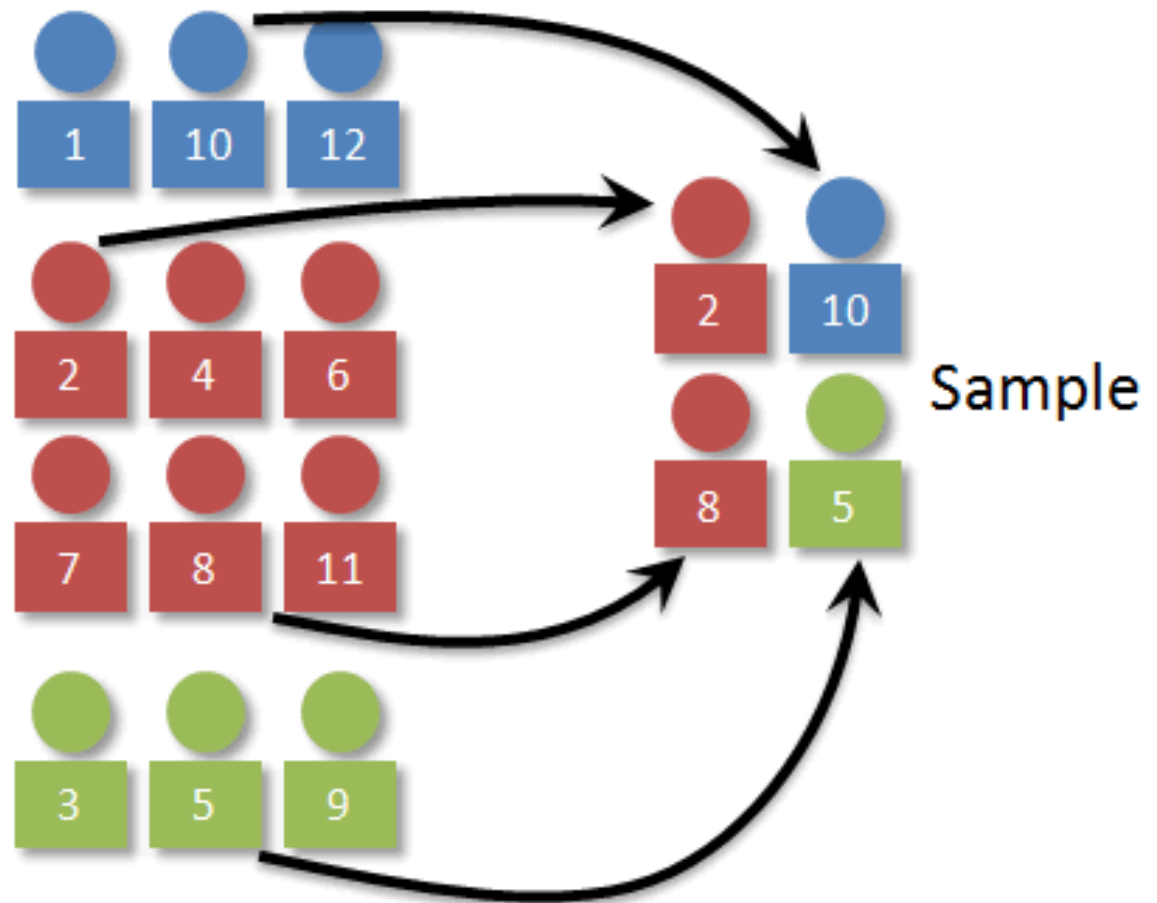
Systematic sampling

First order our individuals, then select every *k*-th; k=N/n; where N=total population and n=sample size

Source: http://faculty.elgin.edu/dkernler/statistics/ch01/1-4.html
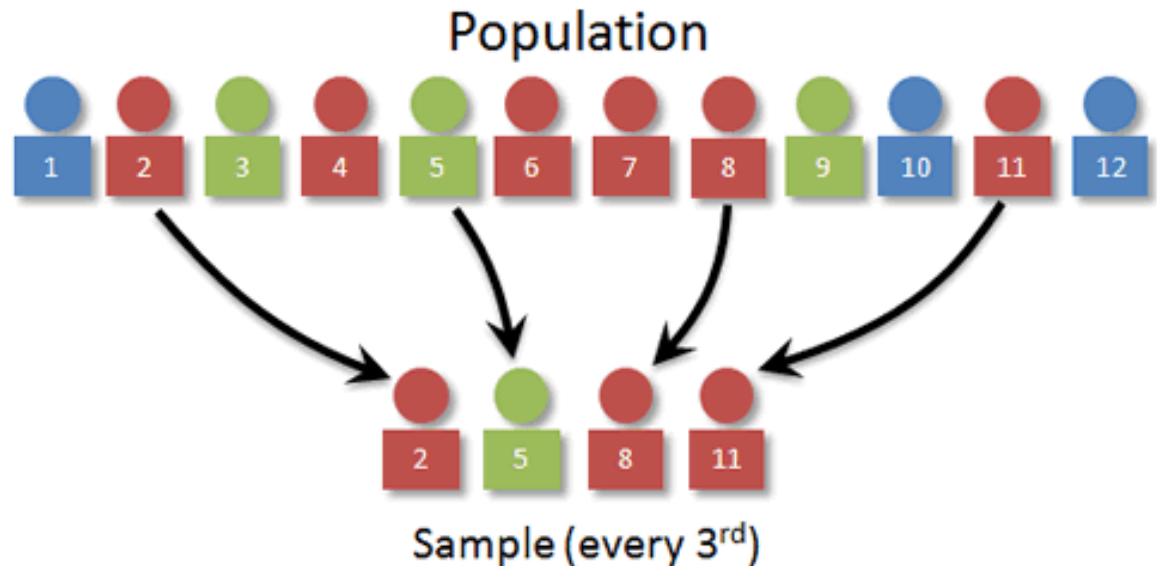
Cluster sampling

We use it when our population is already broken up into groups (clusters)), and each cluster represents population;
We assume clusters do not differ significantly from each other.

Cluster Population

Sample
(2 clusters)

Source: http://faculty.elgin.edu/dkernler/statistics/ch01/1-4.html

Multistage sampling

- The process of taking random samples of preceding random samples.

- Multistage sampling is used frequently when a complete list of all members of the population does not exist.

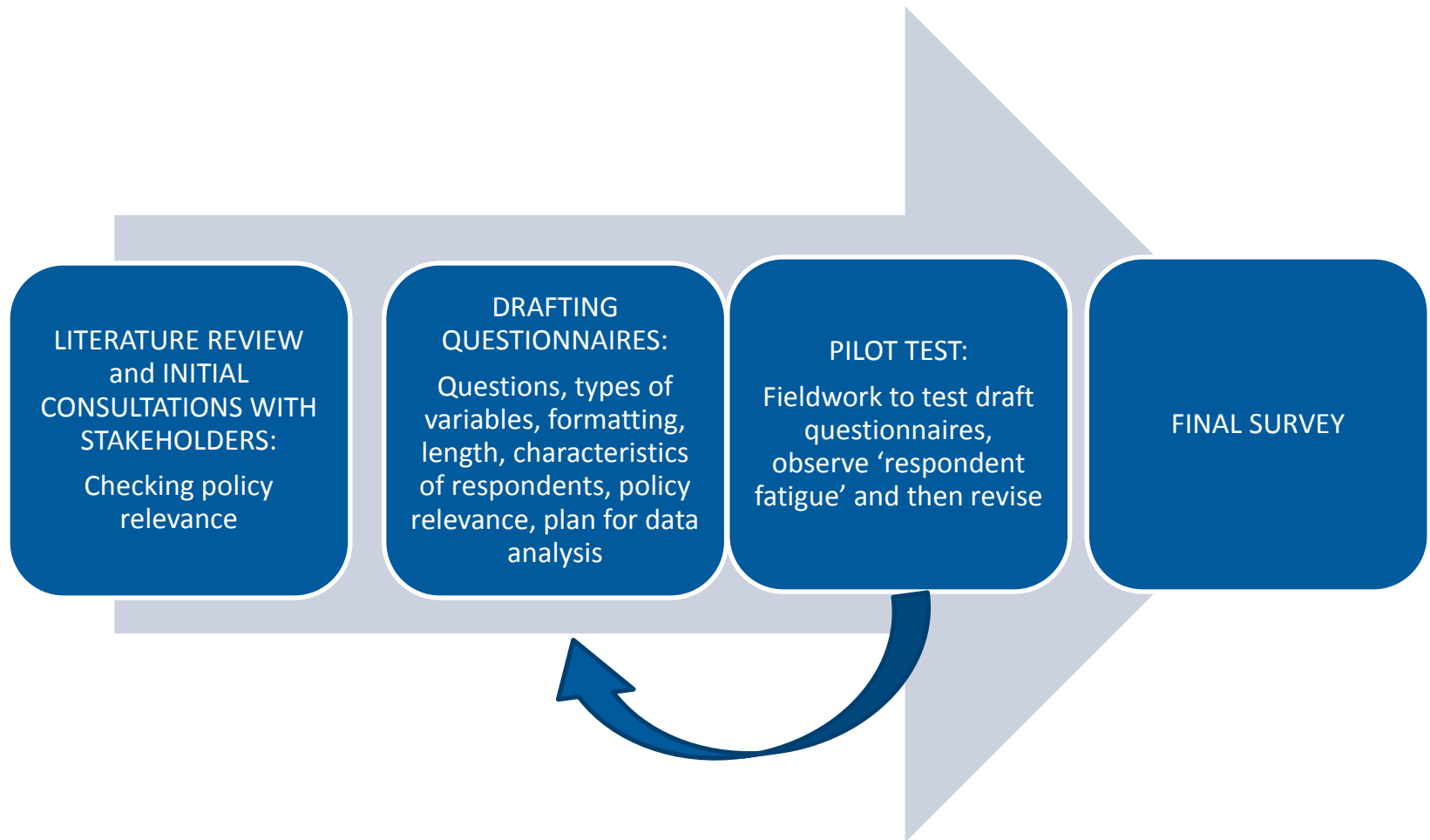- Reduce costs.

Errors

1. Non-sampling error: results from the survey process
   - Incomplete frame
   - Non-response
   - Interviewer error
   - Misrepresented answers
   - Data checks

2. Sampling error: results from using a sample to estimate information regarding a population

3. Questionnaire Design

Steps

LITERATURE REVIEW and INITIAL CONSULTATIONS WITH STAKEHOLDERS:

Checking policy relevance

DRAFTING QUESTIONNAIRES:

Questions, types of variables, formatting, length, characteristics of respondents, policy relevance, plan for data analysis

PILOT TEST:

Fieldwork to test draft questionnaires, observe 'respondent fatigue' and then revise

FINAL SURVEY

The factors of a good questionnaire (1)

❑ The questionnaire is asking the right questions.
- Initial consultations; pas surveys

❑ Questions are asked to the right respondents.
- The preferred respondent is the best informed respondent; plan to record 'proxy answering'
- In general small children should not be asked questions directly.
- Education to all respondents (except young children), but food consumption should be asked to the housewife.
- The wording should make clear the group of people to which the question refers to:
  - Do *you, or anyone in your household*, own or operate a non-farm enterprise?

❑ Respondents understand the questions.

❑ The flow of the questions is adequate.

❑ The respondents are willing to answer questions.

❑ The answers are recorded correctly.

The factors of a good questionnaire (2)

❑ Respondents understand the questions.
- o Avoid ambiguous wording
- o Ask one question at time.
- o Be clear who the question refers to – either an individual respondent, the household, a firm, etc.
- o Make the reference period explicit.
- o Avoid jargon or overly academic phrased
- o Language should be straight-forward (avoid double negatives)
- o Questions should be culturally sensitive and appropriate
- o Even the most carefully developed question is only as effective as its translation.

→ Interviewers will be instructed to read the questions exactly as they are written on the questionnaire

One-minute group discussion #1

- Exercise 1: We want to measure the current net present value of the respondent's land. Which of the following wordings do you think is more appropriate?

  a) How much is your land worth?

  b) What is the current net present value of your land?

  c) How much would you sell your land for today?

  d) If you were to sell your land today, what price do you believe you could receive?

  e) How much did you pay for this land?

One-minute group discussion #2

- Exercise 2: Is there anything wrong with the wording of any of these questions?

1. How much do you spend on food consumption?

2. When did you start farming?

3. Do you have experience getting loans from a bank, cooperative or other institutions?

4. Are you aware that being a member of a cooperatives is not improving your welfare and productivity?

The factors of a good questionnaire (3)

❑ **The flow of the questions is adequate.**

- o The flow affects the time, interviewer's ability to engage the respondent's interest; and the quality of the information being collected.
- o Questions should be grouped by topic and logically sequenced.
- o Putting 'skips'

❑ **The respondents are willing to answer questions.**

- o Examples: income, disease, etc.
- o No rules to deal with sensitive questions: but it is generally preferable to leave them for the final stages of the interview.
- o Record the presence of other people

The factors of a good questionnaire (4)

❑ **The answers are recorded correctly.**
  - ○ 'Don't know'
  - ○ Question numbering
  - ○ Linear vs grid format
  - ○ Interviewer manuals
  - ○ The role of manuals

Source: Vietnam's VVLS Handbook instruction for interviewers 1997/1998 (115 pages), available at: http://lsms.adeptanalytics.org/course/fscommand/session2/ref/VietNam_interviewer_manual.pdf

3.5 The interview

The interviewer should follow carefully the instructions in this handbook.

1. Ask each question exactly as it is written in the questionnaire. Each question has been edited carefully in order to collect precise information to satisfy the requirements of analysis later, and at the same time it has been checked and tested several times in the field. The interviewer should read the question as it is written in the questionnaire. After reading the question clearly and fluently the first time, the interviewer should wait for the response. If the respondent doesn't answer in a short period of time, this could be because: 1) they didn't hear the question; or 2) they don't understand the question yet; or 3) they don't know how to reply. With each case, the interviewer should repeat the question. If the respondent still doesn't answer the question, ask to find out if the respondent understood the question. If the respondent didn't understand the question the interviewer should rephrase the question in a different way, while maintaining the meaning of the question.

2. Try to avoid accepting the answer "I don't know" by helping the respondent to estimate or find

Pilot testing: Reality checking

Some considerations

- Should be time-watched.
  - A rule of thumb: questionnaires should not ask more than 90 minutes of questions to a single respondent in a single sitting.
- Should be done by experienced interviewers or researchers?
- On a random sample or purposive?
- A iterative process?

Summary

- To check:
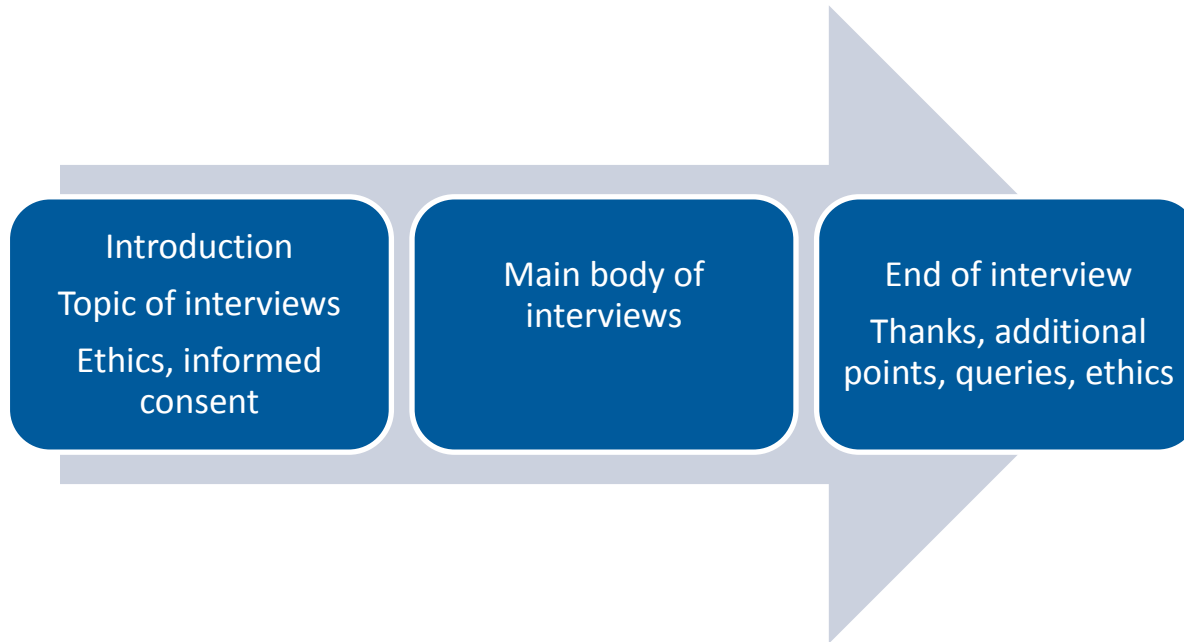1. Wording
2. Format
3. Flow
4. Duration

4. Interview design

How to do a (good) research interview?

1. Knowledgeable (familiar; test the materials)
2. Structure

Introduction
Topic of interviews
Ethics, informed consent

Main body of interviews

End of interview
Thanks, additional points, queries, ethics

How to do a (good) research interview? (cont)

3. Clear (questions are simple, easy, short, don't use jargon)
4. Gentle (give the interviewees time to finish)
5. Sensitive (listen!)
6. Steering (needs to know what s/he wants to find out)
7. Critical (not to disagree but more to 'challenge' consistencies, etc).
8. Remembers (what has been said previously)
9. Interprets (clarifies and extends the meaning).
10. Balances (don't talk too much, but not too little)
11. Ethically sensitive (ensure the interviewee appreciates what the research is about)

Semi-structured interviews

- Might be best to follow 'a guide': key topics to be covered and the order.
    - Introduction → Ground rules → Questions and probes → Thank you and next steps
- Use of probes:
    - FOR CLARITY:
        - Can you be more specific?
        - What is your best estimate?
        - If you had to pick one answer, what would you choose?
    - FOR COMPLETENESS:
    - OTHER PROBING TECHNIQUES:
        - Repeat the question
        - Echo their response
        - Pause a second
        - Baiting eg "I've heard some people said that …."

The interview team

INTERVIEWERS

- Gain cooperation
- Listen
- Be neutral
- Maintain confidentiality

NOTE TAKERS

- Record accurately
- Note subtleties, non-verbal behaviours
- Understand their role in the session
- Understand when clarification is needed
- Be cost-effective

Overcoming common barriers

- I'm not interested": Explain purpose of research and remind them it's an opportunity for their opinions to be heard.

- "I'm too busy. How long will this take?": Be honest about time and suggest you can schedule for a more convenient time .

- Fear of being inadequate: Provide reassurance that we want their opinion, that there are no right or wrong answers.

- Have a negative reaction to research: Reiterate why the research is important, provide information on legitimacy of the research.

- Confidentiality concerns, questions too personal: Explain that answers will be combined with answers from others and presented in aggregate form; no names will be reported

5. Data Analysis

- Assuming that (good quality) data have now been collected, what's next?

- What will your type of research? Is this something you need to think about before you conduct the fieldwork?

Quantitative versus qualitative research

Criteria	Qualitative research	Quantitative research
Purpose	To understand and interpret social interactions	To test hypotheses, look at cause and effect and make predictions
Group studies	Smaller and not randomly selected	Larger and randomly selected
Form of data collected	Qualitative data such as open-ended responses, interviews, participant observations, field notes and reflections	Quantitative data based on measurements using structured and validated data-collection instruments
Type of data analysis	Identify patterns, features and themes	Identify statistical relationships
Objectivity and subjectivity	Subjectivity is expected	Objectivity is critical
Results	Particular or specialised findings that is less generalisable	Generalisable findings that can be applied to other populations

Successful data analysis

Whether quantitative or qualitative, successful data analysis requires

1. understanding a variety of data analysis methods;

2. planning data analysis early in a project and making revisions in the plan as the work develops;

3. understanding which methods will best answer the study questions posed, given the data that have been collected; and

4. once the analysis is finished, recognising how weaknesses in the data or the analysis affect the conclusions that can properly be drawn.

Three-minute group discussion

TWO MINUTES:

- Choose one of these three aspects and write down a set of questions (maximum 3 related questions; good questions please ☺) that will help you as a researcher understand a key issue that farmers are facing:

a) Farm performance

b) Governance

c) Adoption of technology

ONE MINUTE:

- Then swap with the group sitting next to you and comment each other

References

- Harrell, M.C. and Bradley, M.A. (2009). Data collection methods: Semi-structured interviews and focus groups, RAND Corporation, 2014(Available from URL: http://www.rand.org/content/dam/rand/pubs/technical_reports/2009/RAND_TR718.pdf

- LSMS-ISA (2014). Building capacity, The World Bank, 2014(Available from URL: http://go.worldbank.org/FZIIVCYCQ0

- Terima kasih.

- Any questions?

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