Testing a Survey Questionnaire

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Stats4SD

Introduction

A survey with a questionnaire for collecting data is a common research method when working with smallholder farms. Designing an effective survey is a complex task, and involves the following stages:

1. Negotiating and deciding on the **objectives**
2. Defining the **target population** and the **sample** to include
3. **Developing the questionnaire**
4. Planning the **method** of interviewing and data collection, data entry, management and quality assurance
5. Describing how data will be **analysed**, **used** and **communicated**
6. Assembling the **resources** (people, money, tools) and **planning logistics** (training, transport, etc)

This guide is about pilot testing for **Stage 3**

Stages **3 to 6** should each involve some element of pilot testing.

These stages have been described elsewhere (see for example https://stats4sd.org/resources/427) and many books have been written about them.

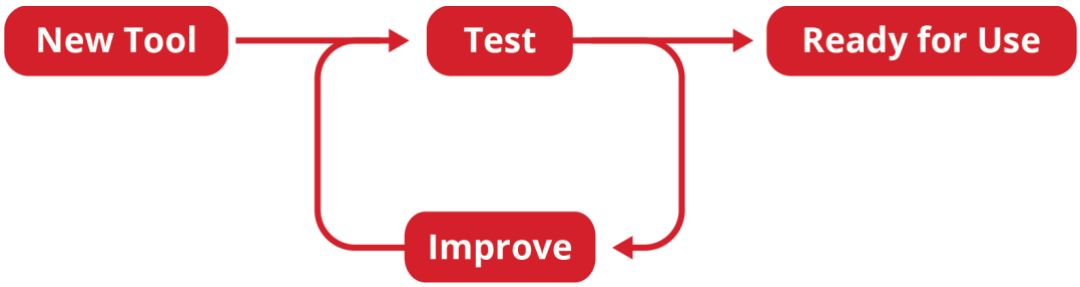
Points to Note

This guide has been written with a focus on working with **smallholder farms**, but it may be adapted for other research. We refer to the respondents, for example, as farmers, but this can be substituted as needed.

Depending on the **local context** of your work, you will likely need to adapt the guidelines given below. For example, social considerations such as gender might affect who conducts and observes an interview. Take some time to consider what other aspects may be relevant to your research context.

Piloting and Testing

The idea is simple: you have a new tool – in this case a questionnaire – so you try out a prototype to make sure it works well. If everything is perfect, then you can go ahead and use it for the real task. It is more likely that you discover several ways in which the tool needs improving before it is fit for purpose. After the first test, you try to improve it, then you test it again, continuing until it seems good enough.



Content Validity

Within social research, we often use questionnaires to collect data that will allow construction of indicators that are designed to inform us about more abstract concepts such as wealth, health, happiness or empowerment. When designing such a questionnaire, you will need to check that the questions and indicators do really inform you about these concepts, a process known as determining **content validity**.

Probably the best way to ensure content validity is to use questions and indicators that have been developed by others and already shown to be valid, though be aware that **validity might be context-specific**. A question that works well with maize farmers in Kenya might not be suitable with herders in Mali, for example.

The testing and piloting described here is not sufficient for establishing content validity.

The Pilot Process

Who is involved?

You

- In this guide, it is assumed that 'you' are the researcher who is **designing** and is **responsible for the study**.
- Whether you are a professional scientist or not does not matter.
- You are responsible for making sure the questionnaire (and the rest of the survey) are as effective as possible and will give valid, useful results.

Enumerators

- The interviews collecting data will probably be done by other people who we call 'enumerators'.
- There may be one or many, depending on the size of the survey.

Respondents

- You will need to select '**test respondents**' to include in the pilot study. We are assuming in this guide that these will be farmers (see note on page 1).
- The number needed will depend on the complexity of the questionnaire and the diversity of the group of farmers being studied, but **about 5** is often suitable.
- These should be selected to represent the **diversity** of people that will be surveyed.
- 'Diversity' here means variation in factors likely to be associated with ease of answering the questions, such as education level, length of experience with the topic being investigated, gender, ethnicity, and language.
- Make sure you do not only include the most able farmers in the group of testers.
- If your survey will cover multiple locations, then your pilot should also. It is a better use of your resources to conduct your pilot study with **fewer respondents**, but covering the **diversity of locations**, than to do a larger pilot in just one location.

The Steps

Step 1 - Prepare the Pilot Group

- Train an enumerator to collect data using the questionnaire.
- Select the pilot farmers (see guidance about 'respondents' on page 3).
- Explain to each farmer that you are trying out (testing) the questionnaire, you want them to answer as best they can, and that you will discuss it afterwards.

Step 2 - Conduct the Interview

- Have the enumerator conduct the interview and record the data **in the way that will be used in the main survey**. If data will be captured digitally during interview, (e.g. by using ODK) then also do that during the pilot.
- Throughout the interview you should watch, listen and **make notes** but do not interrupt unless essential.
- **You are looking for:**
    - Times when the farmer seems unsure, confused, or uncomfortable with the questions; remember to look at body language.
    - Any time the answers seem to be misleading, ambiguous, or not true.
    - Any time the enumerator makes a mistake in either asking the question (e.g. by prompting or suggesting answers) or in recording an answer.

Step 3 - Talk to the Respondent

- Immediately after the interview, you (not the enumerator) have an informal discussion (chat) with the farmer to find about:
    - How they **felt** about the whole thing. Did it take too long? Was it short? Did they find it interesting or dull?
    - Any questions or answers that were **unclear**. Pay particular attention to language translations.
    - Any questions they found it **hard to answer** and why.

  - Any comments about how **others** (their neighbours, for example) might find the survey.
  - Any information that was **not asked about**, yet they think important in relation to the objectives of the questionnaire.

- If pilot farmers are in one location and the interviews are done at the same time, this discussion could be a joint one with them all. However, it is more likely that pilot farmers will be interviewed in different locations, so the follow-up discussions will need to be individual. It is important that the discussion is done **immediately after the data collection interview** so that all points are still fresh in the farmer's mind.

Caution

Be careful never to appear judgemental, or imply they gave the wrong answer.

Remember that if an answer is misleading, incomplete, or factually incorrect, it is a sign that there is a problem with the question or interview method, **not the farmer!**

Also, be aware that an interview with you watching may not go in quite the same way as one without. Both farmer and enumerator may be nervous or otherwise influenced.

Remember that the local context will impact the social and practical considerations you need to make, and this may affect your interviews.

Step 4 - Talk to the Enumerator

- After you and the enumerator have left the farmer, discuss the **same points** listed in Step 3 with the enumerator.
- As well as the above, talk about **data recording**:
  - How easy is it to use the paper or ODK form?
  - Did they ever find it difficult to record the answers given?

Step 5 - Check the Data

- Together with the enumerator, go through the data that was recorded in the interview.
- Make sure everything is **clear**.
- Check if you could carry out your **intended analysis** with the data

Step 6 - Repeat

- If it is clear from the first farmer that there are **major** problems with the questionnaire, then there is **no point continuing testing at this time**.
- Otherwise, **repeat** the steps above for each of the remaining farmers you selected for the pilot testing.

Step 7 - Make Improvements

- Based on all of the information from Steps 3 to 6, take a critical look at both the overall approach of your questionnaire and the details of each question.
- Make revisions and changes as appropriate.
- If you make substantial revisions, then **repeat the piloting process**.

Other Testing and Piloting

The idea of piloting and testing should be taken further:

Other tools and units

The process described above refers to questionnaires that are completed during an interview with a respondent. Surveys can also record data from 'units' other than people, using 'tools' other than questionnaires. Any of these should be tested before large scale use.

Test the whole process

All the stages of conducting a survey should be tested, not just data collection. A series of guides similar to this one, covering piloting for other stages, is currently in development. For now, think about how the process set out here might be adapted to check if other aspects of your survey design are ready for use.

Some people distinguish between 'testing' of **individual areas** of the survey, such as testing the questionnaire described here, and 'piloting' the **whole survey process**. For a large survey, the trial run of all the steps will be important for making sure the logistics work well. For example, are the transport arrangements correct? How easy is it to find respondents? Is equipment robust in the field? How long does it all take?