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RESEARCH GUIDELINES

PLANNING SURVEY RESEARCH

WHY MASTER THIS SKILL?

Household and other types of survey are widely used in development research to provide quantitative data on a variety of topics, from household income to women's and children's health. Survey research is a branch of applied statistics that allows us to:

- Gather accurate and quantifiable information on a certain phenomenon and population;
- Answer research questions using rigorous statistical tools;
- Collect data that can be used to measure the impact of projects and other development interventions.

Surveys are most suited to answering questions in the form of 'what', 'how many' and 'how often'. They can also answer 'why' questions, although it is advisable to combine these with qualitative research in order to do so most effectively. Surveys are typically undertaken using data collection techniques, such as questionnaires, to record structured and standardized responses to questions that can then be analysed statistically. This guideline provides an introduction to planning survey research, highlighting the principal steps in the process.

IDENTIFY YOUR RESEARCH QUESTION(S) AND THINK STRATEGICALLY

Survey research methods are recognized for being particularly rigorous and reliable, but the quality of the data will depend first and foremost on the decisions that you make at the beginning. Before starting it is important to state clearly the reasons why you want to conduct the study. Identifying the research questions that you want to address will help you make the best choices when planning and designing the survey process.

Remember to think ahead! Survey research can be expensive and time-consuming, but well-designed surveys and carefully thought-out samples can provide very rich data that in some cases will enable you to answer many different questions, including ones that you may not have originally anticipated. For this reason it is important to spend time developing research questions with colleagues and other partners in the research, including consultants. Oxfam's guidelines on Writing Terms of Reference for Research and the accompanying TOR template provide handy tips and a simple framework for doing this.

KEY STEPS IN THE SURVEY PROCESS

This section explains the main steps that should be taken into account when designing and planning survey research: sampling, questionnaire design, data collection and data analysis. How well these steps are implemented will help determine the quality of the statistical analysis that can be performed with the data collected in the survey.

1. Sampling

In most cases, conducting a census of everyone in the population that you are interested in is not feasible because of the time and costs that this would involve. The usual practice is therefore to select and sample from a representative subset of the whole population. The sampling process can be divided into three steps:

- **Determine the population of interest.** The first stage is to identify the population of interest for research. A population is the full set of units of analysis (e.g. individuals, households, clinics, etc.) about which you want to draw conclusions. The choice of population depends on the research question(s) the survey is trying to answer.
- **Identify the sampling frame.** This entails finding the most comprehensive list that can be obtained of the units of analysis in the population of interest. A list with all the residents or households in a village or region, for example, can sometimes be obtained from local authorities or a previous census. This must be as accurate and complete as possible; in particular you should make sure that a portion of the population with particular characteristics have not been systematically excluded.
- **Select the sample.** The sample is a subset of units drawn from the sampling frame using either probability or non-probability sampling techniques. Probability sampling techniques comprise: (a) the random selection of individuals to be interviewed from the sampling frame, or (b) division of the population into groups (e.g. male and female, or by wealth status) and then the random sampling of individuals to interview within each group. Non-probability sampling strategies, include convenience samples, snowball samples and purposeful samples which are not random. Random samples are almost always preferable when the intent is to generalize the findings to the entire population. This is because they reduce the possibility that the evaluator will consciously or unconsciously bias the sample. Random samples also permit the computation of confidence intervals and statistical significance which are not appropriate for purposeful samples.

Further details are given in our forthcoming guideline on ‘Understanding Survey Sampling’. Decisions taken during these steps will influence the quality and the type of questions that the survey will be able to answer once the data are collected.

2. Questionnaire design

Household surveys are the standard and most widely used collection instrument for survey research. They are generally based on the collection of data using a structured questionnaire administered in one-to-one interviews to a list of individual respondents. Detailed surveys are usually divided into different sections, depending on the type of information sought (e.g. household characteristics, education, income, etc.).

Before designing a questionnaire, make a list of all the relevant topics that you want to cover and obtain information about. Make sure to include everything you need to answer your research question. You should take this phase seriously because once data collection begins you will not be able to

change your questionnaire. There is nothing worse than realizing as you begin analysis that you have missed out research questions that you should have asked.

Survey questionnaires are rarely developed from scratch. It is often possible to adapt questionnaires that have already been used in earlier surveys and so have already been tested. Whether you are using an existing questionnaire or are designing a new one, this phase of survey planning can be divided into three steps: preparing the questionnaire, translation (if necessary) and piloting.

Preparing the questionnaire

Whether you are designing a new questionnaire or modifying existing questions, there are some simple rules that you should follow:

- Avoid asking leading questions, or questions that might otherwise bias responses.
- As far as possible, avoid open-ended questions that do not have precoded answers which can be defined in advance (such as yes/no or multiple choice). If you do use open-ended questions, then be aware of the extra time that may be required for coding and analyzing the data.
- Be precise and make sure that the wording chosen for questions has the same meaning for all respondents:
  - Make sure the time periods are well defined. For example, 'in the past day' may mean either today or the day before today. A better wording may be 'in the last 24 hours'. Similarly, 'this month' might mean in the calendar month of the interview or 'in the last 30 days'. Make sure to word the questions so that the meaning of the period is the same for everyone.
  - When a word has potentially different meanings, it might be useful to give a definition before the question itself is asked. Here are some examples: diarrhoea (three or more loose bowel movements in 24 hours); regularly (at least once per week for some part of the year); household members (people living and eating commonly prepared food together for the last three months).
  - Make use of photographs or other images to define abstract or complex meanings.
- The process of asking questions and recalling and giving information can be very trying. Make the enumerators' (interviewers') and respondents' lives easier by designing a questionnaire that makes this process as smooth as possible. Here are some tips to bear in mind:
  - Minimize the extent to which respondents and enumerators are required to make calculations during the survey. For example, when asking their age, some respondents may only know how old they are and not their date of birth. One easy solution is to carry a code sheet that shows which years correspond to which age. It is also advisable to provide enumerators with calculators in cases when making calculations is necessary.
  - Leave the unit of measurement flexible, particularly for questions that involve time periods, payments or quantities. For example, when asking a respondent 'How much did you pay in rent for your dwelling in the last 12 months?', the list of possible answers could give a number of options for both the amount and the unit.
  - Allow skip patterns. For example, if the respondent says that he/she never attended school, then there is no need to continue with further questions relating to their formal education.

Try to keep the length of the questionnaire to no longer than one hour. Piloting a survey and testing the survey questionnaire in the field can give some indication of the duration of a survey, though this can be expected to drop significantly with training and practice. If the survey takes more than one hour

consider the possibility for a break half-way through. Make sure that the questionnaire is easy to read and complete – for example, with clearly defined sections and subsections and neatly formatted boxes or spaces for the enumerator to fill in.

In addition, two things that those conducting the survey must always have:

- A code that unequivocally identifies each individual or household in the survey. It is also often useful to record the address, mobile phone number and any other information that will help you to find them again if necessary over the next two or three years.
- A printed consent form that has to be read and signed by the respondent before starting the interview. The consent form should include the following information:
  - What is the study about?
  - Who is conducting it?
  - Why is the study important?
  - What will be done with the study results?
  - Why is the study pertinent to me (the respondent)?
  - Why was I selected?
  - Promise of confidentiality
  - A contact person if the respondent has questions

If some respondents are likely to be illiterate then a process will also have to be put in place to obtain verbal consent where this is appropriate.

Translation

The interview should always be conducted in the most convenient language for the respondent. This means that if the questionnaire is prepared and written in a language different from one that respondents are comfortable using, it should be translated into one that is (such as their vernacular language). Translating a questionnaire in advance is much better than relying upon an enumerator to translate it on the spot. This will reduce the bias that different translations can introduce, increase the quality of the answers and speed up the interview process, thereby reducing the time and costs of the survey.

Piloting the questionnaire

Once the questionnaire has been prepared and, if necessary, translated, it should be put through a field or pilot test with a small number of respondents who are not in the survey sample but part of the population of interest. This is to ensure that the questions are understandable, that they are structured in a suitable way, that the length of the survey is appropriate and that respondents will indeed respond. If the respondents seem to struggle or ask for clarification, this probably means that re-wording or re-translation of questions is required. This is also a good time to train a core group of enumerators and to identify any issues that require attention.

Once piloted, the questionnaire can be modified before it is administered to the full survey sample. Addressing problems and mistakes at this stage is not only much easier and cheaper than later in the process, but can also make the difference between a successful or unsuccessful exercise.

Finally, did you include all the questions you need? The additional cost to add one or two extra

questions at this stage is close to zero. Check back with your colleagues and partners and ask if there are any extra questions that should be included in the questionnaire. This will ensure that all of the areas you want to explore are covered. At the same time be mindful to include questions that you know you will want to use and analyse.

3. Data collection

Once the sampling and the questionnaire are finalized, it is time to begin the data collection phase. This includes the selection of enumerators for the full survey, their training and the fieldwork itself:

- **Setting up the team of enumerators:** Undertaking large-scale surveys using face-to-face interviews means hiring a team of enumerators. The number of enumerators required will depend on the scope of the survey and the geographical area it covers. The basic requirement is for each enumerator to be able to speak the language in which the interview is to be conducted. Enumerators can often be hired from among university students originally from neighbouring areas. Another possibility to consider is hiring a local survey company. This can be a way of obtaining experienced enumerators, and may also reduce worries about logistical and payment issues.
- **Training:** Careful consideration should be given to training. Enumerators need to be trained in standardized methods for delivering the questions in a uniform way. With training and practice the duration of the survey is likely to drop significantly.
- **Fieldwork:** Once training is completed, the enumerators can be sent to the field to implement the survey. They are often divided into teams of three to five people, each of which is assigned its own supervisor. Supervisors are usually chosen from among the most experienced members of the team and are responsible for the quality of the data collected. They are also in charge of reviewing the questionnaires produced during the day, ensuring data consistency.
- **Research permission:** The person in charge of the enumerators should visit local authorities to ask permission and make sure that they are aware of the survey taking place. If possible, it is advisable to obtain a written letter of authorization and equip each enumerator with a copy of this.

4. Data analysis

- **Data entry:** Unless data was collected using electronic devices, the data recorded on paper questionnaires has to be transformed into an electronic format. (For further discussions of the pros and cons of conducting surveys with electronic devices see 'Going Digital: Using digital technology to conduct Oxfam's Effectiveness Reviews'. Usually some of the enumerators can be kept on to conduct the data entry; otherwise, capacity must be found for this elsewhere. The data entry process can be undertaken using any one of a range of software packages. CSPro, for example, is a widely used public domain package for entering, editing, tabulating and disseminating census and survey data. Given the repetitive and error-prone nature of this task, it has become common practice to enter all questionnaire data twice, in order to reduce the probability of mistakes appearing in the final results.
- **Data analysis:** Simple statistical techniques – such as calculating the average, the variance, and the minimum and maximum for variables in various categories of respondent – can be used to obtain useful summary analysis. Depending on the sample sizes, correlations and simple regression models can also be implemented, though caution is generally required in identifying causality among variables.
- **Securing the data:** Data collected are a highly valuable and useful source of information. It is important to store them in a safe and reliable place. Saving the final datasets with the accompanying documentation (including questionnaires and field description) in password protected electronic repositories or using disk encryption is highly recommended.

ADDITIONAL RESOURCES

This is no more than an overview of the principal steps involved in planning survey research. Further details can be found in the extensive literature on this subject, including the following resources:

Blair, J.E., Czaja, R.F. and Blair, E. A. (2013) *Designing Surveys: A Guide to Decisions and Procedures* (3rd edition). London: Sage Publications, Inc.

Fowler, F.J. (2013) *Survey Research Methods* (5th edition). London: Sage Publications, Inc.

Grosh, M. and Glewwe, P. (2000) *Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Standards Measurement Study* (3 volumes). The World Bank, http://go.worldbank.org/ZAWINK6M10 (last accessed September 2015).

Lombardini, S. (forthcoming) 'Understanding survey sampling'. Oxfam Research Guideline. Oxfam GB.

Tomkys, E. and Lombardini, S. (2015) 'Going Digital: Using digital technology to conduct Oxfam's Effectiveness Reviews'. Oxfam GB.

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