

Measuring Livelihoods and Environmental Dependence

Methods for Research and Fieldwork

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Chapter 6

The Division of Labour Between Village, Household and Other Surveys

Pamela Jagger and Arild Angelsen

Not everything that can be counted counts, and not everything that counts can be counted.

William Bruce Cameron (1963, *Informal Sociology: A Casual Introduction to Sociological Thinking*, Random House, New York)

Introduction

After formulating interesting, clear and answerable research questions with associated testable hypotheses, the next task is to select the best methods for data collection. Data collection aims to obtain the most accurate and precise measures of variables of interest (see Chapter 11). The challenge is to maximize data *validity* and *reliability* (see Box 3.2 for definitions) given the constraints of research budgets, researcher and respondent time, and the willingness and capacity of respondents to answer the types of questions included.

Researchers have a diverse set of methods to choose from. In this chapter we cover approaches to collecting village and household-level data, using rigorous qualitative and quantitative methods. The two major points of this chapter are: (a) think carefully through the nature and use of data, and (b) choose the scale and format for data collection based on that. As part of this, consideration should be given to when a quantitative indicator is needed to explore the research question. Some questions and data collection efforts lend themselves to more qualitative approaches.

Before reviewing the main survey approaches, a reminder of the main uses of survey data is in order. There are three types of information a field researcher should collect:

1. Data for the quantitative (statistical) analysis: The title of this book – *Measuring Livelihoods and Environmental Dependence* – points to a focus on the

quantitative analysis. Specifying the exact data that are needed to answer the research question and test the hypotheses is a critical element of fieldwork preparation. The data needs have – hopefully – been identified as part of the research proposal and matrix (Chapter 3), but this is a continuous task until data collection starts.

2. Background (contextual) information: Background information will not have the same requirements for representativeness, exact definitions and specification as the quantitative data. Still, it is essential to provide background for in-depth study, partly to enable the interpretation of statistical analyses (see Chapter 5).

3. Information to situate the study area in a broader context: Data on larger scale structural variables help to situate the analysis in the broader context of the sub-national or national landscape, and inform about the generalizability of the study. A research finding that claims to be representative of 15 million people is much more interesting than one representative of only the 1500 in the study villages. Ideally, one should be able to say how representative the study areas and sample population are of the sub-national (for large and diverse countries such as Brazil or Indonesia) or national context. Typical variables useful for addressing the issues of generalizability of findings are: agroecological zone, market access, income levels, major economic activities, population density and dominant ethnic or linguistic group. For example, the research may take place in an area that is biophysically similar to 20 per cent of the land area in the country or socioculturally similar to 30 per cent of the population in the sub-national region where the study area is located. This provides the consumers of the research with important information regarding how applicable the findings are to the wider context.

Based on these different uses of data and other considerations, we shall outline four main categories of data to be collected during field research. We then elaborate on data collection at the village (community) level, followed by a brief treatment of household level surveys (covered in later chapters). Then we suggest other relevant surveys of, for example, local institutions, depending on the focus of the research. Before we conclude by stressing the need for a nested approach to data collection.

Which survey approach to take?

The household survey is the staple of most fieldwork focused on how local people utilize, manage and are affected by policies and programmes related to natural resources. There is a strong tendency to collect as much information about household demographics, socio-economic characteristics and economic

decision-making as possible (in other words, income, consumption, expenditure, time use, and so on). Our experience suggests that the household survey easily becomes overloaded. Almost invariably, the pretesting experience reveals that the questionnaire is too long! One reason is that the data needs are not well defined, thus ‘to be on the safe side’ too many questions are included. By focusing the research questions and carefully thinking through hypotheses and possible statistical model specifications, questionnaires can be limited to include only essential data.

Another reason why household questionnaires are frequently too long is that they include information that can be more accurately and efficiently collected through other survey approaches. To determine the best methods for collecting data, the researcher should ask two key questions about every variable (or question) considered for inclusion in a survey instrument:

1. Is this variable likely to *vary* within the village/community? If *yes*, the information should be collected at the household level, if *no*, it can be collected at the village level (or higher scales).
2. Can one get *reliable quantitative figures* for this variable, and does one *need* to get representative quantitative figures for this variable to answer the research question or test hypotheses? If the answer to both parts of this question is *yes*, put the survey question in the *household* survey. If *no*, go for key informant or focus group/village discussions.

The answers to these questions enable categorization of the information needed into one of four cases (Table 6.1).

Going through this process to identify at what scale data should be collected (Q1), and whether representative quantitative data are needed (Q2) is essential to collecting the most accurate and precise data you can, and in an efficient manner.

Variation in data is a central concept in research and data analysis. Without variation in the variable of interest, there may not be an interesting story to tell and certainly very limited scope for statistical analysis. The level at which the

Table 6.1 *Matrix for deciding scale and methods for data collection*

		Q1: Does the variable vary within village?	
		Yes	No
Q2: Are representative quantitative figures feasible and needed?	Yes	Structured household survey	Structured village survey
	No	Key informants, focus groups (subset of villagers)	Village meeting

variation in the variable of interest occurs both limits the range of possible analyses and also has implications for data collection methods. In general, collect the information at the level at which the variation occurs! If all the households in a village use the same forest area, the information about that forest should be collected at the village level. There are in-between cases; market access, for example, is influenced by both the location of the village and the location of the household within the village, and may therefore be collected at both levels.

The second question of qualitative versus quantitative information is only partly related to the nature of the variable. Most variables can be measured, with varying degrees of effort and accuracy. It is easier to get a quantitative answer to the question ‘how old are you?’ than ‘how happy are you?’, but much research has gone into measuring happiness (for example the World Database on Happiness). Likewise, it is easier to measure physical capital than social capital of households, but many indicators have been developed for the latter (Pretty and Ward, 2001; Katz, 2000; Gibson et al, 2005).

Thus, equally important as the nature of the variable is the need of the research project and how the information will be used. Is it to be used as background information or in statistical analysis? Using the table will typically result in a nested approach. Different variables of the same topic area are included in different surveys. For example, if land rights and tenure are important in the research project, information regarding the history of tenure in the community can be collected through key informant interviews, major problems and land conflicts can be on the agenda in a village meeting, while the household questionnaire may contain questions about the household’s land-ownership and involvement in land conflicts, for example, to test a hypothesis regarding the poor being more vulnerable to land conflicts.

In our experience, the main benefit of this approach is that it results in a well-specified and parsimonious household-level questionnaire. It almost invariably results in a shorter questionnaire, leading to better quality data, reducing fieldwork costs, and minimizing the burden on the respondents. Conversely, the danger of this approach is that too much information will be integrated into village-level survey instruments. It is essential to consider how the data collected will be used and analysed; this rule applies to questions asked at both the village and household scales, and for both qualitative and quantitative data.

Collecting village data

This section and the one that follows will provide a brief overview of the main survey instruments outlined in Table 6.1. To avoid overlaps with Chapter 5

regarding contextual information and the chapters that follow on household surveys, the coverage is somewhat uneven, with a stronger emphasis on village surveys as these are not covered elsewhere.

What data to collect

Careful thought should go into designing village-level surveys. As we indicated above, village surveys frequently become too long as they serve as a catch-all for questions that did not make it into the household survey. Long village surveys are difficult to administer in the field as they require participants to devote too much of their time. Thus, the critical question is again: how are the data to be used – as general background and contextual information or for statistical analysis?

The structured village questionnaire

Village questionnaires can have both qualitative and quantitative components. Data to be used in the core statistical analysis need to be collected as quantitative information; to collect these data across a diversity of villages a structured village questionnaire should be developed.¹ Suggested data include:

- Geography (global positioning system (GPS) location of village, average rainfall, trends in rainfall, altitude, slope).
- Demography (population, in-migration and out-migration, ethnicity).
- Infrastructure (water and electricity sources; presence of education and health facilities).
- Land uses.
- Forest resources (distance to nearest forest; biophysical condition; most important products harvested).
- Forest institutions (property rights; forest user groups).
- Shocks and crises that put households at risk (for example, drought, fire, war).
- Wages and prices.

These data can be used in several ways. They can be used to group villages into clusters, for example, four clusters based on location (remote–central) and local forest management institutions (weak–strong). If the number of villages is large, data can be used in a regression analysis of households' forest use, including variables such as distance to forest, number of forest user groups, and so on, rather than more general village dummy variables (that are often hard to interpret).

Background and contextual information

There are various types of information that may not be included in the statistical analysis but still contribute significantly to the analysis. Such data can provide

important background and contextual information, help to reformulate and make more explicit hypotheses, help to construct or impute data, assist in interpreting statistical results, rule out alternative explanations for your findings and situate the study in the sub-national or national context.

The following are examples of data to collect:

- History of village.
- Main livelihood activities.
- Seasonal calendars for agriculture and forest products.
- Seasonal and/or historical price data for major agriculture and forest commodities.
- Dates and effects of current and past major political, economic, biophysical, weather, in-migration and out-migration events.
- The quality of public services, including roads, schools, health centres, water sources, and so on.
- Information regarding important social and cultural aspects of society (for example, marital norms or gender roles).
- Narratives of major drivers of land use and environmental change.

We recommend that researchers take a systematic approach to collecting background information if there is more than one village included in the study. Having a complete set of information for each village in the study area allows for more rigorous analysis and explanation of observed phenomena. Researchers should collect and approach the analysis of qualitative data with the same rigour as they would approach quantitative data. This may involve coding qualitative data, undertaking content analysis and creating typologies that situate villages according to important information.

How to collect village-level data

There are a variety of ways to collect village-level data, and filling out a village questionnaire typically involves several methods of data collection. Whenever possible, the researchers should rely on their own observation/measurement and reliable secondary data sources, rather than burdening focus groups, key informants or village meetings with unnecessary questions. Time spent with village members should be spent capturing data that is not available from other sources. There are six possible sources of information for village-level variables: data collected using own observation or measurement; secondary sources; village officials; key informants; village meetings or focus groups; and village census.

Own observation and measurement

Some data can be captured by own observation or by taking measurements using a vehicle odometer or GPS. Quite a lot can be observed about a village simply by spending time there. Data on the presence of most physical infrastructure – including schools, health centres, boreholes, and so on – can be collected by observation, negating the need to include questions about infrastructure in a village-level meeting. Measurements such as distance to the nearest all season road, nearest forest, area of village, altitude, and so on, can be measured and recorded on the village questionnaire by the researcher.

Secondary data

Information about the village or region might be provided through national or regional statistical yearbooks, census reports, statistical bureaus or large-scale surveys undertaken in collaboration with bilateral or multilateral institutions (for example, the Living Standards Measurements Survey at the World Bank, see Box 7.4). Reliable records should be used whenever possible to capture basic demographic and public service data. Care should be taken to document secondary data and reference it accordingly. Time lags between the collection of data and the processing and reporting of data in developing countries means that data might be several years out of date. Researchers should be cautious about the reliability and relevance of data depending on the source, when the data were collected and whether data are disaggregated to a level where they are indicative of conditions in study villages. Many villages also have good records of population and in- and out-migration from the village, access to public services, land categories, and so on.

Several types of data that are not available at the village level might be available at higher administrative levels or at the landscape level. For example, rainfall may be an important variable for explaining variation between study villages. Rainfall data is generally collected and recorded by national or sub-national government authorities, or possibly NGOs, and often documented and easily available in some centralized location, for example at the Ministry of Environment. If not, visit rainfall data collection points (for example, weather stations, airports and airstrips, local colleges or district headquarters) and compile data. Other types of data may be available at higher levels of administration than the village including local government spending on forestry and agricultural extension, vaccination rates and educational attainment.

Village officials

Village officials can be an excellent source of factual information. When reliable written records are not available, village officials may have some of the factual information needed. For example, village leaders who hold the right to allocate

land should be able to state very accurately the number of in-migrant households over a given time period. Similarly, village officials may also have time series data for the population in the village, which can be very useful to complement an oral history.

It may be more efficient to ask village leaders these types of questions rather than to put them to a larger group where time typically is needed for aggregating the collective knowledge. However, we caution against relying only on village leaders for answering questions involving subjective assessment. Their responses may be a biased or 'polished' view of the state of affairs. For example, asking a village leader about land conflicts in the village may yield an incomplete response. The leader may not want to discuss problem issues in the village, or may himself be involved in a land conflict.

Key informants

Key informants are residents of the village that have a high level of awareness regarding social, economic, demographic and cultural trends. They are frequently politically active and engaged in governance either formally or informally. They may have lived in the village longer and held key positions. They are typically more curious about village affairs, and so on. Key informant interviews are generally more informal than focus group meetings, but one should still have an interview guide, that is, a set of questions to be discussed. Key informants may be among the respondents in a household survey. It is important to always keep a list of interesting questions, not suitable for the formal questionnaire, and ask households that seem particularly well-informed.

When interviewing key informants, it is important to beware of biases: a seemingly very well-informed key informant might have a biased view for some reason. For example, he or she represents one group in the village or they may want to hide certain information to portray their village positively. As a general rule, triangulate information from key informants, ask many people the same questions and eventually the answers will converge towards a more complete picture. Key informants can also be important sources of sensitive information, but this requires a more relaxed atmosphere (no pen and paper or microphone, but write down the information as quickly as possible after the conversation has ended).

Valuable data can be collected by sitting with community members and having informal discussions. These types of interactions are generally unscripted, providing an opportunity for community members to talk about things that might be outside of the scope of the core research instruments. Consider asking questions after a game of chess or during the village market day. Spend time with respondents on informal terms and discuss controversial or sensitive issues (for example, if illegal timber is being harvested in the forest).

While informal discussions take place without questionnaires in hand, take detailed notes during the discussion. At a minimum, collect details on the name of the person interviewed, the date and where/how they can be contacted for follow-up questions. There is a good chance that these types of interactions will lead to notebooks full of interesting information that will never make it into the final research outputs. However, informal interviews can reveal important details that help with focusing on key variables or motivating new lines of inquiry.

Village meetings and focus groups

It is strongly recommended to have at least one focus group or village meeting to gather important qualitative information. Such meetings are essential for collecting data that involves some degree of subjectivity. A village or focus group meeting can be organized in different ways. Depending on the size, one alternative may be to invite all village members. Another option is to call a smaller group, say eight to ten people. In many countries, it is not just expected but mandatory to go through the village leadership when organizing such meetings. Not doing so can be seen as both impolite and possibly also a direct violation of the rules and regulations and can seriously obstruct the research. But one should also be aware that a village leader may select an unrepresentative group, thus one should ask the village head to invite a diverse group (men and women, young and old, rich and poor, immigrants and long time residents, and so on). During the village/focus group meeting have a list of questions ready and ask respondents in a systematic way. Follow up on interesting leads, but do not get sidetracked. If research is conducted across several villages, a semi-structured or structured village questionnaire should be developed to collect information in a systematic and comprehensive manner. In general, village meetings or focus groups should not last for more than two hours. Participants may spend a lot of time waiting for the group to assemble prior to the formal start of the discussion. Always respect the time constraints of respondents.

If contradicting views and information occur during the meetings, try to reach a consensus answer. More generally, it is critical to double-check information given by individuals. Thus, ask the same question to many individuals. This is particularly important for information that potentially could be sensitive, controversial or particularly important for answering the key research questions.

The lead researchers should be present during village meetings and be responsible for filling in the village questionnaires – this task cannot be delegated. This is unlike the household questionnaire where, after an initial training period, enumerators can do much of the data collection. The reason is that the information in the village questionnaires requires a more critical

assessment and judgement. Fill in as much as possible while conducting the survey and have an enumerator also taking notes and collecting important information that comes out of side discussions related to the questions. Having two people recording information will help with capturing as much of the rich discussion as possible. Compensate village/focus group members for their time by providing a small snack and/or drink during the meeting.

Village census

A village census can be used to collect accurate demographic information for the village questionnaire and can be a useful instrument for two main reasons. It can provide important data on basic demographic variables (number of household members, age/sex/education of household head, caste/ethnicity, in-migration) key livelihoods activities (for example, main occupation) and other areas of interest. But, as the census is to cover all the households in the village, it has to be very brief, often limited to ten key questions that can easily be answered.

The other main reason for undertaking a village census is to serve as your sampling frame for selection of households to be interviewed with the household questionnaire. The complete list of households can be used to randomly draw the chosen number of households. But, a census would be even more useful in stratification if that procedure is chosen (Chapter 4). For example, if the research focuses on a particular forest product, which is collected by only a minority of the households, the census can identify those households. The sampling procedure might then be to select equally sized samples of collectors and non-collectors, and use the census result in a weighted aggregation to generate representative village data.

Undertaking village census can be time-consuming, particularly in villages with large populations (more than 500 households) and covering large geographical areas. Thus, a cost–benefit analysis is needed. If the purpose is just to get a list for the random sampling for the household survey, other methods are likely to be more efficient (see Chapter 4).

Household surveys: Structured formal quantitative questionnaires

Household surveys in the fields of agricultural, resource, environmental and development economics are generally focused on the collection of quantitative data that can be used in statistical models specified to explain household level behaviour. Questionnaire design should be focused on capturing all of the data required for the behaviour model specified. The possibility of obtaining accurate

quantitative responses, and variation across households in responses to specific questions, are the critical elements in designing household questionnaires. Household surveys should only include questions that elicit data expected to vary from household to household. 'Has your household been negatively affected by a recent drought?' is not a good question for a household survey. Droughts generally manifest as a covariate shock, meaning that all households in the drought-affected region are similarly impacted. However, asking households about coping mechanisms related to the recent drought is a good question for a household survey.

A broad discussion of household questionnaire design is given in the next chapter. One issue concerns the frequency of surveys, linked to the accuracy and precision of household responses to questions. Frequently, researchers seek to explain economic behaviour within the household for a period of a year. Annual data are important as they reflect seasonal variation, and are comparable with other standard statistics produced at the sub-national and national level. Most household-level socio-economic surveys are administered one time only, meaning that the researcher has to come up with creative ways to elicit accurate information from household respondents. This can be a serious challenge as it is very difficult for most of us to recount our full income, consumption, expenditures or time-use portfolios for the past week, much less the past year. We have a limited cognitive ability to recall, with any degree of accuracy, over a long period of time. Particularly challenging to recall and aggregate are regular transactions or events; irregular economic activity, such as expenditures for a wedding, are easier to recall with accuracy. Researchers have developed a variety of ways to deal with the recall issue including: administering questionnaires multiple times to capture seasonal variation or to parse the year into smaller units of recall and aggregation (for example, the Poverty Environment Network (PEN); Campbell et al, 2002; Nielsen and Reenberg, 2010); providing variable recall periods depending on the type of product or activity to be quantified (Cavendish, 2002), for example, more regularized activities should have shorter recall periods; or using participatory methods rather than more formal accounting methods to motivate households to think about the relative rank and weight of various livelihood strategies (Box 6.1).

Other livelihood related surveys

Beyond village and household questionnaires, there are other types of data to consider collecting to supplement, complement or triangulate the rich data collected using the core village and household research instruments. For example, other types of data include: additional data that provide finer detail or

Box 6.1 *Participatory techniques versus detailed accounting approaches:
Do the methods matter?*

Pamela Jagger, Marty Luckert, Abwoli Banana and Joseph Bahati

Virtually every researcher engaged in social science fieldwork has faced decisions regarding using aggregated or disaggregated approaches to collect information. These decisions are made largely based on individual experiences and disciplinary training. We conducted an experiment in Uganda to test whether different methods of data collection yield significantly different results. We collected information on rural income portfolios for two sub-samples of the same population of households in western Uganda using different survey instruments: a highly disaggregated income survey, and a participatory rural appraisal survey instrument that collected household-level information using a more aggregated approach. For example, in the disaggregated household survey, respondents were asked to itemize forest products harvested and to indicate the quantity and value of the products, as well as any financial costs incurred in their production. By combining these data with estimates of net income for other sectors of the livelihood portfolio, we were able to estimate the share of the total portfolio from forest products as well as for other important sources of income. Conversely, the aggregated approach involved asking households to rank and weigh ten categories of income by coming to consensus about appropriate rankings and weighting. Using this participatory method, we were also able to estimate income portfolio shares. We then compared the results of these two approaches to see whether and why they are different (Figure 6.1).

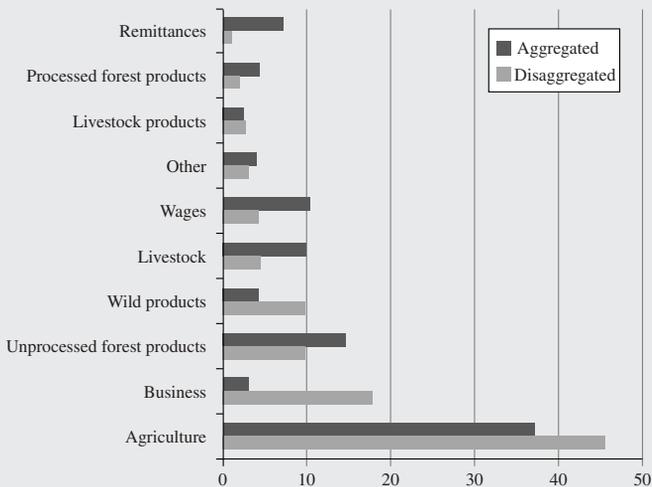


Figure 6.1 *Income portfolio shares*

The findings demonstrate that different data collection approaches yield significantly different results. The disaggregated data indicate that agriculture, business and unprocessed forest products are the three most important sources of household income. Using the aggregated method, wage income replaces business income in the top three. When we look at the overall distribution of the shares for each method, we observe a smoother distribution of income among the various categories for the aggregated data collection. We have no way of knowing which of these methods is most accurate. The observed differences in the data collection methods motivate us to consider what factors household respondents consider when responding to survey questions. The aggregated approach requires respondents to think holistically about the relative importance of the various income sources, including factoring in the activities of all household members over the calendar year. The disaggregated approach requires household respondents to reconstruct all income-related activity for all household members during a shorter time period.

fill in missing values in village and household surveys (for example, price and wage surveys); informal discussions that add contextual details and new background information; focused surveys on specific topics that require different sampling strategies and questionnaires (for example, value chain surveys); and data that need to be collected at a wider scale than the village or are more appropriately linked to biophysical boundaries rather than the political boundaries of villages (for example, local forest or water user groups).

Price and wage surveys

Additional surveys can be undertaken to systematically collect data that may be important for imputing values that are missing from the data set. For example, households that collect but do not sell fuel wood may find it difficult to indicate a value for a head load of fuel wood. If fuel wood is sold by other households in the village or by traders that come to the village, it should be possible to obtain a village-level price for fuel wood. This value can be used to calculate the economic value of fuel wood to households that were unable to provide price information (see also Chapter 8).

Daily wage rates for adult male, adult female and child labour, and village-level price data for agriculture, livestock, forestry and other environmental products can be collected using village-level focus groups. Focus groups should be comprised of representative groups from the village, including men and women of varying ages, socio-economic status and ethnic groups. Village trading centres

or markets are good places to find a group of people to interview. It is a good idea to have a very short questionnaire that allows systematic entry of these data. When collecting price data, care should be taken to make sure that consistent units and conversion factors for products that are sold in a variety of different units are used.

Also take note of seasonal change in wages and prices. Researchers should collect wage and price data for at least two seasons, the busy and slack agricultural periods of the agricultural calendar. If the field research lasts for a prolonged period of time, interesting seasonal price fluctuations can also be revealed by regular (for example, weekly) collection of market prices for key commodities.

Value chain surveys

Researchers interested in forest and environmental resources may undertake value or commodity chain studies for forest products that are important to rural livelihoods (for a review of methods see Kaplinsky and Morris, 2001; Ribot, 2005). Depending on the focus of the study, it may be decided to collect detailed data on value chains for specific products. Generally those that are highest in value, have reasonably robust markets and contribute the most to forest-based livelihoods are of interest. Various aspects of value chains can be studied using value chain surveys, including: profits and marketing margins across a diversity of value chain participants; producer groups and associations functioning in the area where the study is taking place; rules, regulations, taxes and fees pertaining to the production, trade, transport and retailing of products; the availability and volume of credit to value chain participants, and so on. As with household and village-level data, these types of data should be collected using rigorous methods including identifying a representative sample or surveying the relevant population, and by developing research instruments with well thought-out questions accompanied by appropriate recording and coding structures. Examples of studies focused on sub-national value chains include: Ribot (1998, charcoal), Gellert (2003, timber), Shively et al (2010, charcoal).

Local institutions and groups

The study of local institutions and their relationship to forest management and livelihood outcomes has shed light on the importance of studying collective action for sustainable forest management and resource use (Varughese and Ostrom, 2001; Adhikari, 2005; Agrawal and Chhatre, 2005; Jumbe and Angelsen, 2006, 2007). Participation in local organizations such as forest user groups, microlending groups, and so on, can be important determinants of household-level dependence on forest and environmental resources. Household surveys should include data on household participation

in such groups. In study areas where groups play a significant role in shaping resource use, a separate questionnaire focused on local institutions and groups can be implemented. The International Forestry Resources and Institutions (IFRI) research programme has been collecting data on forest governance and institutions for more than 15 years (Ostrom and Wertime, 2000).² Their resources provide an excellent starting point for developing questionnaires focused on local institutions, collective action and forests. Such additional surveys may require a different sampling procedure than the one used for village and household-level data collection. For example, an independent survey on forest user groups might involve all members that use products from a specific forest landscape.

Sub-populations

Understanding how various sub-populations utilize environmental resources is frequently of interest. This requires data that allows for disaggregating a sample of households by sub-population. Households can be split into sub-populations representing different groups, including: female-headed households; migrant households; ethnic minority households; relatively poor households, and so on. Calculating basic descriptive statistics and/or running regressions using split samples provides interesting insights into how various groups are differentially affected by changes in natural resource management policies, property rights, land tenure etc. See Jagger (2008) for an example of a split sample multivariate analysis examining the impact of Uganda's forest sector reform on the relatively wealthy and relatively poor households.

Data can also be collected at the individual level. Intra-household surveys are the best way to learn how women, men, youth, elderly and sick members of households utilize resources or are differentially affected by policies or projects (Haddad et al, 1997; Maggs and Hoddinott, 1997; Sapkota and Odén, 2008; de Sherbinin et al, 2008). Intra-household surveys involve interviewing several household members to ascertain differences that exist across gender and age cohorts. As with our advice on variation above, intra-household data should only be collected for variables likely to vary among household members.

Conclusions – a nested approach

The research strategy is central to the development of household and village-level questionnaires, and the field researcher needs to keep in mind the overall research questions and the testing of alternative hypotheses. The research process, including choice of survey instruments, is influenced by that. The key

message of this chapter is to adopt a nested approach, where the information needed is collected at the appropriate scale (in other words, the level where the variation in the variable occurs) and, depending on the later use of that information, is collected using qualitative or quantitative data collection methods. This can be achieved by asking two very simple questions, as outlined in Table 6.1. It has large benefits in terms of more concise and cost-efficient research instruments. Yet, there is always a risk of overloading the questionnaires; in particular the structured village questionnaire might become a dumping site for questions that did not make it into the household questionnaire.

We realize that our categorical view of qualitative versus quantitative data is rather black and white. Empirical field research on social processes almost always has more nuance to it; researchers need to be flexible in their approach. In addition, the need for triangulation using different types of survey questions to elicit the same information suggests the use of both qualitative and quantitative data to ensure robust analysis and research findings. Developing additional questionnaires on prices, wages, value chains, local institutions and sub-populations can facilitate triangulation.

Key messages

- Variation is essential for a robust analysis: think about at what *scale* you expect to see variation in your data (for example, household, village, sub-national or landscape levels).
- Think carefully about whether you need qualitative or quantitative data to answer your research question.
- Use a variety of methods at multiple scales to triangulate data for the most important variables.

Notes

- 1 The Poverty Environment Network (PEN) village questionnaire illustrates the type of information that can be collected (see www.cifor.cgiar.org/pen/_ref/tools/prototype.htm for a prototype questionnaire).
- 2 See <http://sitemaker.umich.edu/ifri/resources> for an overview and links to research methodology, instructions and research instruments from the IFRI research programme.

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