Forests and Livelihoods: Assessment, Research, and Engagement (FLARE) Network

Livelihood and Well-being Survey Tool

User Manual for Organizations

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Preface

Dear User,

Welcome to the LivWell Survey User's Guide for Organizations. We, the Forest and Livelihoods: Assessment, Research, and Evaluation (FLARE) research group, are excited to have you join our unique community, dedicated to the efficient and accurate collection of livelihood and well-being data.

The LivWell ("livelihood and well-being") Tool was developed to assist researchers, government officials, and professionals in the efficient collection of widely comparable livelihood and well-being data. There are many surveys that aim to collect data on the livelihood and well-being of communities, but we designed the LivWell Survey to collect data as efficiently as possible, with straightforward directions for users to follow. The LivWell Tool will help you to collect data on changes in livelihood and well-being, and to compare this data with other information from your project site and around the world.

Using the LivWell Tool revolves around the LivWell Survey, the manuals, and the visualization and analysis platform. As a project leader or research coordinator, you should become familiar with all of the aforementioned instruments. The survey instrument, referred to as the "LivWell Survey Tool," functions on smartphones or tablets. For project leaders and research coordinators, "The LivWell Survey Tool User Manual for Organizations" introduces the LivWell Tool and provides a guide for planning survey dissemination and enumerator training. "The LivWell Tool User Manual for Enumerators" assists those conducting the survey in the field to understand their responsibilities and collect accurate livelihood and well-being data.

All components of the LivWell tool are available at **http://www.forestlivelihoods.org/resources/livwell/**.

Once you have planned your research effort, disseminated the LivWell Survey, and collected your data, you can use the LivWell Visualization and Analysis Platform to explore your data and/or generate visualizations results. You will need to contact the LivWell team and request that your data be uploaded to the platform. You can access the Visualization and Analysis Platform at **[https://ifri-cmf.shinyapps.io/FLARE-LivWell/]**.

Should you have any questions, comments, or concerns, please reach out by contacting us at:

flare.network@umich.edu (For general FLARE inquiries)
livwell.help@gmail.com (For questions specific to the LivWell tool)

Sincerely,

The FLARE Team

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Introduction

About the LivWell Survey

The LivWell Tool is a set of instruments that help organizations and individuals generate data on household livelihood and well-being. This manual is intended to assist you, the project leader or field coordinator, with implementing the LivWell Survey in the field. We suggest that, at this moment, you review "Appendix B: Requested Study Design, Sampling, and Survey Context Information." You can complete this sheet as you read and work through this manual. These questions are mandatory to complete your survey data submission.

User Registration

A representative from each institution that hopes to use the LivWell app data should register via the FLARE registration page[1]. After registering, each representative will be provided with a project ID that will serve as a tracking ID for all data collected from their project. Each registrant will be given an option to share their data publicly or use it privately.

Please prepare the following information for registration:

Last Name of Principal Investigator:

First Name of Principal Investigator:

Phone Number of Principal Investigator:

E-mail Address of Principal Investigator:

Affiliation:

Title of your research:

Purpose of your research:

Country/Countries where this research will be conducted:

Target start date of data collection (MM/DD/YYYY):

Target end date of data collection (MM/DD/YYYY):

Do you want your dataset to be publicly available on FLARE's centralized database?

Does this research measure the impact of an activity or a project?

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[1] Linked to: http://www.forestlivelihoods.org/livwell-registration/

Study Design and Planning

Designing your study

Any researcher who is interested in assessing the livelihood and well-being of a specific community/households can use the LivWell Tool. Also, any location can be a site for collecting data with the survey and related tools. However, the nature of your study will determine how to use the app and how to select study sites. Although the following section will help you begin to think about how to set up your study design using the LivWell Tool, you should be prepared to consult the materials listed in "Appendix A: Further Reading" to plan the best study of livelihood and well-being that your budgetary and time limitations allow. As you read the following sections, we suggest you fill out information in "Appendix B: Requested Metadata: Study Design, Sampling, and Survey Context Information."

To begin, which of the following questions best summarizes your interests?

1. We want to measure the change in livelihood and well-being as a result of a project/intervention.

2. We want to measure change of livelihoods and well-being over time.

3. We want to measure livelihoods and well-being at one point in time.

If you have selected **"1. We want to measure the change in livelihood and well-being as a result of a project/intervention,"** then you are interested in measurement over time in the form of impact estimation (Figure 1). It is ideal to know which households have benefited, or will benefit, from your project/intervention before you begin data collection. Assuming you know which households have been affected by the project/intervention and which have not, you will be able to collect data on "treatment households" (those households that were affected by the project/intervention) and "non-treatment households" (control group, those not affected by the project/intervention). Generally, the more similar these households were before your project began, the better you will be able to estimate the impact of your project or intervention. However, in some cases the distribution of project/intervention benefits is unknown, and it is unclear which households are going to be affected by a project/intervention. In this case, it is best to collect data from a representative sample of the study area. The LivWell Survey contains
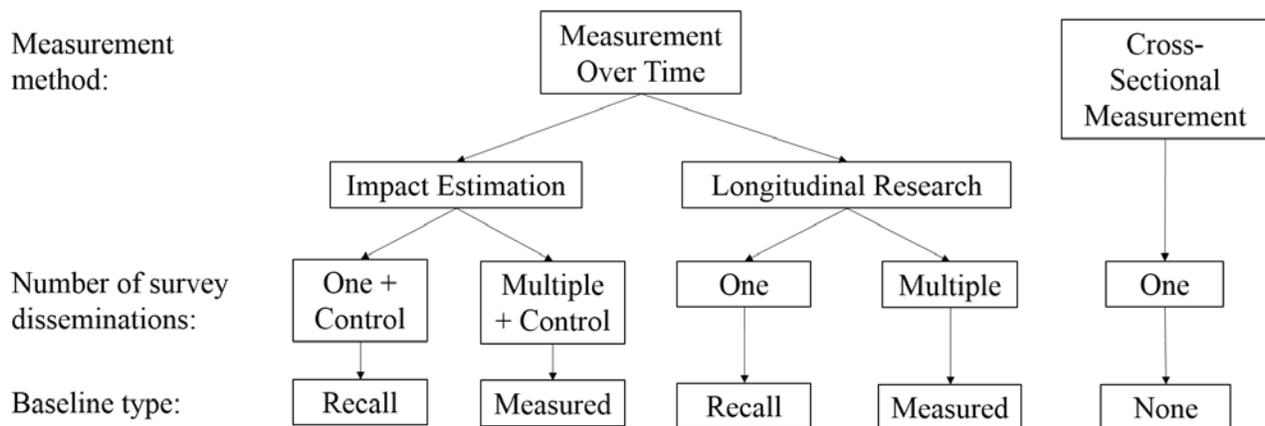
Figure 1: Research Designs

questions on intervention impacts and exposure, so collecting a representative sample of the study area should be able to identify and differentiate between treatment and non-treatment households.

The most rigorous method of estimating the impact of a project or intervention includes collecting a "measured" baseline or "before" data (Figure 1). A measured baseline means that you identify your sample and collect data on livelihoods and well-being before any project activities have begun. Then you return to these households (or another randomly drawn sample within the same "clusters" of households) to collect livelihood and well-being data again during your project and/or shortly after it has finished. This is the best way to measure the impact of a project/intervention, as it helps account for the initial livelihood and well-being condition of the households affected and not affected by the project/intervention, in addition to accounting for "time effects" that change livelihood and well-being similarly across all households. However, budgetary and time constraints may not allow for multiple data collection periods.

In the event that you wish to estimate the impact of a project, but you are unable to collect pre- and post-project/intervention data from your sample of households, using a "recall" baseline is possible. A recall baseline is when you ask respondents questions to respond to questions, based on their memory, about their livelihood and well-being from before the project/intervention began, as well as asking them about their livelihood and well-being after the project/intervention was implemented. Although this method is not as effective as collecting a measured baseline, it is a practical approach when collecting a "measured" baseline is not possible. Coupling this "recall" baseline with pre-existing datasets on livelihood and well-being can provide insight into how a project/intervention has affected a household or a given population. For more information on designing robust, efficient, and high-quality impact estimations, please see "Appendix A: Resources for Impact Estimation" at the end of this User's Manual.

If you have selected **"2. We want to measure change of livelihoods and well-being over time,"** then you are interested in a longitudinal research design (Figure 2). If your research is not concerned with the impact of a project/intervention, but it does focus on changes over time, you will identify your sample of households and, depending on budget and time-constraints, visit these households two or more times. For a longitudinal study, collecting data over time on the same units (be they households, small jurisdictional units, or another unit) is important to begin drawing conclusions about the effects of different variables over time. For instance, maybe you are interested in whether or not households are shifting fuel consumption away from organics (firewood, charcoal, etc.), and what household traits cause or are associated with this change. For questions like this, a longitudinal study works quite well. The most important difference between this study design and the "impact estimation" design is that you are not aiming to assess project/intervention impact, and thus do not need to concern yourself with sampling treatment and non-treatment households.

If you have selected **"3. We want to measure livelihoods and well-being at one point in time"** then you are interested in a cross-sectional study, which provides a set of statistics and indicators for a sample of households, but you are not interested in household change or making claims about what causes different changes in livelihood and well-being within your sample of households. This type of study design is useful for finding patterns of association. That is, what livelihood and well-being attributes tend to occur together in your sample of households. For example, perhaps increased livestock holdings are associated with a higher number of household members. Or, maybe land ownership is associated with increased income for your sample or study population. Though a cross-sectional study will not be able to address the causes of these associations, it identifies and quantifies these associations.

This introduction to study design has touched upon the different types of studies that the LivWell Tool can accommodate (impact estimation, longitudinal research, and cross-sectional research), in addition to providing some instruction on the number of data collection periods and the types of samples that are appropriate to the different study designs. When planning your study, please reference the materials in "Appendix A: Resources for Study Design." These resources will provide you with the appropriate depth and insight for continuing to think about your study design, selecting appropriate sampling units, and drawing a sample of households.

Sampling Basics

Why generate a sample?

Often, it is necessary to use samples for research, because it is impractical to study the entire population of interest. For example, many users of the LivWell Survey are interested in estimating the impact of a project intervention on household livelihood and well-being. One of the best methods for testing the impact of an intervention on household livelihood and well-being is to randomize the households that receive the intervention, pair them with one or multiple similar households that do not receive the intervention, and measure their livelihood and well-being before, during, and after the project. If you are able to do this, you are following a strong "experimental design." However, it is might be unfeasible to implement an experimental design, and it might be too expensive or take too long to survey every household within the population where the project intervention took place. Designing and collecting data from an appropriate sample makes it possible to draw inferences about the larger population and estimate the impact of a project intervention.

Trade-offs in sample design

Sampling error is the error that comes from making inferences for a whole population from observing only some of its members. Survey methodology and sampling theory study sampling error for different design options. Several sources explore the relationship between sampling error and survey design (see references in "Appendix A"). Two general concepts from sampling theory are important for understanding trade-offs in designing a sample.

First, the law of diminishing returns underlies the relationship between sample size and sampling error. Generally, with other things being equal, the sampling error is inversely proportional to the square root of the sample size. This means that, even with the best design, to reduce the error of a particular sample by half, the number of households visited must be quadrupled. This also means that, as sample sizes tend to get larger, the relative reduction in sampling error decreases. So, increasing a sample from 100 to 200 households decreases sampling error more than increasing a sample from 1,000 to 2,000 households.

Second, the sample size needed for a given level of precision is almost independent of the total population. For instance, a 500-household sample has similar sampling precision when extracted from a population of 10,000 or 1,000,000 households, or even from an infinite population. It seems odd to some people that sample size does not depend much on population size. By way of analogy, some statistics teachers note that, in order to test if a soup is spicy enough, a larger person does not necessarily need to take a larger taste than a smaller person. However, it remains important to remember that, as sample size increases, sampling error decreases, even if this relationship does not depend entirely on the population of interest.

What are the different strategies for generating a sample?

The sampling strategy you select for your research will depend on the prior information you have available in addition to the time and money you plan to spend on data collection. Although it is common to generate a sample of households using information on population totals within jurisdictions and lists of households within the jurisdictions, other methods are possible if population totals and household rosters are not available. For methods that explore alternative methods of sample selection, please see the resources in "Appendix A." The following, brief outline of sampling strategies assumes that population totals and household locations are available.

Simple random sample: A simple random sample refers to the random selection of households to survey from a complete list of all households within the study population. Researchers often draw random households by giving a number (1 through the population total) to each household and either generating a random number for each household to be selected or generating one random number and selecting households based on the sampling interval (number of households to sample/population). Although a simple random sample makes calculating subsequent survey statistics more straightforward, it is often prohibitively costly in terms of time and money.

Stratified sampling: To stratify a sample, a predetermined proportion or number of households from the sample are selected from specific "strata." It is common to stratify a multi-stage sample via jurisdiction. Proportional stratification by state or province means that the proportion of households from a particular state or province is the same for both the sample and the population of interest. Proportionate stratification reduces sampling error by more directly representing the study population. However, it requires the additional population information (for example, the number of households per state) to be calculated accurately.

Cluster sampling: Researchers use cluster sampling to reduce survey costs, at the expense of possibly increasing sampling error. To generate a cluster sample, a researcher randomly selects clusters (i.e. census blocks, villages, or other small-area jurisdictions) from all clusters represented in the study population, and then within the selected clusters, randomly selects a predetermined or proportionately representative number of households to survey (as with equal probability of selection sampling methods) or selects all units within the cluster.

Final Comments

The quality of any data collected with the LivWell Survey Tool depends on the sampling strategy used to collect it. The information presented here is not meant to be comprehensive. Rather, it serves as a brief outline for beginning to think about how best to sample households to collect the data that best suits your needs. Appendix B outlines the information about your sampling protocol that you will be asked to upload, once your data entry is complete. If you are not able to design a sample yourself, we strongly recommend contacting a statistician to assist you in your sampling needs. Additionally, sampling consulting services are available from the FLARE team [insert URL here]. Uploading this information will be able to validate the strength of your sample, and thus the ability for other researchers to reliably use your data.

LivWell Contents and Questions

After you have selected your study design and created your sampling procedure, it is important to become familiar with the LivWell survey. This section describes why the LivWell survey contains the questions it does, it outlines key terms within the survey, and it provides a brief overview of the questions that comprise the survey. For a more in-depth review of each question within the LivWell survey, please consult "The Livelihood and Well-Being (LivWell) User's Manual for Enumerators."

Question Selection

The questions within the LivWell App have been selected using a combination of deductive and inductive strategies to minimize the amount of time it takes to conduct the survey, while keeping questions that collect the most important information on livelihood and well-being. Deductively, the FLARE team determined a set of six categories that represent livelihood and well-being (Figure 2). Within these six categories we selected questions inductively, when possible, using pre-existing surveys to maximize the ability to compare data from the LivWell Tool with publically available data. Reviewing questions from the Demographic Health Survey (DHS), the Living Standards Measurement Surveys (LSMS), and the Multiple Indicator Cluster Surveys (MICS), we selected questions that best reflected our purposes for creating a survey that efficiently collects data on livelihood and well-being. We then checked certain questions for redundancy and aimed to improve efficiency by using Principal Component Analysis (PCA) to examine whether or not the questions we had selected represented an appropriately wide diversity of response data. Thus, the questions that comprise the LivWell Survey represent the most efficient and informative set of questions we could find on livelihood and well-being.

Figure 2: Livelihood and well-being categories and indicators

Health	1. Sanitation
	2. Illness/Injury
	3. Nutrition
	4. Mortality
Education	5. Educational acquisition
	6. Educational attendance
Assets	7. Productive assets
	8. Household assets
	9. Household materials
Income	10. Monetary income
	11. Non-monetary income
Consumption	12. Economic consumption
	13. Fuel consumption
Subjective Wellbeing	14. Overall satisfaction

Question Overview

The length of the LivWell Survey depends upon a number of factors, including whether or not the enumerator is collecting a recall baseline, as well as on how the respondent answers the questionnaire. At a minimum, the LivWell Survey contains 68 questions and at a maximum it contains 95 questions. These questions are organized into 14 sections, and each section represents a different focus of the survey. Table 1 provides information on these sections. Detailed information on each question within the LivWell Survey is contained in the "Livelihood and Well-Being (LivWell) App User's Manual for Enumerators."

Table 1: Question overview for the LivWell Survey Tool

Section	Minimum number of Questions	Maximum number of Questions
Survey Design	1	1
1: Survey Information	8	8
2: Geographic location information	3	3
3: Household member information	11	11
4: Income and Expenditure	4	8
5: Assets	7	12
6: Credit and Savings	3	6
7: Household shocks and impacts	3	3
8: Health and nutrition	11	11
9: Forest information	6	11
10: Household interactions with village and extra-village governance	1	1
11: Household construction materials	8	10
12: Subjective well-being	1	2
13: Project exposure	0	7
Total	67	94

LivWell Survey Tool Glossary

The following terms are used throughout the LivWell Survey Tool. Please be familiar with them and be able to define these terms for your respondents, should they need clarification. However, it is important to recognize that you will need to explain these key terms to your field coordinators and enumerators. Thus, "Appendix C: Key Survey Terms and Definitions" assists you in thinking about how these definitions and terms might be tailored to suit your survey needs.

Household: A household refers to a social unit comprised of members who either (1) normally live in the same house and eat together and/or (2) live within the same economic unit where all members are affected by economic status of the household. If you are uncertain how to define a household in the area where you will disseminate the LivWell Survey Tool, please seek clarification from your project leader or field coordinator. Although "household" may take on culturally different meanings, it is essential that a common understanding of "household" exists within each survey dissemination.

Household Head: The household head is the key person in making decisions within the household and the members of the household acknowledges his/her authority as the decision maker. Therefore, a household member who provides economic means to the household may not necessarily be the head of the household.

The "head of household" will vary, due to different family arrangements found across ethnic groups in the study area. By way of example, in Tanzania the family unit of the Maasai (*Olmarei*) may include a permanent homestead (*Enkang*) as a socially defined unit with several women's individual houses (aji); possibly linked with multiple satellite homesteads, possibly in urban or farming areas. In other tribes practicing polygamy, men may have several dispersed households including in neighboring villages, managed more or less individually by the individual wives. In yet other cases, a household may be female

headed. To accommodate this diversity of arrangements it is necessary to identify the household head (whether male or female) as the primary decision maker.

Household Member: Household members are the people (adults as well as children) who comprise the household. Please see the definition for "household" for more information.

When asking for quantitative responses, such as the number of household members below 15 years of age, you should emphasize that are interested in the total number of members within the entire household, even if there are multiple dwellings in which members of the household live. In areas where households are often comprised of members dispersed across different dwellings, you may need to first ask about all the dwellings that contain household members, and then ask about the total number of members.

Before Intervention: The period before an intervention or an exposure (i.e. project implementation or a natural disaster) is referred to as the "pre-intervention" period in this survey. Questions that ask about information form the "pre-intervention" period are denoted with an "X" in their question number. These questions are only relevant for studies that seek to generate a "recall baseline."

The project leader should determine the year the intervention started. This can have varying opinions, such as when the project was proposed to the community versus "breaking ground" on the project, and should not be treated trivially. Interviews with village leaders and project managers of the intervention (if possible) can help determine when material changes began. Material changes refer to the actual implementation of a project, such as providing a cash or in-kind payment to a village or group of households or recognition across a community through education of a policy change.

It may be challenging for interviewees to accurately recall a given year and their circumstances in that time period. To help interviewees recall this time, consider identifying the pre-intervention period using significant events in the identified year, such as key political events or natural disasters.

Enumerator Selection and Training

Once you have selected your study design, formulated your sampling procedure, downloaded and familiarized yourself with the LivWell App and Survey, it will be important to select and provide a training for your enumerators. Making certain that your enumerators are familiar with the objectives and goals of the project, they are aware of their responsibilities, they are able to conduct unbiased and courteous interviews, and that they are familiar with the LivWell Survey is crucial to the success of your data collection. Below are a few items we recommend you consider including in your training program.

Selecting enumerators

To collect the most reliable and consistent data using the LivWell Survey Tool, it is essential to carefully select high quality enumerators. We suggest selecting enumerators based on "competitive qualities." These competitive qualities are what would make one person most suitable to understand specific populations of respondents and dutifully record their answers using an electronic device. Some competitive qualities for your enumerators might include: literacy and numeracy, comfort using an electronic device such as a tablet or a mobile phone, fluency in the language or local dialect, familiarity with local culture and customs. Additionally, you may want to consider the balance of genders on your enumerator team, as well as how much experience a given applicant has in conducting surveys. Being thoughtful about enumerator selection and choosing a team of enumerators that best represents the competitive qualities in which you are interested will ultimately benefit your research efforts.

Introducing your research

Describe overarching goal of your research, the rationale for data collection, the data collection life-cycle (i.e. when and where data collection will occur for all samples and time periods), and emphasize the importance of unbiased, high-quality survey data for the success of your impact estimation, longitudinal or cross-sectional study. Ensuring that your enumerators understand the goals and direction of your project, and empowering them to think critically and engage with the survey data collection process, will improve engagement and response throughout the data collection process. Although engaging and empowering your enumerators must occur over the course of your data collection period, it begins with how you introduce your research and explain the importance of high-quality data collection.

Enumerator responsibilities and research tools

As in many research projects, the enumerator is of fundamental importance. It is critical that the interviewer collect the necessary data/information accurately, as the integrity of the research project depends on the way the interviewer fulfills his/her responsibilities. Below, we provide some suggestions for enumerator responsibilities:

i. The enumerator must follow instructions step-by-step to successfully accomplish their tasks.

ii. The enumerator should generate warm relationships with their respondents, in order to receive accurate responses.

iii.   The first-impression that the enumerator makes to the respondent, in terms of their manner of speech and dress, has great importance for the accuracy of the results, so do your best to look and act appropriately.

iv.   The enumerator should present himself or herself with confidence and as someone who knows what they are doing.

v.   The enumerator must mention and emphasize the confidentiality of this research. The interview should be conducted between the interviewer and the respondent only; no other persons who do not pertain to the household should be present during the interview, unless allowed by the head of the household and for an important reason.

vi.   The enumerator should provide contact information to every research participant (and anyone else who requests it). We suggest providing enumerators with small cards with pre-printed information to distribute.

vii.   The enumerator must remember that the enumerator's role is to ask questions, whereas the respondent's role is to answer them. Therefore, the enumerator must not offer suggestions to the respondent (unless otherwise indicated on a specific question). Nor should the enumerator express agreement, annoyance, or any other reaction in response to the answers given by the respondent, as this may bias the data collected.

viii.   If the respondent does not readily respond to a question, the enumerator should remind them of the objectives of the research, as well as the confidentiality of the information given. But in no case should the enumerator force the respondent to answer.

ix.   The survey includes a large number of questions but the enumerator must always follow the correct sequence, and manage the process effectively. If the respondent digresses during his/her responses, the interviewer should let the respondent do so and not seek to intervene in their speech. But after listening to him/her to the end, the enumerator should try to politely direct them back to the original question as in the questionnaire.

x.   The enumerator must keep the tablet safe and secure at all times. Keep the cover on the tablet, and ensure it is protected from harsh weather conditions.

How to conduct an interview

Providing clear and purposeful instruction on how to conduct an interview is important for an enumerator training. Ensuring that the enumerators receive informed consent, act courteously, and conduct their interview without bias and with adequate patience will be of utmost importance when using the LivWell Survey Tool in the field.

The Enumerator Manual describes many of the tasks enumerators are faced with, and it provides guidance as well as examples for effectively conducting an interview. However, below we specify a set of common "response problems" you will need to anticipate as a project manager.

Response problems

It is important to anticipate response problems your enumerators might face, and provide appropriate protocol, before they begin collecting your data. Below we provide standardized protocol for treating missingness, non-response, and potential misunderstanding. However, many additional response problems can (and most likely will) occur as your enumerators disseminate the LivWell Survey Tool. Thus, while the material below provides some guidance on addressing common response problems, piloting your survey (next section) will be crucial for determining potential response problems unique to your survey context.

Missing Households: Many times a household is selected into the sample, but due to the gap between the materials used to generate the sample and the time when enumerators disseminate the surveys, that household may be gone, vacant, or otherwise missing. In the case of a missing household, we recommend that you establish a protocol for re-selecting a household. One possible protocol is to use an "over-selected" household from the sampling design. This protocol requires a certain number of households to be selected above and beyond the required number, and that when an enumerator encounters a missing household, he/she is able to indicate the household as missing, and move on to the next household. However, it will be important to stress that over-selected households are only to be used if a household is truly missing—they are not to be used for convenience. Using over-selected households for convenience can bias survey data. A second possible protocol to deal with missing households is to establish a "spatial proxy." This can include selecting the next household on a roster, or the household next door to the missing household. Although this protocol is often more convenient for enumerators, it can introduce bias as well, by over-selecting households nearby demolition sites. Thus, we recommend that only in extreme cases should the "spatial proxy" protocol be used. An extreme case might be one where all over-selected households have been surveyed.

Refuse to respond: Each respondent has the option to participate in your survey; participation is not mandatory. Further, each question within the survey is optional. If a respondent refuses to participate, it is important that the enumerators make note of this (by selecting "No" to the informed consent question), and then go to the next unit within the sample. If a respondent elects not to answer a specific question within the LivWell Survey Tool, it is important that the enumerator select "Refuses to respond," and continues the survey.

Omissions or apparent inaccuracies: Where it is expected that the respondent may omit useful information, or provide information that is in direct contrast to the enumerator's observations, enumerators should be encouraged to ask respectful probing questions. Sample probing questions are included in the enumerator manual. Common cases to use probing questions include:

- To assist a respondent with recalling information
- To ensure that all items in list have been included
- To ensure that the respondent's answer is categorized properly
- To harmonize a respondent's answer with an enumerator's observation

We suggest that you aim to anticipate what questions will require the most probing, as well as how to ask general probing questions to aid in understanding and appropriate data collection.

Working across languages

We recommend selecting enumerators that can effectively work across langauges. Since the LivWell Survey is written in English, you may want to ensure that your enumerators are comfortable reading and understanding English. However, we expect that many disseminations of the LivWell Survey Tool will occur in different languages. If English is not a language all of your enumerators are comfortable speaking and reading, we strongly recommend that you facilitate a translation of the LivWell Survey Tool that does serve this purpose. You may then teach your enumerators to use the translated copy, but enter respondent answers on the electronic survey form. If you choose to do this, it is essential that you upload the translated document with the rest of your metadata upon the conclusion of your study (Appendix B)By anticipating difficulties in questionnaire translation and preparing your enumerators to work across languages when necessary, you will enhance the quality of your data and the success of your survey dissemination. Failure to anticipate difficulties in translation can severely compromise the validity of your data and increase stress when disseminating the LivWell Survey Tool.

It may also be the case that an enumerator does not understand a respondent from a selected household. It is crucial to ensure that your enumerators do speak languages appropriate to your population of study. However, should an enumerator not be able to understand a respondent, they should first ask politely if someone in the household is able to translate or answer survey questions. If no one in the household is able to assist with translation or responding to the survey questions, you should seek another enumerator who is able to understand and communicate with the respondent to conduct the survey. Alternatively, you can hire a translator to assist with data collection. If there is no one in the household that can translate or otherwise assist in data collection, and if no other enumerators are able to understand respondents within the household in question, you may need to drop the household from your sample. However, should this happen repeatedly, your data will be biased against a specific sub-group. You will then want to consider employing an enumerator who is able to speak to these households to administer the survey to them.

Using the survey tool

Spend time going through "The LivWell Tool User's Guide for Enumerators" and the LivWell Survey Tool. Make sure each of your enumerators is comfortable with the functionality of the survey and try to predict where there might be problem areas. The success of your ability to train your enumerators will largely depend on your familiarity with the LivWell Survey.

When your enumerators use the LivWell Survey Tool, they will need to enter information on the political jurisdiction for the household where they are conducting the interview. To do this, it will be important to have a standard set of codes for each jurisdictional unit (e.g. states, provinces, districts, counties, sub-districts, villages, and etc.). Use the form in "Appendix B: Code-Sheet for Political and Jurisdictional IDs" to make note of the different codes for the different political and jurisdictional units within your household samples. Then, make sure you fill this sheet out with each of your enumerators, and that they know how to code household location by political or jurisdictional affiliation.

Precoding

Jurisdictional Codes: Before enumerators begin surveying respondents, they must know how to appropriately code the location for each household. From your sampling strategy, you should be able to generate codes for each jurisdiction and household. We recommend beginning at one, and numbering each additional jurisdiction, sub-jurisdiction, and household accordingly, leaving three digits for each level. For example, the first household, in the first sub-jurisdiction, in the first jurisdiction would receive

the code 001 for jurisdiction, 001 for sub-jurisdiction, and 001 for household. Later, this observation can be identified by its full code "001001001." Please fill out the form in Appendix C to make sure that you have provided a code for all jurisdictions and sub-jurisdictions in your sample. This form is included in the enumerator manual as well, and should accompany enumerators as they interview households.

Standardizing Units of Measure: Given the international nature of the LivWell Survey, it is not possible to account for different types of local measurement units. Understanding how local units of measure convert to standard units of measure will be very important. "Appendix C: Unit Conversion" aims to help you and your enumerators with the task of converting local units of measure to standard units. After identifying the local units of measurement, make sure you understand how to convert these units to their corresponding standard units. Then, fill out the "Unit Conversion" sheet with your enumerators. Give your enumerators specific instructions for how and when to convert local units. For example, you might want enumerators to convert local units immediately, using a calculator, and enter the values into the LivWell Survey Tool during the interview process.

Piloting your survey

Before enumerators begin collecting data within your sample, make sure they practice by themselves, with one another, and that they have practice during a survey pilot. Piloting the survey means that enumerators get practice in the field, conducting the survey with actual respondents, before going to surveying households within the sample. If budget and time permit, you should plan to have all enumerators pilot the survey multiple times, preferably as you or a field coordinator observe them, until they feel comfortable with the questions and no longer have problems or questions about the usage and content of the LivWell Survey. Sending enumerators off in pairs, with one enumerator taking notes on any questions and problem areas, and the other enumerators practicing the survey, is one method of improving interview technique while simultaneously piloting and troubleshooting the survey.

Appendix A: Further Reading

General Resources

Cowling, Phil, Kristin DeValue and Kenneth Rosenbaum, 2014. "Assessing forest governance: A Practical Guide to Data Collection, Analysis, and Use." PROFOR and FAO. Washington DC. Available at: http://www.fao.org/3/a-i3918e.pdf

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology, 2nd Edition*. New York: Wiley.

Peersman, G. (2014). "Overview: Data Collection and Analysis Methods in Impact Evaluation", *Methodological Briefs: Impact Evaluation 10*, UNICEF Office of Research, Florence. Available at: https://www.unicef-irc.org/publications/pdf/brief_10_data_collection_analysis_eng.pdf

Grosh, M. E., & Muñoz, J. (1996). *A manual for planning and implementing the living standards measurement study survey.* Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/363321467990016291/pdf/multi-page.pdf

Study and Survey Design

Cowling, Phil, Kristin DeValue and Kenneth Rosenbaum, 2014. "Chapter 1: Setting the Objectives" in "Assessing forest governance: A Practical Guide to Data Collection, Analysis, and Use." PROFOR and FAO. Washington DC. Available at: http://www.fao.org/3/a-i3918e.pdf

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 1: An introduction to survey methodology." in *Survey Methodology, 2nd Edition*. New York: Wiley.

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 2: Inference and Error in Surveys." in *Survey Methodology, 2nd Edition*. New York: Wiley.

Peersman, G. (2014). "Section 1: Data Collection and Analysis: A Brief Description" and "Section 2: Planning Data Collection and Analysis" in "Overview: Data Collection and Analysis Methods in Impact Evaluation", *Methodological Briefs: Impact Evaluation 10*, UNICEF Office of Research, Florence.

Sampling

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 3: Target Populations, Sampling Frames, and Coverage Error." *Survey Methodology, 2nd Edition*. New York: Wiley.

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 4: Sampling Design and Sampling Error." in *Survey Methodology, 2nd Edition*. New York: Wiley.

Kalton, G. (1983). *An Introduction to Survey Sampling,* Beverly Hills: Sage Publications.

Kish, Leslie. 1965. *Survey Sampling*. John Wiley & Sons, Inc. New York, NY.

Peersman, G. (2014). "Section 4: Specific Issues in Ensuring Quality Data in Collection" in "Overview: Data Collection and Analysis Methods in Impact Evaluation", *Methodological Briefs: Impact Evaluation 10*, UNICEF Office of Research, Florence.

Enumerator Training and Interviewing

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 9: Survey Interviewing." in *Survey Methodology, 2nd Edition*. New York: Wiley.

Groves, R.M., Fowler, F.J. Jr., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). "Chapter 11: Principles and Practices Related to Ethical Research." in *Survey Methodology, 2nd Edition*. New York: Wiley.

Fowler, F., & Mangione, T. (1990). "Chapter 1: What is a Standardized Survey Interview?" in *Standardized Survey Interviewing*, Newbury Park: Sage Publications.

Fowler, F., & Mangione, T. (1990). "Chapter 2: What is Interviewer Related Error?" in *Standardized Survey Interviewing*, Newbury Park: Sage Publications.

Fowler, F., & Mangione, T. (1990). "Chapter 3: Standardized Interviewing Techniques." in *Standardized Survey Interviewing*, Newbury Park: Sage Publications.

Fowler, F., & Mangione, T. (1990). "Chapter 4: Establishing the Context for Standardized Interviews." in *Standardized Survey Interviewing*, Newbury Park: Sage Publications.

Peersman, G. (2014). "Section 6: Ethical Issues and Practical Limitations" and "Section 7: Examples of Good Practice" in "Overview: Data Collection and Analysis Methods in Impact Evaluation", *Methodological Briefs: Impact Evaluation 10*, UNICEF Office of Research, Florence.

Presser, S., Couper, M.P., Lessler, J.T., Martin, E.A., Martin, J., Rothgeb, J., & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public Opinion Quarterly*, 68, 109-130.

Appendix B: Requested Metadata: Study Design, Sampling, and Survey Context Information

1. Are you conducting a cross-sectional or longitudinal study?

2. Does your study require a recall baseline or use a measured baseline?

3. Please describe how you identified and located households to sample and how this sampling strategy best meets the needs of your data collection project.

4. Are there any differences between how households as defined in this manual (pg. 10) and how they are defined in your survey location? How do you accommodate these differences?

5. Are there any specific differences between how you are locating households, and your definition of a household? If so, how do you treat cases where the selected unit contains multiple households? For example, if you are selecting addresses or dwellings, but the primary sampling unit is households, how do you select households within one dwelling or address?

6. What is the total number of households within the population study? What was your sampling fraction (number of sample households/number of households in total population)? What is the total number of households you surveyed?

7. From where did you obtain the materials necessary (e.g. population statistics, jurisdictional boundaries, household addresses/locations/rosters) to generate your sample? How recent is this material? How did you deal with any uncertainty between the quality or datedness of these materials?

8. How did you treat missing units in your sampling framework (e.g. a selected household was demolished)?

9. If you used a translation of the LivWell Survey Tool, upload this translation as a .doc or .pdf when submitting this metadata.

Appendix C: Key Survey Terms

Note: This form corresponds to the "FLARE Livelihood and Well-Being Tool User Manual for Enumerators." Enumerators are asked to take project specific notes on key survey terms on pages 8-10.

What is a "household" in your survey context? Does this differ from the common definitions in this manual?

In your survey context, is it likely that household members will be dispersed across multiple dwellings, jurisdictions, or countries?

How will you advise enumerators to ask for the household head?

Does this research collect information before and after an "intervention" of any sort? If so, what is the "intervention" in this research?

Are there any political or natural events that occurred during the intervention that can help respondents recall that period? How will you advise enumerators to clarify this period, in the event that a respondent does not understand?

Appendix D: Enumerator Code-Sheet

Enumerator Name	Enumerator ID (3-digits)	Phone Number (if necessary)	Email Address (if necessary)

Appendix E: Code-Sheet for Political and Jurisdictional IDs

Note: You will need to fill this out with your enumerators. We recommend three levels of IDs (Question 1.2, Question 1.3, and Question 1.4) and suggest listing larger areas first and then listing all smaller areas.

Name	ID	Political/Jurisdictional Level	Notes

Appendix F: Local Units to Standard Units Conversion Sheet

Note: Please edit and adapt this table to suit your own needs. Standard Units may have more than one local unit. All standard units that are contained within the LivWell Survey are listed below. Make sure to fill this out with your enumerators, and provide clear instructions on how they are to convert their units.

Type of measurement	Standard Unit	Local Unit(s)	Conversion
Area	Hectare (ha)		
Area	Meter squared (m^2)		
Time	Hours (h)		
Time	Minutes (m)		
Money	Purchasing Power Parity (do not convert: keep values in local units)		Not Applicable
Money	Purchasing Power Parity (do not convert: keep values in local units)		Not Applicable