CCAFS GENDER HOUSEHOLD SURVEY
QUESTIONNAIRE

I. Introduction

The purpose of this survey is to gather gender-disaggregated data on agricultural activities, decision-making, weather information, risk perception, and values from rural households in Kenya, Bangladesh, Uganda, and Senegal. The survey ultimately will cover 200 households in each site—the same households that were sampled for the IMPACT Lite Surveys. This survey builds on the information collected in that round, supplementing the detailed productivity related information with data on decision-making and other topics. This information will be used for researchers, policy-makers and development practitioners to better understand the vulnerabilities of men and women to climate change, how they differ, and what actions can be taken to reduce that vulnerability.

This training manual will first review the standard conduct expected from enumerators, and then discuss specific issues surrounding—and expected interpretations of—the survey instrument.

II. General Conduct

Basic Duties and Responsibilities of Enumerators

The enumerators are tasked to gather correct and precise information according to the instructions discussed in this manual. The basic duties of enumerators are as follows:

- Attend the required number of days allocated for the training;
- Participate actively in the training and raise questions;
- Understand the concepts behind the questions so that they can be translated into the local languages without losing their meaning;
- Completely interview all individuals in the assigned area;
- Completely fill in the survey, not leaving any of the necessary spaces blank;
- Coordinate with the supervisor for any problems encountered during the actual data collection activity;
- Ask assistance from the supervisor for difficulties whose solution cannot be found in this manual; and
- Ensure that all completed questionnaires are fully accounted for prior to submission to the supervisor.

Some of the tasks that the enumerators should carry out during the actual collection of data are:

- Correctly ask questions as discussed in this manual and during the training;
- Accurately record the information/answers given to you by the respondent;
- Check each response to see to it that it is acceptable and consistent with related responses; and
- Submit all completed questionnaires to the supervisor.

To fully carry out these basic duties, the enumerator should perform the following:

- During the training, pay careful attention in order to understand the definitions and instructions regarding how to conduct the survey;
- Refer to this manual as a reference and guide;
- Check completed questionnaires for completeness, reasonableness, accuracy and legibility. If any information is missing, revisit the household to get the required information;
- Completely cover areas of assignment within the specified period; and
- Keep all information collected strictly confidential by not showing the completed forms to anybody other than the supervisor.

Relationship with the Supervisor

The best person to help the enumerator with difficulties is the supervisor. The major duties and responsibilities of the supervisor in relation to your work as data collector are:

- The supervisor is responsible for ensuring that the data collectors under his/her supervision are doing the data collection work satisfactorily. He/she plans and organizes the work and sees to it that everything is conducted efficiently and completely;
- The supervisor is required to check your work as the data collection proceeds to make sure that you are following the standard procedures laid down in this manual and that you are doing your work correctly;
- As part of the functions of the supervisor, he/she may visit certain areas to see to it that each area has been completely covered such that no household was missed;
- The supervisor should be informed of any problems or difficulty you experienced, and you should consult and seek the supervisor's advice on how to deal with problems in the field as often as needed;
- The enumerator should pay attention and follow all the duties and task specified in this manual, and listen to their supervisor, to ensure the success of this data-gathering activity.

How to Conduct an Interview

The primary objective of any data-gathering activity is to get accurate and complete information. It is to your advantage if you can create a friendly atmosphere in such a way that you make a good impression on the respondent at the start of the interview. You can do this by being polite (at all times), presentable (with regard to your appearance), and well-mannered, to win the trust and confidence of the respondent.

Before beginning the survey, explain its importance and objectives. This will help you gain the respondent's cooperation.

Be neutral throughout the interview. Avoid unnecessary discussions on issues which may antagonize your respondent. In addition, please do not answer your mobile phone during the interview.

Ask all the applicable questions in the questionnaire. Even if you think you already know the answer to a question, this may not be the respondent's answer.

Never suggest answers to the respondent. Occasionally a person's answer may be confusing or unclear. If you find that the person's answer is unclear or not satisfactory, you should probe for more information. Please try to be efficient and use time well; it is not necessary to always have three answers for questions that allow multiple responses. Balance probing with efficient use of time.

Do not change the wording or sequence of the questions. However, it is acceptable to have the respondents tell a story that can be used to answer multiple questions. Do your best to be familiar with the survey, so that you know what information can be used to answer which questions. In addition, this survey may require you to verify or build off of information provided for previous answers, so please pay attention to the provided answers.

Pay attention to all skip patterns in the survey, and do not ask a respondent a question that should be skipped based on their previous answers.

Please note the difference between a "99" and a "-." 99 in this survey is used to denote no decision being made. A "-" should be entered where the question is not applicable or not asked (because of a skip code), or not filled in (because, for example, the multiple answer is not needed). Please try not to leave spaces blank, as this may be confused with not answering certain questions.

Thank the person(s) for cooperating. Always try to leave the respondent with a good feeling toward this activity.

If, during the interview, you notice any acute health problems (such as malnourished children) or other serious issues (such, cases of domestic violence, or sexual abuse), please bring the issue to the attention of your supervisor and identified community leaders, who will help to resolve the issue in an appropriate manner.

How to Check the Completed Questionnaire

A thorough review of the questionnaire before you leave the household should always be done so that if you need to ask further questions to the respondent, he/she will be available. You review the questionnaire by carefully checking the answer to each question.

If necessary, you may correct your handwriting or clarify answers. Phone numbers will be collected during the survey process in case data enterers have a question that they need to answer.

If there are any answers that do not fit within the code, please use the “other” option and note the answer given.

How to Handle Data Collection Problems

In the conduct of the data collection process, you may encounter some problems along the way. If you come across such difficulties not covered here or any part of the manual, do not hesitate to contact your supervisor for assistance.

If the respondent refuses to cooperate in the survey, stress the importance of the survey. Explain to the respondent that the information to be collected will be used confidentially. If everything else fails, ask for your supervisor’s assistance.

Be flexible about returning at another time if the respondent is interested in being surveyed but is unable to complete the survey at that time. You should ask them about their availability and record this information. Every effort should be made to return to the household at one of the convenient, available times provided during the first visit. **For this survey, arrangements should be made ahead of time to secure the participation of both the male and female main decision-makers. The households themselves should identify these decision-makers.** It is acceptable if there is only one decision-maker in the household. However, decision-makers must

be household members, following the definition of household member.[1] If a non-household member makes decisions (for example, an adult son in the case of a widow who lives separately or with his own family), it is not necessary to interview this individual. Work through the local leaders to ensure that such arrangements are made. If you do not encounter both parties at home, make arrangements to conduct the interview when both parties can be present.

Submitting the Completed Questionnaire

At the end of the fieldwork, completed questionnaires should be submitted to the supervisor. However, before submitting the completed questionnaires, thoroughly review and check the questionnaires for inconsistencies. The supervisor shall likewise review the completed questionnaires for completeness and consistency of the entries. It is important that the same person is the respondent throughout the questionnaire. We want to avoid having different respondents, for example, in the event that you need to return to the household to fill out some of the missing information or resolve inconsistencies. The supervisor should make sure that all households were properly accounted for, and instructions in this manual were properly followed. If there are inconsistencies in the questionnaire, or the questionnaire is not complete, reserve the next day for callback for that household to complete the questionnaire. All unused questionnaires should also be submitted to the supervisor upon completion of your assignments.

Survey Instructions

Do not read bolded, capitalized, or italicized sections to respondents.

If someone is away please wait until they come back if they are expected home shortly.

Please note that this questionnaire is an intra-household questionnaire. We will be asking questions of one adult male and one adult female who are self-identified as the primary members responsible for agricultural and livestock decision-making within the household. They are often husband and wife; however the interviewees can also be other household member as long as they are age 18 and over. It may also be the case that there is only one primary decision-maker (either male or female) and no other main adult decision-maker in the home. However, please note that the survey requires that it is the **main** male and **main** female decision-makers in the household; do not substitute an available household member for the main decisions-maker. For example, if the father/husband/spouse is not home, do not interview a son who is present if the father/husband/spouse is considered the main male decision-maker. If one of the main decision-makers is not present, please make arrangements to revisit the home when both are there.

Consent

[1] The household includes the people who live and share meals at least one season per year, and share resources. Members who live somewhere else and only come to visit and bring money are not household members.

Make sure the respondent is aware that he/she:

- Does not have to be interviewed
- Can stop the interview at any time and withdraw at any time
- Can say they do not want to be re-visited
- Will remain anonymous
    - Name and details for individual respondents and households will not be revealed to anyone
    - Information will be made anonymous in any publications or reports
    - Data will be stored anonymously
- Please have them sign the consent form on the front page.
- Please make sure that the respondent understands what they have consented to and understands the consent form as written. In particular, please make sure that they understand that this survey will use the data collected in previous rounds.

Interview techniques

- Say that you are interested in the respondent's opinions and what he/ she has to say
- There is no right or wrong answer
- Pay attention to your body language and remain engaged in the interview
- Respect the opinion of the respondent
- Consider any comment seriously and positively
- Politely divert the respondent's attention from unnecessary responses that could take time
- Do not abruptly stop them or barge in rudely

Please do not mention in the introduction that this survey is focused either on gender or on climate change, as introducing these topics may skew the answers. Use instead the description of the survey contained in the consent form or in section III below.

III. Specific Instructions on the Survey Questionnaire

This questionnaire gathers information from an adult male and an adult female in dual-adult households, focusing on those members of the household who are mainly concerned with agricultural production and agricultural practices. The information captured includes plot-level data on ownership and control of inputs and decisions, sources of information, perceptions on climate, and adaptations. This questionnaire revisits households that were surveyed in 2012 with the Impact Lite survey, building off the responses the individuals gave at that time. For this reason, some sections of the survey will be pre-filled with information that was previously collected. Some of these sections will be verified with the respondent, while others are simply

there for reference if necessary. Do not read these sections of the survey to the respondent unless otherwise noted.

Unless otherwise noted, the answer choices should not be read to the respondent, and instead you should fill in the code that corresponds most closely to the respondent's answer in the code box. In some cases noted in the questionnaire or in this manual, it is ok to prompt the respondent with some of the answer choices if they seem unsure or unable to answer. However, usually it is best not to do this to allow the respondent's answers to reflect what they really believe rather than what they think you want to hear.

This symbol >> means skip to the question number or section that follows it. Make sure to follow these codes, as they will eliminate asking unnecessary questions.

The line under the question and above the response boxes (this will be referred to as the "Answer Type Box," later in this manual) specifies in what form the answers in that column should be recorded in the response box. For example, if it says "code," there is usually a list of answer choices with corresponding codes immediately below the question. If there are not codes immediately below the question and the Answer Type Box specifies Code Box 1, 2, etc., these will be found in the corresponding code book. The code book is organized by section and then by code number. If Member ID(s) is listed in the box, fill in the corresponding ID for the member(s) of the household named, which is located in the household roster at the beginning of the survey. If CURRENCY is listed in the box, record the answer in the local currency.

If a box is shaded, you do not need to fill in an answer.

Each enumerator team will consist of one male and one female enumerator. Male enumerators will interview men and female enumerators will interview women. These interviews should be conducted separately, to avoid other household members overly influencing the answers. It is not acceptable for other household members to assist with the recall and answering for the questions that are asked individually of male and female respondents. The survey will be conducted mainly individually, with two respondents. However, for sections one and two, both parties will be present and will answer the information together. This is to ensure that all parties agree on the same basic information that will serve as the basis of the interview.

Finally, please pay attention to the differences between questions that are asked at the individual level and questions that are asked of the individual but refer to the household level. The language of the survey is clear on this point; **questions using "you" refer to the individual being interviewed, while questions using the term "household" (or members of your household) refer to the household-level.**

COVER PAGE

All information on the geographical location should be filled in prior to the survey based on information collected from Impact Lite. Confirm with the respondent that this information is correct. Make any corrections where necessary. Please note that the survey will have only the name of the respondent from the IMPACT Lite survey. The additional lines provided for will be necessary to enter the additional respondent, as well as to record the additional information (Member ID), phone number (for follow-up, although this information is optional if the member does not wish to give it). Also, please note which kind of household you are interviewing:

- Dual Headed: Male and female spouses
- Male headed, but with adult female decision-maker, non-spouse
- Female headed, but with an adult male decision-maker, non-spouse
- Female headed, no adult male decision-maker
- Male headed, no adult female decision-maker.

As the respondent may be different from the respondent in Round 1, please record the respondent's name and Member ID on the lines that ask for "name of respondent for gender survey." The member IDs are found on the next page (the household roster).   If they are a new member, please start adding members after the last completed entry on the household roster. Please then read the consent form to the respondent.

SECTION 1: HOUSEHOLD ROSTER

The roster contains basic information about all members of the household, such as their name, sex and age. Some of the following survey modules will use the Member ID to refer to individual household members. Ensuring these numbers are carefully and accurately recorded is crucial so that we can match up information collected in different sections of the survey. We will continue to use the definition of household as employed in the IMPACT Lite Survey round: people who **live together** and **share meals and resources** at least one season per year. This may include non-blood family members who stay and eat in the family (laborers, servants, lodgers). However, they must meet both requirements—living together for one season and sharing food . Members who live somewhere else and only come to visit and bring money are not household members.

Member ID refers to the Member IDs in the household roster, so it is very important that the same individual ALWAYS has the same Member ID through the survey.

After verifying and collecting information on the previous household roster, ask the respondents if there are any additional members of the household that were not represented. Please enter their names below the listed household members and fill in the remainder of the information for them.

Specific instructions:

Q1.1: To start, the list of all household members from the Impact Lite questionnaire will have already been pre-filled before the interview begins. Questions 1.2-1.4 will also have been prefilled. Names are only asked to make it easier to identify household members later in the survey. Information will still be kept confidential. Verify that the given information is correct and that all listed individuals are still members of the household.

Q1.7: This question is only to be asked if an individual is no longer a member of the household. After this question, proceed to the next row.

Q1.8-Q1.10: These questions are new, and information must be collected for all current and new household members. Years of education completed excludes nursery school and should include all education (vocational training, university, college, and master's programs). The enumerators should discuss how this question should be phrased in order to capture all the necessary information. Note that it asks for years of schooling completed. Thus, if a member is in the process of completing a year of education, please write the last completed year. Please verify that the terms in 1.8 are locally appropriate, and if not, please feel to make suggestions.

Once you have verified the household roster, you will need to ask the question "Have any new members been added to the household?" If so, fill out a row with all the information for the new member in the row below the last entered member. Remember to enter 3 in Q 1.6 for new members.

Q 1.11 and 1.12 ask about other wives that the male household head may have. If there are additional wives that do not fall under the definition of household, please fill in this section.

Q 1.12e asks if these additional wives maintain any agricultural or livestock activities that are not included on the sketch maps (ie, that would not have been captured in the previous round of IMPACT surveys).

For these households, where there is more than one wife, who may form part of a separate household, please then make arrangements to conduct the Gender module with the additional wives, as funding permits.

SECTION 2: SKETCH OF THE FARM

The data for this section has already been collected by Impact Lite. Its purpose is to provide a visual representation of different plots on the farm across seasons.

The sketch of the farm collected in Impact Lite will be provided. Please review the sketch with the respondents and ask if their farm looks more or less the same as the farm depicted in the sketch. If there have been any significant changes, please note them in the sketch.
This information should be verified with both the male and female respondents. It is extremely important that both enumerators and respondents agree on the numbering of the plots, as many of the following modules will ask about changes, practices, and management of specific plot numbers.

In order for this data to be able to match up to the data that was collected during round one of the impact survey, respondents and enumerators need to pay attention to the plots as numbered in the impact survey, as well as the seasons that are defined. If the impact maps use three seasons, enumerators for this round should use three seasons as well. The numbering must be consistent. Plots are land management units whose dimensions do not change over time. Sub-plots, however, are sub-units within a plot that may change in size from season to season. Again, it is critical that the numbering used for each reflect the same numbers. If the original impact refers to plots 1 and 3 (but not 2), please keep the numbering consistent. If a missing plot (or subplot) is added, make sure that this plot is given the highest number, so that it is clear that it is an additional plot.

SECTION 3: LAND ALLOCATION AND PLOTS

From this module on, all questions will be answered separately by the male and female respondent of each household.

This section intends to capture information on all the land holdings belonging to, and rented or utilized by the household during the previous production year, including land ownership, water management, and tenure arrangements. The questions to the left of the thick black line are asked at the plot level, while questions to the right of the thick black line are asked at the subplot level. The information on the plots and subplots will be prefilled, by season (thus, all the subplots in the long rains will be listed first, etc.). These questions should be answered separately by both respondents.

Plot and sub-plot level information and details on production systems were collected by Impact Lite. For each plot owned or managed (rented, sharecropped, mortgaged) by the household a description of the plot was provided. Farmers were able to categorize their land into various

plots, such as “orchard plot,” “plot alongside orchard,” or “plot containing tubewell.” This information on various plots and subplots has been pre-filled into Q3.1.

For each plot, respondents will identify the land ownership and the title held. Please follow the skip codes.

Q3.4: For each plot recorded in Q3.1, list the member ID of the household member who owns the plot (multiple member IDs allowed) and the member ID of the household member who makes the majority of decisions on the plot (only one member ID allowed). The owner is the one who is considered to have legal access to the land, its use, and disposal. It is important to note that a household member may be considered the owner of the plot even without the proper title (or even no title).

At the sub-plot level:

Q 3.5 and 3.6 should be prefilled, based on the information collected in the first round of IMPACT and verified by the respondents. For Q 3.7, the decisions that are being considered here are choice of inputs, what crops to plant, how much to sell, how to dispose of harvest etc. Multiple decision-makers are allowed on each plot. When we say making decisions, we mean who decides what is grown, when, where, what inputs are used, and how the produce is used. Please note that making the majority (more than half) of decisions does not mean that other household members do not contribute or have no input. However, we want to know who has the ultimate, or final, decision-making power for that particular sub-plot in that particular season. Please ask these questions sub-plot by subplot, season by season (ie, finish asking these questions for all the subplots in the first season before moving on to subsequent seasons).

Q3.8-Q3.11: These questions are intended to capture information on the sources of water for each plot. For each sub-plot recorded in Q3.5, use the code below the question to indicate main source of irrigation, type of extraction method, and type of irrigation. If the answer to Q3.8 is no, skip to the next row. Please note that the irrigation questions are intended to capture information about all of the irrigation types and systems used, including bucket, hose, and drip irrigation systems, not just larger installations.

SECTION 4: DECISION-MAKING

This section will ask questions about who in the household was the primary decision-maker for the stages of agricultural and livestock production and household expenditures. We already collected the information on labor allocation; this information will help us to understand how decisions are made and by whom. Do not attempt to ensure that the responses are the same between male and female respondents. It is okay for them to be different. The period of time that is covered by these surveys should be the last 12 months which is roughly the same as the period covered by IMPACT Lite.

Module 4.1: This module asks the respondent which household member(s) made the decisions regarding different stages of agricultural production for each plot and subplot. The data on plot and subplot will be pre-filled from the Impact Lite data. For each question, multiple member ids are allowed as responses.

Please remind the respondent that these questions are NOT asking who did the activities, but instead who made the decisions about the activities. Decision-making should mean substantial control over choices to be made—not having decision-making, however, does not correlate to no input.

For this section, enumerators are asked to go row-by row, i.e. crop by crop (as opposed to asking column by column). Once a row is completed, if the crop is replanted in a subsequent season, such as a maize and beans planted in multiple seasons, enumerators may ask the respondents if all of the decisions that are made are similar. Enumerators may wish to remind respondents of the lists of decisions that are being made. However, please go crop by crop.

If a decision is not made during the season (for example, if a farmer does not do any crop management practices at all), please enter 99. Codes are provided at the bottom of the page if decisions are made by non-household members. You are allowed to enter multiple Member IDs. If land is left fallow or left with permanent crops, column A would capture that decision (i.e. decision to fallow land, to use it for grazing, or to keep permanent crops there). It is possible that no other decisions have been made; "99"s would thus be entered for the rest of the decisions. However, if any other decisions are made (such as harvesting), please use the member IDs to capture these decisions**.**

Below are descriptions of each stage listed and the decisions covered in each category:

- **4.1A:** Land allocation involves any decisions about what land to cultivate and which crops to plant and where. It also involves decisions about the size of the land to plant, whether or not to use an area for grazing, to leave it fallow, or to keep permanent crops there.
- **4.1 B:** Land Preparation involves decisions about the timing of clearing or plowing, the methods used to clear or plow (manual vs. machinery), and labor used (hired or household).
- **4.1 C:** Input to be used covers decisions about which types and the amounts of inputs to purchase. This includes seeds and fertilizers.
- **4.1 D:** Planting refers to decisions about the timing of planting, means of planting (machinery vs. manual), the spacing used for planting, and the labor required (hired or household). It also refers to decisions about whether or not to use manure or to add manure at the time of planting

- **4.1 E:** Weeding refers to decisions about the timing, frequency, and means of weeding (chemicals or hiring labor).
- **4.1 F:** Crop management covers a range of decisions about which type of top dressing to use (if any), any disease control or pest management strategies to use, as well as irrigation.
- **4.1 G:** Harvesting considers a range of decisions about when to harvest, how to harvest (manual or machine), how to transport harvest from the field to the house, and labor for harvesting.
- **4.1 H:** Post harvesting or processing refers to decisions about the handling of the harvest; these decisions include transportation questions, how and whether to treat the harvest, as well as things such as shelling, threshing etc.
- **4.1 I:** Use (sale, consumption, gift, or value addition): This concerns the use of the product. Who in the household is able to make the decisions about how the product is used? Use can be consumed in the household, sold, gifted, stored etc.
- **4.1 J:** Use of Income from the sale of crops regards who makes the decision about the use of income from these crops. Enter 99 if not sold.

Module 4.2: This module is similar to module 4.1, but instead asks the respondent which household member(s) made the decisions regarding different stages of livestock production, based on species of animal. If households do not have a species of animal, please enter "-" instead of 99s for the entire row and skip to the next row. For each question, multiple member ids are allowed as responses. Any boxes that are shaded should be skipped, as that particular activity does not apply to the animal. Again, codes are listed at the bottom of the page if decisions are made by non-household members.

Again, as before, please remind the respondent that these questions are NOT asking who does the activities, but instead who makes the decisions about the activities.

- **4.2 A:** Watering refers to decisions about where to water, when, and who waters, among others.
- **4.2 B:** Feeding refers to decisions about when and what to feed the animals. This would also include decisions about what supplementary feeds to purchase and the composition of these feeds.
- **4.2 C:** Veterinary treatment (tick removal, tsetse fly protection, medicine) concerns who has the ability to decide on the issues of when and how to treat these problems.
- **4.2 D:** Housing decisions concerns decisions about what type of housing is constructed and where.
- **4.2 E:** Grazing concerns decisions about where to graze, when to graze, and who is responsible for grazing the animals (hired labor or not).

- **4.2 F:** Breeding concerns decisions about which animals are used for breeding (or semen, if using artificial insemination) and when; if animals are not controlled, then enter 99 because no decision is made.
- **4.2 G:** Milk production: This would concern decisions about which milk products are produced and when. It would also concern decisions about who controls the labor that is required for milking.
- **4.2 H:** Milk products would involve the decisions about what to do with the milk products (sale, use, gift, etc.).
- **4.2 I:** Slaughtering: This would concern which animals to slaughter and when. If no animals have been killed in the past 12 months, please enter 99.
- **4.2 J:** Other products concerns the decisions about the production of other animal products, such as leather, hides, eggs, honey, etc. This is about decisions on what to produce, how to produce, and when to produce, as well as decisions about how the household will produce them.
- **4.2 K:** Use of product (meat, leather, hides, eggs, honey, etc.) concerns decisions about what to do with these products mentioned in column J. This could be use, sale, gifting, etc. If these products are not produced, please enter 99.
- **4.2 L:** Use of income from sale of product would concern decisions about any income generated from the sale of these animal products. Enter 99 if these products were not sold.
- **4.2 M:** Sale, disposal, or use of animals concerns decisions about selling, giving away, or renting out animals.
- **4.2 N:** Income from sale, disposal, or use of animals concerns who made the decisions regarding the income generated from this. If no income was generated, please enter 99.

Q4.3: These questions ask who in the household makes the final decision on a variety of other household decisions. For each activity (A-I), list the household member(s) who made the final decision. Multiple member ids are allowed as responses. If the household does not engage in a particular activity, enter the code -99 and skip to the next row.

Below are descriptions for the different kinds of household decisions listed:

- **A. Major farm investments**(machinery, infrastructure, irrigation): This involves the major decision making about the purchase or investment; this could be soil conservation structures involving the farm, water management (pans or tanks) as well as larger pieces of farm equipment.
- **B. Buying or selling land**: Who made the final decision to buy or sell land in the past 12 months?
- **C. Renting Land:** Who made the decision to rent land in the last 12 months?
- **D. Whether or not you engaged in a non-farm business activity**: This refers to who had the ability to decide if the respondent engages in a non-farm business activity. This

would also include decisions about what the non-farm business activity is. Please note that this is not whether or not the household engages in this activity, but whether or not the respondent makes the decision to engage in these activities him/herself.

- **E. Whether or not you engaged in salary or wage employment (including paid casual labor on other farms):** This includes who made the decision about whether you (the respondent) engages in casual labor, including when, where, and for how long.
- **F. Major household expenditures?** Who made the final decision about the purchase of such items, including large appliances, refrigerators, radios etc.?
- **G. Household food expenditures?** Who made the final decision about the household food expenditures?
- **H. Minor household non-food expenditures?** Who made the final decisions about the purchase of general items and daily staples, like soap, clothing, school supplies, shoes, and other essentials
- **I. How to spend your own money (income earned from non-farm business activities or wage employment)** refers to the money that the individual has earned from these activities (or others).

Q 4.4 Multiple member IDs can be entered, if necessary, as well as IDs for non-household individuals. The owner of the house is considered to be the person who has legal right to stay in and sell the structure. This refers to the primary dwelling (and not all of the houses on the land). This question is referring to the structure itself, and not the land—which should have been captured as one of the plots in section 3.

SECTION 5: Practices

The purpose of this section is to assess the extent to which men and women are aware of and have adopted a variety of different climate-smart interventions. It also identifies key sources of information available to men and women on CSA practices and the benefits of and constraints to adoption of these practices. For this section, male and female respondents will only be asked about the practices that they implement on plots that they manage or jointly manage (not on all the plots of the farm). For these questions, please complete each row before moving on to the next row.

Q 5.1: For each practice, ask the respondent if they are aware of the practice. If they are unaware, skip to next practice. If they are aware of the practice, move to Q5.2. Please follow the skip codes carefully for this section, as not every question must be asked to every respondent.

It is important that the respondents have a clear understanding of each practice. This list below describes in greater detail what each practice is. Please make sure that you are asking about each practice in detail and that the practices reflect the definitions below. **During the training, the partners and the enumerators should refine these definitions to make sure that they fit the local context and are understandable.** Please make note of the exact definitions that you are using, and send the IFPRI contacts a copy of the definitions that you decide; they should be as

close to the original definitions as possible. This will help facilitate the data analysis process, so that we can be sure that everyone is asking about the same list of practices.

- **Agroforestry**: Planting trees together with crops on the farm. These are trees that produce or are primarily used for fruit, fodder, or fuel wood production OR that provide other benefits, such as reducing runoff or erosion, enhancing soil fertility, providing shade and medicines, etc.
- **Terraces and Bunds**: Physical structures placed along the contours to slow the speed of water.
- **Water Harvesting**: Structures for collecting water from a surface area, to be used for irrigation or for improved filtration. These can be both larger and smaller systems, encompassing individual farm and plot level systems to larger ones. These can include water ditches, water pans, dams etc.
- **Use of Irrigation**: Covers all types and systems of irrigation, from both ground and surface water sources.
- **Zai Pits/Planting Pits/Negarims**: Pits for planting and help in conserving water; they can be of different sizes.
- **Leaving Crop Residue**: The practice of leaving crop material on the fields after harvesting to improve soil texture, prevent erosion, and help in water filtration. (Local teams should refine this definition to reflect best local practices).
- **Composting**: Removing crop residues to allow to decompose and then adding back to the soil. It is used to improve soil fertility and texture and allow for improved water filtration. (Local teams should refine this definition to reflect best local practices).
- **Livestock Manure Management**: This is the collection of livestock manure. Livestock manure can be stored and then applied to fields. (Local teams should refine this definition to reflect best local practices).
- **More efficient use of fertilizer**: Changing fertilizer application involves applying appropriate amounts of fertilizer. This could be increasing fertilizer use to increase yields and improve soil fertility where it has been under-applied, reducing fertilizer where is has been over-applied, or switching fertilizer types based on crop requirements.   It also refers to the use of fertilizer practices that produces more yield with the same fertilizer (ceteris paribus) or to the same yield with less fertilizer, for example the mixing of fertilizer components to reflect actual soil needs, deep placement of fertilizer, microdosing, changing from one fertilizer application at the beginning to more frequent, but smaller, fertilizer applications, changing application based on extension advice, etc.
- **Using Improved, high yielding varieties**: Purchasing or breeding varieties to improve and increase the yield.
- **Using stress tolerant varieties**: Use of varieties adapted to climate challenges that a particular region faces. Stress tolerance includes drought/flood/saline/submergence and pest resistant seeds.
- **No till/minimum tillage**: Opening only where the seeds are placed, with as little soil disturbance as possible.
- **Improved grain storage**: Where grain is treated, raised off the floor, covered, and kept ventilated.
- **Improved stoves**: Stoves that burn fuel (wood and charcoal) more efficiently.

- **Improved feed management**: Storing animal feeds (stover, grass, napier etc), making better use of the feeds (through combining feeds), growing grass varieties better suited to the agro-ecological zone, fodder conservation, fattening animals etc.
- **Destocking:** Reducing the number of livestock to improve resilience and make the herd more manageable. This needs to be a conscious decision and not due to hardship.
- **Cover cropping**: Crops that are grown to ensure that fields are covered by vegetation in between seasons. They are designed to protect soil against erosion and may enhance soil fertility and suppress pests.
- **Switching to drought and pest/disease tolerant species or breeds of livestock**: The purchase of or breeding of animals that are more tolerant to drought or disease. This can include switching both the type or the species of animal. Zebu cattle and small ruminants are common examples of more drought tolerant specie.
- **Grazing, Pasture, or rangeland management**: Includes rotational grazing and setting paddocks aside in case of drought.
- **Integrated Pest Management**: It is ecosystem management based and uses non-chemical control methods that are integrated with limited and selective pesticide use.

For Q 5.5, please specify which plots these practices are used on, if any. Record them in the following way: plot number, followed by a dot, followed by the subplot. Plot 1, subplot 5 would be 1.5. Some of the practices, such as those dealing with livestock or farm level issues, will not be appropriate at the plot level; these boxes have been grayed out. Please adjust the questions to reflect this (ie, in Q5.2 and Q5.3, you do not need to use the words "on plots that you manage" if the practice you are asking about is not appropriate at the plot level).

For Q 5.8, note that the costs do not have to be strictly monetary costs. They can be any disadvantage associated with the practice, including increased labor costs, reduced productivity etc.

In Q 5.9, we ask if they would like to adopt this practice. Respondents do not have to answer yes. This should be saved for practices that respondents actually think that they are going to implement—i.e., those that are much more likely to be implemented.

SECTION 6: INFORMATION AND INNOVATION

This section will collect data on what information sources are accessible, used, and by whom. It will also look at which information sources are considered reliable and accessible (both logistically and financially). Again, respondents are asked to answer for themselves—for the decisions that they were involved in making either individually or jointly with other decision-makers. This information will be used to help policy makers better understand the different information needs of men and women to help make agricultural and climate information as accessible as possible. We recognize that farmers may not yet be receiving certain types of information or have access to certain sources; this piece is also partially designed to serve a monitoring function to track changes over time.

Please complete each row before moving onto the next type of information.

Questions 6.1 – 6.6: These questions aim to capture the sources of different types of information, whether and how that information is used, and what types of information are desired.

Q 6.1: For each type of information (left-most column), ask the respondent if they have access to that type of information. If "yes", proceed to Q 6.2. If "no", skip to next row/information type.

Below are descriptions for the different kinds of information:

- **Forecast of drought, flood or extreme events:** These predictions would be given in advance (days or weeks) from multiple sources and are supposed to help farmers plan and respond to these events.
- **Forecast for the start of the rains:** These predictions will give information about the predicted start of the rains (weeks or months in advance) and are supposed to be useful for planning farming activities.
- **Seasonal Weather forecast:** These predictions, given in advance, will contain information on the rains and temperatures for the coming season. They should be given in advance with enough detail to help farmers plan and respond to these predictions. They could also include rainfall variations and patterns, as well as any sort of sunny factors.
- **Short-term weather forecasts:** These predictions cover a period of 1 day to 1 week in advance about rain, temperature, etc.
- **Long-term weather forecasts:** These predictions would cover the longer-term, many seasons in advance. They would include information on predicted changes to weather and rainfall patterns in the area.
- **Information on crop production and management:** This would include information on agricultural practices and new management information, as well as information on crop inputs and varieties.
- **Information on livestock production and management:** Includes information on management and care for livestock, including feed management. This would include information on livestock breeds as well.
- **Pest and disease outbreaks and management:** This includes information on the management and control of pests and disease, through chemical and natural means. This covers both livestock and agriculture related pests and their management.

Q 6.2: This question aims to capture where the farmer receives information from on agricultural production. This question refers to the respondent that you are interviewing, not other household members or decision-makers. This includes information received through radio or television broadcasts, mobile phone, printed materials, etc. Responses should be coded using Code 1, which is located in the codebook. Up to three responses can be listed.

Q 6.3: For each type of information, ask the respondent if they were able to use this information. If "yes", proceed to Q 6.4 for more details on how the information was used. If "no", skip to Q 6.5. We consider a wide range of uses. We ask separately about information sharing. This use,

however, should be for the individual. It is not expected that everyone is able to use all the information they receive; please make it clear to respondents that they do not have to identify a particular use. Also, please try to relate the information to the changes as much as possible.

Q 6.4: Up to three uses of information can be listed here, using Code 2, which is located in the codebook. It is not necessary that these uses are listed in order of importance. Once this question has been finished, skip Q 6.5 and proceed to Q 6.6.

Q 6.5: Do not ask this question if you have asked Q 6.4. Fill in the response using Code 3, which is located in the codebook.

Q 6.8: This question seeks to understand what type of information the respondent is not currently receiving but would like to receive. Be sure that the respondent does not answer with sources of information that she/he is already receiving. Fill in the response using the list of information types (left-most column). List the top three sources that are desired, with the first being the most desired. This question should be answered after the previous table has been completed.

Questions 6.9-6.10 are designed to capture which sources of information respondents have access to and which sources are the most valued and useful. All of these questions are directed to the individual respondent and should not reflect the perceptions of other household members. Again, this information will be used to make weather and climate information as gender specific as possible for the future.

Q 6.9: For each source of information (left-most column) ask respondent if they have access to that source. If respondent has no answer or is not sure, put a "-". However, please only ask for information sources that the respondent did not mention on the previous pages as a source of information for practices or for weather information. For those sources that have already been mentioned, please place a 1 in those rows and ask only about those sources that have not previously been mentioned.

Q 6. 10a: Have respondent rank the most useful sources of information for agriculture, drawing from the list in the left-most column. Rank the top three sources, with the first being the most important. Again, please ask these questions AFTER completing all of the questions about sources of information. For question 6.10 b, ask if the most useful sources of climate information are the same or different. If different, please ask them to rank, following the same procedure.

Questions 6.11-6.18 are designed to capture information on the extent to which farmers access extension services as well as farmers' perceptions of extension services. To be consistent with other sections of this questionnaire, respondents should be asked to think about their contact with

extension agents or information received over the past 12 months. These questions are supposed to help policy makers understand how well current extension systems meet the needs of male and female farmers.

Q 6.11: Indicate whether or not the respondent met directly with extension agents over the past year. This question is only inquiring about the respondent, not about other members of the household. Meeting with an extension agent includes any field visits by extension agents, trainings or meetings attended with extension agents, demonstration events, visits to an extension office, or any other **direct** contact with extension agents in which information was shared. If the respondent did not have any direct contact with extension agents over the past year, skip to Q 6.18. Note that extension agents are broadly defined to include someone trained to give agricultural or livestock advice.

Q 6.13: Use the response code provided in the question box. For this question, local exchange visits are defined as visits with people you know. Not locally is then defined as farmers you do not know.

Q 6.15: List the member id(s) of the household member(s) to whom the extension agent gave advice during the **most recent meeting**. Multiple member ids are permitted.

Q 6.17: This section asks about a fee to access services; this would not cover transportation costs (either for the respondents to visit the agent or for the agent to visit the respondents). As much as possible, try to separate potential fees for services from the costs of any products purchased.

Q 6.18: Using Code 1 (found in the codebook), list up to three reasons why the respondent did not meet with an extension agent last year. This need not be listed in order of importance. Enter "-" if the response to Q 6.11 was "yes"

SECTION 7: CREDIT AND INSURANCE

This section will show who in the household is taking out loans (or attempting to borrow), who made the decision to borrow, and who controls the money that is borrowed. It will also show which sources of credit are important for men and women, and what are the main reasons men and women take out a loan. This information will be used to understand the existing credit constraints and how male and female control of and access to credit differs across production zones.

In this section, the individual respondent will be asked about household level information. Please note that the responses from men and women need not be identical here. It is acceptable if there are some differences.

Inform respondents that while we recognize that they may not be able to answer every question about all attempts to access credit/a loan, they should answer those that they feel comfortable answering. The terms ‘credit’ and ‘loan’ are used interchangeably. Both refer to loans and lines of credit. Please be careful with skip patterns; they will help minimize errors and will save time.

7A, B, and C attempt to understand credit constraints. If members of the household did not borrow, the questions are designed to understand why they did not borrow and if they thought that they would still be able to and have access to credit. **Only ask 7B and 7 C if the answer to 7A is no; following these questions, please then skip to Q7.11.**

Ask the respondent to tell you about any attempts anyone in the household made over the past year to secure a loan. An attempt to get a loan means to approach and actively try to secure a loan from the specified source. For each attempt (both those that were successful and those that were not successful), complete a row in the table, asking the appropriate questions 7.1-7.10 (following the skip codes). Allow the respondent to finish mentioning the sources of credit that household members used. When finished, please ask the respondent if household members attempted to borrow from any other sources, specifically mentioning the sources that have not already been listed (using the codes given). Again, each attempt should be recorded in a different row. Credit here refers to both cash, but also in-kind lending. Please note, that we will capture food related in-kind lending separately; if a household borrowed in-kind for agricultural production, please record that in this table.

For Q 7.1, use the code located under the question to identify the lender type.
The different lender types are listed in the code and are defined as follows:

- **Non-governmental organization (NGO):** Organizations that offer access to credit or inputs that must be repaid
- **Group-based micro-finance or lending:** VSLAs and others; that are formed by groups raising money together and small loans (ROSCAS and Merry go rounds); all of the resources raised come from members
- **Bank:** commercial, or for-profit bank; can still offer very small loans
- **Credit Union:** member-owned financial cooperative.
- **Friends** (including neighbors and community)
- **Relatives** (including family)
- **Traders/Shopkeepers**: may provide a line of credit so payment is made after individual has taken the item; if it is for food items, please capture it in Q 7.11-7.12
- **Landlords**

Question 7.2 asks for the member ID of the person attempting to borrow; this does not have to be the respondent. Q 7.3 wants to know who made the decision—and had the final say—in attempting to borrow from that source and Q. 7.4 asks for the MAIN reason for seeking a loan. Again, please note that this question should be answered even if it is not the respondent who was attempting to borrow. Q 7.5 should be asked for successful and unsuccessful applications; if asking about an unsuccessful application, continue to Q 7.6 and then skip to the next row. If asking about a successful application, continue to Q 7.7.

Q 7.7 asks who made the decision about what to do with these loans. Multiple member IDs can be entered.

Q 7.8 asks about the amount of money an individual in the household has received per source; if multiple loans from the same source, please provide the sum here. Enter "- " if respondent is unsure of amount received. For in kind, please estimate the value of the good received (not the amount required for repayment).

For Q 7.9, please ask about the main use of the credit. Multiple responses are allowed.

Q 7.11 -7.16 are to be used for capturing in-kind related borrowing for food and other household goods (not agricultural inputs). Food and other goods cover food loans from family members to buying on credit at the shop. Here, it is not necessary to ask per attempt; rather, this asks about the total borrowing over the course of 12 months.

Questions 7.17 – 7.20 ask about insurance.

- **Index-based insurance**: refers to insurance paid out in events triggered by a publicly observable index.
- **Weather insurance:** insures crops and crop losses against weather variations.

Question 7.17 is to be asked at the individual level, for plots that the respondent manages or has some control over. These should reflect decisions that the individual being interviewed is participating in. Please follow the skip codes as written. Insurance here refers to private sector insurance, not government health programs or group based insurance (which is covered in the next section).

For Question 7.18, please make sure that you understand the response the respondent gives. Not available means that, while the respondent understands and knows about insurance, s/he is not able to purchase it locally. No need means that the respondent is aware of the types of insurance but does not feel the need for it. Not aware means that the respondent does not know that such index-based or crop insurance exists. Do not understand insurance means that the respondent is aware of the insurance, but does not understand this type and potentially has questions about how it would function. No funds means that the individual does not have enough money to purchase it.

Question 7.20 also refers to purchases that the individual respondent is in charge of making. Questions are asked at the level of the respondent and the level of the household.

SECTION 8: GROUP MEMBERSHIP

The purpose of this section is to collect information about individual group membership—and the benefits that come from that membership. The idea is to also understand the different benefits that men and women receive from group membership and the activities that they engage in.

In this section, all questions are asked of the individuals; respondents are responding for themselves only. The types of groups are listed along the left-hand side of the table.

Below are descriptions of each of the kinds of groups. In your training, please come up with local definitions that describe the different types of groups and the activities that they do, so that all enumerators are able to identify groups in a similar way.

- **Agricultural producer's group (including marketing groups):** These groups are formed to serve primarily an agricultural end; they may include marketing, seed storage, collective purchases, or even group farming activities. They may also facilitate collective/shared labor and facilitate training.
- **Livestock producer's group (including marketing groups):** These groups are formed around issues of livestock production, care, and management. Their activities may include access to veterinary services, group breeding, shared labor, shared grazing, or shared collective marketing/purchasing of inputs.
- **Fisheries producer's group (including marketing groups):** This group may manage a fishery for group production; it may also involve individuals engaged in fishery production working at an individual level.
- **Water users' group:** Oversee and regulate who has access to a source of water; they also ensure that the source is managed and maintained. They may or may not be registered with the government. They may oversee a borehole or any other source of shared water.
- **Watershed management group:** These groups involve all the stakeholders involved in managing a watershed; they usually extend beyond single communities.
- **Forest users' group:** This is a group that collectively manages community forests.
- **Tree Nursery Group:** Group that has a primary aim of raising tree seedlings; may be profit driven or for communal reforestation; in addition, the activities may be done collectively or individually
- **Credit, microfinance, or merry-go round group:** Group whose primary purpose is to raise and collect funds; they can offer loans and help members acquire assets.
- **Funeral/Burial or Insurance Group:** These may help cover burial costs, health care costs, or similar services to members.
- **Marketing and Income generation groups (non-agriculture):** Their main aim is to enhance marketing opportunities or to explore income generating activities with members.
- **Civic groups (improving community) or charitable groups:** These can be organized through the local government or separately, but their aim is to make improvements in the community in a wide range of subjects, from infrastructure to schools to health care. Charitable groups would provide social welfare benefits; perhaps taking care of orphans or widows.

- **Local government:** This type of group supports and works with the local governments.
- **Religious group:** Involved primarily in spiritual matters, but may also do community work.
- **Other women's group (only if not already listed)**
- **Other men's group (only if not already listed)**
- **Other youth group (only if not already listed)**

For this section, please first ask the respondents which groups are in the community and which groups they are a member of; then probe afterwards with the groups that they have not mentioned. Remember to follow the skip codes.

Q 8.3 asks individuals how much influence they have in group decisions. Influence is defined as contributing towards group decision-making, either through voting, discussions, or other means.

Q 8.4 asks if respondents feel comfortable speaking in this group; as in, that they are able to participate equally with men and women; no structural hierarchies. Please remind respondents that all responses are confidential.

Q 8.5 asks about what activities the group has engaged in; these should be activities that the group has undertaken in the past year. Use Code 1 located in the codebook. If "other", please specify the activities. Multiple responses are allowed.

Q 8.7 asks about the benefits the respondent sees as being a result of his/her membership in the group. These can be benefits specifically for the respondent or benefits for the household at large. Multiple responses are allowed. Use Code 2, located in the codebook.

SECTION 9: FUEL AND DOMESTIC WATER

This section is designed to collect information to understand how men's and women's responsibilities and labor changes over time, specifically in regards to the collection of fuel and water.

These questions are to be asked at an individual level but refer to the household level.
Q 9.3 asks how long it takes to reach the water source. The answer should be given in minutes, using the most common means of transportation (walking, biking, etc). In Q 9.4, respondents should identify who usually collects the water from that source. This should be a single person. If respondents answer with more than one individual, please ask them who most frequently or most often collects water from that source.

Note that these questions are asked by season. For Q 9.5, if respondents are having difficulty answering this question, first ask how many times per week someone gets water from this source and then ask how long each trip takes. Using this information, you can then calculate the minutes per week. This question should be cumulative for the entire household; if, in addition to the main member identified in 9.4, other household members collect water, please include their time in the total number. Please note that the skip code in 9.4 applies only if hired labor is used.

SECTION10: CLIMATE SHOCKS AND RESPONSES

This section is designed to understand how households respond to climate shocks. This will help to understand current vulnerabilities that households face—and the strategies that they employ to reduce these vulnerabilities.

These questions are asked of individual respondents, but at the household level. Each respondent is then asked about changes that the household has made to respond to shocks and risks.

Q10.1 asks about the potential *climate* shocks that have significantly affected households (income or livelihoods) in the past 5 years. Respondents can list up to five answers; in each line provided, please list the shock. Each shock can be listed more than once. For example, two consecutive floods would be counted as two events. Things such as illness or death should not be included here.
Climate shocks are defined as unpredicted weather events that are beyond normal expectations.

Q 10.3 wants to know how widespread the shock was; whether it was something localized that affected only the respondent's household or whether it affected more households in the village.

Q 10.4 asks what the primary results of the shocks were. Please make sure that you are recording the actual results of the shock—and not what the individual did to cope with that shock.

Q 10.5 asks for the actions taken as a result of the shock—up to three for each shock. Please record the actions in the same row as the particular effect. Please note that these are actions taken to cope with shocks—not adaptations, which would be covered in section 12. These are actions taken after a shock to reduce the problems associated with it. If they mention something that would be better identified as an adaptation, please make a note of it and add it to that category. Adaptation is defined as an action that is taken to reduce future vulnerability to climate changes; it can follow a shock or be anticipatory.

Q 10.6 asks who was responsible for taking that action. Please match the boxes with Q 10.5. The first action listed in the first of the three boxes in 10.5 should correspond to the individual who took that action in the first of the three boxes in 10.6.

Q 10.7 asks if the household sold any assets; this question should not be asked if the sale of assets was identified as one of the responses in 10.5. However, if respondents reported taking other actions in 10.5, then this question is trying to understand how these actions were financed—and if they were financed through the sale of assets. Q 10.8 and 10.9 asks specifically which assets were sold and the ownership of those assets.

Q 10.10 and 10.b ask who in the household was most affected by the shock and why. This does not have to be the person who took the action; there are a wide varieties of ways in which a person could be the most affected by a shock. Please note that if the respondent insists that it is the household that was most affected, please enter 55.

SECTION 11: ATTITUDES TOWARDS AND PERCEPTIONS OF CLIMATE CHANGE AND CLIMATE RISK

The purpose of this section is to collect information on how men and women view different perceptions of climate changes, risks, and responses. In addition, the section will be used to understand how men and women view the severity of potential changes, in relation to other risks. We define climate change as long-term changes in climate (over 10 years). These include changes in average temperature, changes in average precipitation, and long-term shifts in climate variability such as changes in the spatial and temporal distribution of rainfall (e.g. seasonal shifts in rainfall) and the frequency of extreme weather events (e.g. drought and flood). This section is asked of individuals and we want to collect individual responses to the risks that they have perceived.

Q 11.1 asks if the respondents have noticed changes in climate; if they say yes, please move to 11.2; if they say no or don’t know, please move to 11.5**.**

Q11.2 wants to know specifically which changes in climate have been noticed by the respondents. Each is allowed to pick up to 5. Please use the codes found in the question box.

Please follow the skip code on question 11.3. Note that the options for impacts of climate changes could include positive effects as well; not every response must be negative. Use caution in phrasing the question to ensure that you remain neutral. If respondents are not at all concerned about the long-term changes in climate, please skip to 11.5.

For Q 11.5-7, respondents are asked about their perceptions of the severity of impacts of climate change. Positive impacts could result as well. Please note that here individuals are responding for the household. We are collecting men's and women's responses separately, to see if there are differences in perception.

If respondents do not think that they will be affected by a climate change event, please skip to the next row. Q 11.7 allows for multiple responses of potential impacts from the climate change events. Please complete this table row by row (event by event).

SECTION 12: ADAPTATION

Adaptation strategies are changes in agricultural practices or livelihood strategies intended to mitigate risks of long-term changes in climate. We also ask several questions about how adaptation strategies are implemented as well as questions designed to uncover any constraints to adaptation. Here, we ask if households have undertaken any specific efforts to reduce the impacts of future climate changes. We are again asking individual respondents about the household level.

Adaptation strategies are grouped according to crop production, livestock production, and livelihood activities. It is important that farmers only indicate which strategies they have adopted as a result of perceived climate change. That is, they may have adopted some of the listed strategies not because of climate change, but for other reasons, such as to increase production. In this case, these responses should not be recorded. However, please pay attention to the answers that respondents have given at various points in the interview. If they have noted reasons that they think they will not be affected/impacted by climate events, these may be because of adaptations that they have made. Therefore, if they do not mention these here, you can probe about them. Also, items asked about in Section 5 can be repeated here if they were undertaken as an adaptation strategy to reduce future vulnerability. Adaptation strategies can be broader than agricultural or livestock changes; they can also include changes in livelihood, diversification, migration, etc. Please try to limit the changes to changes that were made specifically to deal with climate changes; if need be, you can refer to the previous list of climate changes the respondents may or may not have experienced. **Please ask this section only if respondents reported either already experiencing climate changes or perceive a risk of future climate changes.**

SECTION 13: PERSONAL VALUES

This section asks about the values, beliefs, and cognitive processes that men and women have and are used to make decisions about agricultural changes to implement and what to adopt.

This section requires careful attention. As the enumerator, you must be sure that you are asking the questions raised here similarly to other ones, as the nuances are very important. As a group, the enumerators during the training should double translate these questions; from English to the local language to be used and then back to English (literally) from the translation. Make sure that you understand how these sections are to be scored.

Please use particular attention in this section and try to remain as neutral as possible. We do not want to get answers that respondents are providing because they think that is what we want to hear; as much as possible, we would like to capture the full range of answers.

In addition, please probe if the respondents continue to give you the same scores. We do not expect that all answers will be either a 5 or a 1 (strongly agree or strongly disagree), but that they would capture more nuance and change throughout.

Here, we go through the questions in order to make sure that everyone understands what is being asked and why.

13.1 I actively seek out advice about agricultural practices for my farm.
This question is designed to see whether someone identifies themselves as actively looking for new information about farming practices; this would be someone who goes to visit model farms or goes to visit extension officers or other advisors, rather than passively receiving information on the radio. We predict that more active advice seekers will implement more changes.

13.2 If spouses (males and females) make household agricultural decisions together, their livelihood will improve (agricultural productivity, food security, income, etc.)
This question refers to how households make agricultural decisions (both crop and livestock). If they make more decisions together, do they think that they will have improved outcomes (income, food security, productivity, etc.)?

13.3 Everyone in the community should show respect for cultural traditions relating to agricultural practices.
This question attempts to see how committed individuals are to cultural traditions relating to agricultural practices; we predict that individuals that value cultural traditions related to agriculture more will find it difficult to make more innovative changes.

13.4 It is important to challenge oneself and to learn and try new things.
This question asks about how individuals feel about trying new activities. We predict that individuals who are more likely to try new activities are also more likely to adopt new practices.

13.5 It is important to help and assist those who do not have the resources to make agricultural changes themselves.
This question is designed to ask about the altruistic aspects of an individual; how likely are they to make decisions that contribute to the welfare of others or to the community?

13.6 I highly value new agricultural information, technology, and weather information.
This question asks about the importance and value placed on new scientific and technological advancements; we predict that if individuals place more value on scientific advancements they are more likely to adopt these practices. Conversely, if they place more value on cultural traditions, they will be much less likely to adopt these practices.

13.7 We need to protect natural resources because they are important for our livelihoods.
This question asks about self-interest; should natural resources be protected because of the contribution that they make towards livelihoods, rather than solely for their own sake?

13.8 Members of the community should work together to improve the community (maintaining of common areas, infrastructure, etc.).
This question refers to social norms and expectations; do individuals think that the community should work together?

13.9 Traditional solutions and methods for agriculture will help to resolve all the problems we face in life, including changes in climate.
Again, this question refers to the balance between traditional solutions and new practices. Is it important for communities to balance the need for tradition with the need for new practices?

13.10 I am often the first person in my community to try new practices on my farm.
This question asks about how innovative individual farmers are and whether they are willing and able to adopt new practices first. We would predict that farmers that are more innovative would adopt climate-smart practices more quickly and in greater numbers than other farmers.

13.11 Religious teachings will help us to meet any challenges we face in life, including changes in climate.
If individuals believe that a higher power is at stake, they may be less likely to commit resources to making changes.

13.12 When making agricultural decisions, I am most (very) concerned about generating income.

This question is designed to ask about the tradeoffs and priorities that farmers have. Is income a priority for farmers when making agricultural decisions? Is this the same priority for men and for women?

13.13 I am willing to accept agricultural advice from outside sources.
If individuals are more likely to accept agricultural advice—from outside sources—it stands to reason that they are more likely to be able to make these changes.

13.14 I make my own agricultural decisions without worrying about what other people say.
This question asks about social norms and expectations; are individuals able to make their own agricultural decisions, or are they guided by community norms and expectations?

13.15 I have an active role in community decision-making.
How much of a role do the individuals play in community decision-making? If they have a more active role, then they are more likely to be able to make and shape decisions about community adaptation efforts. We want to investigate whether men and women perceive their roles similarly or differently in regards to this aspect.

13.16 I compete with my neighbors to see who can have a better farm.
Competition can be seen as both a positive and negative attribute, contributing towards making investments and towards improved productivity outcomes.

13.17 One of the problems with people today is that they challenge authority too often.
A belief in the need to follow and maintain authority may make it difficult for individuals to make certain changes.

13.18 It is important to have protection of ones' own property and rights.
This refers to individual rights and property protections.

13.19 My community is welcoming to new agricultural ideas and practices.
How are new ideas presented and reacted to in the community? We predict that where communities are more welcoming and accepting of new ideas, we will see more people adopting these different practices.

13.20 Co-operation with others usually works.
Are individuals pre-disposed to work together? If they do not think that cooperation will produce positive outcomes, then they will be less likely to work together.

13.21 Being a farmer is an important part of my identity.
Are individuals apt to describe themselves as farmers? Is this a central aspect of their identity?

13.22 When making agricultural decisions, I am most (very concerned) about food security.
Again, this question is concerned with tradeoffs and priorities. What are the factors guiding and contributing towards decision-making?

13.23 I am capable of improving my life and the lives of members of my household.
This question asks about the efficacy of how individuals believe they can make a difference. Research has shown that individuals who believe they are capable of making a difference in their lives are able to effect more changes and to make more differences.

13.24 The land use and agricultural changes that I have implemented will help me reduce my vulnerability to climate changes.
This question asks whether or not the actions already taken will help reduce vulnerability to climate change, testing whether or not such actions are effective.

13.25 I trust members of my community to help me in time of need.
This question asks whether the individual can count on community members to help provide necessary resources for community action and potential adaptations.

13.26 The livestock changes that I have implemented will help me to reduce my vulnerabilities to climate change.
This is the same question; are the solutions already implemented useful and effective in reducing vulnerability to climate changes?

13.27 I trust my family to help me in times of need.
This question asks again in order to see if households have sufficient resources to make agricultural changes.

13.28 It is important to me to be able to pass my farm/land on to my children.
Does the household have a strong connection to the land and a desire to pass it on to children? This would signify a stronger commitment to place.

13.29 I feel a very strong connection to the land that I farm.
Farmers with more connections are theorized to have a stronger commitment to making and investing in changes on their farm.

13.30 Men and women should have equal roles in agricultural decision-making.
This questions asks about what roles men and women should have in agriculture; if they should have more equal roles in decision making or not.