A Guideline to Conduct Combating Malnutrition in Mazar-e Sharif Study

Developing a food security strategy to create sustainable livelihoods

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Colophon:
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List of Abbreviation

ASF	Animal Source Food
DD	Dietary Diversity
DQQ	The Dietary Quality Questionnaire
GDR	The Global Dietary Recommendations
HDG	High Diversity Gardening
HFIAP	The Household Food Insecurity Access Prevalence
HFIAS	The Household Food Insecurity Access Scale
NGO	Non-Governmental Organization
PVADO	Peace Village for Afghanistan Development Organization
UNICEF	The United Nations International Children's Emergency Fund
VoP	Village of Peace

Features of
the guideline book

1

This guideline book divided into 5 chapters. You can go directly to the chapters you need according to the steps you are facing now.

2

Find interesting information/ useful recommedation through the pink box

3

Scan QR code or go to the link for supporting documents

Steps to conduct the study

Chapter 1: Get to know the study design

Chapter 2: Activities before the data collection

Chapter 3: Data collection

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Chapter 1

Get to know the study design

In this chapter, we will discuss the following topics:

- Introduction.
- High Diversity Gardening (HDG) by Village of Peace.
- Are Home-Gardening a sustainable way to improve nutrition? - A Perspective From Previous Evidence
- Study on High Diversity Gardening (HDG)

1. Get to know the study design

1.1. Introduction

Afghanistan is the home for 32.9 million people which 2 million of them are widows (1), 47.2% of them are children under 15 years old (2), and only 2.4% are over 65 years old(3). The average life expectancy is 62 years (4). In 2021, 15.3 million people are projected to be acutely food-insecure, and 4 million people are acutely malnourished (5). Afghanistan witnessed sharp increase of poverty from 2020 to 2022 (6). The latest poverty estimates were based on the Income, Expenditure, and Labor Force Survey (IE&LFS2020) conducted by the National Statistical Authority (NSIA) between October 2019 and September 2020 reported a poverty rate of 47.5%, which means one in two people in Afghanistan live under the poverty line. The mean of the poverty line at the national level is 2,268 Afghani per person per month (2), following a decline of the GDP by an estimated 13.2% (7). In September 2022, the Whole of Afghanistan Assessment (WoAA2022), used the same threshold with IE&LFS2020, reported that around 85% Afghan are below the poverty threshold (6). This situation makes food prices skyrocket, a situation that is worsened by a fall in domestic production due to constraint on supply chains for raw material and restriction for external suppliers and trade. Hunger becomes inevitable, which is seen in Afghanistan's ranking of 109th out of the 121 countries in the Global Hunger Index 2022 (8).

The condition also translates to high levels of malnutrition. According to UNICEF Afghanistan (9), 38.2% of children under 5 years of age suffer from stunted growth, which is higher than the average for the Asia region (21.8%). Stunting represents chronic malnutrition and the effects are irreversible (10). Meanwhile, 5.1% of children under 5 years of age suffer from wasting, which an indicator of acute significant food shortage and/or disease. However, 4% of children in Afghanistan were estimated to be overweight in 2018. In 2019, prevalence of anemia among women in reproductive age in Afghanistan was 43% (11).

UNICEF Afghanistan (2021)

Besides the economic crisis, hunger is also compounded by prolonged conflict, natural disaster, impacted by climate change, health impacts of COVID-19, and severe restriction to girls and women's right to work and pursue higher education (5,12). Girls have been banned from entering secondary school and women have been banned from working since…. Other strict regulation for girls and women require them to adhere a strict dress code, prohibiting them from traveling more than 75 km without a *mahram* (family member with whom marriage would be considered unlawful), and banning them to enter public spaces, such as amusement park, public baths, and gyms or sports clubs. They are forced to stay at home which make widows and singles live harder, even basic acvitities such as getting food and generating income are prohibitative.

1.2. High Diversity Gardening (HDG) by Village of Peace

Village of Peace (VoP) is a Dutch-based and Afghanistan-run Non-Governmental Organization (NGO) that focused on improving the quality of life of Afghans. Collaborating with an Afghan partner, Peace Village for Afghanistan Development Organization (PVADO), they focus on the most vulnerable population in Afghanistan, widows, and orphans. For the last five years, they have pioneered a type of home-gardening, which they call High Diversity Gardening (HDG), to work towards food security in Mazar-e Sharif City (Figure 1). HDG contains both nutrient dense crops for contributing to diversity and healthy diet and cash crop (saffron) for generating income to purchase other food items.

Figure 1. Map of Afghanistan, with Mazar-i-Sharif City (Nelson, 2010).

Nutrition education is also a component of a High Diversity Home Garden project. Participants receive supplies and seeds to commence their own home gardens, including a diversity of crops to produce a variety of nutrients dense crops to supplement their diets. VoP aims to provide a holistic approach, where supplies are provided to participants, who are also supported with training in caring for their gardens, as well as how to reap maximum nutritional benefits from the foods that they grow and prepare. Participants are taught about direct seeding, transplanting, cultivating land, and the benefits of crop rotation (3).

The complementary portion of the home gardening training focuses on nutrition education, where it is explained to participants how nutrients are gained from food. The education section consists of several parts: why do we need a healthy diet, what is a healthy diet, how to prepare a healthy diet, and yong child feeding practises. Teaching occurs through various methods, such as storytelling, games, action cards, and cooking(3).

1.3. Are Home-Gardening a sustainable way to improve nutrition? A Perspective From Previous Evidence

The right to adqueate food is fundamental to human right. In order to fulfil that, understanding the factors that plays important role to achieve food security is important. Food security exists when all people, at all times, have physical, social and economic acess to sufficient, safe, and nutritious food which meets their dietary needs and food preferences for an active and healthy life (13). Food security is one of intended outcome of food system. Food systems refer to the entire process of production, processing, distribution, preparation and consumption of food, and the output of these activities, including food security, socio-economic and environmental outcome(13). A study in Afghanistan rural household showed that female-headed household had higher odds of severe food insecurity (14)

Home-gardening is a promising approach to enhance household food security and wellbeing by (15)providing direct access to food that can be harvested, prepared, and fed to the family members. The conceptual relationships between home-gardening and nutrition outcome is mediated by the food environment (Figure 2). The food environment considers how local food systems characteristics can support home-gardening and have an impact to food and nutrition security, environmental quality, economic benefit, and ecosystem services.

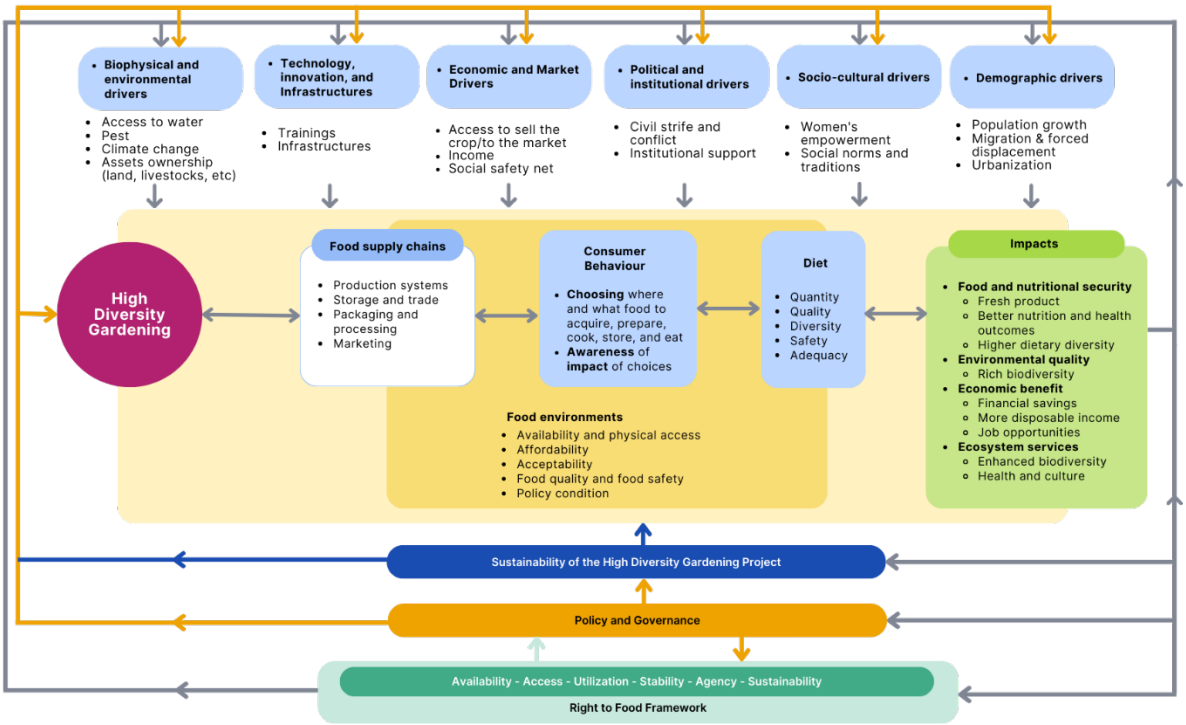


Figure 2. Theoretical Framework of High Diversity Gardening (16–18)

A study in Rwanda and Tanzania found that having home-garden improved dietary diversity and resulted in better nutritional outcomes (18). Coherently, a study in Afghanistan rural household found that engagement in agricultural activity decrease the odds of severe household food insecurity (19). During COVID-19 pandemic, which impacted food supply chain, home-gardening can provide a short-term supply of food (19).

Participation in home-gardening is influenced by family size, gender, education, access to land, and livestock ownership (18). Household size is correlated with home-gardening participation because family labor can be seen as a critical source of labor supply for cultivating home gardens. Female household heads were significantly more likely to participate in home-gardening than male household heads. Educated farmers may have better access to information and a more profound understanding of the nutritional and other benefits of home gardening; they can also transform new information more quickly and effectively. Households all land ownership categories are more likely to participate in home-gardening than landless households with households who own more than 0.5 ha of land. Meanwhile, livestock ownership associated to wealth, but complementarity also exists between livestock rearing and home-gardening, as manure is often used to fertilize home-gardens.

A cluster-randomized study in Tanzania showed a significant increase in dietary diversity score after one year home-gardening intervention. As short-term impact, increased vegetable production and nutritional knowledge are enhancing diversity score in women and children. However, after three years of interventions, the difference in dietary diversity vanish. The potential challenge of home-gardening are lack of irrigation and fencing. To support sustain positive impact, adequate of irrigation, cropping method to maintain soil quality, and fencing material to decrease potential treat from domestic animals are needed. Other possible ways are by providing a futrue program design, such as intervention fidelity, social support, motivation, community cohesion, and experience sharing forum (20).

1.4. Study on High Diversity Gardening (HDG)

This study aims to identify the effectiveness of HDG in Mazar-e Sharif, improve the current intervention, and explore challenges that limit the sustainability of HDG. The study design is successive-independent-samples design meaning that at 2 time points, a random sample of the total study population is interviewed. The study will be conducted at three time points which are 2023, 2024, and 2026 in the area that receive Village of Peace initiative on HDG. The same interview questionnaire (Figure 3) will be used for each round of data collection. Data will be analysed comparing measurement point first/second stage and second/third stage. To ensure that the difference between intake on weekdays (Sunday-Thursday) and weekends (Friday-Saturday) are captured, the data collection will be spread on all days during the week.

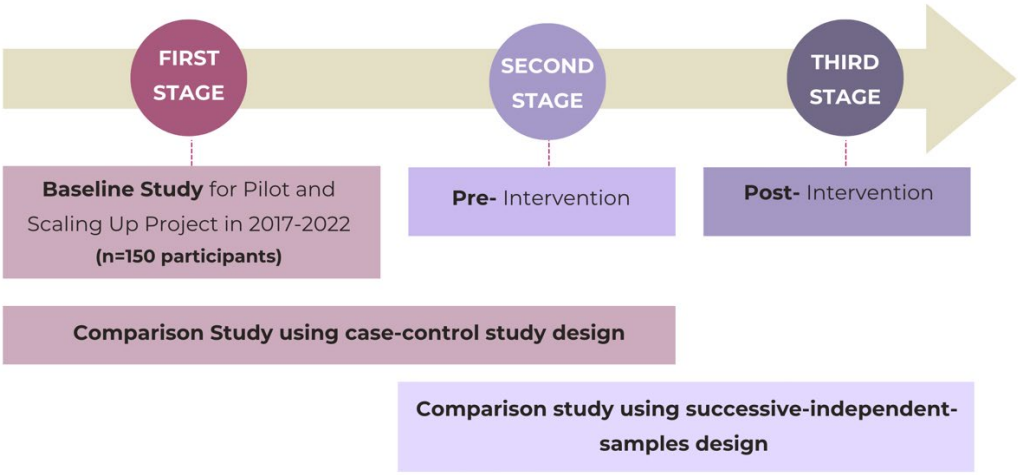


Figure 3. Three stages of the studies

Table 1. Differences of each stage

	First stage	Second stage	Third stage
Criteria of the participants	• Participated in the program from 2017-2022 • Still in contact with the facilitators. • Having mobile phone.	• The newly joined participants before recieving intervention. • Having mobile phone.	• Participated in the program from 2024-2026. • Having mobile phone.
Method of data collection	Phone interview	Phone interview	Phone interview
Number of participants	• A random subsample of minimum 150 participants from the phone list will be included.	• A random subsample of minimum 320 participants from the phone list will be selected.	• A random subsample of minimum 320 participants from the phone list will be selected. • Participants who are included can be those

	First stage	Second stage	Third stage
			who finished and not finished the intervention.
Power of the study	The power is expected to be 80-90%. We consider the power is	We consider increasing the power to 95% by	We consider increasing the power to 95% by including

Chapter 2

Activities to undertake before beginning the data collection

In this chapter, we will discuss the following topics:

- The best time to conduct the study.
- Random sampling using Ms. Excel
- Training survey interviewers
- Contacting the Participants
- "What if" during contacting participants

2. Activities to undertake before beginning data collection

2.1. The best time to conduct the study

The questions in this study represent universal domain of household food insecurity, such as the questions in the Household Food Insecurity Access Scale (HFIAS) Questionnaire and Dietary Quality Qestionnaire (DQQ). So, when is the best time to conduct the study? Both HFIAS and DQQ has different answers, which vary according to our aims, such to assess food security situation according to community actitivities (agricultural/non-agricultural), monitoring program/intervention related to food security, (see Table 2). However, we suggested to take into account seasonality aspect.

There two fundamental things to be considered:

1. When comparing the household food insecurity status across multiple years, it's crucial to **conduct the survey during the same period each time** to accurately assess any changes.
2. To determine the impact of a food security intervention, it is preferable to do the survey during or directly after the lean season. Considering the seasonality in a typical year in Afghanistan, the three stages of the study are suggested to be performed **around January-May** (21)

Table 2. When to conduct the survey

Objective	Timing
Assessment of the **food security situation in rural, agriculture-based communities**	During the period of greatest immediately prior to the harve emergencies or natural disasters (22). This is due to the greatest number of households is likely to be affected by food insecurity (access) at this time(23). ⇒ This may also serve as a baseline for monitoring change due to an intervention or for investigating seasonality
Assessment of **the food security situation in non-agricultural communities**	At the moment when most food insecurity is expected to happend (22). ⇒ May also serve as a baseline for monitoring changes due to an intervention
Monitoring of **food security/nutrition programmes or agricultural interventions** such as crop and livelihood diversification	Repeated measures in different points time during the year to capture the information of how the project works in times of scarcity and in times when there is more food available. Can be done quartally to ensure seasonality aspect is measured.
Evaluation of **food security/nutrition programmes or agricultural interventions** such as crop and livelihood diversification	Repeated measures to assess impact of the intervention on the quality of the diet, conducted at the same time of year as the baseline (to avoid interference due to seasonal differences)(22).

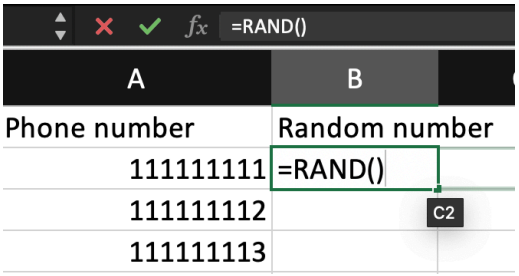
2.2. Random sampling using Ms. Excel

Before we begin the data collection, we need to do a simple random sampling. Random sampling is crucial in statistics and research to select a subset of population that each of the member in the subset has an equal probability of being chosen. It is meant to ensure that the study population is **unbiased representation of the entire population**, allowing for generalizations to be made about the larger population.

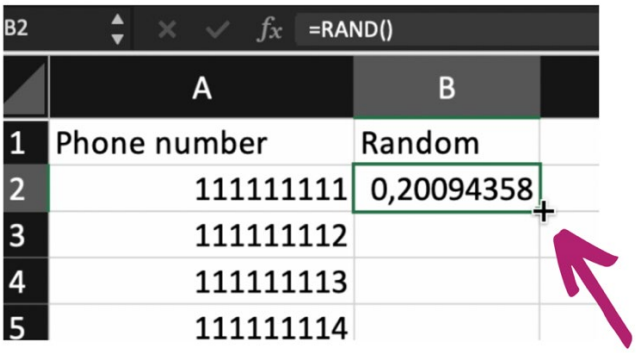
To do random sampling in Excel, you can use the RAND() function to generate a random number for each row of data, and then sort the data based on the random numbers to select a random sample. You can scan the QR code for watching the video tutorial or access it through bit.ly/HDG-sampling. Here are the steps:

1. Make sure you already have an Excel file containing phone number list (without any other personal information,the woman's name should NOT be on the list) of all the women that participating. The interviewers will not know who they are Interviewing before they had contact with the participants. For example, during 2017-2022, there is 680 widows that has received intervention.

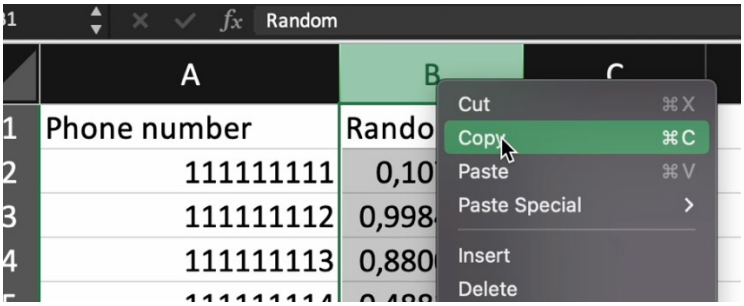
2. In Excel file, add a new column next to the phone number. Type “Random number”. In the second row of random number column, enter the formula =RAND() and press Enter. This will generate a random number for that row.



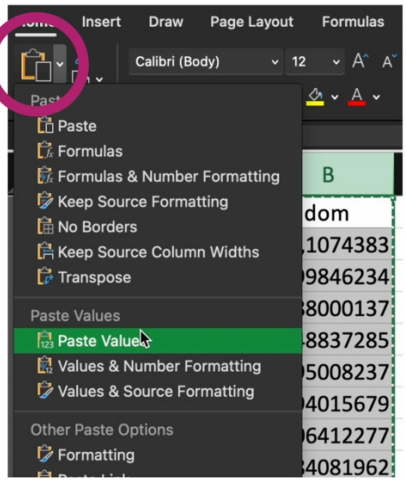
3. Copy the formula down to the rest of the rows in the column by put your cursor to right bottom of the cell until you can see “ + ”. Then, double-clicked it.



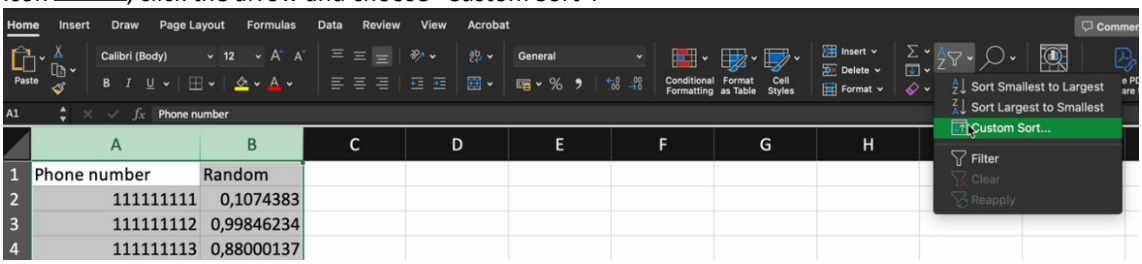
4. Select the entire column B. Right-clicked and choose “copy”.



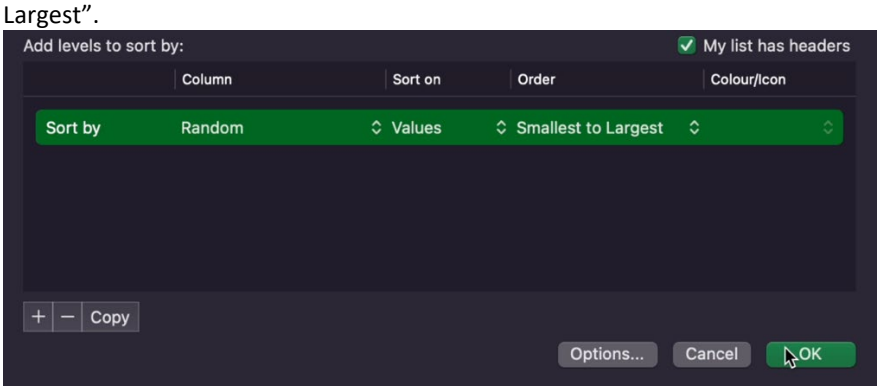
5. Find “Paste” icon  , click the arrow and choose “Paste Values”. This will remove the formula and left the values only.



6. Select the entire table, including the phone number with the random numbers. Then, Find Sort & Filter icon  , click the arrow and choose “Custom Sort”.



7. At the pop up window, change the column to “Random”. Then, change the order to “Smallest to Largest”.



8. Select the number of rows you want for your sample, starting from the top or bottom of the sorted table. For example, if your sample is 320, then the participants in row 2 until 321 is your selected study participants.

2.3. Training survey interviewers

Once the study population is choosen, team leaders and interviewers should be trained to conduct the interviews in the households. The interviewers will be supervised by one team leader. KoboCollect will be used by the interviewers during the data collection, therefore 2 the training aims to familiarize the interviewers with the questionnaire and how to use the application. You can scan the QR code for the training material or access it through bit.ly/HDG-training

The training for the team leader will be held virtually. This training will consist of 2 sessions.

1. In the first session, there will be an explanation about the research and how to use KoboCollect and KoboToolbox. We have prepared four tutorial videos on how to utilize KoboCollect. You scan the QR code for access it through bit.ly/HDG-kobo. The username and password to access KoboToolbox will be given to VoP and team leaders. The team leaders will share it to the interviewers during the training.

2. The second session will focus on the parameters that will be used in the questionnaire and practice using the questionnaire. After the training, all interviewers will be given 1 weeks to practices to your KoboCollect and submit the result. Role plays are an ideal method for familiarizing interviewers with the procedure for completing the questionnaire in simulated circumstances. Each interviewer should ensure that they have practice asking the question, reading outloud, and recording the answers. You must make sure you fully understand all the questions and potential answers, in case a participant has a question.

Before the data collection, the researchers will remove the data from the dashboard. VoP, PVADO, and the team leader can have access to KoboToolbox's Dashboard to be able to maintain check progress of interviews and do quick checks for data quality.

2.4. Contacting the Participants

After we have the phone number list (see step 2.1), we need to contact the participant to ask their availability for the interview. The interview is expected to take 20-30 minutes, however you will have a better sense of the time it takes after practicing during the training. With this estimated time, you expected can contact 7-10 people per day through phone interview. The interview period should be a maximum of 3 weeks to prevent that there is seasonality difference.

Here are the steps to contact the participants:

1. Read the detailed information regarding the study which is available on the informed consent in the questionnaire.
2. If they say they are willing to be the respondent, ask them when they are available. If they can do it directly, then you can do it right away.

2.5. "What if" during contacting participants

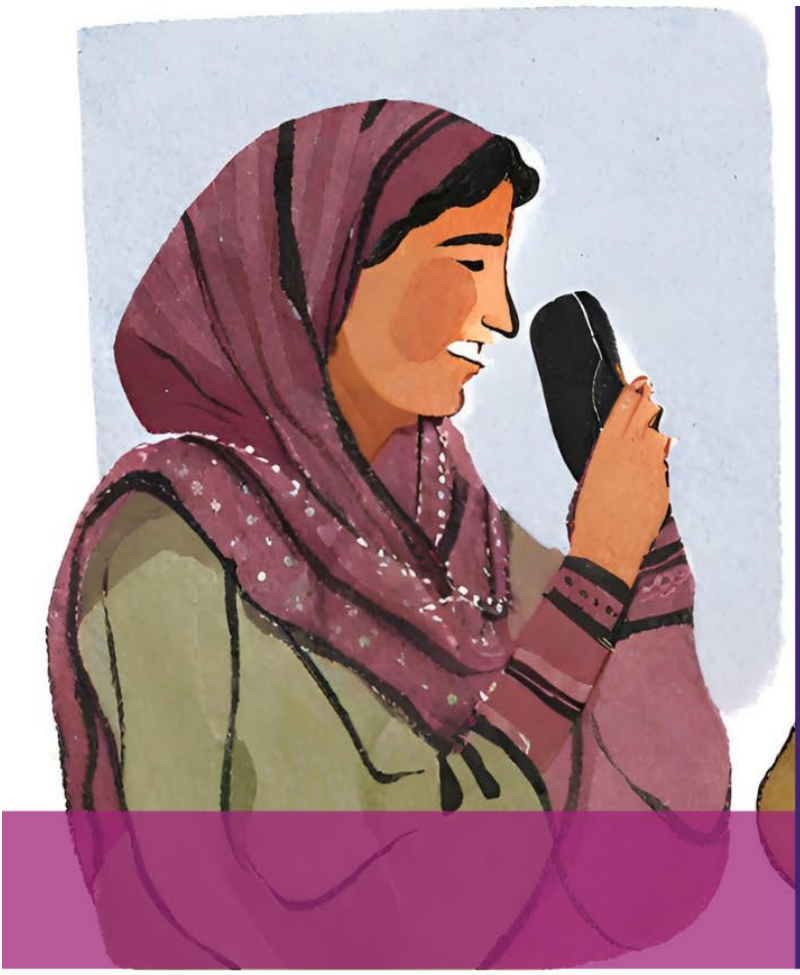
1. **If the participants available at other times**
   It is ok. Schedule the meeting and make sure it is still in the period to do the interview.
2. **If the participants could not be contacted**
   Contact the participant again the next day. If they still could not be contacted, do it again in the next day. After you have called two times, if you still have not recieved any response, you can substitute the respondent to the next person from the bottom on the phone list. For example, if the total respondent is 320 people, then the subtitute respondent is the respondent in the 321 row.

3. **If the participants refuse to join the study**

   It is okay. The participant has the right to choose to whether they want to join or not and we have to respect their decision. Please thank them for their time. You can substitute the respondent to the next person from the bottom on the phone list.For example, if the total respondent is 320 people, then the subtitute respondent is the respondent in the 321 row.

Chapter 3

Instruction for administering the questionnaire



In this chapter, we will discuss the following topics:

- Interviewer
- Informed Consent
- Basic Household questions
- Home-gardening production questions
- Market Access
- Household Food Insecurity Access Scale (HFIAS)
- General Information regarding foord insecurity
- HFIAS measurement tool
- Dietary Duality Questionnaire (DQQ)

3. Instruction for administering the questionnaire

The data will be collected in Dari language using Kobo Collect. For more Information about how to use Kobo Collect, see step 2.2. You will contact the respondent via phone, and you are expected to input the data using Kobo Collect simultaneously. Therefore, you should already feel comfortable with the questions before the interview starts. Below, you will find a detailed description of the different sections of the questionnaire.

The general important thing for all part of the questionnaire is that the **interviewer only ask the question without mentioning the answer options.**

3.1. Interviewer

The interviewer will record a code instead of their name in the questionnaire. The team leader will give the interviewer their code, for example A, B, C, etc. We use codes instead of names to ensure that their is no link-back to either the interviewer or the participants.

3.2. Informed Consent

You need to read the informed consent out loud and complete in Dari. After you finish read it, you may ask the respondent whether they want to take part in this interview or not. The things to keep in mind is that the respondent has the right to do following things:

1. Refuse to participate in the interview.
2. Choose to stop, at any point, without any effects on participating in any other activities from PVADO.
3. Ask the interviewer any questions that the respondent have at any time
4. Free not to respond (or choose "prefer not to say") if there is a question that makes the respondent feel uncomfortable or do not want to say anything.

Inform Consent

Read: Salam. This interview is intended to collect data to inform the Village of Peace and Peace Village for Afghanistan Development Organization about the effects of the high diversity/home gardens. The objective of this interview is to get insights in the current household production practices and food consumption. This information will be used to improve the (village of peace) approach to high diversity/home gardening and also be used to scale-up to help households such as yours. The results may also be shared with a wider international audience.

You have been selected because you have participated (or will participate) in the (village of peace) high diversity/home gardening project. Your participation is voluntary, and you may join at your own free will. You are also free to withdraw from the interview at any time without penalty. If a question makes you feel uncomfortable or you do not want to say anything, you are free not to respond. If there is a question you do not understand, please let us know – and it can be explained in another way.

Your answers will be kept confidential. We will not record your name and we will not ask you for any other information that is specific to you as an individual. Also, your answers will only be used for this study and not shared with other researchers that are not involved in this study. A report will be written about this study. Others will be able to read this report, but we'll make sure it doesn't contain information that can be linked to you as an individual.

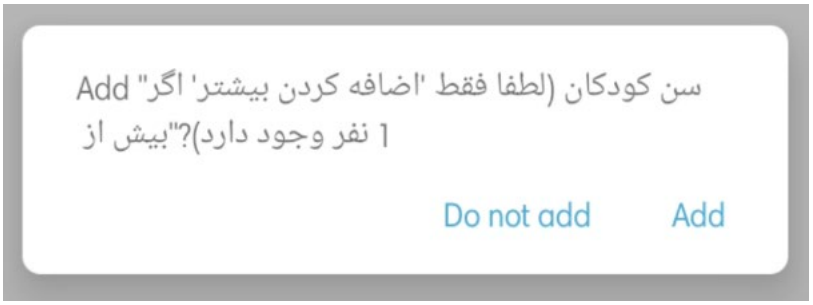
Note also that at any time during the interview, you can choose to stop without any effects on you participating in any other activities run by Peace Village for Afghanistan Development Organization. You can ask the interviewer any

questions that you have at any time. If you have any questions you can contact Behishta (+93 74 446 3424).

Do you consent to take part in this interview? Yes/No

3.3. Basic Household questions

In this section, you will ask the respondent about their personal information such as their status (widow/not), age, education level, number of household members, number children, age of the children, and number of elderly and people who need care. **If the respondent has more than one child, you need to entry the age of the children separately by clicking "+".**



3.4. Home-gardening production questions

The purpose of this section is to get the information on the practice of home gardening. There are three part of home-gardening production question: the practice of home-garden production: what are the grown crops in the past years, and home-garden challenges. **Some questions ONLY will be appeared if the respondents answer with certain responds.** For example, if the respondent answer that she planted potato and cabbage, the detailed question about other crops will not shown. Therefore, **interviewer should become practice and familiarize with the questionnaire before the interview.**

3.5. Market Access

If the respondent answer that they have access to the market, it will be followed up with three additional questions related to market access, such as the company when going to the market, transportation they use, and the duration of travel from home to the market center.

3.6. Household Food Insecurity Access Scale (HFIAS)

In the questionaire for this study, there is two part of HFIAS section: the general information regarding food insecurity and HFIAS measurement tool. For more information about HFIAS, you can access it here.

3.6.1. General Information regarding food insecurity

General information regarding food insecurity includes questions about household's sources of livelihood, food consumption, and hygiene practices.

3.6.2. HFIAS measurement tool

On the second part, the HFIAS measurement tool consists of two types of questions. The first type is called an occurrence question. There are nine occurrence questions that ask whether a specific condition associated with the experience of food insecurity ever occurred during the past 12 months and the previous four weeks (30 days). Each severity question is followed by a frequency-of-occurrence question, which asks how often a reported condition occurred during the previous four weeks. The interviewer will read the nine occurence

questions for the past 12 months, then it is followed by the nine occurence questions for the previous four weeks (23).

Although there are pre-coded response options**, the interviewer should not read these options aloud each time but rather allow the respondent to answer in his or her own words**. The respondent needs to answer on behalf of all household members. The interviewer will select the most appropriate response option based on the respondent's reply. For instance if, after asking an occurrence question, the respondent says "no" but adds that it only happened a few times, then the correct code is '1' (yes). The frequency-of-occurrence question should then be asked. If the respondent describes a frequency that would translate to "three to ten times" in the past four weeks, the correct response selection for the frequency-of-occurrence question is "sometimes", and the correct code is '2'. If the respondent has difficulty replying then the interviewer can encourage a response by listing the set of options again.

Here is the instruction for nine occurence questions based on Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access ((23):

1. **Q1: Worry about food**
   This question asks the respondent to report their personal experience with uncertainty and anxiety about acquiring food. The interviewer should also mention the definition of a "household". By "household" we mean those of you that sleep under the same roof and take meals together at least four days a week. Mention that this definition of household applies to all the questions with that term.

2. **Q2: Unable to eat preferred foods**
   This question asks whether any household member was not able to eat according to their preference due to a lack of resources. Preferred foods may or may not be high in nutrients .

3. **Q3: Eat just a few kinds of foods**
   This question asks about dietary choices related to variety – i.e., whether the household had to eat an undesired monotonous diet (little diversity in the different types of foods consumed).

4. **Q4: Eat foods they really do not want eat**
   This question, which also captures the dimension of limited choices, asks whether any household member had to eat food that they found socially or personally undesirable due to a lack of resources. Often these are foods or food preparations that are consumed only under hardship. Different people may consider different foods to be undesirable, so it is best not to provide examples here at first.

5. **Q5: Eat a smaller meal**
   This question asks whether the respondent felt that the amount of food (any kind of food, not just the staple food) that any household member ate in any meal was smaller than they felt they needed due to a lack of resources. The respondent should answer according to his or her perception of what constitutes enough food for the needs of the household members

6. **Q6: Eat fewer meals in a day**
   This question asks whether any household member, due to lack of food, had to eat fewer meals than the number typically eaten in the food secure households in their area.

7. **Q7: No food of any kind in the household**
   This question asks about a situation in which the household has no food to eat of any kind in the home. This describes a situation where food was not available to household members through the households' usual means (e.g., through purchase, from the garden or field, from storage, etc.).

8. **Q8: Go to sleep hungry**

This question asks whether the respondent felt hungry at bedtime because of lack of food or whether the respondent was aware of other household members who were hungry at bedtime because of lack of food.

9. **Q9: Go a whole day and night without eating**
   This question asks whether any household member did not eat from the time they awoke in the morning to the time they awoke the next morning due to lack of food.

3.7. Dietary Quality Questionnaire (DQQ)

Diet Quality Questionnaire (DQQ) was developed as a tool to rapidly assess diet quality. There will be two type of DQQ: for women and another for young children (<2 years old, if any). The approach for collecting information on dietary diversity described in these guidelines is a qualitative 24-hour recall of all the foods and drinks consumed at the individual level. The DQQ gathers information on consumption of food groups (29 in total). A food group is defined as a set of foods that share similar nutritional properties or biological or culinary characteristics.

- √ The DQQ is a simple and ready-to-use tool.
- √ Designed to be read exactly as written.
- √ No additional dialogue or probing is needed during the interview.
- √ Do not change the questions in any way.
- √ Do not add or remove foods. Changing the questions will invalidate the DQQ.

3.7.1. Administering DQQ

Here is the step to admistering the questionnaire according to Guidelines for Measuring Household and Individual Dietary Diversity (22):

1. **Introduction:**
   a. **Interviewer reads the introduction out loud as written.** The purpose of the introduction is to enable the respondent to think about what they ate and drank yesterday.
      - If I ask you “what did you eat yesterday?” you would probably not be able to answer easily. But if I walk you through the day mentally, giving you time to remember where you were throughout the day and whom you were with, it then becomes easier for you to remember what you ate and drank.
   b. In the introduction, if there is “…” the interviewer pauses momentarily, giving space and time to allow the respondent to think (Figure 4). The appropriate pause time should feel natural, about 2-3 seconds long.

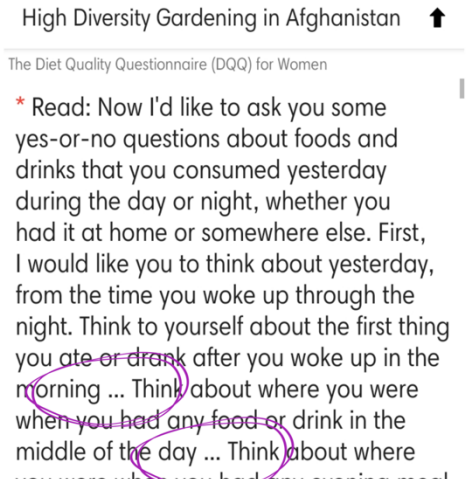


Figure 4. Informed consent in the introduction

2. Questions:
   a. Interviewer simply read the questions out loud. First, Read the “stem” question (Figure 5) aloud to remind respondents at appropriate intervals that they are thinking about ”yesterday”.. e.g. “Yesterday, did you eat any of the following vegetables?”
   b. Second, read the entire question.
      - Do not pause in the middle of reading the question. Do not ask about each food one by one.
        For example:
        CORRECT: Papaya, mango, or apricots?
        INCORRECT: Papaya? Mango? Apricots?
      - Do not cut the question short if the respondent interrupts.

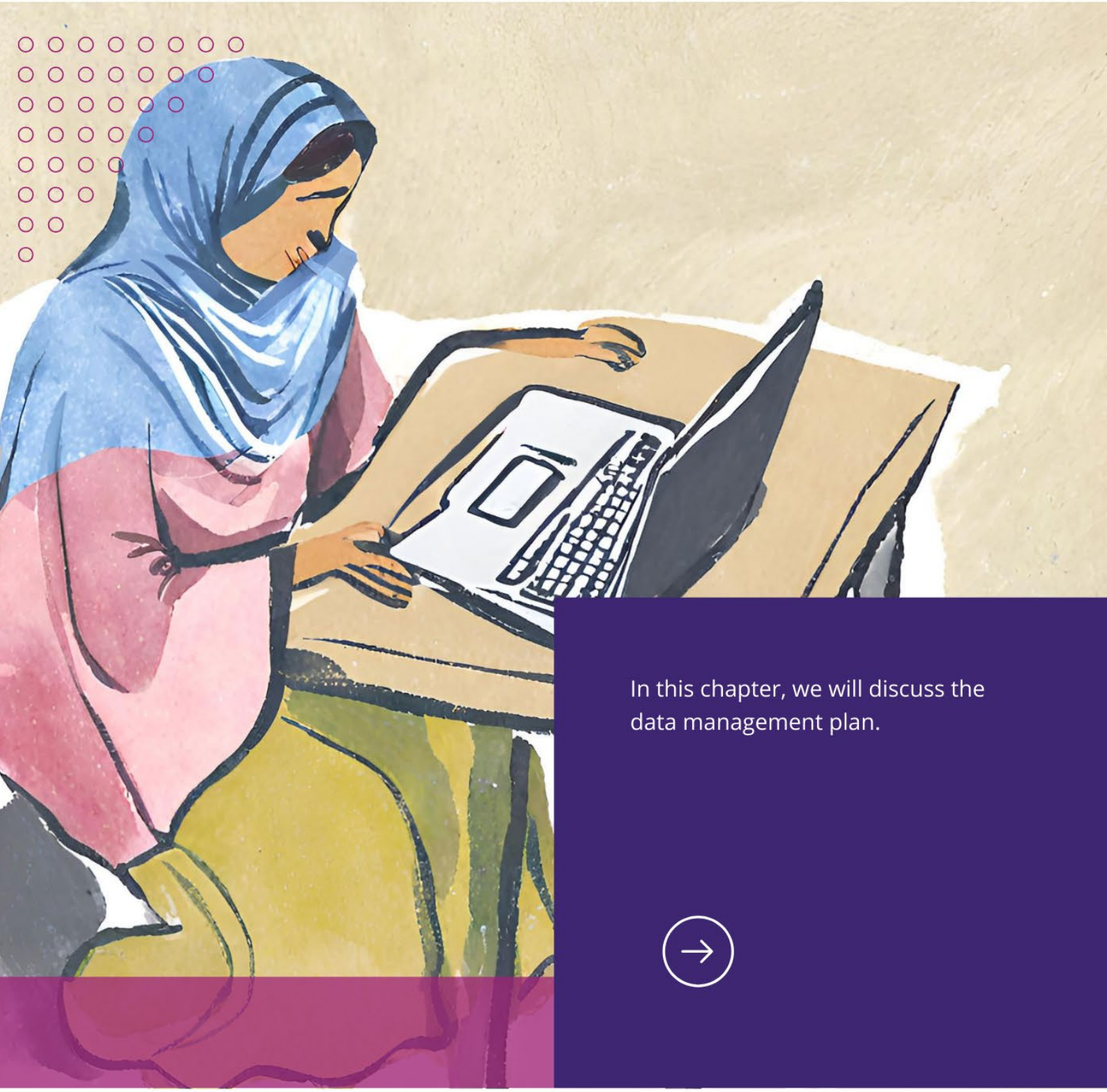
- Then tick the response (YES or NO).

3.7.2. “What to do if a respondent does not understand an item in the question?

Do not try to explain the item or food group. You may read the whole question again, and remind the respondent to say yes if they had any of the items listed. If the respondent does not know what an item is, advise the respondent to just respond based on the other items in the question.

Chapter 4

Data management plan



In this chapter, we will discuss the data management plan.

4. Data management plan

The data which is stored online in the Kobo Toolbox dashboard can be analyzed using R studio or any other statistical platform. The data cleaning will be performed as a part of quality assurance to identifying any errors or corruptions in the data and correcting or manually processing the data, as needed, to prevent any recurring errors. To keep track on the data collection process, the team leader can monitor how many interviews has been done by each interviewers from the Kobo Toolbox dashboard. In the “summary”, you can find “submissions” (Figure 6). There will be information about how many interviews have been submitted by the interviewers. The team leaders should check whether the data submitted has been fully and correctly reported by the interviewers. After all of the interviews have been done, the team leaders/researchers can download the excel file. You can go to “form”, click the three dots, and click “doqnload XLS” from the pop-up window (Figure 7).

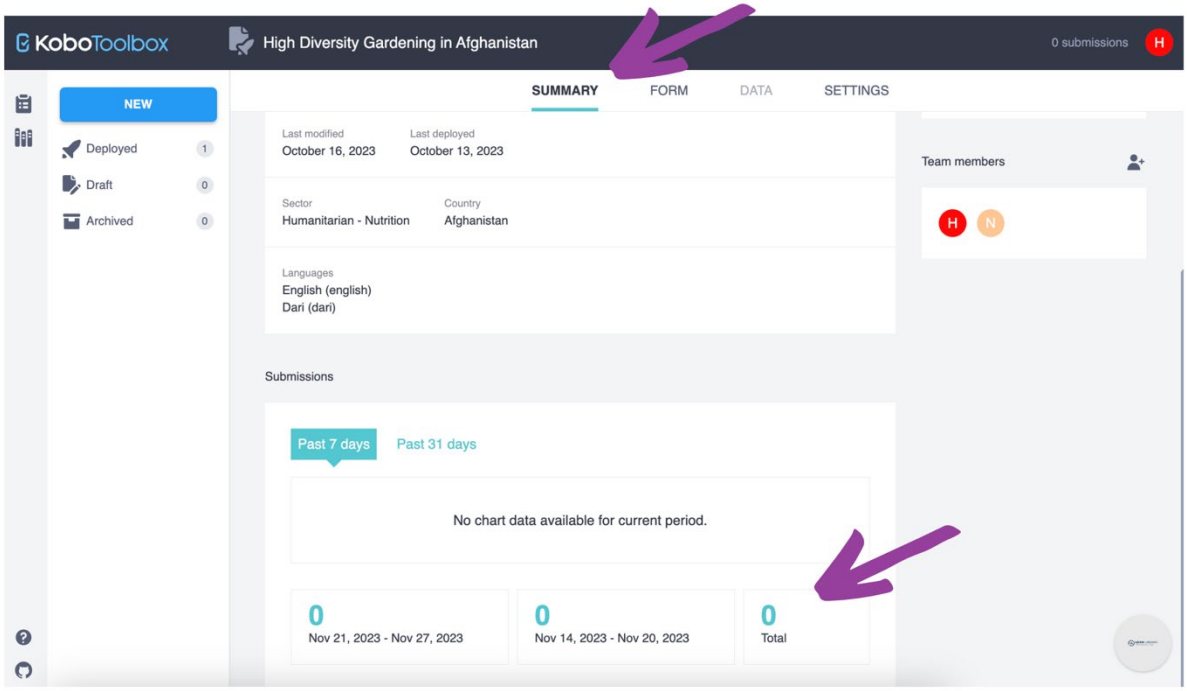
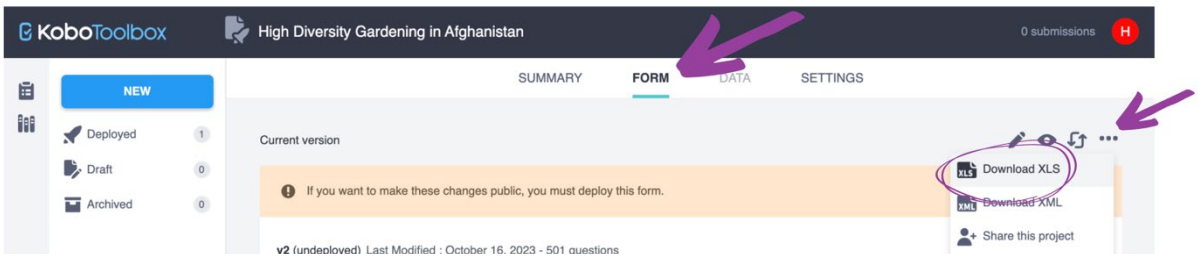


Figure 6. Data Submission



Chapter 5

Data Analysis Recommendation

5. Data Analysis Recommendation

5.1. Analyzing Household Food Insecurity Access

The HFIA indicator was developed by FHI 360 under the Food and Nutrition Technical Assistance III Project (FANTA). For more information see: www.fantaproject.org

For this study, we highly recommend to analyse (a minimum of) Household Food Insecurity Access *Scale Score* (HFIAS) as indicators.

The HFIA module yields information on food insecurity (access) at the household level. Four types of indicators can be calculated to help understand the characteristics of and changes in household food insecurity (access) in the surveyed population (23). These indicators provide summary information on:

1. Household Food Insecurity Access ***Scale Score***
2. Household Food Insecurity Access-related ***Conditions***
3. Household Food Insecurity Access-related ***Domains***
4. Household Food Insecurity Access ***Prevalence***

These are the steps to do the analysis of the data for each indicators:

5.1.1. Household Food Insecurity Access Scale (HFIAS) Score

The HFIAS score is a continuous measure of the degree of food insecurity (access) in the household in the past four weeks (see Annex). Here is the steps to calculate the HFIAS Score:

HFIAS Score interpretation:
The higher the score, the more food insecurity (access) the household experienced. The lower the score, the less food insecurity (access) a household experienced.

1. Summing the frequency-of-occurrence questions
   A HFIAS score variable is calculated for each household by summing the codes for each frequency-of-occurrence question. Before summing the frequency-of-occurrence codes, the data analyst should code frequency-of-occurrence as 0 for all cases where the answer to the corresponding occurrence question was "no" (i.e., if Q1=0 then Q1a=0, if Q2=0 then Q2a =0, etc.).

   For example, for Q1 ("Did you worry that your household would not have enough food in the past four weeks?"), the respondent say Yes, then the score is 1. Then for the requency of occurence (Q1a) the respondent answer "Sometimes", then the score is 2. If the respondent answer Q1 with No, then Q1a will automatically be 0 (see Figure 8).

Q	1			a
Ser.no	Question	In the past 12 months	In the past four weeks	
		1-Yes 0-No 98-Don't Know 99-Refused	1-Yes 0-No 98-Don't Know 99-Refused If ≠ from 'yes' skip to next question	How often did [Question] happen in the past four weeks? 1-Rarely (once or twice in the past four weeks) 2-Sometimes (three to ten times in the past four weeks) 3-Often (more than ten times in the past four weeks)
1	Did you worry that your household would not have enough food?			

Figure 8. Frequency-of-occurrence for Q1a

The maximum score for a household is 27 (the household response to all nine frequency-of-occurrence questions was "often", coded with response code of 3); the minimum score is 0 (the household responded "no" to all occurrence questions, frequency-of-occurrence questions were skipped by the interviewer, and subsequently coded as 0 by the data analyst.)

HFIAS Score (0-27)	Sum of the frequency-of-occurrence during the past four weeks for the 9 food insecurity-related conditions Sum frequency-of-occurrence question response code (Q1a + Q2a + Q3a + Q4a + Q5a + Q6a + Q7a + Q8a + Q9a)

2. Next, the indicator, average Household Food Insecurity Access Scale Score, is calculated using the household scores calculated above.

Average HFIAS Score	Calculate the average of the Household Food Insecurity Access Scale Scores $= \frac{\text{Sum of HFIAS Scores in the sample}}{\text{Number of HFIAS Scores (i.e., households) in the sample}}$

5.1.2. Household Food Insecurity Access-related Conditions

These indicators provide specific, disaggregated information about the behaviors and perceptions of the surveyed households. For example, if a program is providing assistance in growing staple crops and improved storage facilities, it might be useful to understand what percent of households had run out of food.

The indicators present the percent of households that responded affirmatively to each question, regardless of the frequency of the experience. Thus they measure the percent of households experiencing the condition at any level of severity. Each indicator can be further disaggregated to examine the frequency of experience of the condition across the surveyed households.

Household Food Insecurity Access- related Conditions Households experiencing condition at any time during the recall period.	Percent of households that responded, "yes" to a specific occurrence question. For example: "Percent of households that ran out of food (Q7)." Example: $= \frac{\text{Number of households with response "1" to Q7}}{\text{Total number of households responding to Q7}} \; x \; 100$
Households experiencing condition at a given frequency	Percent of households that responded "often" to a specific frequency-of- occurrence question. For example: "Percent of households that ran out of food often (Q7a)." Example: $= \frac{\text{Number of households with response "3" to Q7a}}{\text{Total number of households responding to Q7}} \; x \; 100$

5.1.3. Household Food Insecurity Access-related Domains

These indicators provide summary information on the prevalence of households experiencing one or more behaviors in each of the three domains reflected in the HFIAS—Anxiety and uncertainty, Insufficient Quality, and Insufficient food intake and its physical consequences.

Household Food Insecurity Access- related Domain	Percent of households that responded "yes" to any of the conditions in a specific domain. For example: "Percent of households with insufficient food quality." Example:

Households experiencing any of the conditions at any level of severity in each domain	$= \frac{\text{Number of households with response "1" to Q2 or Q3 or Q4}}{\text{Total number of households responding to Q2 or Q3 or Q4}} \; x \; 100$

5.1.4. Household Food Insecurity Prevalence (HFIAP)

The Household Food Insecurity Access Prevalence (HFIAP) Status indicator can be used to report household food insecurity (access) prevalence and make geographic targeting decisions. The change in HFIAP can also be tabulated. For instance, if 60 percent of households are severely food insecure (access) at baseline and only 30 percent are severely food insecure (access) at the end of the program, the prevalence of household food insecurity (access) would have decreased by 30 percentage points (or by 50 percent). Because the average HFIAS score is a continuous variable, it is more sensitive to capturing smaller increments of changes over time than the HFIAP indicator. **Therefore, the HFIAP indicator should be reported in addition to, rather than instead of, the average HFIAS Score for program monitoring and evaluation.**

The HFIAP indicator categorizes households into four levels of household food insecurity (access): food secure, and mild, moderately and severely food insecure. Households are categorized as increasingly food insecure as they respond affirmatively to more severe conditions and/or experience those conditions more frequently.

A food secure household experiences none of the food insecurity (access) conditions, or just experiences worry, but rarely.

- ⇒ *A mildly food insecure (access) household* worries about not having enough food sometimes or often, and/or is unable to eat preferred foods, and/or eats a more monotonous diet than desired and/or some foods considered undesirable, but only rarely. But it does not cut back on quantity nor experience any of three most severe conditions (running out of food, going to bed hungry, or going a whole day and night without eating).
- ⇒ *A moderately food insecure household* sacrifices quality more frequently, by eating a monotonous diet or undesirable foods sometimes or often, and/or has started to cut back on quantity by reducing the size of meals or number of meals, rarely or sometimes. But it does not experience any of the three most severe conditions.
- ⇒ *A severely food insecure household* has graduated to cutting back on meal size or number of meals often, and/or experiences any of the three most severe conditions (running out of food, going to bed hungry, or going a whole day and night without eating), even as infrequently as rarely. In other words, any household that experiences one of these three conditions even once in the last four weeks (30 days) is considered severely food insecure.

Table 3 below illustrates this categorization. The categorization scheme is designed to ensure that a household's set of responses will place them in a single, unique category.

Table 3. Household Food Insecurity Prevalence

	Question a	Frequency		
		Rarely 1	Sometimes 2	Often 3
1	Did you worry that your household would not have enough food?			
2	Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?			
3	Did you or any household member have to eat a limited variety of foods due to a lack of resources?			
4	Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources			
5	Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?			
6	Did you or any other household member have to eat fewer meals in a day because there was not enough food?			
7	Was there ever no food to eat of any kind in your household because of lack of resources to get food?			
8	Did you or any household member go to sleep at night hungry because there was not enough food?			
9	Did you or any household member go a whole day and night without eating anything because there was not enough food?			

= Food secure
= Midly food insecure
= Moderately food insecure
= Severely food insecure

To calculate HFIAP, there is two steps to be taken:

1. **Calculate a HFIA category variable for each household** by assigning a code for the food insecurity (access) category in which it falls. The data analyst should have coded frequency-of- occurrence as 0 for all cases where the answer to the corresponding occurrence question was "no" (i.e., if Q1=0 then Q1a=0, if Q2=0 then Q2a =0, etc.) prior to assigning the food insecurity (access) category codes. The four food security categories should be created sequentially, in the same order as shown below, to ensure that households are classified according to their most severe response.

HFIAS category	Calculate the Household Food Insecurity Access category for each household. 1 = Food Secure, 2=Mildly Food Insecure Access, 3=Moderately Food Insecure Access, 4=Severely Food Insecure Access ⇒ HFIA category = 1 if [(Q1a=0 or Q1a=1) and Q2=0 and Q3=0 and Q4=0 and Q5=0 and Q6=0 and Q7=0 and Q8=0 and Q9=0] ⇒ HFIA category = 2 if [(Q1a=2 or Q1a=3 or Q2a=1 or Q2a=2 or Q2a=3 or Q3a=1 or Q4a=1) and Q5=0 and Q6=0 and Q7=0 and Q8=0 and Q9=0] ⇒ HFIA category = 3 if [(Q3a=2 or Q3a=3 or Q4a=2 or Q4a=3 or Q5a=1 or Q5a=2 or Q6a=1 or Q6a=2) and Q7=0 and Q8=0 and Q9=0] ⇒ HFIA category = 4 if [Q5a=3 or Q6a=3 or Q7a=1 or Q7a=2 or Q7a=3 or Q8a=1 or Q8a=2 or Q8a=3 or Q9a=1 or Q9a=2 or Q9a=3]

2. **Calculate the prevalence** of different levels of household food insecurity (access) is calculated.

HFIAS Prevalence	Percentage of household that fall in each food insecurity (access) category. For example: " Percentage of severely food insecure (access) households."

	Example : $= \frac{\text{Number of households with HFIA category} = 4}{\text{Total number of households with a HFIA category}} \; x \; 100$

The HFIS indicators presented in the tabulation plan above **are useful for reporting food insecurity (access) prevalence, for making population level targeting decisions, and for examining the impact of program activities on overall food insecurity (access) or some dimension of it**. The indicators are not intended, however, to be used to determine the causes of a problem or to guide a response—e.g., assessments of nutrition knowledge in order to design a behavior change intervention. Though the information generated from the application of the HFIAS can be used for geographical or population- based targeting, it is important to use caution if targeting resources at an individual or household level (i.e., as a program eligibility criterion) since administering subjective questions to a household in order to determine whether that particular household will receive a benefit can easily create respondent bias.

5.2. Analyzing Dietary Quality Questionnaire (DQQ)

5.2.1. Get to know to DQQ and its indicators

The DQQ is a monitoring tool for diet quality at population level, suitable for characterizing diet patterns and tracking trends over time. The DQQ tool and indicators provide a feasible, low-burden means for collecting accurate, reliable, comparable food group consumption data at population level. The characteristics that make the DQQ suitable for multi-topic surveys also render it a useful tool for program and multisectoral research applications, where diet quality measurement has been limited by lack of nutrition capacity, such as within agriculture programs.

The key limitation of the DQQ is that it does not collect quantitative information in terms of volume of each food consumed. The data show the percent of people in the population consuming each food group, but not the average amount consumed of each food group. Energy intake is not assessed.Therefore, the DQQ should not be used for individual-level dietary assessment.

The DQQ is designed to capture both nutrient adequacy and diet patterns related to NCD risk, as well as aspects of diets related to the nutrition transition, and to sustainability. It contains 29 food groups (see Table 4). Food groups are not asked about directly. Rather, they are represented by sentinel foods. **Sentinel foods** are are the most frequently consumed items within a food group in a given population. These foods capture a large proportion of people who consume any item in that food group. The sentinel food examples for each question are not meant to be an exhaustive list of all possible foods in that food group.

Table 4. DQQ Food Groups

1. Food made from grains
2. Whole grains
3. White roots/tubers
4. Legumes
5. Vitamin A-rich orange vegetables
6. Dark green leafy vegetables
7. Other vegetables
8. Vitamin A-rich fruits
9. Citrus
10. Other fruits
11. Baked/grains-based sweets
12. Other sweets
13. Eggs
14. Cheese
15. Yogurt
16. Processed meats
17. Unprocessed red meats (ruminants)
18. Unprocessed red meats (non-ruminants)
19. Poultry
20. Fish and seafoods
21. Nuts and seeds
22. Packaged ultra-processed salty snacks
23. Instant noodles
24. Deep fried foods
25. Fluid milk
26. Sweet tea/coffee/cocoa
27. Fruit juice and fruit drinks
28. Sugar-sweetened beverages (soft drinks, energy drinks, sport drinks)
29. Fast food

From the 29 food groups, several indicators can be derived such as MDD-W (and Food Group Diversity Score, FGDS), The Global Dietary Recommendations (GDR) Score, Minimal adherence to universal food-based dietary guidelines, and consumption of specific food groups of interest. An indicator validation study showed that the GDR score is a much better predictor of meeting global dietary recommendations than the FGDS (or MDD-W). The GDR-Healthy is a much better predictor of health-protective food intake than the FGDS (or MDD-W), and GDR-Limit introduces an entirely new ability to predict unhealthy food intake. The GDR score is also associated with ultra-processed food consumption (24). These results show that the diet quality information provided by the DQQ includes and expands upon the MDD-W, which has been the only food group based indicator that has been widely accepted and used to date. If needed, other indicators can be used as below:

For this study, we highly recommend to analyse (a minimum of) GDR Score, GDR-Healthy, GDR-Limit, and MDD-W/FGDS as indicators.

(1) **Minimal adherence to universal food-based dietary guidelines**
An indicator of minimal adherence to food-based dietary guidelines is the proportion of the population consuming at least 1 food in each of at least 4 universally recommended food groups: starchy staples, protein-rich foods, fruits, and vegetables.

(2) **Consumption of specific food groups of interest**, such as: legumes, nuts and seeds, whole grains, processed meats, sodas, sweet beverages, instant noodles, and other ultra-processed snack foods

5.2.2. Calculation of the MDD-W or FGDS from DQQ

The FGDS is a 10-food-group continuous score for the whole population, corresponding to the 10 food groups of the MDD-W. It has a total score of 0-10. The higher the score, the higher the likelihood of nutrient adequacy. **For the MDD-W, a score of 5 out of 10 is associated with a higher likelihood of meeting recommendations for 11 micronutrients among women age 15-49**(25). To calculate MDD-W or FDGS, we need to sum all the points (Table 5). The maximum score is 10.

Table 5. MDD-W or FGDS Calculation

MDD-W Food Groups	Question numbers	Possible points
Grains, white roots, and plantains	1, 2, 3	1
Pulses (beans, peas, and lentils)	4	1
Nuts and seeds	21	1
Dairy	14, 15, 25	1
Meat, poultry, and fish	16, 17, 18, 19, 20	1
Eggs	13	1
Dark green leafy vegetables	6*	1
Other vitamin A-rich fruit and vegetables	5, 8	1
Other vegetables	7*	1
Other fruits	9, 10*	1
TOTAL		**=SUM (0-10)**

*Note that these groups may be asked in two questions (e.g. 6.1 and 6.2).

5.2.3. Calculation of the GDR Score from DQQ

5.2.3.1. The Global Dietary Recommendations GDR Score

GDR Score is a measure of alignment with WHO global recommendations for healthy diets. Subtract GDR-Limit from GDR-Healthy **(GDR Score=GDR Healthy-GDR Limit),** and add 9 to transform the indicator to a range of 0-18. A higher score reflects achieving more of the global dietary recommendations. *The higher the score, the more likely more recommendations are met* (Herforth et al. 2020).

5.2.3.2. GDR-Healthy Component

GDR-Healthy has a total score of 0-9, derived from 9 DQQ food groups that are strongly associated with 5 global recommendations for foods to consume in abundance which usually called **FLAVOURS** (**F**ruits, **L**egumes, **V**egetables, **O**range fruits & veg, **U**n-**r**efined grains, **S**eeds & nuts) (Table 6). A higher score indicates inclusion of more health-promoting foods in the diet, and correlates positively with meeting global dietary recommendations.

Table 6. GDR Healthy

Food Groups	Question numbers	Possible points
Whole grains	2	1
Legumes	4	1
Nuts and seeds	21	1
Vitamin A-rich vegetables	5	1
Dark green leafy vegetables	6*	1
Other vegetables	7*	1
Vitamin A-rich fruits	8	1
Citrus	9	1
Other fruits	10*	1
TOTAL		**=SUM (0-9)**

*Note that these groups may be asked in two questions (e.g. 6.1 and 6.2).

5.2.3.3. GDR-Limit Component

GDR-Limit has a total score of 0-9, derived from 9 DQQ food groups that are strongly associated with 6 global recommendations of foods or called **FAD** (**F**oods to **A**voi**d** or limit) (Table 7). A higher score indicates higher consumption of foods and drinks to avoid or limit, and correlates negatively with meeting global dietary recommendations.

Table 7. GDR-Limit

Food Groups	Question numbers	Possible points
SSBs	28	1
Baked / grain-based sweets	11	1
Other sweets	12	1
Processed meat	16	2
Unprocessed red meat	17, 18	1
Deep fried food	24	1
Fast food & Instant noodles	23, 29	1
Packaged ultra-processed salty snacks	22	1
TOTAL		**=SUM (0-9)**

5.2.4. Intepretation and communication for programmatic and policy relevance

Data are collected at individual level, and interpreted at population level (population = countries, states, villages, program beneficiaries, women, men, etc.). The GDR score is expressed as a mean score in the population. Higher scores indicate higher quality diets.

- ⇒ The GDR sub-metrics (GDR-Healthy, GDR-Limit) are also expressed as mean scores.
- ⇒ The GDR score may be expressed as a dichotomous indicator of percent of the population meeting at least half of global dietary guidelines (pending additional validation).

The FGDS is expressed as mean score in the population. Higher scores indicate higher quality diets.

- ⇒ The MDD-W is expressed as the percent of the population consuming at least 5 out of 10 food groups.
- ⇒ The FGDS can be expressed as the percent of the population consuming at least 5 out of 10 food groups. While only validated as an indicator of micronutrient adequacy among women of reproductive age, using the same cutoff across the population is informative to assess gender equity in dietary diversity.

Development and validation is underway for a combined DQ-Q score including both the FGDS (MDD-W) and GDR score. This combined metric is envisaged to indicate diets that (1) achieve nutrient adequacy and also (2) meet dietary targets to protect against NCDs. While the sub-metrics will continue to be important to inform relevant policy and programmatic action to address country-specific dietary challenges, a combined metric may have the greatest communicative power for awareness and advocacy around the issue of diet quality as a whole.

There is currently no basis for cutoffs that represent an absolute meaning of "good" or "poor" diets, in the GDR-score, its subcomponents, or the combined DQ-Q score.
A dichotomous indicator of the % of the population in each country with scores that fall above the bottom tertile threshold could be expressed as "% of population consuming a relatively healthy/low-risk diet." There would be a future research agenda to test these score cutoffs against nutrient adequacy and diet-related NCD risk.

While the new GDR indicators have not been used yet to track trends or evaluate programs and policies, use of the MDD-W and MDD indicators in programs has demonstrated responsiveness, indicating meaningful change in the proportion of women or IYC who have consumed minimum dietary diversity. The MDD-W has also demonstrated the utility of having a diet quality indicator available at population level, to raise awareness of the problem of poor diets, and to compare across countries.

Chapter 6

Reference

6. References

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7. Annex

Questionnaire outline:

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Interview

Who is interviewing?	A B C D
Date of interview	(DD/MM/YYYY)

Informed Consent:

Read: *Salam*. This interview is intended to collect data to inform the Village of Peace and Peace Village for Afghanistan Development Organization about the effects of the high diversity/ home gardens, in collaboration with Wageningen University in the Netherlands. The objective of this interview is to get insights in the current household production and food consumption practices. This information will be used to improve the (village of peace) approach to high diversity/ home gardening and also be used to scale-up to help households such as yours. Analysis of this data may also be shared with a wider international audience.

You have been selected because you have participated (or will participate) in the PVADO HDG project. Your participation is voluntary, and you may join at your own free will. You are also free to withdraw from the interview at any time without penalty. If a question makes you feel uncomfortable or you do not want to say anything, you are free not to respond. If there is a question you do not understand, please let us know – and it can be explained in another way.

Your answers will be kept confidential. We will not record your name and we will not record any other information that is specific to you as an individual. Also, your answers will only be used for this study and not shared with other researchers that are not involved in this study. A report will be written about this study. Others will be able to read this report, but we'll make sure it doesn't contain information that can be linked to you as an individual.

Note also that at any time during or after the interview, you can choose to stop without any effects on you participating in any other activities run by Peace Village for Afghanistan Development Organization (PVADO). You can ask the interviewer any questions that you have at any time. If you wish to redraw your answers after the interview or ask any question about the study, you can contact Behishta via the phone number +93 74 446 3424, call back to this number, or tell one of the PVADO staff once they visit your home garden.

- Do you consent to take part in this interview?
  1- Yes
  2- No

Basic Household questions

- Are you a widow (Y/N)
- Age
  - <15 yo
  - 15-24 yo
  - 25-54 yo

        - 55-64 yo
        - >65 yo
    - Education level
        1- No formal education
        2- Primary school
        3- Middle School / Maktabeh Motevaseteh
        4- Secondary School / Doreyeh Aali
        5- Vocational / Vocational in Lower & Upper Middle School
        6- Vocational / Technicums
        7- Tertiary / Bachelor's Degree University level first stage
        8- Tertiary / Master's Degree
        9- Tertiary / Doctorate
        10- Religious School / Madrasah
        11- Literacy course
    - N of household members
        - <=3 household members
        - 4-7 household members
        - >7 household members
    - N of children
        - Age children
            - *0-24months*
            - *2-6 years*
            - *6-10*
            - *10-14*
            - *14-18*
- N of elderly and people who need care

Homegarden production questions

Homegarden production questions

1	Does anyone in your household currently own or cultivate land?		1- Yes, Solely 2-Yes, Jointly 3-Yes, Solely and Jointly 4-NO----if No skip to 5
2	What is the status of your household's land owned/cultivated?		1-Own land 2-Rent in land for own use 3-Rent out land to others 4-Use common land 5-No, don't use any land 6-No answer
3	Who in the family owns your household's land? **can select multiple answers**		1-Male adult 2-Female adult 3-Male youth (18-35yrs) 4-Female youth (18-35yrs) 5-Male child (<18 yrs) 6-Female child (<18 yrs)
4	Area of all land use	Area size	• Farms with > 1.25 ha of land and > 5 TLU , • 0.5 -1.25 ha and 1- 5 TLU • < 0.5 ha 0-1 TLU
5	Do you currently have a home garden?		1-Yes 0-No (skip questions on HG)

Current home garden situations

No.	***Question***	***Response***	***For enumerator***

1	If you have your own garden, how close by is it?		1. < 500m 2. 500m – 1km 3. >1km
2	a. When do you start to get the intervention?		A- 2017 B- 2018 C- 2019 D- 2020 E- 2021 F- 2022 G- 2023 H- 2024 I- 2025 J- 2026
	b. At what month do you start the program?		1. January-March 2. April-June 3. July-September 4. October-December
3	Why did you join the program? **Multiple**		1-Economic benefit, such as generating income 2-Providing food and better nutrition 3-Improving health 4-Uplifting the status of women 5- Helping the community 6-Environmental benefit, such as conserving biodiversity, habitat for livestock, reduction of soil erosion, etc 7-Other (mention it)
4	a. What kind of support did you receive? **Multiple**		1-Training (if Yes, go to the Q3) 2-Hens/Livestock 3-Seeds 4-Crop resources (fertilizer, garden tools, etc) 5-Other (mention it)

	b. What kind of training did you receive? **Multiple**		1-Healthy food and its benefit to the body 2-Hygiene 3-Anemia 4-How to combat malnutrition through food/how to cook 5-Cropping skills 6-How to sell the crop 7-Saving money 8-Values training
5	a. Do you have any livestock in your HH?		1-Yes 0-No (go to next question)
	b. What is the livestock you own?		1-Poultry 2-Goat 3-Sheep 4-Cattle/Cow 5-Other

Crops In the past year

Household grown crops in the past years

In the past year:

Ser.No	Which crops did your household grow in home garden? Crop code	Did you get the seed from PVADO? 1- Yes 2- Yes, but for the next time I bought it by myself 3- No	Area planted … m^2	When you have harvested the food from your home garden, how much do you consume as a family and how much do you trade with others? 1 : 100% consume 2 : 70% consume and 30% trade 3: 50% consume and 50% trade 4: 30% consume and 70% trade 5: 100% trade
1				
2				
3				
4				

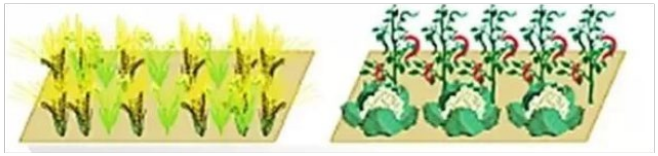
5				

Crop Code (DQQ and VoP Seed)

1. Onion
2. Potato
3. Green bell pepper
4. Cabbage
5. Soybean
6. Peanut
7. Garlic
8. Spinach
9. Carrot
10. Strawberry bushes
11. Maize
12. Barley
13. Millet
14. Turnip
15. Parsnip
16. Dal / lentils
17. Chickpeas
18. Mung beans
19. Pumpkin
20. Tomatoes
21. Okra
22. Cauliflower
23. Lettuce
24. Leek
25. Eggplant
26. French beans
27. Radish
28. Cucumber
29. Bottle gourd
30. Ridge gourd
31. Watermelon
32. Persian melon
33. Cantaloupe
34. Mandarine
35. Tangerine
36. Grapes
37. Others (mention)

Home-garden Challenges

No.	*Question*	*Response*	*For enumerator*
1	Who is most of the time working on home garden activities?		1-Widow 2-Children (<18 yo) 3-Adult male family members (> 18 yo) 4-Adult female family members (> 18 yo) 5-Other
2	Do you think home garden activities bring an additional burden for you?		1. Yes 0. No (skip to to Q4)
	What kind of burden? **Multiple**		1-High costs of inputs (seed fertilizers, pesticides, etc) 2-Too much time in terms of planting, weeding, harvesting 3-No time 4-No water 5-Effort of fetching water 6-Labour to prepare the bed, planting, weeding, harvesting 7-No land 8-No interest/desire
	How do you think this burden could be managed/minimized? **Multiple**		1-Shared work (others helping) 2-Access to irrigation 3-Smaller sized garden 4-Labour and time saving technologies 5-Home Garden inputs (water can, cultivator/dibber)
3	What are the specific challenges your household faces in managing home gardens? **Multiple**		1-High costs of seeds 2-High cost of fertilizers 3-High cost of pesticides 4-Poor access to seeds 5-Poor access to fertilizer 6-Poor access to pesticide 7-Unable to get small size packed seeds 8-Poor seed quality 9-Work load 10-Time taking to manage 11-Effort of fetching water 12-No access to water 13-Poor soil fertility

			14-No land 15-No interest/ desire 16-Pest, rodent, frost 17-Poor extension support from District Agricultural directors (DADs) or District Agricultural Extension Officers (DAEO) 18-Poor extension service from community health workers (CHW) 19-Limited technical skill to manage home garden 20-Health effect (due to chemical fertilizers) 21-Health effect (due to organic fertilizers 22-High post-harvest loss 23-Poor knowledge on preparation and consumption of home garden products
4	What is your method of cropping?		1-Mono-cropping (only one crops are planted and cultivated on the same land years by years) 2-Mix-cropping (two or even more crops are planted and cultivated simultaneously on the same land) 3-Intercropping (two different types of crops are sown and farmed in a certain pattern on the same piece of land) 4-Respondent do not understand   **Mono-cropping** **Mix-cropping** **Inter-cropping**
5	a. Do you use the seed provided?		1. Yes 0. No
	b. Do you plant other crops not from the seeds provided?		1-Yes (next to Q.7c) 0-No (jump to Q8)
	c. Why do you plant other crops? **Multiple**		1-More tasty 2-Easier to plant 3-Sell better at the market 4-High cost of the seed 5-Less water used

			6-Less area used 7-Harvest is a shorter duration 9-Other (mention)
	d. What are the other seeds that you planted?		(crop code)
6	Do you have access to water for irrigating plants		1. Yes 0. No
7	How far away is your preferred water source for irrigation		1. Piped water to house 2. <5 min walk (round trip) 3. Between 5 and 10 min walk (round trip) 4. Between 10 and 15 min walk (round trip) 5. Between 15 and 20 min walk (round trip) 6. More than 20 min walk (round trip)
8	Does that source have year-round availability of water		1. Yes 0. No
9	In which months is water usually not available **Multiple**		Month code
11	How often do you ask your father, son, brother or in-laws for financial support?		1-Often 2-Sometimes 3-Never
12	If you compare YOUR situation now to situation before you joined the project, would you say that your **livelihood** has improved?		1. Worsened substantially 2. Not improved at all or slightly worsened 3. Stayed the same 4. Improved just a bit **(go to Q13)** 5. Improved a lot **(go to Q13)**
13	If this project helps you to provide a better livelihood, in which area?		
	13a. Improve health		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer
	13b. Pay for healthcare		1-Yes, definitely

			2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	Market access:
	13c. Buy additional food products		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13d. Household necessity		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13e. Housing		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13f. Help your children's necessity for school		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13g. Financial stress		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13h. Pay for social events		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
	13i. A purpose of life		1-Yes, definitely 2- Yes, somewhat 3- No 4-Do not know/Prefer not answer	
1	Do you have access to market?		1. Yes 2. Yes, but only when somebody accompanies me 0. No (go to household food insecurity access scale question)	

2	How often is somebody available to accompany you when going to the market?		1. Always 2. 2-3 times a week 3. 1 time a week 4. 2-3 times a month 5. Less than 2 times a month
3	What transport do you use to go to the market to sell your produce?		1- Animals 2- Walking 3- Bus 4- Bicycle 5- Motorbike 6- Car transportation (taxi, own car) 7- Other (specify)
4	How long is the distance from home to market center with above means of transport?		(hh:mm)

Household Food Insecurity Access Scale

a. General Information

No.	***Question***	***Response***	***For enumerator***
Household source			
1	What are the household's sources of Livelihood? **1.1 Primary: _____** **1.2 Secondary: _____**		1-Crop farming 2-Livestock farming 3-Home based non-farm income generating activities 4-Trading 5-Self-employed in other own business 6-Salaried – private employer 7-Salaried – government employer 8-Social safety nets 9-Other (specify)
Food consumption			

2	What was the main sources of food consumed by this household over the last 12 months?		1-Own production 2-Purchase 3-Gifts/transfers from family or relatives 4-Gifts/transfers from neighbours 5-Government programmes through work (food for work) 6-Food Aid 8-Other specify-----
3	Is there a time of year when there is less food/food shortage compared to other times?		1-Yes 0-No ------skip to D6
4	How many months in a year did you face food shortage? ____		
5	Which months were their food shortages in the last year? **(Multiple)**		Month code
6	What type of coping mechanism do you use when you don't have enough food or money to buy food in your family?		1-Rely on less preferred and less expensive foods 2-Borrow food from a friend or relative 3-Purchase food on credit base 4-Gather wild food, hunt or harvest immature crops 5-Send children to eat with neighbours 6-Limit portion size at mealtimes 7-Restrict consumption by adults in order for small children to eat 8-Feed working members of household at the expense of non-working members 9-Reduce number of meals eaten in a day 10-Skip entire days without eating 11-Other specify----
Hygiene			
7	What is the MAIN SOURCE your household is using mainly for DRINKING and cooking?		1-Piped water 2-Protected well 3-Protected spring 4-Rainwater harvesting 5-Unprotected well 6-Unprotected spring 7-River/lake/ pond/dam 8-Buy the water 9-Other specify ----------

8	What do you USUALLY do to make the water safer to cooking and drinking?		1-Boil 2-Add disinfecting chemicals 3-Strain through a cloth 4-Use water filter (ceramic/sand) 5-Solar disinfection 6-Let it stand and settle 7-Other (specify) ---------- 8-None
10	How do those who prepare food USUALLY wash their hands?		1-With water only 2-With water & soap 3-with water and ash/sand 4-Other specify----- 4-Don't know
11	When do you wash your hands? (**Multiple)**		1-Before eating 2-Before preparing food 3-Before feeding an infant 4- After going to the toilet 5-After attending to a child who has defecated

Month code

1-January	4-April	7-July	10-October
2-February	5-May	8-August	11-November
3-March	6-June	9-September	12-December

b. Household Food Insecurity Access Scale (HFIAS) Score

Q	**1**			**a**
Ser.no	Question	In the past 12 months	In the past four weeks	
		1-Yes 0-No 98-Don't Know 99-Refused	1-Yes 0-No 98-Don't Know 99-Refused If ≠ from 'yes' skip to next question	How often did [Question] happen in the past four weeks? 1-Rarely (once or twice in the past four weeks) 2-Sometimes (three to ten times in the past four weeks) 3-Often (more than ten times in the past four weeks)
1	Did you worry that your household would not have enough food?			
2	Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?			
3	Did you or any household member have to eat a limited variety of foods due to a lack of resources?			
4	Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources			
5	Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?			
6	Did you or any other household member have to eat fewer meals in a day because there was not enough food?			
7	Was there ever no food to eat of any kind in your household because of lack of resources to get food?			

8	Did you or any household member go to sleep at night hungry because there was not enough food?			
9	Did you or any household member go a whole day and night without eating anything because there was not enough food?			

DQQ for women

Read: Now I'd like to ask you some yes-or-no questions about foods and drinks that you consumed yesterday during the day or night, whether you had it at home or somewhere else. First, I would like you to think about yesterday, from the time you woke up through the night. Think to yourself about the first thing you ate or drank after you woke up in the morning … Think about where you were when you had any food or drink in the middle of the day … Think about where you were when you had any evening meal … and any food or drink you may have had in the evening or late-night... and any other snacks or drinks you may have had between meals throughout the day or night. I am interested in whether you had the food items I will mention even if they were combined with other foods. Please listen to the list of foods and drinks, and if you ate or drank ANY ONE OF THEM, say yes.

	Yesterday, did you eat any of the following foods:	(Circle answer)
1	Naan or lavash, paratha, rice, macaroni, or Aash?	YES or NO
2	Maize, black naan, barley, or millet?	YES or NO
3	Potato, turnip, or parsnip?	YES or NO
4	Red beans, white beans, dal, chickpeas, or mung beans?	YES or NO
	Yesterday, did you eat any of the following vegetables:	
5	Carrots or pumpkin?	YES or NO
6.1	Spinach, or other sabzi / saba?	YES or NO
7.1	Tomatoes, okra, cauliflower, lettuce, leek, eggplant, or French beans?	YES or NO
7.2	Green bell pepper, radish, cucumber, bottle gourd, or ridge gourd?	YES or NO
	Yesterday, did you eat any of the following fruits:	
8	Apricots, dried apricots, cantaloupe, or ripe mango?	YES or NO
9	Orange, tangerine, or mandarin orange?	YES or NO
10.1	Figs, mulberries, apple, pomegranate, watermelon, or Persian melon?	YES or NO
10.2	Grapes, raisins, banana, plums, pear, cherries, or peaches?	YES or NO

	Yesterday, did you eat any of the following sweets:	
11	Cake, sweet biscuits, kajur / roghan joshi, jalebi, gosh-e-fil, or halwa?	YES or NO
12	Candy, chocolates, noghl, ice cream, fermi, or mithai?	YES or NO
	Yesterday, did you eat any of the following foods of animal origin:	
13	Eggs?	YES or NO
14	Paneer or quroot?	YES or NO
15	Yogurt, chaka, or shombri / doogh?	YES or NO
16	Sausages?	YES or NO
17	Beef, lamb, goat, or mantu?	YES or NO
18	N/A	YES or NO
19	Chicken or turkey?	YES or NO
20	Fish?	YES or NO
	Yesterday, did you eat any of the following other foods:	
21	Almonds, walnuts, pine nuts, pistachios, cashews, sunflower seeds, pumpkin seeds, or melon seeds?	YES or NO
22	Crisps?	YES or NO
23	Packaged Maggi noodles?	YES or NO
24	French fries, bolani, samosa, or pakora?	YES or NO
	Yesterday, did you have any of the following beverages:	
25	Milk, powdered milk, or chai with milk?	YES or NO
26	Chai with sugar, coffee with sugar, or milkshake?	YES or NO
27	Fruit juice or fruit drinks?	YES or NO
28	Soft drinks such as Coke or Alkozay, or energy drinks?	YES or NO
	Yesterday, did you get food from any place like...	
29	KFC, or any place that serves pizza or burgers?	YES or NO

DQQ for young children:

Is there a child below the age of 2 in your household? (IF yes, continue, if NO, skip section)

Is there more than 1 child under the age of 2 in the HH? (If yes, ask the participant to answer the following questions for the child with the name that comes first in the alphabet).

What is the age of this child:

- 0-6 months
- 6-12 months
- 12-24 months

Diet Quality Questionnaire DQQ for IYCF			
AFGHANISTAN			
		(Circle answer)	
		YES or NO	DON'T KNOW (DK)
1	How long after birth was your child first put to the breast?		
	If immediately, circle "000"	000	
	If less than one hour, record "00" hours		
	If less than 24 hours, record hours		
	Otherwise, record days		
2	In the first 2 days after delivery, was your child given anything other than breastmilk to eat or drink – anything at all like water, infant formula, tea, glucose drops, or butter?	YES or NO	DK
3	Was your child breastfed yesterday during the day or at night?	YES or NO	DK
4	Did your child drink anything from a bottle with a nipple yesterday during the day or at night?	YES or NO	DK
5	Read: Now I would like to ask you about liquids that your child may have had yesterday during the day or at night. Please tell me about all drinks, whether your child had them at home, or somewhere else. Yesterday during the day or at night, did your child have...		
5A	Plain water?	YES or NO	DK
5B	Infant formula such as Lactogen, Morinaga, Bebelac, Nido, or Pedisure?	YES or NO	DK
5Bnum	IF YES: How many times did your child drink infant formula? (IF 7 OR MORE TIMES, RECORD '7').	#	DK
5C.25	Milk from animals including fresh, packaged, powdered, or chai with milk?	YES or NO	DK
5Cnum	IF YES: How many times did your child drink milk? (IF 7 OR MORE TIMES, RECORD '7').	#	DK
5Cswt.26	IF YES: Was any of the milk a sweet or flavoured type of milk?	YES or NO	DK
5K	NA	YES or NO	DK
5Kswt	N/A	YES or NO	DK
5E	N/A	YES or NO	DK
5F.27	Fruit juice or fruit drinks?	YES or NO	DK

5G.28	Soft drinks such as Coke or Alkozay, or energy drinks?	YES or NO	DK
5H	Tea, coffee, or herbal drinks?	YES or NO	DK
5Hswt.26	IF YES: was the drink sweetened?	YES or NO	DK
5I	Clear broth or clear soup?	YES or NO	DK
5J	Any other liquids?	YES or NO	DK
	IF YES: What was the liquid or what were the liquids?		
5Jswt	IF YES: Was the drink sweetened?	YES or NO	DK
6	Read: Now I would like to ask you about foods that your child had yesterday during the day or at night. I am interested in foods your child ate whether at home or somewhere else. Please think about snacks and small meals as well as main meals. I will ask you about different types of foods, and I would like to know whether your child ate the food even if it was combined with other foods. Please do not answer 'yes' for any food or ingredient used in a small amount to add flavour to a dish. Yesterday during the day or at night, did your child eat:		
6.15	Yogurt, chaka, or shombri / doogh?	YES or NO	DK
6.15num	IF YES: How many times did your child have yogurt, chaka, or shombri / doogh?	#	DK
6D	IF YES: Did your child have any shombri / doogh to drink?	YES or NO	DK
6Dswt	IF YES: Was it a sweet or flavored type of drink?	YES or NO	DK
	Yesterday, did your child eat any of the following foods:		
7.1	Naan or lavash, paratha, rice, macaroni, aash, or shir birinj?	YES or NO	DK
7.2	Maize, black naan, barley, or millet?	YES or NO	DK
7.3	Potato, turnip, or parsnip?	YES or NO	DK
7.4	Red beans, white beans, dal, chickpeas, or mung beans?	YES or NO	DK
	Yesterday, did your child eat any of the following vegetables:		
7.5	Carrots or pumpkin?	YES or NO	DK
7.6.1	Spinach, or other sabzi / saba?	YES or NO	DK
7.7.1	Tomatoes, okra, cauliflower, lettuce, leek, eggplant, or French beans?	YES or NO	DK
7.7.2	Green bell pepper, radish, cucumber, bottle gourd, or ridge gourd?	YES or NO	DK
	Yesterday, did your child eat any of the following fruits:	YES or NO	DK

7.8	Apricots, dried apricots, cantaloupe, or ripe mango?	YES or NO	DK
7.9	Orange, tangerine, or mandarin orange?	YES or NO	DK
7.10.1	Figs, mulberries, apple, pomegranate, watermelon, or Persian melon?	YES or NO	DK
7.10.2	Grapes, raisins, banana, plums, pear, cherries, or peaches?	YES or NO	DK
	Yesterday, did your child eat any of the following sweets:	YES or NO	DK
7.11	Cake, sweet biscuits, kajur / roghan joshi, jalebi, gosh-e-fil, or halwa?	YES or NO	DK
7.12	Candy, chocolates, noghl, ice cream, fermi, or mithai?	YES or NO	DK
	Yesterday, did your child eat any of the following foods of animal origin:		
7.13	Eggs?	YES or NO	DK
7.14	Paneer or qurroot?	YES or NO	DK
7org	Liver or kidneys?	YES or NO	DK
7.16	Sausages?	YES or NO	DK
7.17	Beef, lamb, goat, or mantu?	YES or NO	DK
7.18	N/A	YES or NO	DK
7.19	Chicken or turkey?	YES or NO	DK
7.20	Fish?	YES or NO	DK
7insect	N/A	YES or NO	DK
	Yesterday, did your child eat any of the following other foods:	YES or NO	DK
7.21	Almonds, walnuts, pine nuts, pistachios, cashews, sunflower seeds, pumpkin seeds, or melon seeds?	YES or NO	DK
7.22	Crisps?	YES or NO	DK
7.23	Packaged Maggi noodles?	YES or NO	DK
7.24	French fries, bolani, samosa, or pakora?	YES or NO	DK
7red	NA	YES or NO	DK
7R	Any other solid, semi-solid, or soft food?	YES or NO	DK
	IF YES: What was the food?	YES or NO	DK
	Yesterday, did your child eat food from any place like...		
7.29	KFC, or any place that serves pizza or burgers?	YES or NO	DK

CHECK	*Note for interviewer: If not a single "yes" for foods is recorded, ask 7S.*		
	If at least one "yes" for foods, skip to 8.		
7S	Did your child eat any solid, semi-solid, or soft food yesterday during the day or night?	YES or NO	DK
8	How many times did your child eat any solid, semi-solid or soft foods yesterday during the day or night? If 7 or more times, record "7"	#	DK

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