



# MEASURING THE ECONOMIC IMPACT OF MINE CLEARANCE

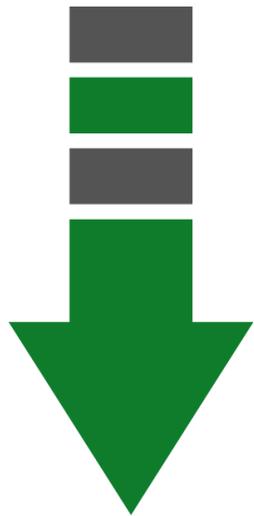
Training Module 4

Baseline and Endline Assessments



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# Training Contents



- Module 1: Introduction
- Module 2: Data Collection Methods
- Module 3: Selection of Communities
- **Module 4: Baseline and Endline Assessments**
- Module 5: Data Analysis and Report Writing



# Baseline Assessment

- A **critical foundational step in the pre-post study** with a comparison group design for measuring the economic impact of mine clearance activities.
- Involves collecting **comprehensive data on key economic indicators** from the intervention and comparison groups **before** mine clearance activities commence.



# Endline Assessment

- Allows **measuring changes in economic indicators** over time following the completion of clearance activities.
- A **follow-up assessment of the economic situation of individuals surveyed during the baseline assessment after a suitable period** following the completion of clearance activities.



# PRIMARY OBJECTIVES

## BASELINE ASSESSMENT

VS

## ENDLINE ASSESSMENT

-  To establish a **comprehensive understanding of the economic conditions** in both the intervention and comparison groups prior to the implementation of mine clearance activities.
-  To provide a **reference point** against which **changes in economic indicators** can be **measured and compared** over time.
-  To identify and document **potential confounding factors** that might influence economic outcomes.

-  To measure **changes in key economic indicators** in both the intervention and comparison groups post-intervention.
-  To evaluate the **direct and indirect economic impacts** of mine clearance activities.
-  To identify and document **potential confounding factors** that might have influenced economic outcomes.



**Any Questions?**





# Quantitative Data Collection



# Sampling Strategy

The methodology developed targets **farmers/herders**.



**Why do you think that is?**



# Economic Impacts After Mine Clearance

## **FARMERS**

Farmers are typically the first to benefit as cleared land becomes available for agricultural activities. The availability of more land can lead to increased agricultural production, resulting in higher incomes for farmers. As farmers' incomes rise, their spending power increases, which can stimulate local markets and businesses.

## **BUSINESS OWNERS**

With farmers earning more, local businesses (e.g., shops, markets) see increased demand for goods and services. As demand grows, businesses can expand, increasing their revenues and potentially hiring more staff.

## **BROADER COMMUNITY**

As local businesses grow, they create more employment opportunities, benefiting the broader community. Additionally, increased economic activity can lead to broader community development, including improved infrastructure and services.



# Economic Impacts After Mine Clearance

## HERDERS

Herders are typically the first to benefit as cleared land becomes available for grazing activities. The availability of more and safer grazing land can lead to increased livestock production, resulting in higher incomes for herders. As herders' incomes rise, their spending power increases, which can stimulate local markets and businesses.

## BUSINESS OWNERS

With herders earning more, local businesses (e.g., shops, markets) see increased demand for goods and services. As demand grows, businesses can expand, increasing their revenues and potentially hiring more staff.

## BROADER COMMUNITY

As local businesses grow, they create more employment opportunities, benefiting the broader community. Additionally, increased economic activity can lead to broader community development, including improved infrastructure and services.



# Sampling Strategy

Targeting farmers/herders:



**Reduces resources** needed for the assessments (both baseline and endline)



**Reduces the overall timeline** for the implementation of the study by focusing on the group first impacted.



# Sampling Strategy

**Targeting farmers/herders:**



**Measurable impact after one complete farming/herding season** since the area has been cleared



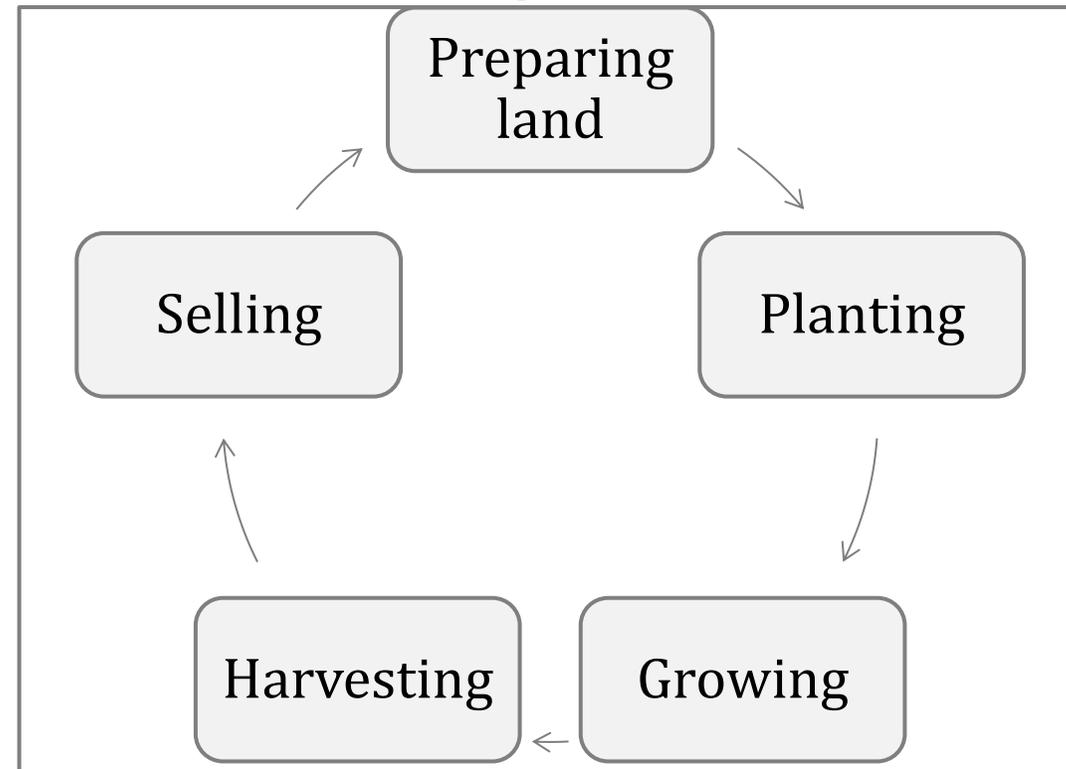
**Data collection** for the baseline and endline assessments should take place in the **same month.**



# Sampling Strategy

**Sufficient time** for the community to **experience the economic impact** of the clearance activities should be allowed before conducting the assessment.

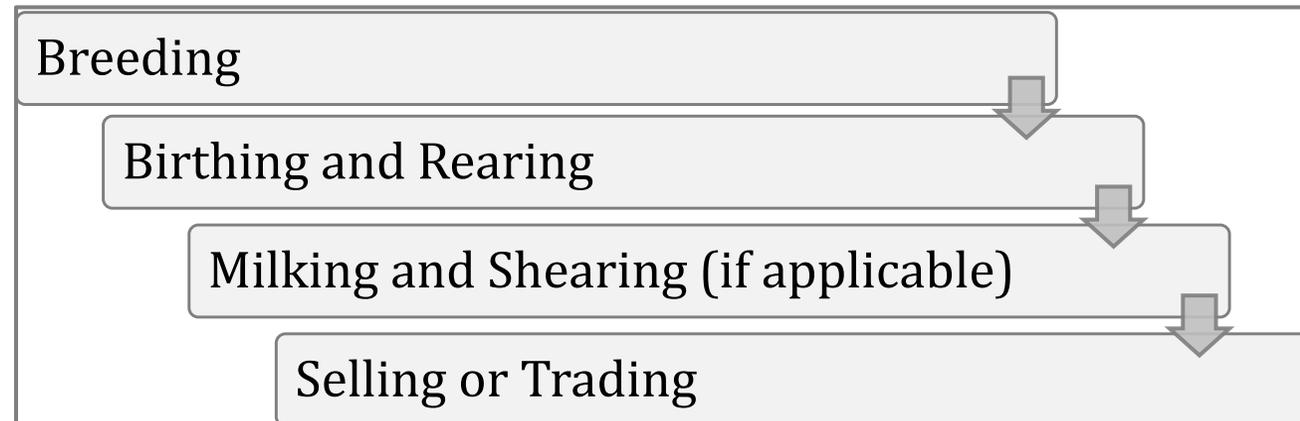
## Farming Cycle



# Sampling Strategy

Rushing the endline assessment before this cycle is complete may result in an **incomplete or inaccurate understanding of the intervention's impact**

## Herding Cycle



# Determining Sampling Size

**Identify the Population:** Determine the total number of farmers and herders in both the intervention and control communities.

**Calculate Sample Size:** Use an online sample size calculator (i.e. <https://www.calculator.net/sample-size-calculator.html>). Be sure to input the desired confidence level (e.g., 95%) and margin of error (e.g., 5%).

**Adjust for Design Effect and Drop-out:** Multiply the sample size by a design effect (e.g., 1.5) and increase it to account for potential drop-outs.



# Result

Sample size: **270**

This means 270 or more measurements/surveys are needed to have a confidence the real value is within  $\pm 5\%$  of the measured/surveyed value.

Confidence Level: (?) 95%

Margin of Error: (?) 5 %

Population Proportion: (?) 50 %  Use 50% if no

Population Size: (?) 900  Leave blank if

**Design effect**  
 **$270 * 1.5 = 405$**

**Drop out 20%**  
 **$405/0.8 = 506.25$**

**Calculate**

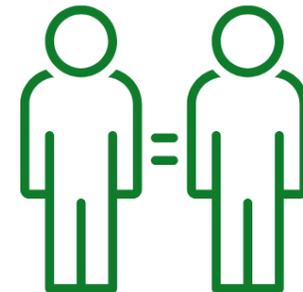


Clear

# Sampling Strategy

The **endline assessment** should target **the same individuals surveyed** during the baseline assessment (in both intervention and control communities). This allows for:

1. **Ability to Track Changes Over Time**
2. **More Accurate Measurement of Change**
3. **Understanding Temporal Sequences**
4. **Detailed Insights into Developmental Processes**
5. **Reducing Confounding Variables**
6. **Capturing Long-Term Effects**
7. **Participant-Level Analysis**
8. **Improved Data Quality**



# Sampling Strategy

A **longitudinal study** where the **same individuals are surveyed** twice presents several **challenges** that can **impact the reliability and completeness of the data**, making it essential to anticipate and address them effectively. The most prominent are:

- **Attrition Bias**
- **Recall Bias**
- **Survey Fatigue**



# Tracking and Locating Respondents

## Possible strategies and mechanisms:

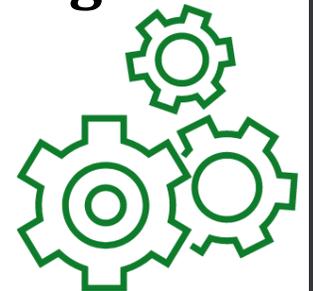
- **Keep detailed records of participants' contact information**, including multiple ways to reach them (phone numbers, home addresses, email).
- **Check-in with participants periodically** to confirm their details and update contact information where needed.
- **Work with community leaders** who can help locate respondents and encourage them to stay engaged in the study.
- **Hold community meetings** to explain the importance of the study and the need for ongoing participation.



# Tracking and Locating Respondents

**Possible strategies and mechanisms:**

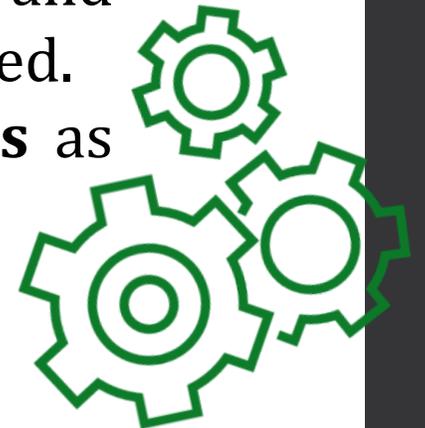
- **Communicate the importance of the study** and how participants' involvement contributes to its success.
- **Set clear expectations** with respondents about the time commitment required and what the follow-up survey will entail.
- **Offer flexible scheduling options** for the follow-up survey to accommodate participants' availability.
- **Provide respondents with multiple methods for completing the second survey**, such as in-person, by phone, or online.



# Tracking and Locating Respondents

## Possible strategies and mechanisms:

- **Reinforce informed consent** at each stage, ensuring participants understand their rights and the study's purpose.
- **Continuously assure participants that their responses are confidential** and will be used solely for the study's purposes.
- **Implement a tracking system to monitor response rates** and follow up promptly with participants who have not responded.
- **Regularly analyze response rates and adjust strategies** as needed to improve participation.





**Any Questions?**



# Dos and Don'ts During Data Collection



## Always...

- Introduce yourself as part of DRC. Explain the purpose of your visit/call.
- Read the questionnaire verbatim (word-for-word) at all times.
- When questions are open-ended, record responses verbatim.
- Use probing techniques to ensure respondents answer the questions asked and avoid vague or incomplete answers.
- Probe in a neutral manner.

## Never...



- Explain the question or interpret any terms.
- Probe if the respondent has clearly refused to answer a question.
- Lead the respondent or suggest he or she answer in a particular way.
- Complete an interview with multiple respondents.
- Share own opinions or those of other respondents.
- With open-ended questions, never paraphrase, summarize, correct grammar or in any other way alter the response.



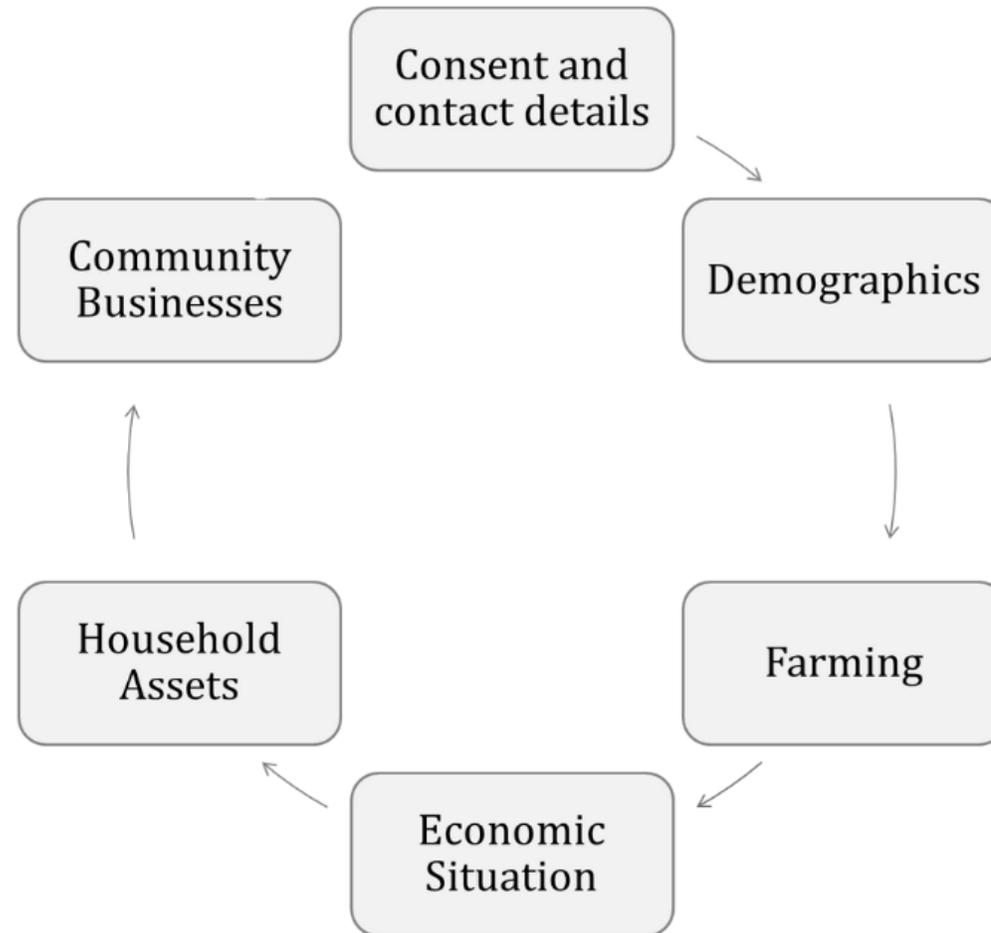


**Any Questions?**



# Baseline/Endline Survey

- Consists of **97 questions** and **six sections**
- Available in **English** and **Modern Standard Arabic**
- Ready-to-use survey form available for **mobile data collection**



# Questions That Require Special Attention

## Questions on the Number of Household Members

d11_hhmembers	How many members does your household consist of? This number should include yourself. _____
d12_hhyoung	How many household members are under 6 years of age? _____
d13_hhchild	How many household members are between 6 and 17 years of age? _____
d14_hhadult	How many household members are between 18 to 65 years of age? _____
d15_hhsenior	How many household members are over 65 years of age? _____
d16_employed	How many of the household members are currently working? _____
d17_unemployed	How many household members are currently not employed but actively looking for employment? _____



# Questions That Require Special Attention



## Questions on the Number of Household Members

It is important to ensure that the **total number of household members** (d11\_hhmembers) always aligns with (matches or does not surpass) the sum of household members recorded for:

- **Questions on the age of household members:** d12\_hhyoung, d13\_hhchild, d14\_hhadult, and d15\_hhsenior
- **Questions on employment and unemployment:** d16\_employed and d17\_unemployed



# Questions that require special attention

## Questions on Income, Expenditure, Savings, and Debt

e9_income	What is your household's average monthly income (in Yemeni Rial)? This is the total income of all household members in a month.
e11_lowest	What has been the lowest monthly income (in Yemeni Rial) your household earned in the past 12 months?
e12_highest	What has been the highest monthly income (in Yemeni Rial) your household earned in the past 12 months?
e18_howmuch	How much does your household have in savings (in Yemeni Rial) at this moment?
e20_howmuch	How much does your household have in total debt (in Yemeni Rial) at this moment?
h6_stock	What is the market value of the crops you have in stock (in Yemeni Rial)?



# Questions that require special attention



## Questions on Income and Expenditure

It is crucial to carefully examine cases where the **reported expenditure amount is higher than the reported income amount**. While this situation is not impossible (as households may rely on savings), enumerators must always:

1. Verify the data for accuracy.

2. Ensure that all sources of income and expenditure are accounted for.

3. Clarify any discrepancies with the respondents to understand the context.

4. Document any additional information that explains the difference.



# Questions that require special attention

## Question on Land

h4_howmuch	How much agricultural land does your household own (in qafiz)?
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## Question on Number of Livestock Owned

h8_goats	How many goats does your household own?
h9_sheep	How many sheep does your household own?
h10_cattle	How many cattle does your household own?
h11_camels	How many camels does your household own?
h12_chicken	How many chicken does your household own?
h13_donkeys	How many donkeys does your household own?





**Any Questions?**



# Baseline/Endline Survey

**It is time to test the survey together!**

You will complete the survey in **groups of three**.



**Role rotation:** this time, group members will have the chance to experience each role.

**For Arabic speakers:** feel free to suggest alternative terms or expressions if you believe respondents in Yemen might not easily understand the Modern Standard Arabic translation.



# Baseline/Endline Survey

When completing the survey, think about the following:

Are any of the questions or answer options...

- Not completely clear?
- Not relevant for the local context?
- Missing?
- Other observations



**Note down any observations you may have!**



# Baseline/Endline Survey

**Round 1:** Consent & Contact Details; Farming

#1

Each group member must **pick one** of the following roles:

**Enumerator:** will conduct the survey, asking questions and recording answers.

**Respondent:** will answer the questions.

**Observer** will silently monitor the interaction and take notes.



# Endline/Baseline Survey

Enumerator, scan the **QR code** or open the **link** in the chat!



Once you complete the survey sections, **click the “Submit” button.**



#1



# Endline/Baseline Survey

**#1** Now, you have **5 minutes** to:



- Discuss the interaction enumerator-respondent based on the observers' notes.
- Discuss any observations you may have regarding the content of the survey.

**Observer:** note down all relevant observations.



# Baseline/Endline Survey

## Round 2: Demographics & Economic Situation

# #2

The team must **switch roles**.

For instance, the person who was the Enumerator in Round 1 can now be the observer, etc.



# Endline/Baseline Survey



Enumerator, scan the **QR code** or open the **link** in the chat!

Once you complete the survey sections, **click the “Submit” button.**

A blue rectangular button with a white checkmark icon and the text "Submit" in white.

✓ Submit

A large, stylized green hashtag symbol followed by the number 2.

#2



# Endline/Baseline Survey

**#2** Now, you have **5 minutes** to:



- Discuss the interaction enumerator-respondent based on the observers' notes.
- Discuss any observations you may have regarding the content of the survey.

**Observer:** note down all relevant observations.



# Baseline/Endline Survey

## #3 Round 3: Household Assets & Community Businesses

The team must **switch roles** in a way to ensure that, during this round, each group member will undertake a role they have not had before.



# Endline/Baseline Survey

#3

**Enumerator**, scan the **QR code** or open the **link** in the chat!

Once you complete the survey sections, **click the "Submit" button.**



# Baseline/Endline Survey

**#3** Now, you have **5 minutes** to:

- Discuss the interaction enumerator-respondent based on the observers' notes.
- Discuss any observations you may have regarding the content of the survey.



**Observer:** note down all relevant observations.





**Any Questions?**



# Baseline/Endline Survey

Now, we will take some time to discuss...



- General observations about the survey
- Possible adaptations of questions/answer options to the local context
- Other aspects of the survey





**Any Questions?**





# Qualitative Data Collection



# Sampling Strategy

## Key Informant Interviews

- To be conducted with **stakeholders** such as local authorities, community leaders, and NGO representatives.
- Will provide contextual insights into the **economic conditions** and **potential confounding factors influencing economic outcomes**.

### Proposed sampling - KIIs

Stakeholders	# of KII
Local authorities	3
Community leaders	3
NGO representatives	3
<b>Total</b>	<b>9</b>

- The tool includes open-ended questions to explore stakeholders' perspectives on the **economic impact of government policies, NGO initiatives, and other factors potentially influencing the economic situation** of communities.



# Sampling Strategy

## Focus Group Discussions (FGDs)

- Should be conducted with **specific community groups, such as farmers/herders and business owners.**
- Will help gather **in-depth qualitative data** on economic activities, challenges, and opportunities.
- Participants for FGDs must be **selected purposively** to ensure **diversity and representation of different economic activities and demographics** within the community

### Proposed sampling - FGDs

Participant Category	FGD
Business owners	3
Male farmers	3
Female farmers	3
Male herders	3
Female herders	3
<b>Total</b>	<b>15</b>



# Criteria for a Good-Quality Interview

The quality of an interview can be determined by two criteria:

- The **researcher's ability to structure** the interview and ask **relevant follow-up questions**
- Their ability to write down **detailed notes**



# Documenting the Interview

## Note writing

- It is one of the most crucial parts of qualitative interviews is note-taking. Only information that researchers write down in their notes can be used in the final report. As such, **a long interview with short notes has limited value.**
- During the interview, make **as many short notes as possible.**
- The complete notes are written based on the **notes taken during the interview and the voice recording made**, if available.



# Documenting the Interview

**Take a look at the following example:**

- **Question:** What factors do you think positively impact the economic development of this community?
  
- **Answer as per notes:**
  - *Respondent thinks several things impact economic development.*
  - *Mentioned education and local businesses.*
  - *Talks about government help.*
  - *Also said something about community efforts.*





**Any Questions?**



# KIIs

**It is time to test the KII questionnaire together!**

You will complete the KII in pairs.



**Role rotation:** each person will have the chance to experience each role.

The **Researcher** will conduct the KII, asking questions and recording answers.

The **Respondent** will answer the questions.



# KIIs

## Round 1: KII with Local Authorities

**Researcher:** You are interviewing a government official employed at the Directorate of Social Affairs and Labour. Ask them the questions under **SECTION 2: Economic Situation**. Try to obtain as many relevant details as possible. Do not forget to take notes.

## Round 2: KII with NGO Representatives

**Researcher:** You are interviewing an international staff of a renown NGO that focuses on livelihoods and agriculture in areas where DRC has conducted mine clearance. Ask them the questions under **SECTION 4: EO Contamination**. Try to obtain as many relevant details as possible. Do not forget to take notes.



# KIIs

**Respondent: select one of the following** respondent profile options. However, **DO NOT** inform the Enumerator on the respondent profile you have selected.

## **Shy and reserved**

Hesitant to share information and provides very short, non-committal answers. They might be uncomfortable with the interview process and need extra encouragement to elaborate on their answers.

## **Overly talkative**

Very talkative and tends to go off-topic. They provide long-winded answers with lots of details, some of which may not be relevant to the question asked.

## **Confused**

The respondent is unclear about the questions and provides inconsistent or contradictory answers. They may mix up details from different experiences or locations



# KIIs

After you have completed the questions under each section, **write the notes for two of questions of your choice**, based on the notes taken during the interview.



Once each pair has completed their respective notes, **send them to your partner for revision.**

Each partner must revise the notes they have been sent highlighting any possible issues they identify, as well as any good practices that may have been applied.





**Any Questions?**



**Thank you!**

