



MIGNEX Handbook Chapter 7

Survey data collection

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MIGNEX

MIGNEX (Aligning Migration Management and the Migration-Development Nexus) is a fiveyear research project (2018-2023) with the core ambition of creating new knowledge on migration, development and policy. It is carried out by a consortium of nine partners in Europe, Africa and Asia: the Peace Research Institute Oslo (coordinator), Danube University Krems, University of Ghana, Koç University, Lahore University of Management Sciences, Maastricht University, the Overseas Development Institute and the University of Oxford.

See www.mignex.org.



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The MIGNEX Handbook

The MIGNEX Handbook grows chapter by chapter over the lifetime of the project. It is primarily as a tool for internal information-sharing and quality assurance. The text refers to 'we' as the team members and 'you' as an individual team member reader. The handbook is public in order to ensure transparency and facilitate knowledge exchange also on issues such as project management, methodology and communication.

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MIGNEX Handbook Chapter

7. Survey data collection

The MIGNEX survey will interview 12,500 young adults across 25 research areas whose lives may be touched by the dynamics of migration and development. In order to collect comparable data on a broad range of issues in diverse settings, the design, preparations and delivery of the survey we will be guided by the principles of universality, value for effort and practicality.

The MIGNEX survey will collect data from 500 individuals aged 18-39 years in each research area, not all of whom have migration experience. The survey data will be used to explore both sides of the migrationdevelopment nexus and to describe migration trends. Implementation of the survey consists of many specific step-by-step processes, from planning the sampling to ensuring data quality.

7.1 Introduction

The MIGNEX survey is a central component in the MIGNEX project. Covering 12,500 young adults aged 18-39 in 25 research areas across ten countries, it collects comparable data on living standards, livelihoods, health, education, social protection, infrastructure, security, governance (including corruption), the environment, and migration aspirations and experiences. The survey captures migration and development factors at the individual, household and research area levels at the time of the interview. For many themes it also considers changes over time. It is an ambitious undertaking: collecting high-quality and innovative data with a high number of respondents in diverse contexts in a short time period. This MIGNEX Handbook Chapter (MHC) lays out the steps required for achieving our ambitions and provides guidance for team members involved in delivering the survey.

7.1.1 Purpose of the MIGNEX survey

The MIGNEX survey feeds into several central areas of analysis in MIGNEX, as illustrated in Figure 1. The survey data collected will be aggregated into the MIGNEX survey data set, which

is the basis of the regression analysis on the causes and consequences of migration (Work Packages 6 and 7). Importantly, the survey data will also feed into the Research Area Truth Table forming the basis of the Qualitative Comparative Analysis, also contributing to Work Packages 6 and 7. Descriptive statistics based on the survey data will be used to illustrate migration trends in the 25 research areas, published in the form of 25 MIGNEX Case Study Briefs.



Figure 1. The role of the survey in the overall MIGNEX research design

Given that the survey data is so central to MIGNEX analysis, the design process placed emphasis on ensuring we collect all the data necessary for the different parts of the analysis while also being efficient with time and resources by only collecting data we will utilize in the analysis. This trade-off informed our process of designing the survey (see section 7.4 in particular).

The data set will be made publicly available towards the end of the project lifetime. To facilitate third party use of the data, MIGNEX Handbook Chapter 10 will provide full documentation of the completed data sets, drawing on the country-specific survey execution reports.

7.1.2 Audience for this handbook chapter

This handbook chapter includes important information for all people involved in the survey, though not all sections are relevant to all team members. Table 1 lays out which sections different team members must read. The various roles are described in section 7.2.

Fieldwork supervisors and enumerators do not need to read the entire chapter. The sections relevant to their contributions to the survey are extracted from this MHC and included in a fieldwork supervisor/enumerator guide, alongside the survey instrument.

	Relevant sections
Country coordinators	Entire chapter
Country survey lead	Entire chapter
Data manager	7.10.6 Measures to ensure data quality;
	7.11 Data processing and reporting
Fieldwork supervisors	7.3.2 Research ethics checklist for enumerators
	7.5.3 Set-up of devices and logins
	7.5.6 Consulting 'Frequently Asked Questions (FAQ)'
	7.6 Sampling strategy
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	7.9.3 Return visits
	7.10.3 A day in the field
	7.10.4 Equipment to take to the field
	7.10.5 Informed consent

Table 1. Most important sections for different team members

7.1.3 Roadmap for this handbook chapter

This chapter starts by giving an overview of roles and responsibilities of different team members, in effect providing a summary of the MHC. We continue with a discussion on research ethics and integrity. It then continues with a section summarising the design of the survey, including main themes covered, the process of designing the survey and lessons learnt from the pilot.

We then move on to preparations for survey collection, covering practical aspects of the survey, such as research permissions, sub-contracting and describing the technical solution for data collection. This section also outlines our process for translation. Next, we explain all stages of the sampling process.

The final sections focus on delivering the data collection. It gives an overview of a 'day in the field' for enumerators, fieldwork supervisors, data managers and survey leads. It describes the proposed training of both enumerators and fieldwork supervisors, lists equipment needed for the field, reiterates the process of soliciting informed consent, and lists the measures we will utilise to ensure high-quality data are collected, before summarising workflows and giving an outline of the survey execution report.

7.2 Roles and responsibilities of team members

Conducting the survey involves a large number of individuals and institutions in different roles. The main responsibilities of each role are detailed below and summarised in Table 2.

Task	Relevant sections in this chapter	Central team (ODI)	Country coordinators	Survey leads	Data managers	Fieldwork supervisors	Enumerators
Preparations							
Administering sub-contracting	7.5.1						
Obtaining permits and approvals	7.5.2		٠	•			
Overseeing the translation process ¹	7.1.1	•	٠				
Managing translations ¹	7.1.1	•	•	•			
Adapting the survey instrument	7.10.1	•	•	•		•	•
Overseeing the fieldwork schedule				•	•	•	
Training of data collection team	7.10.1	•	٠	•			
Sampling							
Identifying clusters	7.7	•	•				
Estimating the number of households	7.7		•				
Verifying the household count	7.7		•	•		•	
Sampling clusters	7.7		٠				
Calculating the sampling interval	7.8.2		٠	•			
Selecting the starting points	7.8.1, 7.8.3			•		٠	
Sampling households (random walk)	7.8.4, 7.8.5					0	٠
Sampling in challenging areas	7.8.6	0	٠	•			
Sampling respondents	7.9					0	۲
Data collection and processing							
Safeguarding participants	7.3, 7.10.5		0	•		•	٠
Carrying out survey interviews	7.10.2					0	۲
Uploading interviews to central server	7.10.2, 7.11					٠	
Cleaning data	7.11	•					
Quality assurance and reporting							
Observing, spot checks and back checks	7.10.6					•	
Automated quality and consistency checks	7.10.6				٠		
Manual quality and consistency checks	7.10.6				٠		
Investigating issues and re-interviewing	7.10.6					٠	●
Writing the survey execution report	7.11.2			٠	٠		

Table 2. Roles and responsibilities of team members

Legend: \bullet Carrying out the task; O Providing supervision and quality assurance

Note: ¹The division of labour in overseeing the translation process and managing translations will depend on subcontracting arrangements and the language skills of individuals in different roles.

Central team (ODI)

The central team refers to ODI, who have overall responsibility for the implementation of the survey. They provide all guidelines and inputs needed for the survey and make final decisions on any adjustments of the survey instrument.

ODI are solely responsible for programming and approving any edits of the survey instrument. They can also access and monitor all data in the field, if needed. After data collection, ODI is responsible for data cleaning.

Country coordinators can contact ODI if they have any questions about the implementation of the survey.

Country coordinator

The role of country coordinators differs depending on whether subcontractors are used. For some countries, country coordinators hire subcontractors; see 7.5.1. In the other countries, country coordinators are also the survey leads. Country coordinators are responsible for informing the central team of the names and contact details for the entire survey team in their country.

Together with the survey lead, country coordinators prepare and (co-)deliver enumerator training, tailoring the training materials provided by ODI to the specific country context. During enumerator training, country coordinators must send a list of the names and contact details for all enumerators to the central team.

Country coordinators are also responsible for stage 1 of the sampling strategy; see section 7.7.

Furthermore, country coordinators are also the main point of contact with the central team (ODI). Any questions during the implementation of the survey will first come to country coordinators, who then decide whether to consult the central team (ODI).

Survey lead

There will be ten survey leads in total. In Cabo Verde, Guinea, Nigeria, Pakistan, and Tunisia – where subcontractors will be running the survey – the survey lead is the most senior survey team member at the subcontracting firm. In the other five countries, where MIGNEX partners run the survey, the country coordinator is also the survey lead.

Survey leads are in charge of delivering the survey, from logistics to quality control. They hire the survey team and must ensure that the guidelines in this MHC are being followed. Survey leads are responsible for any decisions regarding quality of survey delivery and decide on disciplinary actions; for instance, when an enumerator is consistently flagged in quality control processes. Survey leads draw up the fieldwork schedule. They need to be in daily contact with fieldwork supervisors and ensure the survey is running according to schedule.

The survey lead is the main point of contact for the survey at the country level, overseeing the data manager, fieldwork supervisors, teams of enumerators, and liaising between the data collection team and the country coordinator. Section 7.10.2 gives an overview of what a typical day of data collection looks like for survey leads.

Survey leads are responsible for writing the survey execution report; see 7.11.

Data manager

Survey leads work closely with a data manager, who is responsible for data monitoring and overseeing quality control. If there is no data manager, these tasks are fulfilled by the survey lead or the central team at ODI.

The data manager runs daily data monitoring checks of survey forms as they are uploaded to the server; see 7.10.6. If there are any issues with interviews, the data manager contacts the survey lead or fieldwork supervisor to find a solution and provide feedback to enumerators, if needed. Data managers also review GPS data to check that the sampling strategy is being adhered to by enumerators. Data managers are to inform fieldwork supervisors which interviews they must backcheck. Section 7.10.2 gives an overview of what a typical day of data collection looks like for data managers.

Fieldwork supervisors

Fieldwork supervisors manage teams of four to five enumerators and ensure the completion of data collection.

Fieldwork supervisors will speak local languages in the research areas and ideally know the research area well. Fieldwork supervisors will make the necessary introductions at the local government or community level, as required. Fieldwork supervisors carry out the mapping verification stage prior to the fieldwork commencing (see section 7.7) and the selection of starting points (section 7.8.3).

Once fieldwork is underway, they ensure that fieldwork runs according to the schedule, making sure their team is on track to complete their allocated number of interviews. Fieldwork supervisors ensure that enumerators have all the equipment they need and are dropped off at the correct starting point for the random walk each day. Supervisors answer enumerators' queries or resolve problems, when necessary liaising with the survey lead.

Fieldwork supervisors also have a critical role to play to ensure data quality (see section 7.10.6), including a daily debrief with enumerators, observation and backchecks. They are responsible for the survey equipment and for safely storing the Record of visits and consent forms. Supervisors check and upload completed survey forms to the server at the end of each day. They will keep a log of how the survey is progressing on the ground, which forms part of the survey execution reports. Section 7.10.2 gives an overview of what a typical day in the field looks like for fieldwork supervisors.

Enumerators

Highly experienced and conscientious enumerators are key to collecting high-quality data, hence they need to be carefully selected (see section 3). Enumerators are expected to complete three to five interviews a day. They are responsible for completing the random walk and respondent selection components of sampling, described in section 7.8 and 7.9. By precisely following the processes set out in this MHC, enumerators have a critical role to play in ensuring quality data is collected. Section 7.10.2 summarises these processes and gives an overview of a typical day in the field for enumerators.

7.3 Research ethics and research integrity

Responsibility for research ethics lies with all institutions and team members involved in the survey data collection, including the central team (ODI), country coordinators, survey leads,

data managers, fieldwork supervisors and enumerators. It is important for team members involved in the survey to read and consider the principles outlined in MIGNEX Handbook Chapter 4 on research ethics and research integrity and MIGNEX Handbook Chapter 3 on data management and apply them in delivering the survey. Country coordinators and survey leads are responsible for ensuring compliance with national regulations and research approval and for identifying contextual factors relevant to research ethics.

As we are dealing with human participants, some of whom may potentially be vulnerable, all aspects of the survey have potential ethical and integrity concerns. For example, in interviewing respondents they may stand out to other community members, which could put them at risk. We will collect some sensitive and perceptions-based data, so considering the location for conducting interviews is important. Likewise, when conducting interviews, it is important to share information about the survey and obtain informed consent so that respondents know what to expect of the survey and how their data will be used.

The survey design and implementation process described in this handbook chapter explicitly integrates these concerns to minimise potential harm to or stigmatisation of respondents. Drawing on Carling (2019), the research ethics and integrity principles to be integrated into the survey are summarised in the following section.

7.3.1 Principles of research ethics and research integrity

Informed consent

We are required to obtain and document informed consent from all survey respondents. In other words, potential respondents must understand what responding to the survey entails and voluntarily agree to it. Section 7.10.5 elaborates on the procedure for obtaining informed consent and Annex 3 contains the information sheet given to participants.

Stigmatisation or victimisation

Being 'selected' as a survey respondent runs the risk of being stigmatised or victimised as a result of being associated with the project or because of sensitive information or views they may share during the interview. Survey leaders should weigh up how association with certain actors (e.g. local authorities who might facilitate the research) could affect people's interpretation of MIGNEX research, and potentially lead to stigmatisation or victimisation of respondents.

Participants should be shielded from unnecessary exposure, for example by selecting private interview locations. Furthermore, to the greatest extent possible, enumerators should prevent other people from listening in (e.g. neighbours). Further, survey leads, fieldwork supervisors and enumerators need to be attentive to the possibility of rumours about the survey and ensure information on the surveys' aims is shared effectively in the community.

Identification with the European Union (EU)

The relationship between MIGNEX and our funder could be misunderstood and could cloud either participants' willingness to participate or their responses (e.g. in anticipation of potential aid). Hence, we will limit the display and prominence of the EU emblem and name, ensuring that any references to our funder are accompanied by explanations of the project's independence. As already mentioned, survey leads need to pay attention to the potential spread of rumours.

Personal data

The survey will not collect directly identifying data as part of the main survey. However, the name of the respondent, their address and phone numbers will be noted on a separate form Record of visits) for follow up visits (see section 7.9.3) and in case fieldwork supervisors need to follow up with respondents as part of the quality control process. This data will be destroyed when the fieldwork in that research area is completed; see section 7.11 on data handling.

The survey itself will also collect the GPS location of the respondent's dwelling. This information will be used by the data manager to check that the sampling strategy has been adhered to (see section 7.10.6 on measures to ensure data quality). It will not be included in the final cleaned data set.

The survey will also collect information that qualifies as 'special categories of personal data', e.g. questions on religion, household income sources or perceptions of government, which are often sensitive. Including such topics obliges us to take particular care in data protection.

Other topics may be sensitive to respondents. It is therefore critical to select a private interview location. Preferably, even other household members should not be able to join in or listen to the interview.

Using computer assisted personal interviewing (CAPI) methods, means we will be able to have strong measures to protect personal data. See section 7.5.2 and Handbook Chapter 3 on data management.

The survey will also collect data with the possibility of indirect identification as a result of unique and unusual combinations of responses. Unique and unusual responses will never be published in a way that would identify respondents. The MIGNEX survey data analysis will never focus on the individual level but always be aggregated at some level. In the data set which will eventually be released at the end of the project, variables which could identify respondents (e.g. niche occupations) will be recoded into broader categories.

Gender dynamics

Survey leads should anticipate gender dynamics in their research areas. In some research areas it may not be appropriate for researchers to interview respondents of the opposite gender, or to do so in a private location. In circumstances where it is only appropriate for enumerators to interview respondents of the same gender, enumerators may work in pairs of one male and one female enumerator, so that an appropriate enumerator is always available to interview the randomly selected respondent. The other enumerator can wait outside whilst the interview takes place. Alternatively, enumerators can be all-female teams, if this is appropriate. These are important factors for survey leads to consider in putting together the survey team (see also section 7.2) and may require slight tweaks in the organisation of interviews by the survey team (e.g. doing interviews outside instead of inside the house).

Security of data collection team

Some research areas will have significant security challenges. Country coordinators need to identify these challenges in preparing for the survey, and together with survey leads prepare plans to ensure the safety of data collection teams. In some research areas, fieldwork supervisors and enumerators might need to take part in specific security trainings prior to data collection.

Data collection plans for each research area should reflect these security concerns and identify mitigation and prevention strategies. In doing so, survey leads may need to weigh survey delivery against enumerator safety. For instance, while it will be important to have a balanced sample of working and non-working respondents, in areas where it is unsafe to be outside after dark, it will be safer to interview working respondents early in the morning before work or on the weekends.

The data collection team should be encouraged to raise any security concerns. In all research areas this should be a standard item on the daily debrief with team members.

The COVID-19 pandemic should be seen as one particular risk, and national and institutional regulations and requirements should be taken into account by country coordinators and survey leads to decide when it is safe to go to the field and which COVID-specific precautions should be taken. MIGNEX Handbook Chapter 4 on research ethics and research integrity should also be consulted in this decision-making process.

7.3.2 Research ethics checklist for enumerators

The following points are important for enumerators to observe in the field. The enumerator training elaborates on each point and gives examples.

- 1. Ensure that the agreement to participate is informed and voluntary (see 7.10.5).
- 2. Don't give false expectations of how the project could help the participants.
- 3. Make the respondent feel valued by being polite and expressing your gratitude.
- **4.** Respect the concerns of the respondent (e.g. with respect to gender).
- 5. Help to preventing rumours or misunderstandings about the survey.
- 6. Don't make interviews more visible to others (e.g. neighbours) than necessary.
- 7. As far as possible, do the interview in a private location where others cannot hear.
- 8. Never share information about the respondent or their answers outside your team.
- 9. Consider security for yourself and your colleagues in the field.
- **10.** Follow the guidelines carefully so that the data you collect is of high quality.

Sometimes you must use your judgement to strike a balance between different considerations. For instance, if a family member is present in the room, going ahead with the interview would violate point 7 above about privacy; but, asking them to leave could be rude and violate point 3 about politeness. In such situations you must consider how it might be possible to ensure privacy in a polite way. If it is impossible, you should remind the respondent that they are free to not answer questions they would rather skip or offer to come back at a time when the household is less busy.

7.4 Survey design

7.4.1 Survey themes and design of survey items

The MIGNEX survey covers a broad range of topics related to migration and development, measured at the level of individuals, households and research areas. The design prioritises survey items that have the highest value-to-effort ratio. By that we mean those survey items that contribute the most to the analysis, ideally to several aspects of the analysis.

The MIGNEX team undertook a prioritisation process before formulating the specific survey items. In first instance, the team formulated hypotheses for the different MIGNEX analysis. From these we drew out the following survey themes:

- Basic information about the respondent
- Migration experiences of respondent and other household members
- Aspirations around migration and the future more generally
- Overall living standard
- Livelihood
- Environment
- Governance
- Corruption
- Social protection
- Education
- Health
- Infrastructure
- Safety and security

Once survey themes were in place, we listed specific survey items to be included. Work package leaders gave feedback on these and we then reviewed each survey item, assessing its potential contribution to different aspects of the analysis as well as its potential sensitivity. Only those items that provide value for effort and were not too sensitive were included in the survey.

We then proceeded with drafting survey items, drawing on existing surveys and analysis on the usefulness of data collected in those surveys. To guide the process, we applied a set of principles to the survey design: universality, value for effort and practicality. We want to ensure items can be easily understood by respondents across different contexts and do not take long to ask or answer as well as to ensure items collect the relevant data needed for the analysis. For instance, we critically interrogated the different ways in which existing migration surveys considered migration aspirations and behaviours, before drafting our survey items (see Box 1).

Box 1. Measuring migration aspirations

Migration surveys can capture rich data on migration aspirations and related concepts. There is great variation in how these concepts are measured, with many approaches lacking a theoretical underpinning or only measuring one aspect of migration aspirations. To test the most useful ways of measuring aspirations, a review of more than 50 surveys was followed by a field exploration with 30 respondents in Cabo Verde in March 2019, testing alternative questions amongst the sample. Field-based testing confirmed the advantage of binary questions and highlighted the importance of treating 'don't know' responses in a sound way. Surveys should include several complementary questions that cover different aspects of thoughts and feelings about migrating or staying.

Carling, 2019b

The survey pilot gave us an opportunity to test how survey items worked and the quality and usefulness of data collected. Section 7.4.5 documents the changes we made as a result of the

pilot. Furthermore, to account for the COVID-19 pandemic, we added a small number of survey items on the impact of the pandemic on research areas.

The final survey instrument is included as Annex 1.

7.4.2 Survey length

Survey length is a key consideration in survey design. Survey respondents are not being paid for time spent and many will be interrupted on a busy workday, so we need to be respectful of their time. Longer surveys also result in lower quality data, as respondents and enumerators become more inattentive; for instance, respondents may be more inclined to acquiesce (or agree) with questions instead of answering honestly when fatigued towards the end of the survey or they may skip or not respond to questions (Smyth, 2016). Hence, the survey ought not take longer than one hour.

We designed the survey to ensure that it does not take longer than one hour, even for large households. Detailed household level data takes more time to collect, so we prioritised individual level data. We also made sure that the survey is conversational and that survey items are short, simple and easy to understand, in order to not lose time on clarification. Using electronic devices to collect the survey is also a timesaving measure, as enumerators do not lose time on working out which items are relevant to specific respondents (Seligson and Moreno Morales, 2018). Our pilot showed that the survey took about 45 minutes on average (section 7.4.5).

7.4.3 Information on other household members

Surveys typically include a household roster to collect data on other household members other than the respondent. These are useful to gather information on demographics, livelihoods, school attendance, etc. However, household rosters are time consuming to conduct. In the MIGNEX survey, given our commitment to a short survey length, we do not use a full household roster, instead gathering demographic information by asking questions such as, How many men aged 18 or over live in your household?'

We only ask about other household members to obtain objective or observable information and not to obtain unobservable, perception or subjective based data on other individuals in the household (Vannette, 2018), as this is likely to be unreliable or hard for respondents to answer. For instance, we do not ask respondents why migrant household members migrated.

7.4.4 Tailoring of the survey

The MIGNEX survey will be run across very different cultural, political and geographic contexts. Furthermore, different development issues, are relevant to the different research areas. This implies that the survey ought to be tailored to the country context and include country or research area specific modules. However, the benefit of collecting research area specific data needs to be balanced against the value of doing comparative analysis across 25 research areas in ten countries. The latter approach is a key aim of MIGNEX; hence we have opted against including tailored modules, and we have kept the vast majority of the survey instrument the same across all 25 research areas.

In a few specific cases, the survey instrument can be adapted to accommodate country-specific context. This includes tailoring of response options to ensure that locally relevant variations are included and that clearly irrelevant responses are not read aloud. As an example, we ask about sources of drinking water and include bottled water as a response option. In some

countries, water sachets are also common. Since they are a similar type of source, it is not necessary to create a new response option, but the existing option 'bottled water' is changed to 'bottled water or sachets' in the settings where it is relevant. The one question that needs more significant tailoring is the question on access to social protection (see below).

Final small changes may be made during the enumerator training (see section 7.10.1). All changes to the survey instrument (including which options are read aloud) *must* be approved by the central team.

Tailoring the questions on social protection

One of the developments we are interested in is social protection. This is often defined as any intervention that aims to reduce poverty and vulnerability, ranging from cash transfers to employment interventions. They tend to look quite different across different contexts, which can make comparisons across research areas tricky. For this reason, much care needs to be put in the tailoring of the question on whether anyone in the household receives support through a particular social protection intervention. Where necessary, country coordinators should consult local experts. The following criteria should be applied to selecting programmes to make comparisons across research areas more meaningful:

- Only include interventions that are government led, implemented and/ or funded. For example, interventions that are funded by an NGO and channelled through government systems can be included, but purely private interventions should not be included.
- Preferably include cash-based interventions only.
- Only include interventions that have significant coverage of at least 5% of the target population nationally.

Up to four interventions can be included. If there are more interventions that meet the above criteria, the four biggest ones in terms of coverage should be included. As part of the tailoring process, country coordinators should share information on each intervention with the central team (ODI). This can then be used to make more meaningful comparisons in the analysis.

7.4.5 Pilot of survey

Extensive piloting of the survey is a critical step to collecting quality data. Piloting enables us to test the wording of survey items, length and structure of the survey, and the quality and usefulness of the data collected. The results of the pilot can tell us the analytical value of the collected data - whether our survey instrument will produce adequate measures of our key variables, or if extra or alternative survey items are necessary (SLRC, 2013).

In particular, we can look in detail at the nuances of language, to see for instance survey items were difficult for enumerators to read, which were difficult for respondents to understand, and which may not translate well or are understood differently in different languages and contexts (SLRC, 2013). The pilot can also help refine options for close-ended, categorical questions to make sure only relevant (and all relevant) options are available (ibid.).

A pilot test can also unearth any typos, grammatical errors, unnecessary repetitions, survey item numbering mistakes, and illogical question orders (Gideon, 2012). Since we will be using CAPI, piloting is also essential to test that devices are programmed correctly and to correct any errors that arise, for instance from complex survey features like skip patterns or using multiple languages (Caeyers et al., 2012). The pilot is also an opportunity to test the feasibility and practical application of the sampling approach. Lastly, a pilot may highlight potential security issues or risks (SLRC, 2013).

Overview of the pilot

In order to draw maximum value from the pilot, we largely followed the same process as for the actual survey. This means that we were able to test all aspects of the survey, from sampling processes and the actual survey instrument to the technical solutions, including the use of CAPI, survey software and uploading of data. The key difference is that we had a much smaller survey team and a more basic enumerator training.

The pilot was conducted in three different contexts: Afghanistan, Cabo Verde, and Ghana. To avoid 'contamination' of our research area's samples, we ensured that the pilot was conducted in locations sufficiently far from the sites where the eventual fieldwork will be held. The selected pilot locations, dates and sample sizes are summarized in Table 3.

	Pilot area and description	Dates	Sample size
Afghanistan	Chaman-E Babrak, an area in Kabul with similar characteristics to Bagrami (AFG3).	19-20 February 2020	50
Cabo Verde	São Vicente, an island with urban and semi- rural areas and some similarities to neighbouring São Nicolau (CPV1).	13-15 February 2020	56
Ghana	Madina, an urban area that has some similarities with Golf City (GHA2)	14-16 February 2020	50

Table 3. Pilot areas

Each pilot was conducted by the country coordinator and a small team of enumerators. In most cases, these enumerators will be fieldwork supervisors for the actual survey, so the pilot was beneficial in helping them prepare for the survey and gain their buy-in. We conducted a basic training before commencing with the pilots.

The pilot replicated field conditions to the largest extent possible. That meant applying all aspects of the sampling strategy, using CAPI, applying our process for getting informed consent and conducting the interview in the way we intend to do during the actual data collection.

In addition to running the survey as set out pre-pilot, we placed particular focus on testing the sampling strategy in Ghana and Cabo Verde. In both pilot areas we were able to conduct a verification exercise of the estimated number of households, which is part of stage 1 of the sampling strategy; see Section 7.7.

There was a daily debrief for the survey team, alongside a form collecting feedback filled in by each team member on a daily basis. Upon the completion of the pilots, all aspects of the pilot were discussed with the survey teams, including a full run through of the survey instrument to note any issues with the survey. Country coordinators then submitted detailed feedback to ODI.

Lessons from the pilot

We were planning to hold a pilot review workshop in late April 2020 in London to discuss findings from the pilot. Due to COVID-19 travel restrictions this was not possible, so we instead

discussed the feedback and potential adjustments to the survey over a series of videoconference calls in April 2020. These calls covered the following issues:

- General feedback on the pilot from the three pilot countries.
- Evaluating the application and feasibility of the sampling strategy.
- Reviewing the framing and phrasing of questions as well as respondent comprehension, and options for different questions.
- Reflections on functionality of CAPI.
- Issues with translation.
- Implications for analysis, in particular assessing whether we had all the data that we need for regression analysis and QCA.

Alongside discussions with pilot team members, we cleaned and analysed the pilot survey data sets and produced a set of comparable descriptive statistics for all questions. We analysed if responses were skewed towards particular options, if responses to similar questions were consistent, and for which questions non-response answers (e.g. don't know or refuse to answer) were high. Non-response had to be carefully considered in the context of the question as it could either indicate that a question was not clear or too sensitive, or it could be analytically valuable (e.g. to questions around migration aspirations). We also assessed the usefulness of data collected for the specific analyses we are planning to run in order to identify any gaps or redundant questions.

Table 4 gives an overview of some of the summary statistics on the pilot. On average, interviews took 45 minutes. In terms of issues with interviews, the most concerning one was that a sizeable number of respondents were observed by enumerators to have been bored or inpatient during the interview. As this also affects data quality, we have carefully considered which questions made respondents bored and made adjustments (see next section).

	Afghanistan	Cabo Verde	Ghana
Average interview length (minutes)	46	42	46
Enumerator assessments			
Do you think anyone influenced the respondent's answers during the interview?	0%	2%	0%
Did the respondent check with others for information to answer any question?	4%	7%	4%
Did you feel threatened during the interview?	2%	0%	0%
Did the respondent get bored, or seem impatient?	18%	29%	6%

Table 4. Selected pilot statistics

Changes and adjustments made

We made significant adjustments to the sampling strategy as a result of the pilot. Firstly, we simplified the first stage of sampling (see section 7.7.1). Initially, we had proposed a process of mapping all dwellings on satellite maps before counting the dwellings to generate population estimates for clusters. Instead, we proposed simply counting them, on paper, or digitally. As the verification exercises in Cabo Verde and Ghana proved useful in improving our estimates of the number of households, we now propose this exercise to be conducted in each research area prior to the fieldwork.

For the second stage of sampling, we found that a random walk can be difficult to apply, so we improved the instructions for the random walk and will prepare an instruction video. We also realised that the instructions for within household sampling for the third stage of sampling were overly complicated, so we simplified that process, while still maintaining a random selection process. We added explanations and suggestions for potential scenarios enumerators might come across based on experiences from the pilot; for example another household member – who was not selected – wanting to be interviewed instead. We also added clearer instructions on return visits and replacement strategies. Finally, we did more thinking in terms of selection bias and the creation of weights.

The pilot showed us that, on the whole, the survey instrument worked. Interviews were, on average, a reasonable length most questions were clear and seemed to work, and only a few questions were too sensitive. We made some adjustments to improve questions that respondents found hard to understand or got irritated with. These were mainly questions that were repetitive in nature; for example repeating the same set of three questions for all types of migration information campaigns, or consecutive forward and backward-looking questions. We also cut some questions that were superfluous to the analysis, and added a small number of further questions needed for the analysis. The key changes made were as follows:

- We simplified some questions by changing them from a five-point Likert scale to a threepoint scale or binary question to make them easier for respondents to answer. One example is the set of questions around gender norms, which respondents seemed to understand as a binary question.
- As respondents sometimes did not know the education level of their parents, we have now included a much simpler question asking if their mother/ father completed primary school, with a follow up question on secondary school completion.
- The questions on number of household members in different age categories resulted in gaps in some cases (e.g. not collecting data on children aged five to primary school age), so we added a question on number of children, and added further questions on the age of the youngest child of the respondent, which was data not captured yet.
- The data on primary school attendance and enrolment of boys and girls was timeconsuming to collect, did not result in interesting data and is not essential to the analysis, so we cut it. With regards to secondary school attendance, either attendance or enrolment were sufficient for analysis, so we took out the question on attendance as enrolment can be asked on its own.
- We have added a question on whether the household has a business and the success of that business as well as a question on business ownership by migrants in the community, as these were identified as gaps in the analysis.
- We reduced the number of questions on perceptions of economic opportunities in the research area, as the analysis of pilot data showed they captured similar data.
- Since the questions on development interventions were too vague and broad and did not solicit useful data, we added a question on 'any governments or organisations from other countries that work towards improving life' and revised a question on social protection to capture national government support.
- We added a question on risk taking.
- We added a question on loss of customs and traditions as well as a question on participation in voluntary organisations, in order to capture civic participation.
- We realised that the questions on migration aspirations do not quite capture the degree of aspirations, so another question was added.
- We split the question on health need and access into two questions to make it clearer and easier for respondents to answer.

- We added a further question on perceptions of change in healthcare access in the research area in the past five years
- We added further questions to the migration networks section to collect information on household members who have migrated, returned or sent remittances
- We slightly revised the question on failed migration experiences, and removed an option which captured involuntary immobility, including this as a separate question instead.
- As the question on migration information campaigns was very time consuming to ask and irritated respondents, we reduced the follow-up questions about nature of the message and who ran the campaign to one follow-on question for all types of campaigns people were exposed to.
- We simplified the wording for questions on perceptions of government and corruption and added a question on participation in political rallies during the last election.
- For environmental shocks, the follow-on questions on impact were also time consuming to ask, so we combined them into one follow up question for all shocks. We have also removed the backward-looking question on environmental shock, as the data on only a five-year timeframe added limited value.
- In the weeks after the pilot, with COVID-19 being declared a global pandemic, we also added some new questions on the impacts of COVID-19 on the community.

Furthermore, we made some tweaks to the CAPI; for example following feedback from pilot teams, we put the question on GPS at the end of the survey instrument, as well as improved the questions on non-response, as we realised there were some options missing. We reduced the length of the interview ID and ensured it was the same every time an enumerator returned to the interview. There were a few issues around logic, which we fixed. We added transition or explanation sentences between sections to improve flow and comprehension of the survey.

We also provided clearer instructions on the translation process and will prepare an excel sheet for translations to be put in to facilitate the programming of CAPI. We have also included instructions to translators in the survey instrument for questions which are tricky to translate.

7.5 Preparations for data collection

7.5.1 Subcontracting

In the following countries, the survey will be subcontracted to an external survey firm or research institute:

- Cabo Verde
- Guinea
- Nigeria
- Pakistan
- Tunisia
- Turkey

This section provides some guidance on the requirements for subcontracting and what is expected of subcontractors.

Identifying subcontractors

If possible, one subcontractor should be selected per country to reduce transaction costs and to ensure consistency in the delivery of the survey across research areas. The main rules for subcontracting are as follows:

- The budget proposed must not be more than the budget allocated.
- The selection must be competitive, based on the best quality-price ratio. This entails having quotes from several firms, at least two but ideally more.
- Conflicts of interest must be avoided.¹

Annex 2 includes a detailed Terms of Reference (TOR), which can be adapted and sent to potential firms. Firms must prepare both a technical proposal to describe their experience in running similar surveys and describe their process of enumerator selection. They will also need to submit a financial proposal (in Excel) costing the different components of the survey.

We would propose sharing the TOR widely and to also collect informal feedback on the different survey firms. We will need a firm that is reliable and delivers to a high standard. Quality is an important part of the decision-making process.

Once applications have been received, country coordinators must schedule a meeting or conference call with each applicant to further gauge their experience and to ask questions about the proposal, followed up with contacting applicant's references.

Assessment criteria for review of subcontractors

Once you have received full applications, the following criteria can be used to guide your decision-making process. Please note down your assessments of the firms (e.g. in a table) to justify selection of the survey firm. Remember, ultimately you can make a decision based on the best quality-price ratio, so there is no fixed proportion assigned to the technical versus the financial component.

For the technical proposal:

- Attention to detail does the proposal include all the required information? Was it submitted on time?
- Does the applicant have a good understanding of the TOR?
- Does the applicant have survey experience?
- Do they have good quality control measures in place?
- Does the proposed team, including the team leader, have the required language skills?
- What is the capacity of the survey leader and fieldwork supervisor, e.g. experience in similar surveys?
- Composition of enumerator and fieldwork supervisor team what is the ratio? Is the overall size of the team reasonable?
- What is the selection process for enumerators? Do they have the right experience and language skills?
- Proposed timing for fieldwork is it reasonable? Is the number of interviews per day manageable? Is there a contingency?
- How easy is it to engage with them?

¹ Grant Agreement article 35.1 Obligation to avoid a conflict of interests: The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest.

For the financial proposal:

- Is the overall budget reasonable?
- Does the budget cover all services requested?
- Are individual budget lines reasonable?

Country coordinators must prepare detailed notes on the comparison and decision and then share these with PRIO, in case we are ever asked questions about the selection process.

Preparing the contract

The country coordinator's institution will draw up a subcontract, and there is no fixed template for this. We suggest that this subcontract is as detailed as possible and includes clear information of expectations, milestones and deliverables. Alongside the subcontract, the contractor must sign a Data Processing Agreement (DPA), for which PRIO has a template.

7.5.2 Research permits and approvals

At the project level, the survey data collection is subject to notification to the Norwegian Centre for Research Data (NSD). MIGNEX Handbook Chapter 4 (Carling, 2019b) elaborates on the project-level procedures.

In addition, permits or approvals may be needed in the countries where data collection takes place. In some cases, local approvals at the level of the research area are required. The country coordinators and survey leads are responsible for:

- establishing which permits or approvals are required
- obtaining the necessary permits or approvals before data collection begins –may also be done by fieldwork supervisor as part of introductions in the research area
- submitting copies to the Project Manager.

7.5.3 Technical solution for data collection

Why use computer-assisted personal interviewing?

Computer-Assisted Personal Interviewing (CAPI) – or the use of electronic devices such as tablets or smartphones– has overtaken paper-based surveys as standard practice in collecting survey data, and it is increasingly widespread in developing country contexts (Lupu and Michelitch, 2018). The use of CAPI has several benefits over traditional paper-based survey data collection:

- Fewer errors: Built in skip patterns, filtering and automatic error messages minimise or altogether avoid enumerator errors common in paper-based surveys (Caeyers et al., 2012; Benstead et al., 2017). Significantly, data entry errors are eliminated with CAPI, as interviews are already digitalised and do not require the labour intensive and error-prone step of transferring paper interviews to digital format. The result is fewer errors and less missing data, which in turn improves the reliability and validity of collected survey data (Seligson and Morales, 2016).
- Faster (and cheaper) data collection: Functions such as drop-down menus (instead of separate paper coding sheets), automatic skip patterns, and the ability to switch between languages at the tap of a screen save time compared to paper-based surveys. Shorter interview durations mean that enumerator time and costs are reduced.

- Faster and better monitoring and quality control: CAPI built-in data monitoring measures mean that any identified issues by data managers can be promptly rectified as they happen by the fieldwork team. With paper surveys, many errors would only be spotted at the data cleaning stage and become missing data as fieldwork has already ended.
- *Easier logistics:* Carrying tablets or smartphones and battery packs is less cumbersome and more convenient than large piles of paper, and electronic devices can be used in low light situations – for instance in the evenings and during power cuts.

In summary, there are clear benefits to using CAPI to implement surveys as opposed to traditional pen and paper data collection. The gap between data collection in the field and data analysis is drastically reduced, as interviews can be uploaded daily and data monitoring can be largely automated, flagging any issues to be resolved instantaneously. Complex questionnaires are facilitated with automated skip logic, minimising human error and speeding up data collection. In short, the use of CAPI allows for more accurate, cheaper and faster data collection than paper-based surveys.

Software

We have opted to use SurveyCTO CAPI software, which includes all the required functions to conduct the MIGNEX survey, and, importantly, data storage is GDPR compliant with the survey hosted on SurveyCTO's EU-based server (Dublin). The survey will be programmed by the central team at ODI, who are coordinating the survey data collection overall. The survey form is programmed in the XLSform language in Excel before being uploaded to SurveyCTO.

Hardware

Both tablets and mobile phones are widely used as CAPI devices for survey data collection in the field, and we will make use of both types of electronic device to conduct the MIGNEX survey.

Both types of device worked well during the pilot. In some cases, MIGNEX partners and subcontractors already have smartphones or tablets with which they could conduct the survey. If the devices meet the minimum specification required to run the survey, we will make use of these existing devices – whether a smartphone or a tablet.

When considering which electronic device to purchase for the purpose of the survey, it is important to think about battery, cost, screen size, and the minimum specifications required for the chosen software, in our case SurveyCTO (Benstead et al., 2017). Tablets are preferred over smartphones, as larger screen size makes for easier reading of survey items.

Table 5. Criteria for tablet or smartphone device

Battery life	8 hours +
Storage	16GB (or at least 8GB)
Memory	2GB RAM (bare minimum)
Operating system	Android 5

Source: SurveyCTO.

Alongside devices, we will require other hardware including battery packs for enumerator teams surveying in areas with potentially limited electricity capacity. Device covers and bags will also be required to protect the hardware from the elements and wear and tear as well as

for security reasons, as enumerators could be targets of theft (Benstead et al., 2017); see section 7.10.2.

Minimising risks associated with CAPI

When using electronic devices there are several challenges that must be considered to minimise risks to data quality. These include:

- Back-up plans for hardware failures: Technical glitches can lead to data loss we will take steps to protect devices such as using rain shields and protective cases. Each supervisor will have a backup tablet in case of any problems, and there will also be paper copies of the survey provided for each enumerator.
- Back-up plans for lack of electricity or internet: Electronic devices will need to be charged at the end of each day. This may be tricky in areas with unreliable electricity supply in the field, and so enumerators will need to be provided with portable battery packs. In particularly electricity-scarce areas, supervisors will need to be provided with portable generators. Intermittent internet may limit interviews being uploaded to the central server every day, though using mobile data is also an option.
- Handling security concerns in storing and transporting tablets: Fieldwork teams will need to take steps to protect themselves and the equipment during fieldwork. Fieldwork supervisors will lock tablets in a safe space at night after they have been charged. Enumerators will be expected to carry the tablet on their person at all times during the day to prevent theft. See also section 7.10.2.

Set-up of devices and logins

All enumerators and supervisors will need their own tablet or smartphone. Supervisors will be responsible for setting up each of the devices ready for the field, in advance of the start of fieldwork. Supervisors must ensure the following for each tablet:

- *Download the SurveyCTO Collect app.* This can be done via Android app stores on devices, such as Google Play.
- Disable unnecessary apps on the device. This is so that enumerators do not use tablets for reasons other than completing the survey, at the same time saving battery. Optionally, it is possible to download 'app-blockers' which would prevent enumerators from downloading any additional, battery draining apps. Supervisors should discuss with their survey leads if they wish to do this.
- Disable WiFi or internet on the device. Enumerators will complete surveys offline, to
 maintain battery life. WiFi or internet from data plans will only be activated by
 supervisors each evening to upload completed survey forms to the server. It is important
 that enumerators receive their device each morning with WiFi or internet disabled.
- *Turn volume on mute.* This must be done as the clicking sounds when filling in the survey can be irritating or distracting for respondents.
- Enable GPS on device settings. The survey form has a question on GPS location of the interview for quality control purposes, so for the survey to run properly GPS must be turned on.
- Label devices. Enumerators should use the same device each day. This is important as enumerators will occasionally return to existing survey forms on their tablet from another day – for instance for return visits. Devices can be labelled with stickers or can be otherwise differentiated e.g. with distinctive device covers. When supervisors give out devices each morning to enumerators, it should be clear which device belongs to whom.

- Set 'General Settings' on the SurveyCTO Collect app. With internet switched on supervisors start by clicking the options button on the home screen and then entering 'General Settings.' They can then use their login details to sign into the app and the MIGNEX server 'mignexsurvey' (see below for more on logging in). Under 'General Settings,' there are a series of default settings for the tablets. All settings should be disabled (not checked) apart from 'Auto download with Wi-Fi' (or 'Auto download with network' for tablets with internet data plans); see also Figure 2. 'Color form navigation' can also be enabled or checked. An optional setting that supervisors can change is 'Text font size', which may be useful depending on the screen size of the device (i.e. for making sure that questions are easily readable for enumerators and fit within the screen size, without the need for too much scrolling).
- Set location accuracy under 'Admin Settings' on the SurveyCTO Collect app. Supervisors can similarly edit 'Admin Settings' by clicking on the options button on the home screen. Supervisors should set the 'Location accuracy' under 'Admin Settings' to 10 metres, not five metres as is the default. See Figure 3.

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Figure 2. 'General Settings' in SurveyCTO



Figure 3. Changing GPS accuracy under 'Admin Settings' in SurveyCTO

- Configure languages. Switching between different languages for the survey form is easy on the SurveyCTO app; see 7.1.1. Supervisors may also want to configure the overall device settings to reflect the most common working language of enumerators.
- Download the correct form for enumerators. Supervisors will lastly download the correct survey form to the tablet, by tapping 'Get Blank Form.' Only this survey form should be downloaded onto each tablet.
- Download the correct form for supervisors. Supervisors will also have their own tablets, in
 order to do back checks. Supervisors will additionally download the relevant back-check
 form to their tablet.
- Remove home screen buttons for enumerators under 'Admin Settings'. It is possible to set what can be viewed on the home screen and what 'General Settings' are available on the device. Since enumerators only need to use two home screen elements, 'Fill Blank Form' to start a new survey form and 'Edit Saved Form' to enter previous survey forms, supervisors can remove the other buttons from the home screen; see Figure 4. Note, each evening supervisors will log in to enumerators' devices to review and upload survey forms to the server. For this, they will need an additional button on the home screen. They can do this by entering 'Admin Settings', and reenabling 'Send Finalized Form' so that they can upload survey forms to the server. If necessary, supervisors can also reenable 'Get Blank Form' and 'Delete Saved Form.' They can then disable these buttons before giving the devices back to enumerators.



Figure 4. Changing home screen view for enumerators and supervisors

There are separate logins for supervisors and enumerators. When enumerators are logged in, they will have the ability to start new forms under 'Fill Blank Form' and edit previous forms under 'Edit Saved Form.' When supervisors are logged in, they will have the ability to download new forms, delete forms and upload forms to the server.

Supervisors are in charge of logging in and out of the tablets on a daily basis. Each supervisor will have their own login details, which will be issued to them by the central team at ODI. Supervisor login details are comprised of their email address and their own password, which they can set themselves. All enumerators will have the same login details (username: enumerator; password: enumerator123).

On a daily basis when supervisors collect enumerators' tablets, they will need to go into 'General Settings', and change the username and password to their own details, in order to be able to review forms and upload them to the server. If supervisors forget to add their login details and try to upload a survey form, they will receive the prompt shown in Figure 5 to add their details. When supervisors log in to enumerator tablets, they will also need to update 'Admin Settings' to enable the 'Send Finalised Form' button on the home screen. When supervisors have finished on enumerators' tablets, they must log out by entering the enumerator login details, and also disable the 'Send Finalised Form' button on the home screen in the 'Admin Settings'. See Figure 4.

Occasionally, especially during enumerator training and at the beginning of data collection in a country, there may be updates made to the survey form by the central team at ODI. The process for updating survey forms is in part automated. When supervisors log into enumerators' tablets and there is an update, a yellow update icon will appear at the top of the SurveyCTO home screen; see Figure 6. Supervisors simply click on the yellow icon and the form will be updated. Note that for form updates to automatically appear on the home screen, 'Auto download form updates with Wi-Fi or network' must be activated, under 'General Settings,' as in Figure 2.



Figure 5. Prompt for supervisors to add login details in SurveyCTO



Figure 6. Downloading form updates in SurveyCTO

7.5.4 Translation

Many items for use in the data collection require translation. The bulk of translation work is related to the survey (WP3). As a rule, other translations are appended to these translations in order to consolidate the work and minimize transaction costs. Table 6 displays the documents to be translated.

Country coordinators are responsible for the process of translating the survey instrument, coordinating closely with central team for the survey (ODI) and the project Coordinator (PRIO) and another team member who contributes to quality control if they themselves are unable to review the translation. Translation for all items listed in Table 6 should be included in the Terms of Reference for the survey data collection organisation.

No.	Item	Number of languages	Parallel translation	Format
1	Survey instrument	15	Yes	Excel file
2	CAPI instructions	15	Yes	Excel file
3	Key phrases in survey instrument	6	Yes	Excel file
4	Information sheets for participants ¹	17	No	Excel file
5	Enumerator guide	9	No	Word file
6	Record of visits	9	No	Word file
7	Record of consent	9	No	Word file
8	Fieldwork supervisor / data manager guide	5	No	Word file
9	Fieldwork supervisor log	5	No	Word file
10	Fieldwork supervisor observation sheet	5	No	Word file
11	Enumerator training materials (powerpoint presentations, test and captions for training videos	9	No	Powerpoint, excel and word file
12	Template for survey execution report	1	No	Word file
13	Theme guide for key informant interviews	13	No	Word file
14	Theme guide for focus group discussions	15	No	Word file
15	Labels on cards for focus group discussions	17	No	Word file

Table 6. MIGNEX data collection items for translation

Note: 1. The translation covers different versions for the different data collection components.

As a rule, the survey instrument is translated into every language that will be used in survey interviews. However, there are six cases in which the interview language is not as wellestablished as a written language. In these cases, we translate only key items where the formulation and wording are critical, as explained below. The entire survey instrument will then be in the most relevant well-established written language, with additional translations for key items inserted in brackets. For factual questions that are easy to translate (for example, 'How many children do you have?'), no advance translation is required.

In general, key phrases are parts of items that are vulnerable to significant variation when enumerators translate. They include the following:

- Questions or responses where the exact wording is crucial, such as Likert scale response options and statements that respondents are asked to agree or disagree with
- Items that are sensitive to variation in the expression of time or conditionality, such as 'have you ever' as opposed to 'have you'
- Items containing specific concepts that might be translated in inconsistent ways, such as 'household'.
- Items with important nuances that are easily missed if they are not read out verbatim, such as the difference between 'during the past year' and 'last year'.

A key phrase is always an entire question and/or an entire response option. Responses that are not read aloud are not marked as key phrases. As a rule, when a series of response options are read aloud, either all or none are marked as key phrases. The survey instrument will be available in the following language versions. Brackets indicate the main language of the survey instrument, with only key items translated into the interview language, as explained above.

- Arabic
- Balochi (Urdu)
- Dari
- English
- French
- Hausa

- Kriolu (Portuguese)
- Malinké Oromifa
- Pashto
- Peul/Fula
- Pidgin
- Punjabi (Urdu)
- Sindhi (Urdu)

- Somali
- Sousou
- Talensi (English)
- Tigrinya
- Turkish
- Twi (English)
- Urdu

The CAPI software allows enumerators to easily switch between different languages, even within the same interview if needed; see Figure 7. Figure 8 shows an example from the version for interviews carried out in Twi. Enumerators prefer to read English, but since 'head of household' is potentially ambiguous, this item additionally contains the formulation in Twi.

🖬 🛎 🛇 🕴 😧 📚 😫 😧	🖴 ≍ ⊙ 🛔 ⊙ 🕾 🗐 12:47	Im K (S) Im K (S).	☞ ≍ ᠑					
🗑 Collect > Data 🖬 🍾 🗄	🗑 Collect > Data 🖬 🐂 🗄	🗑 Collect > Data 🖬 🍾 🗄	🗑 Collect > Data 🖬 🍾 🗄					
MIGNEX SURVEY A9 Are you t household? DO NOT READ OUT Change Language General Settings	MIGNEX SURVEY A9 Você é o (a) chefe da família? <i>NÃO LER AS OPÇÕESI</i> Sim	MIGNEX SURVEY A9 Você é o (a) chefe da família? <i>NÃO LER AS OPÇÕES!</i> Sim	MIGNEX SURVEY A9 Are you the head of the household? (Wo ne wo fidua no ne ti?) DO NOT READ OUT OPTIONS!					
	Não	○ Não	⊖ Yes					
	Change Language	🔿 Não sabe	○ No					
O Don't know	c english O	○ Recusa-se a responder	O Don't know					
Refuse to answer	portuguese 💿		O Refuse to answer					
	Cancel							

Figure 7. Switching between different languages

Figure 8. Example of translation of key phrases

Table 7 gives an overview of translations for all the supporting documents beyond the survey instrument and CAPI instructions.

Managing the translation process

Country coordinators have oversight of the translation process. Though large parts will be completed by survey leads and contractors, country coordinators must ensure that the instructions below are being followed and that timelines are adhered to. If they themselves lack the language skills, they also need to bring in another team member who can quality control the translations.

Accurate and meaningful translation is critical to the collection of survey data. In the survey instrument, small errors can potentially change the meaning of questions or responses. Translation errors are among the most significant risks to the project and care must be taken to avert them.

Work package		Arabic	Dari	French	Fula	Hausa	Malinke	Oromifa	Pashto	Pidgin	Portuguese	Somali	Susu	Talensi	Tigrinya	Turkish	Twi	Urdu
WP3	Information sheet for survey respondents	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
WP3	Enumerator guide, Record of visits and consent record	•	•	•				•	•		•	•			•			•
WP3	Fieldwork supervisor guide and supervisor log	•		•							•					•		•
WP3	Template for survey execution report			•														
WP4	Information sheet for focus groups and key informants	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
WP4	Theme guide for focus group discussions	•	•	•	•	•	•	•	•	•		•	•	•	•		•	•
WP4	Labels on cards used in focus group discussions	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
WP4	Theme guide for key informant interviews	•	•	•	•	•	•	•	•	•		•	•		•			•
WP5	Information sheet for policy experts	•	•	•				•	•		•	•			•	•		

Table 7. Translations of supporting documents for data collection

The translation process can be time consuming since several rounds of revisions might be required before the translated survey instrument is error free, reads well and can be clearly understood. In many cases, translated documents will be needed for approval processes long before data collection begins. To prevent costly delays to data collection, translations should be carried out as early as possible after the original files are available for translation, at least eight weeks before data collection commences.

The translated survey instrument and CAPI instructions must be submitted to the central team (ODI) at least four weeks before data collection is scheduled to begin to enable the programming of SurveyCTO.

Country coordinators, in collaboration with survey leads, must identify translators who are qualified and experienced. As explained below, translation of the survey instrument requires two translators who work independently of each other. They may work for the same company as long as the work is carried out separately by each person. It is important to verify that indeed two translations were undertaken. The remaining translations can be done by a single translator, who may be one of the two who translated the survey instrument. Based on the total workload, they should agree on a schedule for the translation to be carried out.

The process for each set of documents is described below.
Survey instrument and CAPI instructions

The survey instrument, CAPI instructions and key phrases in selected languages are to be translated separately by two independent translators (see separate instructions for key phrases below.)

All the work for translation of the Survey instrument is done in the *Survey-instrument-fortranslation.xlsx* Excel file. The file will exist in a separate version for each target language (e.g. *Survey-instrument-Arabic.xlsx*), containing the English original as well as space for translation to be inserted in a separate column. Technical instructions are contained in the file.

- **1.** Country coordinators prepare the Excel file for translation. In the relevant file, they prepare the English original for translation to the target language:
 - Replace [COUNTRY] with the relevant country name
 - Replace [RESEARCH AREA] with the names of the research areas in the country (e.g. '... here in [RESEARCH AREA]...' is changed to '... here in Qwiha/Ziway/Moyale...'). If the target language will *only* be used in one research area, you can insert only the name of that area.
 - Insert country-specific information in the few questions where it is required, e.g. the time of the latest elections. These questions are clearly marked with '[T]' in the survey instrument, indicating that they should be adjusted at the country level. Consult survey leads, where necessary. The tailoring of the question on social protection might require indepth consultation with country-level experts and the central survey team (see 7.4.4). Additional tailoring may be necessary, so consider what is known about the country context in general, current circumstances that might be relevant, and the organization of data collection. This is best to do before the translation process.
 - Share the file with survey leads.
- 2. Survey leads submit a copy of the file to each of the two translators, along with general instructions (Box 2) and specific explanations.

Box 2. Instructions for translators

When you translate the text, please keep the following priorities in mind:

1. It is important that your translation is accurate and that the content or meaning of the text does not change.

2. It is important that the text is as easily understandable as possible, also for people with limited education.

3. The survey instrument, which will be read aloud, must be as conversational as possible. Use formulations and sentence patterns that resemble a regular conversation.

When we tested the first version of the survey, we also had important experiences with translation. Here are some examples of pitfalls to pay attention to:

The original survey instruments uses the phrase 'during the past year'. If the interview is carried out in July, we are, in other words, interested in the period since the previous July. Sometimes this phrase was translated as 'last year' which would mean January-December during the previous year. So 'last year' is wrong. But if 'during the past year' does not work well in the target language, the phrase 'since one year ago' would also be correct.

The original survey also often refers to 'household'. In Portuguese the precise translation is *agregado familiar*. This literally means 'familial aggregation' and is a convoluted technical formulation that many respondents did not fully understand. It was suggested to use 'family' instead, but this is not the same as household. The household could include members who are not related by blood, and close family members could live outside the household. The solution was to use a formulation along the lines of 'people in your house' rather than 'members of your household'. In this way the meaning was preserved and the respondents could easily understand.

It is important to pay attention to pronouns. In Portuguese, as in other Latin languages, pronouns are the same for "he/she" as for the polite form of "you", and it has to be expressed in other ways who the sentence concerns. This can easily go wrong. For instance, we have the question "If someone from Boa Vista/São Nicolau wants to go live or work in a richer country, how easy or difficult do you think it would be to actually do it?" This became "…how easy or difficult do they think it would be to actually do it?"

- 3. Each translator enters their translation alongside the English original.
- 4. When the translations are returned, survey leads check that the two translation are indeed are indeed independent of each other.
- **5**. Survey leads then copy and paste Translator B's translation into the file from Translator A, so that the original and two translations appear next to each other. A third column will be used for a third, merged version:

No.	English original	Translation A	Translation B	Merged version
1				
2				
3				

- 6. Survey leads compare translations A and B line by line to create the merged version. If the survey lead lacks the language skills themselves, they should bring in another person to help with this, ideally a MIGNEX team member who understands the survey well. If that is not possible, the survey lead can also facilitate a conversation between the two translators, going through their translations and discussing differences between them.
 - When the translations differ, check if one is an error, and if so, use the other one after confirming that it is correct. Check that there were no copy paste errors in any of the translations, especially for similar questions.
 - If the translations differ but neither are wrong, consider which one works best, considering both the accuracy of the content and the flow of the language.
 - Regardless of whether translations are the same or differ, verify that the translation
 makes sense; it is possible that both have misinterpreted in the same way. Pay particular
 attention to near-synonyms and alternative translations, for example in in "working
 condition" should be translated as "not broken" and not as the "conditions under which
 people work". Pay attention to the semantic range, i.e. the broader meaning the
 translation may not have the same meaning.
 - Verify that the translation *sounds right*, in the sense that it can be used in a survey interview that should resemble a regular conversation as much as possible. This is best checked by reading each merged version out aloud.

7. Submit the Excel file with the *English original, translation A, translation B and merged translation* to the central team (ODI). As a quality assurance measure, ODI will verify that translations A and B are independent from each other and that the merged version is not identical to any of the two. The merged version will then be used to programme SurveyCTO.

Final minor adjustments can be made during the training of the data collection team (see section 7.10.1), when enumerators will practise the survey multiple times and may pick up on translation issues or potential for improving the language. Any adjustments at this stage first need to be discussed with the central team (ODI).

Key phrases

Translations of key phrases in Balochi, Kriolu, Punjabi, Sindhi, Talensi and Twi are also done in parallel, following the same procedure as described for the survey instrument above. A special version of the *Survey-instrument-for-translation.xlsx* Excel file is used for key phrases.

Key phrases in Talensi and Twi are translated from the English original, since the main survey instrument for those languages will be in English. For the remaining four languages, the translation should be based on the English original *and the main questionnaire language*. For instance, the translation to Kriolu will be completed after the merged version of the Portuguese survey instrument has been created. It is important to quality assure the main translation before the key phrases translation is conducted. The Excel file will look as follows:

No.	English original	Portuguese merged version	Kriolu Translation A	Kriolu Translation B	Kriolu Merged version
1					
2					
3					

Information sheets for participants

The information sheet translations are also carried out in an Excel file, *Information-sheets-fortranslation.xlsx*. Like the file for translating the survey instrument, it exists in different versions for each target language. The content of the file is used to produce eight different texts:

- Information sheet for survey respondents (WP3)
- Oral summary for survey respondents (WP3)
- Information sheet for focus group participants (WP4)
- Oral summary for focus group participants (WP4)
- Information sheet for key informants (WP4)
- Oral summary for key informants (WP4)
- Information sheet for policy experts (WP5)
- Oral summary for policy experts (WP5)

Since much of the information is repeated across the document, the Excel file is set up so that the segments are re-used in different combinations for the various texts. By doing it in this way rather than translating each text separately, we ensure consistency and reduce translation costs by about 70%. The procedure is as follows:

1. In the relevant Excel file, prepare the English original for translation to the target language:

- Replace [COUNTRY] with the relevant country name
- Replace [RESEARCH AREA] with the names of the research areas in the country (e.g. '... here in [RESEARCH AREA]...' is changed to '... here in Qwiha/Ziway/Moyale...'). If the target language will *only* be used in one research area, you can insert only the name of that research area.
- Insert country-specific contact details for the institutions and individuals responsible for each data collection component. For survey data collection in Cabo Verde, Guinea, Nigeria, Pakistan, Turkey and Tunisia, contact details for the subcontractor *and* the country coordinator must be included.
- 2. Submit a copy of the file to the translator, along with general instructions (Box 2) and specific explanations. The translator enters their translation alongside the English original.
- **3.** Review the translation and ensure that it is free of errors.
- **4.** Submit the Excel file with translations to the Project Manager at PRIO, who will compile the documents for use in the field.

Other documents

The remaining documents for translation will exist as Word files that can be supplied to translators:

- Enumerator guide
- Record of visits
- Record of consent
- Fieldwork supervisor guide
- Fieldwork supervisor log
- Template for survey execution report
- Theme guide for key informant interviews
- Theme guide for focus group discussions
- Labels on cards for focus group discussions

Country coordinators or survey leads organize these translations independently, without involvement of the WP leader of the project coordinator. This includes quality assurance and layout adjustment of the documents after translation, if necessary.

7.5.5 Hiring enumerators

A team of highly qualified survey enumerators is needed for the survey. Highly experienced and conscientious enumerators are key to collecting high quality data, hence they need to be carefully selected. Enumerators should have experience in conducting surveys, preferably with the survey lead and / or country coordinator. Team composition of the survey team needs to be carefully balanced in terms of women and men to enable interviews with female and male respondents (see section 7.9 on sampling respondents). Team should also represent the languages needed for different research areas.

Careful consideration also needs to be put into the size of enumerator team. A larger team will enable the fieldwork to be completed more quickly – which may be necessary in certain circumstances, e.g. with a looming election – but is also harder to supervise, meaning there is less time to come back to non-available respondents in the research area. We suggest an enumerator team of no more than 20 per research area, with at least one fieldwork supervisor per five enumerators. Ideally, language requirements permitting, enumerator teams move from one research area to the next.

We suggest training a slightly higher number of enumerators than needed in case some drop out during the course of the fieldwork and in order to select the best enumerators when the training is completed. Upon completion of the training, all enumerators will take a test designed by the central team and adapted by survey leads where necessary. The test can be run online on ClassMarker in English, but ODI will also design paper-based versions that can be translated. Only enumerators meeting the requirements specified will be selected for data collection.

7.5.6 Consulting 'Frequently Asked Questions (FAQ)'

This handbook chapter is intended to be used throughout the data collection period without being re-issued in new versions. However, it is likely that data collection teams will encounter unforeseen issues or ambiguities that must be resolved in consultation with the central team (ODI). Questions and answers that may be of relevance to other data collection teams will be compiled as a *Frequently Asked Questions (FAQ)* resource at <u>www.mignex.org/resources</u>. Consult this resource as part of the preparation. It may contain important lessons learned that help save time, prevent errors, or otherwise facilitate the data collection.

To contribute to this resource, do raise issues or dilemmas with the central team in the course of data collection. You are also encouraged to share specific experiences or tips regarding the organisation of data collection that go beyond what is covered in this handbook chapter, and which might be of benefit to other teams.

7.6 Sampling strategy

The aim of our sampling strategy is to collect data that, as accurately as possible, represents the population of 18–39-year olds in each research area. To achieve this, we must have a well-designed sampling procedure and follow it closely in the field. Failing to do so could mean that, for instance, we have a higher level of education or different views about migration in our sample than in the population as a whole.

In the MIGNEX survey, we will study migration processes on the basis of the general population. We will not 'oversample' migrant households, in other words migrant households are just as likely to be selected as non-migrant households. This general population may also include immigrants in the research area, so sampling is not contingent on citizenship, place of birth, residence permits and so on.

The MIGNEX survey will have a uniform sample size of 500 respondents per research area. In order to collect representative data for our target population we will use probability-based sampling methods.

The best way to select respondents while minimising sample bias is through simple random sampling – randomly selecting individuals from a sampling frame. Household surveys typically use national-level surveys (like a census) or administrative data as sampling frames from which to randomly select a sample of households to interview. But many countries, including many of the MIGNEX countries, do not have accurate and up-to-date inventories of their population; for instance the last census in Nigeria was conducted in 2006 and is thus likely to grossly undercount today's population.

Instead, we rely on a probability-sampling strategy including random walks and spatial sampling techniques using satellite maps. In the MIGNEX project, we will use a three-stage, probability-proportional-to-size cluster sampling strategy with random walks. Firstly, we will use satellite maps to estimate the size of the population and using probability-proportional-to-size sampling (PPS) to sample clusters. The second stage is a form of systematic sampling to sample respondents: a random walk. This is not an entirely random sampling process and can lead to systematic biases (Bauer, 2014), but its accuracy can be improved through a thorough application of the random walk strategy. The third stage is randomly sampling a respondent within a household.

To summarise, our sampling strategy will include the following stages:

- 1. *First stage:* Identifying and sampling clusters within each research area.
- 2. *Second stage:* Sampling households within each cluster.
- **3.** *Third stage:* Sampling respondents within each household.

Many people contribute to the success of the sampling strategy. Table 8 gives an overview of the timing and groups of people involved in the different sampling stages.

The following sections discuss each stage in turn.

Task	Time frame	Central team ODI)	Country coordinators	Survey leads	Data managers	Fieldwork supervisors	Enumerators
First stage							
Identifying clusters	>6 weeks before data collection	٠	٠				
Estimating the number of households	>6 weeks before data collection		٠				
Verifying the household count	>4 weeks before data collection		٠	•		•	
Sampling clusters	>4 weeks before data collection		•				
Second stage							
Calculating the sampling interval	>3 weeks before data collection		•	•			
Selecting the starting points	>3 weeks before data collection			•		•	
Sampling households (random walk)	During data collection					0	•
Sampling plan for challenging areas	>3 weeks before data collection	0	٠	•			
Third stage							
Sampling respondents	During data collection					0	•

Table 8. Time frames and responsibilities in the sampling process

Legend: ● Carrying out the task; O Providing supervision and quality assurance

7.7 Sampling clusters

Some of our research areas are large, with estimated populations of up to 100,000 people. A random walk covering entire research areas, and as such covering the entire target population, would be infeasible in these cases. Moreover, using a number of 'small' random walks would run the risk of only covering parts of the research area and hence increase selection bias if selected households are geographically concentrated. To overcome this, the first stage of sampling will divide research areas into smaller clusters before sampling a subset of these clusters.

In order to divide the research area into clusters and then use probability sampling to sample clusters and conduct the random walk, we need up-to-date and reliable population estimates for these clusters. This kind of data is available for the research areas in Ghana and Turkey. In the remaining research areas, satellite imagery of each research area will be used to identify smaller clusters. Satellite imagery will also be utilised to make population estimates for each cluster, from which clusters can be sampled via probability-proportional-to-size (PPS). Within these sampled clusters we will then conduct the second stage of sampling to select households, using the random walk method; see 7.8.

Box 3. Identifying, selecting, sampling - what is the difference?

Our sampling process involves different ways of including some units or (sub)groups while excluding others. These processes, described in later sections, use the following terminology:

Identifying: Within each research area, *identifying* clusters means dividing the area based on local knowledge and examination of satellite images. The purpose is to create clusters that resonate with realities on the ground.

Selecting: Within each cluster, *selecting* starting points means using local knowledge, examination of satellite images, and consideration of fieldwork logistics to decide where the random walks should start in order to cover the cluster and reflect its diversity.

Sampling: At all three stages of the sampling process, *sampling* refers to *randomly* including certain units – clusters, households, and individuals – while excluding others. Sampling follows specific rules in order to prevent any conscious or subconscious influence by the individuals involved.

7.7.1 Identifying clusters

In countries for which there are no up-to-date and reliable population lists, country coordinators must first use satellite maps to identify smaller clusters within each research area. This must be done at least six weeks prior to data collection.

Identifying clusters can be done either by hand with a printed map (which is then scanned and stored digitally), or digitally. Digital marking of clusters can be done as mark-up in specialized software such as Google Earth and ArcGIS by Esri, or by drawing on a map or satellite image file. Identifying clusters involves two main steps: (1) sourcing recent satellite imagery, and (2) stratification.

Sourcing recent satellite imagery

Country coordinators must source a satellite map of the research area that is as recent as possible, ideally not more than a couple of years old. Publicly available satellite imagery from Google Earth or Esri World Imagery will usually serve our purpose. In some instances, for example Afghanistan, it may be necessary to purchase satellite imagery, as recent maps will not be available publicly. Satellite imagery must be without cloud cover and of high enough quality to see buildings and other features. Table 9 lists the most recent publicly available satellite imagery for all research areas at the time of writing.

Dividing research areas into clusters

Based on the satellite imagery, country coordinators must divide the research area into clusters by following four principles:

- 1. *Clusters need to 'make sense'*. Cluster boundaries should take into consideration features visible from satellite maps including transport lines, natural features and landmarks. See Figure 9 for an example. It is important that the clusters are natural, or 'make sense' as far as possible, as this will make it easier for enumerators in the field.
 - In rural research areas, this may simply mean dividing the research area into different villages.

R	esearch area	Date of imagery available	Source
AFG1	Zindajan	12/10/2014	Esri World Imagery
AFG2	Behsood	08/09/2016	Esri World Imagery
AFG3	Bagrami	02/11/2017	Esri World Imagery
CPV1	São Nicolau	11/09/2019	Google Earth
CPV2	Boa Vista	12/10/2019	Google Earth
ETH1	Qwiha	08/02/2019	Google Earth
ETH2	Ziway	08/02/2019	Google Earth
ETH3	Moyale	18/09/2017	Google Earth
GIN1	Boffa	23/11/2019	Google Earth
GIN2	Dialakoro	10/11/2017	Esri World Imagery
NGA1	Down Quarters	07/11/2019	Google Earth
NGA2	Awe	12/04/2018	Google Earth
NGA3	Ekpoma	27/11/2017	Google Earth
PAK1	Chot Dheeran	15/12/2018	Google Earth
PAK2	Gwadar	14/02/2019	Google Earth
PAK3	Keti Bandar	21/09/2019	Google Earth
SOM1	Erigavo	09/11/2019	Google Earth
SOM2	Baidoa	16/04/2019	Google Earth
TUN1	Enfidha	12/10/2019	Google Earth
TUN2	Al-Rudayyif	20/10/2019	Google Earth

Table 9. Available satellite imagery for research areas

- Parts of the map which have no residential buildings can be excluded from the clusters.
- At this stage, it may be useful to consult with the survey lead or someone who knows the research area.
- 2. *Clusters must have at least 100 households but no more than 800.* Clusters of 100–250 households are preferable. Differently sized clusters are not an issue, as this is taken into account when sampling clusters. Since it is important to identify clusters that 'make sense', there is some flexibility in cluster size.
- Smaller villages may need to be combined to reach the minimum cluster size.
- In urban areas², for instance city districts, dwellings may be densely distributed, with multiple households likely to be living in each structure (e.g. an apartment block). It may be more feasible to do a random walk in a cluster with a larger number of households.
- **3.** *There should be at least 30 clusters in each research area*³. The more clusters, the better for the analysis. The maximum number of clusters in a research area is 99.
 - In order to reach a greater number of clusters, it may be necessary to split natural clusters into two. For example, a village of 900 households may be a natural cluster but must be split into two or three smaller clusters.
 - In smaller research areas it may not be possible to reach 30 clusters. The priority is then to create as many clusters as possible while ensuring that all make sense on the ground and all have at least 100 households.

Stratification

Some research areas contain parts that are clearly distinct from each other in social or economic terms. In such cases, sampling is done separately for each of the parts, which are referred to as strata and labelled A–D. Stratification is a precaution against accidentally drawing a random sample that is unbalanced in important respects. Each research area can be divided in up to four strata, though more than two will be rare. This is the procedure:

- 1. Consider whether stratification is needed. It is relevant when there are *clearly distinct and geographically delimited* parts of the research area, with populations that differ from each other. The most obvious example is a mixed rural and urban research area, which should have separate urban and rural strata. Ethnic, religious or socio-economic diversity call for stratification only when groups are clearly segregated in geographical terms.
- 2. Mark the boundaries between the strata on the map that you use for identifying clusters.
- **3.** Identify clusters as described above but separately for each stratum. The total number of clusters in research area must still be between 30 and 99, regardless of stratification.

Assessing the need for stratification and identifying the strata requires local knowledge. Country coordinators should consult with the survey lead or others that are familiar with the area.

² The definition of rural and urban area is likely to vary within a country. We are not interested in these official classifications. What matters here is considering that the nature of different sections of research areas may differ e.g. some parts may be more rural (scattered buildings) and others more urban (densely populated). These differences should influence decisions on whether stratification is needed.

³ This number of clusters is based on power calculations. With a fixed sample size (500), increasing the number of clusters is a means to increase the likelihood of statistically significant findings. See MHC10.

Naming clusters

A single Excel file is used to list the clusters, estimate the number of households, and carry out the PPS sampling. Create it when you start identifying clusters. Using the *MIGNEX-Sampling-template.xlsx* Excel file, create one sampling file for each research area. Save it with the research area ID instead of 'template' in the file name, e.g. *MIGNEX-Sampling-CPV1.xlsx*.

In the tab '1 Household number estimates', enter the names of all the clusters. Each cluster must have a unique name. If a village or neighbourhood is split into multiple clusters, append e.g. 01, 02, 03 or N, S (for North and South) to the place name to differentiate the clusters. If the research area is stratified, enter the stratum letter for each cluster.

Later in the process, the clusters are automatically given IDs. The clusters in each research area are numbered consecutively 01, 02, 03, etc. In research areas where sampling is stratified, a capital letter after the number identifies the cluster's stratum: 01A, 02B, 03B, 04A, etc for a research area with strata A and B. In combination with the research area ID, each cluster thus has a unique identifier such as CPV104A (cluster number 4 in CPV1, part of strata A) or GHA118 (cluster number 18 in GHA1, not stratified).



Figure 9. Identifying clusters in GIN1 Boffa, Guinea

Note: Clusters are for illustration only and may deviate from the ones that are used in data collection. Source: Google Earth. Map data: Maxar Technologies

7.7.2 Estimating number of households within clusters

Once clusters have been identified, country coordinators estimate the number of households for each cluster. The estimates are entered in the *MIGNEX-Sampling-template.xlsx* Excel file, as described below. The same file is also used for the next steps in the sampling process. There

are two aspects to estimating the number of households: (1) identifying residential dwellings, and (2) estimating the number of households in each dwelling.

1. Identifying residential dwellings

Examine the satellite map with cluster boundaries and make use of these strategies:

- Follow the outlines of roofs to identify separate residential dwellings.
- Check Google Street view for additional details. Where available, Google Street view can give an idea of what dwellings look like from the street or what type of building it is. (Among MIGNEX countries, Google Street view is available for parts of Ghana, Nigeria, Tunisia and Turkey).
- Do not count non-residential buildings. Sometimes non-residential buildings such as business or industrial buildings are labelled as such on Google maps. If not, consult locals or use prior knowledge. When unsure of whether a building is residential, assume it is residential and include it in the count.
- *Do not count unoccupied and under-construction buildings.* This may be hard to tell from the satellite imagery and requires local knowledge.
- Use prior knowledge and/or local knowledge of research area. Identifying dwellings on the basis of satellite maps is not easy, and prior knowledge of the area can really help to know what kind of buildings there are.

2. Estimating the number of households per dwelling

Especially in urban areas, there will often be dwellings in which more than one household resides, for instance apartment blocks. It is necessary to identify such multi-household dwellings and estimate the number of households in each. Use these strategies:

- *Make assumptions based on shadows on satellite imagery*. If a building has a large shadow due to being multi-storey, it is likely to be a dwelling with several households.
- Use Google Street View to identify multi-household dwellings. Even if Google Street view covers only a main road in the research area, it can be helpful for differentiating types of dwellings that look different on the satellite image.
- *Use local knowledge to identify multi-household dwellings.* People that are familiar with the area can also advise on the likely number of households per multi-household dwelling.

As you identify dwellings and estimate the number of households in each, mark them on a map, either digitally or by hand on a printout (which is then scanned and saved for reference).

Figure 10 shows examples of dwelling counts. Panel A is an urban area with dwellings that appear to be occupied by one, two or three households. Panel B shows a rural area where the situation is the opposite: each household lives in a compound with several buildings. They can be distinguished based on the compound boundaries. Local knowledge is needed to verify the assumption that residents of the same compound generally live together as a single household.





Panel A

Panel B

Figure 10. Estimated number of households in each dwelling.

Source: Google Earth. Map data: Maxar Technologies

3. Entering dwelling counts in Excel

Once the dwellings are identified on the map as shown in Figure 10, count the number of dwellings in each size category. In the example shown in Panel A we see 41 single-household dwellings, 11 two-household dwellings and one three-household dwelling.

In the MIGNEX-Sampling Excel file, enter the dwelling counts on the sheet '1. Household number estimates', as shown in Figure 11. In this example, most cluster contain only single-household dwellings, while some also contain two-household dwellings. There are columns for dwellings with up to 10 households and an option for specifying even larger dwellings if necessary.

1 2 3	Enter cluster names below. Enter stratum letters, if relevant Enter estimated number of dwellings	Enter stratum letters (A - D) here ▼	Enter the number of dwellings in and Z with each cluster, sorted by number of numbers households. (The first column for >10 if there er single-household dwellings, the are dwellings um second column for two-household with more than 10 households than 10 D) ▼ Number of dwellings containing this number of households:					X, Y ith s ere Illings re blds	Estimated number of households (Automatically calculated and							
	Cluster name	Stratum	1	2	3	4	5	6	7	8	9	10	x	Y	z	sheet 2)
	AFIA	A	123													123
	ALFA	А	113													113
	BONJE	А	146													146
	BRAVACUNDA	А	242													242
	CABELE	А	187													187
	CANJIA	A	166													166
	CANSISSE	Α	201													201
	CHEUAL	Α	143													143
	GABU 1	В	70	18												106
	GABU 2	В	133	5												143
	GABU 3	В	130													130
	GABU 4	В	121													121
	GABU 5	В	101													101
	GABU 6	В	104													104
	GABU 7	В	94	23												140
	LAMEGO N	В	230	15												260

Figure 11. Example of cluster dwelling counts in MIGNEX-Sampling Excel file

4. Reviewing cluster size

As you enter the dwelling counts, Excel calculates the total number of households in each cluster. See the right-most column in Figure 11. At this point, review the size of the clusters and adjust the clusters if the household count lies outside the 100–800 range. Such adjustments could take several forms:

- Merging adjacent clusters if one is too small.
- Splitting clusters that are too large.
- Moving the boundary between clusters if one is too large or too small.

Estimated household numbers below 100 or above 800 are automatically flagged. As explained above, household numbers in the range 100–250 are preferred.

For stratified clusters, Excel calculates the sample size for each stratum. These sample sizes are multiples of 20 to match our standard batch size. In rare cases, the total sample could differ from 500 because of rounding. Excel will flag this issue and request a manual adjustment.

7.7.3 Verifying the estimated number of households

Using satellite maps for sampling is a relatively recent innovation (Himelein et al., 2017), and these approaches have not been tested extensively. Accurate household estimates are critical to ensure MIGNEX data is representative of the target population within each research area. Since we are, in most cases, using satellite imagery to estimate population sizes, if our counting of and assumptions about residential dwellings are *inaccurate*, our sample will be *biased*.

Counting dwellings is difficult. In densely built areas, dwellings are often so closely built together that it is difficult to distinguish between buildings. Likewise, in rural areas, several households may live within one compound of many buildings, which can be hard to interpret with a bird eye's view. Further, we will have to make assumptions about how many households live within a dwelling or compound, which can be inaccurate. If the population estimates we derive from this deviate greatly from actual population size, it will bias our sample. The accuracy of our assumptions depends on i) the nature of the research area, for example it is easier to count sparsely distributed single household dwellings, and ii) access to local knowledge before entering the field.

As a result, the next, critical step in this stage of sampling are verification exercises, carried out by fieldwork supervisors at least four weeks prior to data collection, instructed by country coordinators and survey leads, in order to verify the accuracy of household estimates before proceeding with the fieldwork. This will take a few days and must be done at least four weeks before data collection commences. This exercise entails the following steps:

- 1. *Talk to people familiar with the area to verify assumptions.* Maps with counted residential dwellings that are marked can be verified by fieldwork supervisors or survey leads by showing the maps to people familiar with the research area e.g. local leaders. This is also a good opportunity to introduce the objectives of the survey, share plans and learn more about the research area. They can help verify or identify:
 - New (informal) settlements or temporary structures (e.g. mining settlements) not included on slightly outdated satellite maps. People familiar with the area could help add these newer settlements to the map, so that residents are not excluded from the sample.
 - Identification of any group living arrangements (e.g. student or worker dormitories) and approximate number of 'households' within these (see also Box 6).
 - Buildings that are unoccupied or non-residential, so that these can be excluded from the counted residential dwellings.
 - Number of households living in multihousehold dwellings.
 - Geographic concentrations of different social groups for stratification (see above). This is important to ensure that different groups are not left out in the sampling process.
- 2. Verifying dwelling and population estimates. To get a sense of how accurate our estimates are, country coordinators will demarcate two small zones within the research area for the fieldwork supervisors to carry out an on-the-ground verification of household estimates. In stratified research areas, this should be a zone from each stratum, e.g. an urban and rural zone. It is also a good idea to carry out the exercise in an area with multi-household dwellings to check assumptions made. The steps are as follows:
 - Count the number of households. Fieldwork supervisors will walk around the demarcated zones following a map, and count all households living within this small zone. An easy way to keep a record of counted households is to keep a tally chart, and it may also help to use a highlighter to keep track of which streets or paths have been counted already on the map. When it is unclear how many households live in a dwelling, fieldwork supervisors can investigate; for instance by asking someone in the area or counting the number of doorbells or post-boxes outside a building, where they exist. This process can be done by one to two fieldwork supervisors in about half a day.
 - Compare the counts. The number of counted households counted on the ground by fieldwork supervisors in the demarcated zones will be compared against the original estimates, listing counts in the verification exercise template. If the margin of error is greater than 20%, a full household listing is required. If the margin of error is less than 20% we will proceed with our estimates. This comparison and decision are made by country coordinators.
 - The completed verification form should be submitted to the survey lead and the findings will be included in the survey execution report (see section 7.11.2).
- **3.** *Improve mapping through a household listing (where applicable).* If the verification exercise in the previous step shows the estimates to be inadequate, it will be necessary to list all

households in the research area. The household listing is similar to the verification process in the two demarcated zones, i.e. not a full listing of household members as is usually the case in household listings. All that is needed is the number of households in each of the clusters. Depending on the size of the research area, this can take a few days to one to two weeks. Country coordinators should set aside a contingency budget to enable this stage when needed.

Box 4. An alternative approach to estimating household numbers

In some countries recent data and natural clusters already exist, which can be used to divide up research areas and to obtain information about the number of dwellings and households. In the MIGNEX countries, this is the case for Ghana and Turkey. In Ghana, enumeration areas of 200-250 households already exist and are already mapped. These will form the clusters in the Ghana research areas. In Turkey, the research areas can be divided into neighbourhoods, for which recent neighbourhood level population is easily accessible. This data is updated annually.

In those cases, we will compromise on the principle of absolute comparability for this stage of sampling in the interest of not doing unnecessary work. We will skip the first step of mapping, identification of clusters and counting dwellings and conduct the next stage of allocating interviews to clusters based on population data, rather than dwelling data.

7.7.4 Sampling clusters

Once country coordinators have the verified household estimates for each cluster, they will then sample clusters using probability proportional to size (PPS). This approach ensures that households have an equal chance of being sampled even when clusters are of different sizes (Lavrakas, 2008). Our approach is a slightly adapted version of PPS sampling where we allocate batches of interviews to clusters proportional to their relative size (see also Ersanilli et al., 2011).

Across all research areas, interviews are done in batches of 20. This means that if a cluster is sampled, it will be allocated 20 (or 40 or 60) interviews. The batch size has been selected to achieve the required number of clusters for our power calculations while maintaining a reasonable sampling interval in mind.

Country coordinators complete PPS sampling in the MIGNEX-sampling.xlsx Excel file

- For unstratified clusters, use the tab '2. Unstratified'
- For stratified clusters, use the tabs '2a. Stratum A', '2b. Stratum B', etc.

In the relevant tab(s) carry out the random sampling by carefully following this procedure:

- **1.** Enter the highlighted cell in column D to edit it.
- 2. Replace 99 with the number that is shown in the explanation to the left of the cell.
- **3.** Press and hold the key F9. (Depending on your keyboard settings you may have to simultaneously press Fn to access F9.)
- 4. While holding down F9, press Enter.

(This procedure makes Excel generate a random number in the correct range and enter it as a permanent value. Without using F9, the random number would have been recalculated every time any cell in the file was edited.)

If the research area is stratified, steps 1–4 above must be repeated for each stratum in the respective sheets.

The tabs '2. Unstratified', or '2a. Stratum A', '2b. Stratum B', etc. should now show the detailed sampling plan for the research area, with the following new information for each cluster:

– Cluster ID

Clusters in stratum P

- Number of batches
- Number of interviews
- Sampling interval more on that in section 7.8.2.

There is also a table with summary information for each research area (or each stratum).

Even if the research area in question is stratified, you must not delete the tab '2. Unstratified', which is used in calculations.

Clusic							
ID	Cluster name	Households	Batches	Inter- views	Sampling	Key parameters (for this strate	um)
		noucchiciae	Batomoo		interra	noj parametere (ler ane erran	,
09B	GABU 1	106	1	20	3	Households	2490
10B	GABU 2	143	1	20	4	Clusters	15
11B	GABU 3	130	-	-		Sample size	260
12B	GABU 4	121	1	20	3	Batch size	20
13B	GABU 5	101	-	-		Batches	13
14B	GABU 6	104	1	20	3	Sampling interval: average	4.2
15B	GABU 7	140	1	20	4	Sampling interval: maxiumum	7
16B	LAMEGO N	260	1	20	7	Sampling interval: minimum	3
17B	LAMEGO S	199	1	20	5	Clusters included (N)	12
18B	MAFANCO N	450	2	40	6	Clusters included (%)	80%
19B	MAFANCO S	174	1	20	4	Clusters excluded (N)	3
24B	SORI E	155	1	20	4	Clusters excluded (%)	20%
25B	SORI N	111	1	20	3	Proportion sampled: total	10%
26B	SORI S	124	-	-		Proportion sampled: maximum	19%
27B	SORI W	172	1	20	4	Proportion sampled: minimum	8%
			-	-			

Figure 12. Example of final sampling plan in MIGNEX-Sampling Excel file

Adapting to issues in the field

There could be realities in the field that require slight adaptations to the first stage of sampling. For instance, in a sampled cluster with 100 estimated households, enumerators may find it difficult to find 20 respondents in the target population, even after several days of data collection. This scenario occurred during the Cabo Verde data collection in November 2020, in a cluster with high levels of youth out-migration Sao Nicolau (CPV1). If this occurs, survey leads can randomly select an additional cluster from the same stratum (not previously sampled) as the cluster which did not reach the sample size. Any interviews within that batch size not completed in the first cluster should be completed in the additionally sampled cluster.

7.8 Sampling households

Once clusters have been sampled, the second stage of the sampling strategy is to sample households. We use a version of the random walk technique that ensures a dispersed sample of households.⁴

The core principles of random walks are as follows:

- Each walk starts from a pre-determined starting point.
- The initial direction of the walk is randomly selected.
- The route is determined by fixed rules.
- Every *n*th household along the route is sampled.

The sampling interval *n* is calculated in advance, as explained below.

7.8.1 Planning the data collection at the cluster level

Clusters can vary considerably in geographical size and the distribution of housing. We can distinguish between three main types, with different implications for the application of the random walks.

Compact clusters

Compact clusters are small and continuous areas, such as an urban neighbourhood or a single village. Such clusters can be covered by each enumerator doing one random walk, all entering the area from different sides. See section 7.8.3 on the selection of starting points.

Each enumerator can continue their random walk until the target number of interviews for the cluster has been reached – they will be informed of this by fieldwork supervisors. In compact clusters there is a risk of several walks reaching the same households. See section 7.8.5 below on the prevention of visits by multiple enumerators.

Fragmented clusters

Fragmented clusters have clearly separated areas of housing, for instance on the outskirts of a large town or in a densely populated rural area. Enumerators need to be dispersed to cover the different fragments.

The number of households could differ greatly between fragments of the same cluster. In the fragmented cluster in Figure 13, for instance, enumerator A will cover a much smaller number of households than the other enumerators. To avoid a bias, the survey lead or fieldwork supervisor allocates a number of interviews to each enumerator based on the approximate number of households in the areas they sample. In the example in Figure 13, the numbers could be A: 5, B: 20, C: 15 and D: 20. Interviews can be distributed in this way on the basis of the earlier household estimates using satellite maps (see Section 7.7).

⁴ Other versions of the random-walk technique attempt to select a starting point at random and then samples households based on proximity. This approach has been criticized on several grounds (Grais et al 2007). Our method allows for several starting points and samples only a fraction of households along a longer route from the starting point.



Figure 13. Types of clusters

Dispersed clusters

Dispersed clusters are sparsely populated rural areas where the team needs to cover considerable distances within the cluster. One option is that, instead of each enumerator doing a separate random walk, the team could do one joint random walk at each village or group of houses. In such clusters, the number of starting points does not need to be the same as the number of interviewers. At the first selected household, the first enumerator remains to do an interview. The rest of the team proceeds to the next household, where the second enumerator does the interview, and so on. Enumerators would then call their fieldwork supervisor when done, and the team would then proceed to the next set of households when all are done.

The number of interviews in each random walk must roughly reflect the number of households in the area based on estimates using satellite maps, in the same way as described above for fragmented clusters.

7.8.2 Calculating the sampling interval of the random walk

The basic principle is to organize the random walks so that every household's likelihood of being sampled is as similar as possible. If there are four random walks in an area, with four enumerators, each walk must be long enough to reach a quarter of the area. The length of a walk with a specific target sample depends on the interval between each sampled household along the route.

Doing the random walk and counting the number of dwellings can take a long time. Therefore, a high sampling interval generally means doing fewer interviews per day – we take this into account in our target number of interviews per day. However, the sampling interval is essential for making the sample as representative as possible.

The formula for calculating the sampling interval is as follows:

 $SI = rac{Estimated number of households in the cluster}{Target sample for the cluster} \times 0.5$

The rationale for multiplying by 0.5 is that, as a later section explains, households are counted and sampled on *only one side of the road*. Therefore, a sampling interval of 5 means that every tenth household along the route is sampled.

The sampling interval for each cluster is calculated in the *Sampling template.xlsx* Excel file. To avoid excessive time spent between interviews, the sampling interval is capped at 10. However, if the originally calculated interval was higher, the random walks with a reduced sampling interval of 10 will not be able to cover the entire cluster. In other words, some areas in the cluster would be missed out.

Figure 14 illustrates the effect of artificially reducing the sampling interval. The selection of starting points then has a greater impact on the result, as shown in panel B. In these cases, we therefore use a procedure for randomly sampling starting points instead of selecting them manually. This is explained in the next section.



Figure 14. Adapting to a large sampling interval

7.8.3 Selecting the starting points

Each random walk begins at a starting point that has been designated in advance. The starting points are set by the survey lead and / or fieldwork supervisor based on satellite maps. The procedure then used depends on whether the sampling interval is the one that results from the standard formula (first procedure), or if it has been reduced to 10 (as explained in 7.8.2)

Manually selecting starting points

- **1.** Determine whether the cluster should be covered as a compact cluster, a fragmented cluster or a dispersed cluster (see Figure 13).
- 2. Determine the number of starting points (i.e. the number of walks). The default is one starting point per enumerator working in the cluster. There could be exceptions in dispersed clusters (cf. Figure 13).
- **3**. Select locations for the starting points, using the following principles:
 - Select starting points along the edges of the cluster, in the middle, or both, depending on the type of settlement and layout of roads.
 - Select starting points where the starting direction must be determined randomly on the spot, as explained below, or where the direction is given e.g. on a road entering the cluster. It is also possible to have two adjacent starting points with enumerators starting their route in different directions (as in the case of enumerators B and C in the example of a fragmented cluster in Figure 13.)
 - Disperse the starting points so that (1) the entire cluster has a chance of being covered by a
 random walk, and (2) the areas in the vicinity of the starting points reflect the diversity of
 the cluster. For instance, it may be relevant to have some starting points along main roads
 and some starting points away from main roads.
 - Select starting points that can easily be identified on the ground, such as an intersection, a single tree, or any other landmark.
- 4. Mark the starting points on a satellite map, either digitally or by hand on a printout.
- **5.** For fragmented and dispersed clusters, estimate the target sample for each random walk, based on the satellite map (see explanation under 'Fragmented clusters' on page 45).
- 6. Examine the satellite map and talk to knowledgeable locals to check if the cluster includes isolated households or groups of households with zero possibility of being reached by a random walk. If that is the case, draw a sample of these households as explained in section 7.8.6.

Randomly selecting starting points

This procedure is used only when the sampling interval is capped at 10 but would have been higher without the cap.

- **1.** Determine the number of starting points that are needed, in the same way as when starting points are manually selected (cf. point 2 above).
- Select starting points using the same principles as when starting points are manually selected (cf. point 3 above), but *select 2–3 times as many starting points than are needed*. Label them A, B, C, etc on the map, up to a maximum of 20 points. Ensure that the points are as evenly dispersed as possible across residential areas. See Figure 14, panel C.
- **3.** Use the *MIGNEX-Sampling.xlsx* Excel file to randomly select the starting points that will be used. Follow instruction in the 'Sampling starting points' sheet. See Figure 15

	Sampled starting points	First Second Third Fourth Fifth Sixth Seventh Eighth Ninth Tenth			Sampled starting points	First Second Third Fourth Fifth Sixth Seventh Eighth Ninth Tenth	B E G L
1	Enter the cluster ID		?	1	Enter the cluster ID		03B
2	Enter the number of starti that have been selected?	0	2	2 Enter the number of starting point that have been selected? (max 20			
3	Enter the number of starti that should be sampled?	ng points (max 10)	0	3	Enter the number of starti that should be sampled?	ng points (max 10)	5
4	Run the sampling by follo procedure:	wing this		4	Run the sampling by follor procedure:	wing this	
	 Copy all the cells to the right that contain numbers. Select all the cells marked 'x'. Right-click and select 'values' under 'Paste options' (the icon with 123 on a clipboard). 	0.739 0.233 0.990 0.309 0.776 0.011 0.662 0.023 0.411 0.947 0.605 0.655 0.558 0.594 0.696 0.825	x x x x x x x x x x x x x x x x x x x		 Copy all the cells to the right that contain numbers. Select all the cells marked 'x'. Right-click and select 'values' under 'Paste options' (the icon with 123 on a clipboard). 	0.243 0.783 0.356 0.503 0.995 0.548 0.424 0.759 0.556 0.569 0.215 0.332 0.829 0.705 0.218 0.247	0.457 0.601 0.530 0.002 0.911 0.590 0.697 0.305 0.188 0.330 0.290 0.617 0.858 0.671 0.751 0.892
		0.025	x			0.547	0.692

Figure 15. Starting points sampled in the MIGNEX-Sampling Excel file.

The panel to the left has not been completed. The panel to the right shows sampling results for a cluster where 12 starting points have been selected and five points are needed.

7.8.4 Determining the route of the random walk

Preparation

Before starting data collection in a cluster, the fieldwork supervisor must prepare the team:

- Ensure that everyone has a satellite map with the cluster boundaries shown.
- Go through the satellite map of the cluster together with the enumerators and point out major roads and landmarks so that they can orient themselves.
- Ensure that everyone knows where the boundaries of the cluster are.
- Ensure that each enumerator knows which side of the road they are sampling on (see below).

The fieldwork supervisor must ensure that every enumerator starts at the correct starting point, e.g. by accompanying the enumerators and sending them off one by one.

Each enumerator is allocated one side of the road to sample, either left or right. The allocations can remain the same for all clusters and research areas. If there is at least one third of each gender in the enumerator team, follow this rule:

- Male enumerators always sample on the right.
- Female enumerators always sample on the left.

If a gender-based allocation is not feasible, for example if mixed teams are sent out because of security implications, divide the team roughly in half in another way.

In rural areas with very dispersed settlement, it may be necessary to bring in a local guide could help to save time, especially if the satellite map is unclear or very recent. This person could tell enumerators which paths lead to fields or empty houses.

The following list contains the rules for doing the random walk. It first establishes how the route itself is determined and then explains the counting of households along the route. These subsequent steps are all undertaken by enumerators, who must be very familiar with these rules once the fieldwork commences. After the full explanation below, Box 5 summarizes key points for determining the route of the random walk.

Determining the starting direction

- **4.** Identify *the different possible routes* to follow from the starting point. If the starting point is at the edge of the cluster, and the cluster boundary is a road, following this road in either direction is possible. See Figure 16, panels A and B.
- **5.** If there is only *one possible route* to follow, start the random walk in this direction. If there are several possible routes to follow, spin a pen on a flat, smooth surface (e.g. the back of a clipboard) to randomly determine the starting direction of the walk. This would be necessary in the examples shown in Figure 16, panels B and C.



Figure 16. Different numbers of possible starting directions

Determining the first turn

- 6. If the route initially goes *along the edge* of the cluster, take the first turn into the cluster, away from the boundary. Take note of whether this was a left or a right turn.
- **7.** If you are walking *inside the cluster*, stop at the first intersection and spin a pen to determine which direction to follow. Take note of whether this was a left or a right turn.

Determining subsequent turns

- 8. Stop at *every intersection* to determine which way to go. Alternate systematically between turning left and right. If the first turn was to the left, take a right at the next intersection, then a left, and so on.
- **9.** An intersection is any point where it is possible to proceed by foot in *at least two directions*. To identify intersections, include all paths and passages that can be used by the public. Take care not to miss small paths that take off from big roads. See Figure 17.
- **10.** *Always* follow the random-walk rules at intersections, even if the indicated direction is a back alley or other road without any residences. See Figure 18.
- **11.** Where buildings and paved or cobbled roads are insufficient to identify intersections, look for *trodden paths* that appear to be in regular use. See Figure 19.
- **12.** Entries to paths or driveways that lead to a single dwelling *do not qualify as intersections* as well as any paths that are private or not in public use.
- **13.** When several roads or paths come together in the same area, determine whether it is *one or more intersections*. This has a direct effect on the route of the random walk. An intersection is defined by roads or paths that *converge approximately on a single point*. See Figure 20.
- 14. Left and right turns are, in fact, the *leftmost and rightmost* available directions. This can initially be a bit confusing as turning leftmost or rightmost can sometimes mean continuing straight ahead on the same path or road. For instance, if a side road takes off to the left, 'turning right' means continuing straight ahead, because it is the rightmost of the two options. See Figure 21.
- **15.** As a result of the rules for the random walk, the route will never go straight ahead at an intersection *where one road crosses another*. Instead enumerators will need to turn either left or right, depending on what their last turn was. See Figure 22.
- **16.** *Bends in the road* have no impact on the procedure of making left and right turns. Only intersections matter. See Figure 23.
- **17.** It does not matter *if the routes of different enumerators cross*, so long as they do not sample the same households. See7.8.5 on household sampling.



Figure 17. It is easy to miss small passages taking off from the street Photo: Jørgen Carling for MIGNEX



Figure 18. The indicated direction could also be a back alley without residences.

Photo: Jessica Hagen-Zanker for MIGNEX



Figure 19. This an intersection if there is a well-trodden path to the right Photo: Jørgen Carling for MIGNEX



Figure 20. An intersection is defined by roads that converge on a single point.



Figure 21. 'Right' and 'left' mean rightmost and leftmost possible direction



Figure 22. The route will never go straight ahead where one street crosses another

Photo: Jørgen Carling for MIGNEX



Figure 23. It does not matter that the street turns left, since there is no intersection.

Photo: Jørgen Carling for MIGNEX

Navigating dead ends

18. If the route leads you to *a dead end*, turn around and go back. If your last turn was to the right, the turn at the dead-end counts as a turn to the left, and vice versa. This means that if you entered the dead-end road with a left turn, you will do a right turn at the end, and a left turn as you exit the dead-end road again. See Figure 24, panel A.





Navigating the cluster boundary

- **19.** Your route can go along the cluster boundary but *never out of the cluster*. If the route leads you to the boundary and there is no way to go except out of the cluster, follow the same procedure as for dead ends. See Figure 24, panel A.
- **20.** If you *hit the cluster boundary at an intersection*, follow the regular left–right procedure. See Figure 24, panel B.
- **21.** If the route takes you *along the cluster boundary*, take the first possible turn away from the boundary, even if it means that in this scenario only you break the left-right turn procedure. Take note of whether this was a turn to the left or the right, and turn in the opposite direction at the next intersection. See Figure 24, panel C.

Box 5. Summary points for determining the route of the random walk

- Follow the special rules for determining the starting direction and the first turn.
- Stop at every intersection, large and small, to determine the direction.
- Treat all roads, streets and paths the same, regardless of their size or use.
- Always remember if your last turn was to the left or to the right.
- Alternate systematically between left and right turns.
- Follow special rules for dead ends.
- Follow special rules when you reach the cluster boundary.

7.8.5 Sampling households along the route

As enumerators follow the route of the random walk, the sampling process has two parts:

- Count every household on your designated side of the route (left or right).
- Knock on the door of every *n*th household to request an interview, where *n* is the sampling interval that varies from cluster to cluster.

Determining which households to count

- 1. Meticulously counting households is necessary to apply the sampling interval. Depending on the setting, it can take some time and effort to count correctly. One *dwelling* can contain multiple *households* (Box 6). Especially in rural areas, a household could also be dispersed across several buildings.
- 2. Exclude commercial buildings, institutions, storages house and other spaces that are *not at all used for residence*. Be aware that a small shop, for instance, could also serve as a residence, in which case it should be included.
- **3**. Exclude residential buildings that appear to be *abandoned* or are *not used for permanent residence*. It can be useful to consult neighbours or others who know the area in order to know if a house is occupied or not.
- **4.** Include only those dwellings that have the *main door facing the route*. This is to ensure that the same dwelling cannot be sampled on more than one street.

Box 6. Households and dwellings

A household is a group of persons who eat and live together. Some local adaptions of this general definition may be necessary, especially if it is common to eat and sleep in different places. For example, in Cabo Verde a person's household is defined as the place where they sleep, have their mattress and their clothes.

For polygamous households, the same logic is applied. If different wives cook separately and / or live separately, they count as separate households. Their spouse would be counted as a household member in each of these households.

While in many surveys those living in group living arrangements – e.g. students in dormitories – would be excluded, for MIGNEX they are a critical, as they are part of the general population aged 18-39. The concept of households can also be applied to group living arrangements. A household in this case would be any sub-group within this group living arrangement who tends to eat together. If the different members do not eat together or do not participate in group activities, they count as separate households.

A dwelling is a residential building or unit. It may contain more than one household, as in the case of apartment blocks and compounds. Farms or compounds with several buildings count as one household if the residents live together as a household (e.g. sharing meals).

Sampling the first household

5. At the starting point, determine the starting direction as described in section 7.8.4 above. Then sample the *first eligible household* on your allocated side (right or left).

Counting households along the route

- 6. After the first household has been visited, *count eligible households*, starting with the first one after the visited household, until you reach the sampling interval, i.e. the *n*th household. Visit this household and repeat the process with the next households along the route, counting until the sampling interval.
- 7. Sometimes you will come across compounds with *one outside door to the street*. If there is more than one household in a compound, number the households and use a random number app to select one. Then count the other households in the compound as part of the random walk interval towards next household.
- 8. Count every household in *a multi-household dwelling*. To determine the number of households, look for clues such as the number of doorbells or balconies. See Figure 25. If in doubt, ask someone how many families live in the building.
- **9.** Household counting in *multi-household dwellings* starts to the left on the lowest floor, going up and then down again if there is a second apartment on each floor. If there are more than two apartments on each floor, the counting continues up and down as many times as necessary. If the number of households is greater than the sampling interval, more than one household in the dwelling will be sampled. See Figure 26.



Figure 25. Clues for discerning number of households within a dwelling Photos: Jessica Hagen-Zanker and Jørgen Carling for MIGNEX.



Figure 26. Counting households with a sampling interval of 5

10. When you turn to the opposite side from the one you are counting on (e.g. turning left while counting on the right), do not count dwellings that are *diagonally opposite* from the corner you are rounding. Figure 27 illustrates this rule: dwellings A and B are not counted. See Figure 28 for an additional example.



Random walk route, counting on the right. Dwellings to include Dwellings to exclude.
Dwellings A and B are excluded in line with rule 10, above, about turning corners. Dwelling C is excluded because its front door does not face the route (rule 4, above).





Figure 28. Which doors should be counted?

If you are counting on your left and turning left at the end of the street, count A and B. If you are counting on your left and turning right at the end of the street, count A, B and D. If you are counting on your right and turning left at the end of the street, count F, E and C. If you are counting on your right and turning right at the end of the street, count F and E. The dashed line straight ahead helps determine which households are 'diagonally across from the corner that you round' (rule 10, above). Photo: Jørgen Carling for MIGNEX

Proceeding from households that are ineligible or refuse to take part

11. If the household *does not have any members aged 18–39, or refuses to take part*, continue the random walk, counting households until the sampling interval is reached before making the next visit (see also Section 7.9.3 regarding re-visits to household where eligible or sampled members are not at home).

Avoiding unintentional multiple visits to the same household

- **12.** The routes of different enumerators *could cross each other* while they do their random walks in the same compact cluster. See Figure 13 and Figure 14. This is not a problem so long as they do not sample the same households.
- **13.** The fieldwork supervisor must *assess the risk of unintended multiple visits*, based on the distance between starting points, the number of enumerators working in the same cluster, and the frequency of contact between the enumerators and the fieldwork supervisor.
- 14. It can be useful to *temporarily mark sampled dwellings* (e.g. with chalk) so that they do not get sampled by other enumerators. See Figure 29. Whether this is advisable depends on the context. In some areas, such markings could raise suspicion or have security implications for residents. Consult with people who are familiar with the local context and reflect on section 7.2 on research ethics area before attempting to do this.



Figure 29. Dwellings could be marked with chalk to prevent double-sampling

Photo: Leander Kandilige for MIGNEX

Interrupting the random walk

15. If you have to *interrupt the random walk* before having reached the target number of interviews – for instance to break for lunch – take note of where the last household was visited and whether the last turn on the route was to the left or to the right. After the break, go back and resume the walk.

7.8.6 Sampling in challenging areas

The random walk procedure is designed to work in diverse urban and rural settings. However, some clusters, or parts of clusters, could be difficult or unreasonably time-consuming to cover with a random walk:

- Dwellings could be highly dispersed and too far apart to cover with a random walk.
- A cluster could include outlying, isolated dwellings that would not be captured with a random walk. Figure 30 illustrates this situation. On the left-hand side is an urban area that is suitable for a random walk. But outside the town to the right, there are a total of nine isolated dwellings.
- A settlement could consist of dwellings that are close together but lack a network of roads and paths that can be used for a random walk. Figure 31 illustrates such a settlement.

In such cases, dwellings that cannot be reached on a random walk must be numbered on a satellite map and sampled by means of random numbers. This is done by the survey lead or fieldwork supervisor.

- 1. Assign a number to each household by marking it on a map, either digitally or by hand on a printout. Rely on local knowledge to make assumptions about the number of households in each building or compound.
- 2. *Divide the number of households by the sampling interval* for the cluster and round the result to the nearest integer. For instance if the sampling interval is five and there are nine households to sample from, as in Figure 30, the calculation shows that two households must be sampled:

$$\frac{Number of households}{Sampling interval} = \frac{9}{5} = 1.8 \approx 2$$

- **3.** The households in these dwellings *must be sampled by means of a random numbers app*. For each household to be sampled, generate a random number between one and the total number of households. In the example above, it is necessary to generate two random numbers between one and nine.
- **4.** Fieldwork supervisors then direct enumerators to *go directly to the households* that have been sampled by means of the random numbers.
- **5.** If the sampled household does not have any members aged 18–39, or refuses to take part, proceed to the *nearest household*. This is, in other words, an exception to the procedure for random walks, and the *only* instance in which such an exception is permitted.



Figure 30. Isolated dwellings that would not be covered in the random walk

Photo: Google Earth, Maxar Technologies



Figure 31. Scattered dwellings without clear roads or paths

Photo: Google Earth, Maxar Technologies

7.9 Sampling respondents

Our target population is adults aged between 18 to 39 years old. As we aim to achieve a representative sample within our research areas, we will randomly sample one respondent (aged between 18 and 39) from each household to interview. Such within-household sampling of respondents seeks to ensure variation in the sample in terms of characteristics such as gender, age and role in household. A recent review of respondent sampling techniques found that just interviewing anyone in the household, for example the person who answers the door, results in samples that inaccurately represent the demographic characteristics of the studied population (Yan et al., 2015).

7.9.1 Different methods of within-household sampling

There are several strategies to sample a respondent from within a household (see Gaziano, 2005 or Yan et al., 2015). Firstly, *random / probability methods*, which most commonly involve random numbers tables, including the Kish grid (Kish, 1949) or random number stickers (as used by the World Bank LSMS surveys). Secondly, *quasi-probability methods*, including first or last birthday techniques: interviewing the household member with the most recent last birthday or next upcoming (Salmon and Nichols, 1983). Lastly, *non-probability techniques*, which include simply any adult from the household, household heads, or quotas based on demographic criteria such as the youngest male in the household (Smyth et al., 2019). Whilst less costly, less intrusive and easier to implement, quasi- and non-probability methods do not result in a fully representative sample of the target population (ibid.).

Random methods such as Kish grids are thought to be the gold standard in probability sampling for making inferences about the studied population. Such methods require detailed information about household members, usually asking an initial household informant to complete a household roster with information on the number, gender and age of household members from which to randomly sampled a respondent.

However, the experience of other large-scale surveys has shown that such methods present logistical and practical challenges. For instance, random sampling methods typically require a household roster to be completed, which in itself is time consuming, especially in contexts

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where the majority of households are large (Koch, 2019). The lengthy process of asking intrusive details about the household may increase nonresponse error (Smyth et al., 2019).

Due to the logistical challenges posed by random sampling methods, many surveys opt for quasi-probability (e.g. first or last birthday) or non-probability techniques to sample a respondent. To save time and costs involved in return visits, and to reduce nonresponses, often only household members who are currently home are sampled as respondents for the interview (Koch, 2019). However, if household members who spend less time at home have a lower chance of being sampled, this impacts selection bias (ibid.). In other words, interviewing those who spend more time at home may lead to oversampling unemployed individuals.

In the MIGNEX survey, such an approach could lead to bias in key variables. For instance, those who spend longer at home may include unemployed individuals, who may have different aspirations than those who spend less time at home, including those in employment. As a result, in order to avoid bias, we need to use random respondent sampling following principles of probability, whilst at the same time taking into account logistical challenges.

Some more recent random approaches have sought to be less time consuming and intrusive by not requiring a full household roster (Rizzo et al., 2008; Le et al., 2013). In MIGNEX we will follow a variant of random respondent sampling proposed by Le et al. (2013), which can be applied in contexts where household sizes are likely large, such as in the MIGNEX research areas. The approach makes use of information on household size, and the characteristics of the initial person spoken to, to remove unnecessary steps from more traditional random sampling approaches.

7.9.2 Sampling respondents within households

After sampling a household via the random walk, enumerators will then sample respondents as per the following process.

1. Enumerators open a new form on the tablet, by tapping 'Fill Blank Form' in the SurveyCTO Collect app (Figure 32).



Figure 32. Starting a new form on SurveyCTO

2. The form will ask a series of questions that the enumerator should answer before approaching the household, including the enumerator's name, the research area and the cluster (Figure 33).

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🗑 Collect > Data 🖬 🍬 🗄	🗑 Collect > Data 🖬 🐂 🗄	👰 Collect > Data 🖬 🐂 👯	🐐 Collect > Data 🖬 🍾 🗄			
Welcome to the MIGNEX pilot survey. Please answer the next few questions before approaching	ENUMERATOR: What is your name?	ENUMERATOR: Which research area you are in?	ENUMERATOR: Which cluster are you in?			
the selected household.	Rodrigo	O Madina				
▲_▲ MIGNEX	O Patrick	○ Golf City	ALFABONJEBRAVACUNDA			
	○ Paulino	New Takoradi				
	🔿 Sónia	⊖ Gbane				
	◯ Cláudia		CABELE			
	○ Nadyr		CANJIA			
	⊖ Gabriela		CANSISSE			
	O luri		CHEUAL			
	O Other		O GABU 1			
			O GABU 2			
			O GABU 3			

Figure 33. SurveyCTO questions before knocking on sampled household door

3. The form will give a unique interview ID for that household. The enumerator should note the interview ID on the Record of visits form (Figure 34).



Figure 34. Interview ID on SurveyCTO

- 4. They then knock on the door.
- If no-one is home, enumerators must pay two return visits (ideally the first one later that day), before applying the replacement strategy (see 7.9.3).

- **5.** When someone opens the door, enumerators introduce themselves, the MIGNEX project and survey, reading out the text on the tablet. They also explain that the survey is done with one randomly sampled household member aged 18-39.
- If the person who answers the door is a young child, enumerators should ask them to get an adult.
- 6. Then ask the person who answered the door if they are aged 18-39, and if there are any other household members aged 18-39.
 - Ideally, enumerators continue doing this stage of sampling at the door without settling
 inside for the survey. If the sampled respondent is *not* the person who answers the door, it
 will be harder to switch to a different respondent when already settled inside the home.
 - If there is *no* household member aged 18-39, including the person who answers the door, this must be recorded on the tablet (Figure 44) and Record of visits form (Figure 38). Enumerators then continue the random walk.
 - If the person who answers the door is the *only* person aged 18-39, they are sampled for the interview.
 - If the person who answers the door is *not* aged 18-39, and there is only one other household member in the correct age range, that household member is sampled.
 Enumerators then ask if that person is home and, if not, make an appointment; see 7.9.2.
 - If the person who answers the door is aged 18-39 and there are other household members in the correct age range, enumerators move on to the next step.
 - If the person who answers the door is *not* aged 18-39 and there are several household members in the correct age range, enumerators move on to the next step.
- 7. Write down the ages of all household members aged 18-39. This list includes both men and women, and starts with the youngest member. Enumerators then number them starting from one (Figure 35).
 - If the informant does not know the ages of some household members, ask if someone else knows. If no-one does, ask them to take their best guess.
 - If household members are the same age, write them down in order of birthday and the one whose next birthday comes first is older.
 - If there are more than 10 household members of the relevant age range (e.g. in a student dormitory), call the fieldwork supervisor and jointly decide on a strategy on how to divide them into smaller groups, for instance each floor or building counts as one household.

∅ 2 •⊘ 30	 18 25 38 	() 21 (2) 23 (3) 29 (9) 34	 18 26 3 27 34 38 	

Figure 35. Writing down ages of household members aged 18-39


Figure 36. Within-household sampling on SurveyCTO

- 8. The enumerator then inputs the number of 18-39 year olds to the tablet as prompted (Figure 36). The tablet will then randomly select a number between one and the number of 18-39 year olds. The randomly sampled household member is the one whose age is next to the random number given. Enumerators now tell the person who answered the door which person has been selected for the interview (e.g., 'The 29-year-old has been sampled for the interview') and ask to speak to them. If they are not home, make an appointment (see 7.9.2).
- **9.** If available to be interviewed, the enumerator requests the sampled respondents' participation in the survey and goes through the informed consent process, as explained in section 7.10.5. Only then can the enumerator proceed with the interview with the sampled respondent.
- **10.** The outcome of attempting to randomly sample a respondent is inputted on the tablet. Within the tablet, enumerators are asked a series of questions including: (1) 'Is there an adult at home?', (2) ' Is there anyone in the household aged 18-39 years old?', (3) ' Is the sampled respondent available to be interviewed?', and (4) 'Does the sampled respondent give informed consent to be interviewed?' (Figure 37)
 - If the answers to the questions one and three are no, they will have to make a return visit.
 - If the answers to questions 2 and 4 are no, (i.e. there is no one in the target population or the sampled respondent does not consent) no return visits are to be made.
 - If the answers to all of these questions are yes, then the enumerator can simply proceed with the interview.



Figure 37. Initial questions on SurveyCTO

- **11.** Information about the date and time of the visit, contact details for the respondent or household, and any appointments made should also be recorded on the Record of visits.
- **12.** If the sampled respondent is not home, *do not select* the person who answered the door, the household head or *someone else*. Always make an appointment.

Dos and don'ts in sampling within the household

- In some cases, other household members, for instance the household head, will insist on taking the interview themselves. Enumerators should explain in a calm manner that the survey is designed to interview different household members. They should emphasise that the tablet sampled a random household member, and that enumerators cannot choose who to interview. In most cases, these explanations are sufficient. If it is not possible to interview the sampled respondent or make an appointment with them for another time, the household must be marked as non-response on the tablet.
- Sometimes, sampled respondents are hesitant about participating. Enumerators should try and find out what the reason for this is. The respondent may have participated in other surveys already and have survey fatigue, or they may be unsure about the objectives of the survey. In these cases, explaining the aims of the survey and other information about the survey (e.g. MIGNEX website) again can help. In other cases, selected respondents may be reluctant to participate because of the presence of other household members (e.g. women may feel uncomfortable being selected when male household members are also home). In those instances, it may be better asking them if there is a better time for the interview and to make an appointment. When respondents are busy with childcare or other household activities, they may also prefer making an appointment. Respondents must never be forced to participate, and consent must always be voluntary (see also sections 7.3 and 7.10.5).
- In some contexts, gender norms prevent enumerators from interviewing respondents of the
 opposite sex. If the selected respondent is of the opposite sex, it may be necessary to make
 an appointment with them with another enumerator of the same sex.

Recording the outcome of the visit

Alongside completing the survey form on the tablet for each sampled respondent, enumerators also collect contact information for each respondent on a separate paper form, the *Record of visits*. This information can be used to come back to the household at a later date, for instance for a revisit when no one was home, an appointment with the respondent or a data monitoring check by the fieldwork supervisor. This form will be destroyed after fieldwork is completed.

The Record of visits includes the interview ID, first name of respondent, phone number and address of respondent, date, time and outcome of each visit. It is also used to record the appointment made (Figure 38). See below for more information on making appointments and other scenarios.

The tablet will generate a unique interview ID for each new survey form. The ID is comprised of the research area code and the day, hour, minute and second the survey form was first started, for instance: GHA1-12112134.⁵ Enumerators need to always correctly note the unique interview ID on the Record of visits form so that it can be cross referenced with the correct survey form for data monitoring purposes.

7.9.3 Return visits

- Paying return visits on weekends can help improve the response rate.
- Where possible, vary the time of the day when out for data collection; for example the working population is more likely to be home in the early mornings or evenings, and on weekends.

Since we are randomly sampling a household member, it is possible that the sampled respondent may not be home or available. Enumerators will need to make a return visit at a later date or time. Enumerators are to make up to two additional return visits to that particular sampled household in order to attempt to interview the sampled respondent. There are different procedures for enumerators depending on whether this is a first, second or third visit.

When an enumerator returns to a household:

- They must click on 'Edit Saved Form' on the home screen and then use the interview ID listed on the Record of visits form to find the relevant form on their tablet, so that for each respondent there is only ever one survey form on the tablet (thus keeping the same interview ID).
- 2. When enumerators click on the form, they need to click 'Resume,' and they will be taken automatically to the same screen that they left. They must then swipe to the next screen to continue the interview. See Figure 39 for an example of the first screen of a return visit on SurveyCTO.
- **3.** Importantly, when a randomly sampled respondent aged 18-39 is not able to be interviewed from a sampled household even after two return visits, enumerators must never interview a different person in the same household. This household must be recorded as a non-response household, and enumerators are to sample an alternative or 'replacement' household from within the same cluster.

⁵ Each survey form will also be named by this interview ID. This household ID is useful for data monitoring purposes as it tells us straightaway who, where, and when a survey was completed if any corrections or checks are required.

Interview ID	GHA1-19	0508 11
First visit	011/1	
Dessendentin	Care. 1 JIOS	
first name:	2010	location: 33 A New Road, New Har Har salon
Respondent's phone number:	024 222 3340	Porsuggestion: Date: 20105 Time: 08/45
Second visit	Date: 20105	Busy X Not home Not target Refused Interviewed
Third visit	Date: /	Busy Not home Not target Refused Interviewed
Notes Car Loor	nc at agree -k already.	id time, but Joja had left for will try again to be evening.
Interview ID	GHA1-19	050846
First visit	Date: 19105	Busy 🔀 Not home 🗌 Not target 🗌 Refused 🗌 Interviewed
Respondent's first name:	Kobe	Address or 56 Kpodo Street
Respondent's phone number:	026-578 389	Appointment Date: 22105 Time: AHC- Gpm
Second visit	Date: /	Busy Not home Not target Refused Interviewed
Third visit	Date: /	Busy Not home Not target Refused Interviewed
Notes Spa	ke to mother. Wen is the be	. Best to call Kobe to check ist time for interious
	GHA1 - 1 9	050315
Interview ID		
First visit	Date: 19/05	Busy Not home 🕅 Not target 🗌 Refused 🗌 Interviewed
First visit Respondent's first name:	Date: 19/05	Busy Not home Not target Refused Interviewed
Interview ID First visit Respondent's first name: Respondent's phone number:	Date: 19/05	Busy Not home Not target Refused Interviewed Address or location: Appointment or suggestion: Date: / Time:
Interview ID First visit Respondent's first name: Respondent's phone number: Second visit	Date: 19/05	Busy Not home Not target Refused Interviewed Address or location: Appointment or suggestion: Busy Not home Not target Refused Interviewed
Interview ID First visit Respondent's first name: Respondent's phone number: Second visit Third visit	Date: 1 9 / 0 5 Date: / Date: /	Busy Not home Not target Refused Interviewer Address or location: Appointment or suggestion: Busy Not home Not target Refused Interviewer Busy Not home Not target Refused Interviewer Busy Not home Not target Refused Interviewer

Figure 38. Filling in the Record of visits

Panel A shows an example when the selected respondent was home but unavailable to be interviewed. When the enumerator came for the appointment, the respondent was not home. One more attempt will be made to interview this respondent. Panel B shows an example of a selected respondent who was not home. An appointment was made, but the enumerator will need to call later to check the time is suitable. Panel C shows an example of a selected household not having any members in the right age category. They are still listed, but not interviewed.



Figure 39 Example of first screen of a return visit on SurveyCTO

The following are details of what the enumerator must do in each situation.

Making appointments

When the sampled respondent is not home, make an appointment.

- 1. Ask the person who opened the door when the selected respondent will be home. Be specific and ask for both a day and convenient time. Ask if they can confirm this with the selected respondent, for example by calling them. Note the appointment on the Record of visits form (see Figure 38).
 - If the person who answers the door does not know of a suitable time to interview the selected respondent, ask for the selected respondent's phone number. Call them and make an appointment directly (see Panel B in Figure 38). If the selected respondent does not have a phone or the person who answers the door does not want to share the number, enumerators need to tell them that they will come back later and check again if they are home.
 - It is important that the time of the day and week is varied when doing data collection, because at certain times of the day only certain groups of people will be home, and they may be unable or unwilling to make appointments for the selected respondent. If feasible, part of the data collection should be completed on the weekend, early mornings and early evenings.
- 2. Ask if the selected respondent has a phone number. Write down the phone number on the Record of visits form.
- **3.** Re-confirm the appointment before coming back; for example by calling the respondent and asking if they are still available, or by dropping by the house and giving a reminder when you will be back. Alternatively, a SMS reminder could be sent prior to the interview.

When the sampled respondent is home but unavailable to be interviewed

Sometimes sampled respondents may be busy, so it is best to make an appointment for a more suitable time.

- **1.** The enumerator should tap 'no' to the question is the 'sampled respondent available to be interviewed'.
- 2. The tablet will ask the enumerator if this is the first, second or third visit to the household.
- **3.** If it is the first or second visit, the tablet will tell enumerators to make a note of the date and time of visit on the Record of visits form, so that the household can be revisited at a later date or time. Ask the respondent when would be a convenient date and time for a revisit, and write the appointment on the Record of visits form see Panel A in Figure 38.
- **4.** If it is the first or second visit, the enumerator will be asked why it was not possible to interview the selected respondent. The enumerator should not swipe to the final screen of the survey, and rather exit the survey form (and click save) when instructed to by the tablet. The enumerator must click 'Save changes' when exiting (Figure 40).
- **5.** If this is the third visit, this household will be recorded as a 'non-response' household and will be *replaced*. The tablet survey form will not be returned to at a later date, and enumerators will be asked why it was not possible to interview the selected respondent (Figure 41). The enumerator should swipe to the final screen on the tablet survey form as instructed and click 'Save Form and Exit'.

V Collect > Data
ENUMERATOR: Why was the selected respondent not interviewed?
Respondent refused to be
Another household member refused for the respondent to be interviewed
Respondent was not at home
Respondent was too busy
Respondent was ill
Respondent was drunk or on drugs
Respondent was handicapped in Ways that were not compatible with interviewing (e.g. deaf)
□ No enumerators spoke a language the respondent could understand
≅≚ ₽ ৫ ⓒ ≅.∡40% 8 14: 1/2 Collect > Data 🖻 🐂
ENUMERATOR: Please record on the Record of Visits form that no adults were home at the selected household, along with the date and time. Your supervisor will instruct you to return to this the Exit Data monitoring re TEST survey mignex ft Save Changes T ft Ignore Changes

Figure 40 Recording that sampled respondent is not available.



Figure 41 Recording a non-response household if respondent is unavailable at the third visit

6. After recording the details of the visit, the enumerator can proceed to randomly sample the next household.

When there is no adult home

- 1. The enumerator should tap 'no' to the question is 'is there an adult at home'.
- 2. The tablet will ask the enumerator if this is the first, second or third visit to the household.
- **3.** If it is the first or second visit, the tablet will tell enumerators to make a note of the date and time of the visit on the Record of visits (Figure 42). Enumerators should tick the 'not home' box, and the household should be revisited at a later date or time. The enumerator should not swipe to the final screen of the survey, and rather exit the survey form (and click save) when instructed to by the tablet.



Figure 42 Recording that no adults were at home



Figure 43 Recording that there are no adults home at the third return visit

- **4.** If this is the third visit, this household will be recorded as a 'non-response' household and will be *replaced*. The enumerator should swipe to the final screen on the tablet survey form, the form will not be returned to at a later date (Figure 43).
- **5.** After recording the details of the visit, the enumerator can proceed to randomly sample the next household.

When not to make a return visit

Enumerators should not make return visits to households which do not have any household members from the target population of 18-39 year olds (see Panel C in Figure 38), when sampled respondents do not consent, or when interviewed respondents drop out of the survey.

If there is no member of the target population (18-39 years old) in the household or the sampled respondent does not consent, this household will be recorded as a non-response household and replaced, and the form will not be returned to. This should be recorded on both the tablet and Record of visits form. See Figure 44 and Figure 45 for examples from the tablet. On the tablet, the enumerator will swipe through to the final screen of the survey, as instructed.

Lastly, if any interviewed respondents wish to withdraw or 'drop out' during the interview or later, the fieldwork supervisor or survey lead must inform the data manager so that the survey form can be deleted from the server, using the interview ID as a reference point. Another household and respondent from the same cluster must be sampled to replace them, using the same sampling process.



Figure 44 Recording non-response steps if household has no one in the target population



Figure 45 Recording non-response steps if respondent does not consent

Re-interviews

As a result of data monitoring checks, it might be necessary to re-interview a household (see section 7.10.6). In these cases, enumerators should start a new form, and indicate it is a re-interview on the tablet when prompted (Figure 46). The respondent will get a new interview ID when re-interviewed. Enumerators will need to input the original interview ID, so that the old form can be deleted from the server by the data manager.

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🐐 Collect > Data	B 3		🗑 Colle	ect > Data	
ENUMERATOR: Is interview? • Yes • No	this a re-		ENUME eight di original respond <i>Eight digits</i> 151430	RATOR: P git numbe interview dent you a	Please er from D for are rein
			1	2	3
			4	5	6
			7	8	9
				0	

Figure 46. Starting a re-interview form (enumerators)

7.9.4 Selection bias, weighting and the power of our sample

The introduction to this section highlighted that we employ random sampling approaches, as we want our sample to be representative of the target population in the research area. In order to be representative, we want to avoid selection bias as much as possible. There are a number of different sources of selection bias, and some can be avoided. The following are some ways country coordinators and survey leads can plan and implement the fieldwork to *reduce* selection bias.

- 1. When sampling clusters, consider whether there are some groups for example religious groups that are geographically concentrated in one particular district, and verify this with people familiar with the areas. This may require stratification (see section 7.7) to ensure they are represented in the sample.
- 2. Similarly, when identifying clusters, if satellite maps are a year or more out of date and more recent perhaps informal settlements have since been erected, this could be a source of coverage bias if these settlements are not included in stage one of the sampling strategy. The verification stage (see section 7.7.3) of the first stage of sampling can minimise this risk of bias.
- **3.** Consider the season during data collection and talk to people familiar with the area to check whether some groups (e.g. migrants) are missing at the proposed time for fieldwork. The proposed fieldwork schedule may need to be adjusted to accommodate this.
- 4. Non-response can increase selection bias if it is non-random. This can be largely avoided by training enumerators but critically also by varying the time and day of data collection, making appointments and making two return visits (see section 7.9).
- **5.** Poorly implementing the random walk can lead to bias in the selection of respondents (e.g. omitting more vulnerable respondents living in more isolated areas of the cluster). Hence it is critical that practising the random walk is given due attention in the enumerator training (see Section 7.10.1), and that quality control measures are carried out to check that enumerators are implementing the random walk well (see Section 7.10.6).

6. Another source of bias is if the within-household sampling strategy is not followed when sampling a respondent, as the respondent is not randomly selected. It is therefore essential that this procedure is correctly followed, and if the randomly sampled respondent is not available, the enumerator makes return visits.

Nevertheless, some bias is inevitable. It is possible that certain segments of the population are located in specific clusters, or sub-areas within these, and that means the probability of selecting these households is not the same as other households, in part due to the random walk procedure. If the true probability of selection were known, weights could be constructed to correct the bias. But calculating the true probability would require a census list of households, the absence of which led to the adoption of the random-walk procedure in the first place.

Quantitative analysis will need to be cognizant of this possibility of bias. It is often possible to figure out if sampling biases underestimate or overestimate magnitudes, in which case they can provide upper or lower bounds, if not precise estimates. In any case, triangulation with qualitative data will be useful to understand the nature of the bias.

Our own weights, defined as the inverse of the probability of selection, are based on the assumption that each household has the same probability of selection. Indeed, PPS sampling allows for that. Under this assumption, we can weight the sample and project our findings to the population of each research area. If, however, this assumption is incorrect – either because of the random walk or because enumerators did not follow proper procedure of selecting an individual – then the weights cannot resolve the problem of bias. It will simply have to be accepted that the sample is not fully representative. This will be discussed further in MHC10.

7.10 Implementation of data collection

7.10.1 Training of data collection team

Consistent training of fieldwork supervisors and enumerators is key to ensuring comparable data across the 25 research areas. Moreover, the training needs to be rigorous to ensure high quality data.

To achieve this, enumerator trainings will have a duration of a minimum of five days and the training will be co-led by the survey lead and MIGNEX country coordinator. All training materials – including schedules, slides, videos, exercises etc – will be prepared by ODI, to be translated and adapted by country coordinators to minimise the risk of guidelines being misinterpreted. Country coordinators and survey leads must be present for the entire training.

The training should be held in the place where most enumerators are based. Ideally, it should be close to a non-research area location, where a one-day field test can be held for the team to practise the survey processes and interviews in a real-life environment. The venue should be spacious, comfortable and have good acoustics. We will also need breakout areas for enumerators to practise interviews and sampling processes.

The training will be held in the local language of the survey, if possible, using an interpreter for the MIGNEX team, if needed. If the survey will be collected in several languages in the same country, it may be necessary to run several trainings or parallel sessions for parts of it.

As a part of the enumerator training, enumerators will practice conducting the survey. In the process they will assist with final tweaks of the survey; for instance, checking translations, that

the wording of questions and response options make sense, and for any logic errors in the software. It is important to establish an open and trustful environment in the training sessions in order to encourage enumerators to raise questions for clarification and point out weaknesses in translation. Before field tests, ask enumerators to take note of questions that respondents found hard to understand. Whenever possible, arrange for recordings of field test interviews and have a team member listen and identify translation problems, including potential for greater clarity and a more conversational tone.

Any changes made at this stage, will need to be signed off and implemented by the central team at ODI. Survey leads must promptly contact ODI via email with any changes. Other issues identified during the one-day field test must also be recorded, as they must be included in the survey execution report (see section 7.11.2).

Training of fieldwork supervisors

Fieldwork supervisors should be trained in advance of enumerators so that they have a solid understanding of the MIGNEX survey when the enumerator training starts, and so that they can take an active role in the training. The fieldwork supervisor training should take about one to two days. The objective is for the MIGNEX team and fieldwork supervisors to get to know each other and for fieldwork supervisors to familiarise themselves with the survey, including detailed steps and processes for supervisors and enumerators.

The fieldwork supervisor training should cover the following elements:

- Objectives of the survey
- The survey instrument and supervisor guide
- Preparations prior to the fieldwork and preparing the daily fieldwork schedule
- Safety and security
- Equipment including how CAPI works and how to prepare for data collection, e.g. download forms and logging in and out of tablets
- Sampling processes, including specific roles and responsibilities of supervisors
- Reading maps
- Ensuring data quality, including specific checks and test to complete
- Remote data quality monitoring, communicating with the data manager and giving feedback to enumerators, including talking through the supervisor observation sheet
- Daily responsibilities of fieldwork supervisors in the field, including talking through the supervisor log.

The fieldwork supervisor guide consists of the sections of this chapter detailed in Table 1.

Training of enumerators

Once fieldwork supervisors are trained and fieldwork plans have been made, the enumerator training can take place. Enumerators must be highly experienced and carefully selected (see Section 3).

The duration of the enumerator training should take at least five days, with a longer duration in countries where multiple languages and continuous translation demand a slower pace. The training will be co-led by survey teams (and/or sub-contractors and country coordinators), with active participation by fieldwork supervisors. The training will cover the following elements (see proposed schedule in Table 10):

- Overview of the MIGNEX project and objectives of the survey.

- Explanation of the survey instrument and enumerator guide. We will discuss each question, giving opportunities for clarification and potential final tweaks to be made to the translations of the survey. We will then practise the survey on paper, before moving on to smartphones or tablets, to enable enumerators to get a good understanding of the survey instrument without getting distracted by technology. The training will ensure enumerators have a good and consistent understanding of every question and all responses, including the use of 'don't know' and 'refuse to answer' responses.
- *Interview technique*, including discussion of tone and volume of voice when asking questions. This will be practised too, for example in a role play or performance.
- *Discussion on informed consent*, including how to ask for it, and how to reassure respondents who may have concerns.
- *Guidance on the interview environment.* Since neighbours or family gatherings can bias perception questions, we will train enumerators on how to prevent other people from joining the interviews and, if they do, how to prevent them from giving their opinion and answering instead of the respondent.
- Sampling processes, including tests and different types of practical sessions inside and outside the venue, including sampling of dwellings, households and respondents.
 Particular emphasis will be placed on practising the random walk. There will also be a session on how to read maps.
- *The use of smartphones or tablets,* including security precautions and means to preserve battery life.
- Safety and security as well as behaviour in the field, including briefing on action to take in
 potential emergencies or difficult situations and the reporting of potential incidental
 findings (e.g. reports of violence, criminal activities, or similar)
- Steps taken by MIGNEX survey team to ensure quality data.

The training will be interactive and include many opportunities for practising the survey instrument, use of CAPI and sampling, and may include some tests. Presentations will be kept to a minimum. The training will include a one-day field test (on day four or five of the training) where enumerators will practise sampling and the survey, with extensive feedback given to enumerators afterwards.

The enumerator guide consists of the sections of this chapter detailed in Table 1.

Table 10. Proposed enumerator training schedule

Day 1	MIGNEX project
	The survey instrument
	Informed consent
	The interview environment
Day 2	Sampling
	Practice sampling
	Use of smartphones and tablets
	Practice interviews
Day 3	Interview technique
	Safety and security in the field
	Practice sampling households via random walks
	Practice sampling respondents
	Practice interviews
Day 4	Field test: each enumerator must conduct at least 2 interviews
	Debrief: collect feedback from enumerators
Day 5	Review field test: give feedback to enumerators on their performance
	Testing of enumerators
	Present final language tweaks made to the survey as a result of the field test
	Practice interviews
	Steps taken to ensure data quality

7.10.2 Communication in the field

Communication between fieldwork teams, data managers, survey leads, country coordinators and the central team at ODI is critical for data collection. To ensure quick communication and the resolution of any issues during fieldwork, we suggest fieldwork teams set up the following WhatsApp groups (or a similar instant messenger app group, or over email, if preferred):

- Supervisor team groups (one per supervisor and their enumerators)
- Supervisor group with data manager
- Supervisor group with survey lead.

Survey leads and data managers communicate with the central team at ODI via email, although for quick questions a phone call or WhatsApp message may also be adequate.

7.10.3 A day in the field

Different team members all have an important role to play to ensure the success of data collection efforts. Here we summarise key expectations and tasks of different team members on a typical day of data collection.

Survey leads

As explained in section 7.2, country survey leads carry ultimate responsibility for the delivery of the survey across the research areas in the country. This means that while the fieldwork is on-going, they have the following daily tasks:

- **1.** *Survey leads make sure the fieldwork schedule is being followed* and discuss any potential delays or changes with fieldwork supervisors.
- 2. *Survey leads ensure the security of the survey team* by closely following the security situation in the research area and discussing any challenges with fieldwork supervisors (see also section 7.3).
- **3.** Survey leads confirm that the data manager monitors data uploaded to the server and shares any feedback with fieldwork supervisors (see section 7.10.6).
- **4.** Survey leads make sure that the fieldwork supervisors solve any queries or feedback from the data manager. If necessary, they assist fieldwork supervisors with decisions, for instance speaking with enumerators when issues have been identified.
- *5.* Survey leads report any questions or issues that cannot be addressed at the country level to ODI.

Fieldwork supervisors

Fieldwork supervisors supervise teams of three to five enumerators. They make sure that the survey is delivered according to the fieldwork schedule and have an important role to play in quality assurance. They also in the first instance trouble-shoot any issues that might arise. More specifically, on a daily basis, fieldwork supervisors go through the following steps:

- 1. Supervisors check the data manager WhatsApp group and emails if possible to see if there are any quality check or other queries from the data manager, survey lead or country coordinators that need to be answered that day. Via the WhatsApp group, data managers will inform supervisors of which interview IDs need to be backchecked, any clarifications needed and any other data issues to resolve. This information is used to complete the supervisor log.
- 2. Supervisors consult the fieldwork schedule prepared by survey leads and the Record of visits of previous days. Namely, supervisors should check in which clusters the enumeration tea, will do the random walk that day, and to which households within the cluster or clusters previously visited the team needs to do a return visit. The enumeration team also need to make sure that they have the sampling interval ready for the cluster(s) covered on that particular day, and that the starting points are clearly marked on the maps that will be given to enumerators.
- **3.** Supervisors fill in page one of the supervisor log, pulling in information from the fieldwork schedule, Record of visits and information received from the data manager (see Figure 47). The supervisor log is an overview for supervisors. It indicates which enumerators supervisors should accompany or do spot checks on that day as well as any back checks, clarifications and return visits to be done. It also provides any other feedback that needs to be conveyed to enumerators.
- **4**. *Supervisors meet enumerators for the morning briefing.* This includes:
 - *Giving enumerators the equipment for the day,* including the enumerator's tablet which must be the same one each day (see section 7.10.4).
 - Reviewing the map of the cluster(s) with enumerators, pointing out the boundaries, points
 of interest and starting points, and making sure that it makes sense to all enumerators.
 - *Telling the enumerators the sampling interval for the cluster* and remind them on which side of the street they are sampling.

- Giving reminders to enumerators who have made appointments for that day, or who need to make revisits to a household sampled earlier (see section 7.9). This may mean some enumerators travelling to another cluster for part of the day. In general, interviews should be scheduled in adjacent clusters on subsequent days to facilitate enumerators doing return visits.
- They consult with the relevant enumerators regarding any data quality issues flagged by the data manager. This may include return visits to households, if any questions have been flagged during data monitoring (e.g. there is an outlier answer). If this is the case, supervisors can tell enumerators which households to return to and which question numbers to ask the respondent. The enumerator can then feedback, either by a corrected answer or confirming the previous answer to the supervisor at the end of the day. The supervisor then feeds this back to the data manager.
- **5.** *Supervisors travel to the cluster together with enumerators*, dropping them off at the starting point one by one. With every drop-off, they double-check that enumerators know where they are on the map, have all their equipment and know the requirements for the day.
- 6. Supervisors trail one enumerator and accompany them to the first interview. They observe how the interview is being conducted and note any minor issues (e.g. reading out *do not read* responses). For any significant errors (e.g. not sampling the correct respondent), they must correct the enumerator immediately and ask them to correct the error. Fieldwork supervisors do not need to stay for the whole interview, but they should observe for a minimum of 15 minutes. Later that day, they do the same with another enumerator. See section 7.10.6 on measures to ensure data quality.

Date: 171	6121	R	esea	rch area:			Clu	ster(s) to visit:
111	012	20	6	HA3			KL	veku 2
			То	be completed in	the morni	ng		
Enumerators t	o do qua	lity checks o	n too	lay				
Accompany (w	rite names	s):					Spot checks (write names):
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	B	ack checks t	o be	done today as in	structed b	y the dat	a manager	
Interview ID:	Name:	.cy	Add	bcia Alle	2 end	Phone n	umber: 785678	Visit D Call
Interview ID:	Name:	0	Add	vele Frum	st. 4	Phone n	umber: 145	Visit □ Call ►
16 12 47	Name	une	Add	ress:	-	Phone n	umber:	Visit
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101337	0	larifications	to b	e done today as	highlighted	d by data	manager	
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Interview ID:	Name:	Address:		Phone number:	Visit □	Person	Ques	tions that need
						responsi		
Interview ID:	Name:	Address:		Phone number:	Visit □ Call □	Person responsi	Ques	tions that need cation:
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Interview ID:		Enumerator:	M	10:0.00	Cluster:	Poar	/	First re- visit
Interview ID:		Enumerator:	140	a da C	Cluster:	1000	:	Second re- visit
6HA3-15			le	inder	Chattan	FOAS	/	Second re- visit
OHB-14		Enumerator:	Sar	nuel	Cluster:	mbaa	3	Second re- visit
Interview ID:		Enumerator:			Cluster:			First re- visit
Interview ID:		Enumerator:			Cluster:			First re- visit
Any other fee	dback fro	om data mai	nage	r to share with e	numerato	rs:		Gecond re- visit
None t neede	oday d G	. Goo	d	work 10 prev.	- fer	ver o lays	clarif	-ications

Figure 47. Page 1 of the supervisor log

- 7. Supervisors contact enumerators at regular intervals during the day to check where they are and how many interviews they have completed. They will then do spot checks on about 10% of the interviews. This means finding enumerators who are currently interviewing and checking that they are conducting the interview correctly, noting any minor issues and an overall assessment on the fieldwork supervisor observation sheet and correcting major ones. Later that day, they do the same with another enumerator. See section 7.10.6 on measures to ensure data quality.
- 8. As requested by the data manager, supervisors do back-checks for 10% of the interviews. Supervisors will have their own tablets with a different survey form downloaded to it – the back-check survey form. With this form, they will re-interview respondents identified by the data manager and verify the responses for ten questions, which they will then upload to the server for the data manager to review. See section 7.10.6 for details.
- **9.** *At the end of the day supervisors collect all equipment,* including Record of visits and Consent records from enumerators.
- **10.** Supervisors will then run a debrief session with enumerators. During the debrief, supervisors must get feedback from each enumerator and ask for details from their Record of visits forms, namely the date and time of visits, the outcome of visits (e.g. whether the interview took place or an appointment made), and respective interview IDs. Supervisors should note down this information in their supervisor log. Supervisors will also ask about any difficulties that enumerators had during the day, noting them in the supervisor log and passing these on to the survey lead and data manager through the Whatsapp group. This is particularly important in the first few days of fieldwork in each research area. They should also ask enumerators about potential incidental findings (e.g. reports of violence, criminal activities, or similar) and pass these on to the relevant authorities, if appropriate.
- **11.** Once the supervisor has left the enumeration team, they will need to enter a WiFi zone or, if the tablets have data plans, switch on the internet. On each of the enumerator's tablets, the supervisor will log in with their log-in details under 'General Settings'. This will give the tablets the functionality of being able to upload survey forms to the server and also download an updated version of the form to each tablet (if there is one). See details in 7.5.3.
- **12.** Supervisors must then go into 'Admin Settings' and enable the home screen button 'Send Finalized Form' so that they can upload survey forms to the server. See7.5.3 for details. Supervisors can then review and 'finalise' forms that are ready to be uploaded to the server. They will go to the 'Edit saved form' tab on the home page of each enumerator tablet to the review survey forms (Figure 53). The 'Edit saved form' folder will have a mixture of (1) completed forms (including completed surveys and forms of households marked as non-response, as described in section 7.9.3), and (2) incomplete forms (including forms for households that will be revisited at a later date). Further details on the finalisation process are as follows:
 - Supervisors will click on each form and check if it is either incomplete or complete. If it is
 incomplete, it is left in the 'Edit saved form' folder for the enumerator to return to at a
 later date. If it is complete, supervisors can click on 'Resume,' then 'Mark form as
 finalized', and finally click 'Save form and exit,' (Figure 48). This form will then move into
 the 'Send Finalised Form' folder.
 - As supervisors revise and finalise the forms, they should cross reference the survey forms on the tablet with their supervisor log. If any anomalies are spotted, they should contact the

relevant enumerator. On the supervisor log, supervisors should mark which forms are completed and uploaded to the server.

- Within the 'Edit saved form' folder, survey forms that are complete will have green tick mark ('√validated') underneath the form. This means that it is easy for supervisors to identify which forms are completed and need to be sent to the server, and which forms are incomplete and need to stay on the tablet. However, there is the possibility that enumerators erroneously swiped too far in an incomplete survey (triggering the validated message), and so supervisors will need to check that the survey is actually completed before marking the form as finalised. If the form is indeed incomplete, the supervisor should save and exit the form so that it remains on the tablet for the enumerator to return to later during a return visit.
- The supervisor needs to check whether non-validated forms are complete. Enumerators may
 have erroneously not scrolled to the last screen on a completed survey, and so the form
 does not have the validated message when it should. In cases when forms are indeed
 complete, supervisors can tap the top right corner to 'validate' the form. They can then
 mark these forms as finalised.





Figure 48. Supervisor review of survey forms

Note: The screenshots show moving completed forms to the 'Send Finalized Form' folder and the 'Validate Form' function.

13. *Next, supervisors will upload the completed forms to the server.* They go to the 'Send Finalised Form' folder and tap 'toggle all' and 'send selected' to upload the completed forms to the central server (Figure 49). The completed forms will then be deleted from the tablet, leaving only the forms that need to be revisited on the tablet, in the 'Edit saved form folder'. If there is no internet that evening, the completed forms should stay in the 'Send Finalised Form' folder and be uploaded the next evening.



Figure 49. Supervisor review of survey forms: Uploading finalised forms to server

- 14. After running checks, uploading completed forms and downloading any updates, supervisors must log out of each tablet by logging in with the enumerator log-in details. The enumerator log-in details are always username: enumerator; password: enumerator123. It is essential that supervisors do this each day. They must return to 'Admin Settings' and disable the 'Send Finalized Form' button. If the tablets have data plans, the internet should be switched off, as enumerators will work offline whilst collecting data.
- **15.** Supervisors will note down all interviews and visits completed that day on the fieldwork supervisor form. Once uploaded to the server, they will tick the box on the form. They will also note whether a revisit is required.

			To be comple	ted in the e	vening	
Interviews/ visits com	pleted that	day				
Interview ID	Cluster ID	Visit No. 1/2/3	Interview completed / uploaded to server	Revisit required	Reason for no revisit	Comments
Enumerator:				•		
GHA			Completed:	Yes: □ No: □	No target pop □	
			Uploaded:		Refused	
					Third re-visit □	
GHA			Completed:	Yes:	No target pop 🗆	
			Uploaded:		Refused □	
					Third re-visit 🗆	
GHA -			Completed.		No torrest new 🗂	

Figure 50. Supervisor review of survey forms: Uploading finalised forms to server

- **16.** *Supervisors will charge devices, battery packs and power banks.* They will store the Record of visits and consent records securely overnight.
- **17.** Supervisors should maintain regular communication with the data manager through the supervisor Whatsapp group, informing them of the details of any corrections that the data manager requested, as well as any issues from the day. When necessary, supervisors should also contact survey leads and country coordinators with any issues that require their input or that they should be aware of.

Data manager

Data managers are responsible for running several data quality checks on incoming data. When possible, these checks should be made daily but at a minimum every three days:

- 1. Data managers will run a series of data quality checks via the SurveyCTO Data Explorer platform. These checks consist of i) verifying that the sampling strategy has been followed, including analysing GPS coordinates, ii) checking enumerator performance, iii) checking for outliers, iv) checking for re-interviews and v) checking any 'other' responses to see if they have any question for enumerators on the written response recorded. Data managers should communicate with enumerators and supervisors accordingly to resolve any issues. This could involve enumerators and supervisor revisiting or calling respondents to clarify any issues. Once issues are resolved, data managers can approve the form, which will then be uploaded to the server. Data managers can edit incorrect values, with input from the fieldwork team, before approving the form.
- 2. Next, data managers will need to identify 10% of survey forms to be backchecked by supervisors. In the 'Review Workflow' section of SurveyCTO, a random 10% of survey forms from the previous day will be held for review. Data managers will note down the interview IDs of the selected 10% of interviews and inform supervisors in the supervisor WhatsApp group.
- **3.** Data managers should also check the backcheck forms completed by the supervisors on the *SurveyCTO platform.* Firstly they should ensure that supervisors have completed the identified backchecks . Data managers should cross-check the results of the backcheck forms with the original survey forms to identify if any mistakes were made by the enumerator. When two or more mistakes have been made, then the original interview has not passed the backcheck . The data manager should communicate with the relevant supervisor about any interview IDs that have not passed the backchecks in the WhatsApp group and appropriate action will need to be taken, for example closer monitoring of that particular enumerator, or if serious concerns, all respondents interviewed by a particular enumerator may need to be re-interviewed.
- 4. *Communicating with the field work team.* After running all checks, data managers will send the fieldwork team any necessary updates to the supervisor WhatsApp group. Details that data managers must communicate to the supervisor WhatsApp group on a daily basis are:
 - Any issues that arise during quality checks
 - List of interview IDs for supervisors to backcheck
 - List of any specific issues in the data that need to be clarified, including the relevant interview IDs and question numbers.

Enumerators

Enumerators are expected to complete three to five interviews per day. This is what their day looks like:

- 1. Enumerators meet their fieldwork supervisor for the morning briefing and receive the equipment for the day (see section 7.10.4). For the rest of the day they are responsible for keeping equipment safe and secure. Internet must be switched off to preserve battery life, and the tablet should be fully charged. Additionally, they should:
 - Look at the map of the cluster(s) with fieldwork supervisors, familiarising themselves with boundaries, points of interest and starting points
 - Make sure they know what the sampling interval is and which side of the street they are counting on
 - Discuss with fieldwork supervisors any potential revisits or appointments they must do, in the current cluster or a previous one
 - Ensure that they have everything else needed for the interview handy and put their personal phone on silent.
- 2. Enumerators then travel to the cluster and their specific starting point with the fieldwork supervisor. From here, they apply the random walk sampling strategy (see sections 7.8.4, 7.8.5 and 7.8.6).
- **3.** Once enumerators have identified the household, and before knocking on the door, they should do the following. If it is the first visit to the household, enumerators open a new form on the device and note the interview ID on Record of visits form. If it is the second or third visit to the household, they find the correct survey form on the tablet to resume, based on the interview ID.
- **4.** *Enumerators then knock on the door and complete the respondent sampling process (see section 7.9). This process is detailed below:*
 - *If no-one is home,* enumerators will note the address on the Record of visits form and will attempt to come back later that day.
 - If the selected respondent is home, enumerators will attempt to complete the interview then. Otherwise, enumerators can make an appointment, noting the details and contact information on the Record of visits form.
 - If the selected respondent is not home, enumerators will ask for their contact details and check with the person who answered the door for a suitable day and time for the interview, noting this on the Record of visits form.
 - If there is no-one in the house of the relevant age group, the selected respondent refuses consent, or this is the third time there is an unsuccessful visit to the household, the replacement strategy is applied (see section 7.9.3). Enumerators will tick the relevant boxes on the tablet, and, as instructed on the tablet, scroll to the final screen of the survey to trigger the 'validated' message. This informs the supervisors that this survey form is ready for uploading. The enumerator must also note the visit details on the Record of visits form.
 - If the selected respondent is of the opposite sex and feels more comfortable with a same-sex enumerator, offer to make an appointment with another enumerator. Make the appointment and inform the fieldwork supervisor of this.
 - If the selected respondent or the person answering the door speaks a language you do not speak, note down the address of the selected respondent. Then, call the fieldwork supervisor and ask them to send an enumerator who has the language skills needed.

- *5. Enumerators go through this process* until the required number of interviews is completed or they are told to stop by the fieldwork supervisor.
- 6. *When starting a new form*, enumerators are to click on 'Fill blank form' on the tablet.
- 7. *The last questions in the survey are for the enumerator to answer*, and so should be completed once the enumerator has left the respondent's house. This includes recording GPS location and questions about the respondent's behaviour during the interview (Figure 51).

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Figure 51. Enumerator end-of-interview questions

After a form is completed, enumerators are to scroll to the final screen of the survey, as instructed on the tablet. They should be sure to click 'Save Form and Exit' and to go to the 'Edit saved form' folder (Figure 52). This will trigger the validated message under the form in the 'Edit saved form' folder so that supervisors know this form is completed. Enumerators must *never* tick the box 'Mark form as finalised'. Supervisors will do this when they review the forms.



Figure 52. Saving a completed form (enumerators)

- 8. *If the enumerator is unable to finish the survey* (e.g. the respondent is not available to be, so a return visit must take place), the enumerator is to leave the form and click 'Save changes' when prompted, so that they can re-enter the same form at another time.
- **9.** When revisiting a household, as instructed to do so by supervisors, enumerators are to open the form that was created when the household was originally sampled. They can do this by entering the 'Edit saved form' folder and finding the relevant form using the interview ID.
- **10.** When instructed by supervisors to revisit a household to clarify or check an answer that has been flagged by the data manager, the form will already be deleted from the tablet. The enumerator should therefore note down the correct answer (or answer confirmation) by hand and will feed this back to the supervisor in the daily debrief.
- **11.** *Occasionally enumerators may need to re-interview a household*, if serious data quality concerns have been raised. See 7.9.3 for a description of the process.
- **12.** When breaking, e.g. for lunch, enumerators must take note of their current location and whether their last turn was a left or right turn. Never break in the middle of an interview.
- **13.** Enumerators should phone their supervisor if they have any questions or concerns, as they arise. They will also stay in touch at regular intervals during the day, informing their fieldwork supervisor where they are and how many interviews they have completed.
- 14. In the daily debrief session, enumerators share details from their Record of visits form with supervisors. This includes the interviews they completed that day and which households they sampled. Enumerators can also raise any questions or problems they encountered during the day, including potential incidental findings (e.g. reports of violence, criminal activities, or similar).
- *15.* At the end of the day, enumerators hand their devices, their Record of visits and consent record over to their supervisor.

7.10.4 Equipment to take to the field

To conduct the MIGNEX survey correctly and efficiently, enumerators must have the required equipment with them at all times. Fieldwork supervisors are responsible for checking that all enumerators in their team have the required equipment. This includes:

- The fully charged tablet or phone in a case depending on the climate and season, it should be put in a waterproof case in the bag
- A power bank or battery pack, depending on the battery capacity of the tablet or phone, as well as connecting charger cable and plug
- A phone for security and quality control purposes fieldwork supervisors and enumerators need to be able to reach each other at all times
- A clipboard, pen and paper for completing the random walk (spinning the pen) and noting down ages of family members for respondent selection
- The consent record
- Record of visits form
- The map of the cluster showing the boundaries and starting points
- A few paper versions of the survey instrument, in case the tablet fails⁶

⁶ In case of tablet failure, and paper copies are used, it is the responsibility of the supervisor to input the written survey into the tablet, retrospectively assigning the survey an interview ID. The supervisor must communicate this to the data manager.

- The laminated cards to show to respondents.



Figure 53. Overview of equipment enumerators take to the field on a daily basis

Fieldwork supervisors will also have their own tablet, which they need for quality monitoring purposes (see section 7.10.6).

7.10.5 Informed consent

It will be necessary for enumerators to obtain informed consent from all respondents prior to participating in the interviews, in accordance with EU rules as well as Norwegian data protection and ethics principles and guidelines (Carling, 2019b). The informed consent process involves an informed consent statement and an information sheet, which are on the same form in the Annex.

Enumerators will provide respondents with an *information sheet* about the MIGNEX project, which is for respondents to keep. The information sheet includes details of the purpose of data collection; consequences of participation; voluntariness; the right to withdraw participation at any time during the interview; the possibility to ask questions before consenting; the use of the collected data; and the contact details of the survey lead and country coordinators. The information sheet is simply worded, without jargon, and will be translated into the same language that the interview is conducted in. These measures are so the respondent can fully comprehend what participation entails and give informed consent.

In obtaining informed consent, it is common practice to acquire *written* consent, with respondents signing a form. However, in some contexts in which we will be running the survey, obtaining such written consent with respondents' signatures may be offensive or harmful to respondents – for instance if respondents could be traced. Therefore, in MIGNEX we will ask for *oral* consent from respondents to ensure anonymity of respondents and minimise potential harm.

Enumerators will have a set script which they will read to respondents to ensure that respondents have the information they need. Obtaining informed consent will also be a core element of the enumerator training. Ideally, enumerators should learn the informed consent script off by heart so that they can convey it to respondents in a natural manner and without having to look at the paper in front of them. Enumerators must give respondents the opportunity to ask any questions.

Once satisfied that the respondent is informed enough to be able to give *informed* consent, the enumerator can ask if they consent. After asking each respondent (orally) if they consent, enumerators themselves will sign a *consent record* with the statement 'I certify that the interviewee freely gave explicit and informed consent to participation and to the processing of data in other countries', and include the interview ID and date. They will then tick the box on SurveyCTO to confirm that consent has been given.

	NEX		Consent record
Name of person s	igning this record	Country AFG GIN TUN CPV NGA TUN ETH PAK GHA SOM	Data collection type Survey (WP3) Focus groups (WP4) Key informants (WP4) Policy experts (WP3)
Participant ID	Date Day and month. (Year is 2020)	Signature I verify that the participant has giver voluntary, explicit, and informed consent to participation and to the processing of data in other countries	Comments Indicate if the participant withdraws or if the data for other reasons must be excluded and deleted.
	/		
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	/		

Figure 54. The consent record to be signed by the enumerator

7.10.6 Measures to ensure data quality

Ensuring data is being collected properly during the data collection process is essential to having high quality data for the analysis. We are putting in place a number of measures to prevent potential error or fraud, ranging from basic checks in the field to real time monitoring of the data as it is collected.

Data monitoring will occur at three levels:

- Enumerator
- Supervisor
- Data manager.

These will be discussed now in turn.

Enumerators

At the *enumerator* level, the use of CAPI has many advantages for ensuring data quality, since many data monitoring features are automated and built into the software. The survey form

includes extensive validation and constraint measures, so that when enumerators input an answer that does not make sense, an automated error message will show. The enumerator will not be able to proceed to the next question until this is resolved, (Figure 55). As part of the survey, enumerators will collect GPS location for each interview, which can then be used to check that the sampling procedure was applied adequately. Enumerators will also have to correctly apply the return visit and replacement strategy (see 7.9.3).

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Figure 55. Example of an automated validation message

Most importantly, enumerators will be extensively trained on how to correctly conduct an interview during the enumerator training (see section 7.10.1), with the trainings focusing on practical application. Enumerators will also take along an enumerator, which has detailed guidelines and explanations in case issues come up in the field.

Finally, we are keeping the number of interviews at a manageable number per day so that enumerators can maintain concentration and enthusiasm throughout the day. This helps to enable high quality interviews.

Supervisors

Supervisors will oversee the work of enumerators and have an important role to play in ensuring quality data. Supervisors shadow each enumerator as they conduct an interview every two to three days, as well as regularly shadow each enumerator as they conduct the random walk. As another quality assurance measure, supervisors will also re-interview a share of respondents and double-check responses for some questions. More specifically, it is expected that supervisors apply the following measures:

 Accompanying enumerators and observing both the random walk and part of the interview (around 15 minutes). This must be done for 10% of the interviews and fieldwork supervisors must make sure that they accompany every enumerator every few days. Major errors (e.g. not applying within household sampling) must be corrected straight away. Minor feedback (e.g. on interview technique) should be noted down and fed back to the enumerator at the end of the day. Supervisors must complete a 'Supervisorobservation-sheet' for each accompaniment, to record enumerators' performance, see Figure 56 Supervisor observation sheet for accompaniments.

Supervisor observation sheet

Enumerator name: Date: 2	Score 1-5
Interview ID: GH 41-27 251-333	
Did the enumerator have all the required equipment?	5
Enumerator correctly applied the random walk in selecting a household.	5
Enumerator correctly applied within household sampling to select a respondent.	5
Enumerator created an environment of comfort and privacy for the interview.	5
Enumerator correctly introduced themselves and MIGNEX to the respondent.	5
Enumerator correctly obtained informed consent.	5
Enumerator read out the questions as they appeared in the survey form.	S
Enumerator read out the introductory sentences at the right times.	5
Enumerator prompted and probed at the right time when necessary and correctly.	5
Enumerator was familiar with and confident with the survey questions.	4
Enumerator was proficient in the language the survey was conducted in.	5
Enumerator showed respect and patience towards respondent	5
Enumerator remained neutral or objective throughout the interview.	5
Enumerator kept the attention of the respondent well and a good pace during the interview.	4
Total score:	
Other comments Harry Jood	68

Figure 56 Supervisor observation sheet for accompaniments

- 2. Spot checks on interview. Fieldwork supervisors will also do unannounced spot checks on enumerators when they are doing the random walk and observe them for a while. Supervisors will also pay unannounced spot visits to enumerators while they are doing the interview to check that they are conducting the interview correctly, including proper usage of cards and reading of questions. This must be done for 10% of interviews. In terms of feedback, the same as above applies.
- **3**. *Back-checks.* This involves re-visiting or calling respondents after they have completed an interview and re-asking them around 10 of the survey questions. This is to check that the correct responses were recorded by enumerators. These will be factual questions (e.g. number of children), so the response should be the same every time. This must be done for 10% of the interviews.
 - On a daily basis, data managers will identify and inform supervisors which of the 10% of interviews require back-checking. Data managers will give supervisors a list of interview IDs via WhatsApp (or other agreed upon communication channels).
 - Note that in fragmented clusters, or clusters which are geographically remote from others, that may have issues such as limited phone signal, it may be necessary to conduct backchecks on the same day, whilst the team is already in that cluster. If so, supervisors should choose 10% of interviews conducted that day to back-check.
 - Supervisors will then cross reference the interview ID with their supervisor log and enumerators' Record of visits forms to find the contact details and address of the relevant respondents. They will then either visit or phone call the respondent selected for backchecking. Face to face backchecks are preferred over phone backchecks, when possible, as respondents are more likely to be engaged in the backcheck process and give accurate answers. Supervisors must ask the respondent if they consent to participate in the backcheck before proceeding.
 - Supervisor tablets will have a different survey form than the one on enumerator tablets– a 'Back-check form'. The 'Back-check form' is a condensed survey form of the 10 survey questions. By entering the numerical digits of the selected interview ID, the data manager

will be able to compare the results of the backcheck with the original interview to identify any potential enumerator errors.

- The supervisor will go through the 10 survey questions with the respondent and will also be able to add any additional feedback that the respondent may have mentioned about the enumerator's performance.
- The supervisor should upload the completed back-check interviews to the server, similar to uploading an enumerator's completed interviews (see 7.10.2).
- **4.** *Checking interviews before uploading to the server.* At the end of each day, supervisors will collect enumerators' tablets or smartphones and will be able to review the interviews before uploading them to the server. This process is detailed in 7.10.2.
- **5.** *Investigate or clarify other issues identified by the data manager.* Supervisors will instruct enumerators of any issues that need to be checked that day during the morning briefing. In some cases, supervisors may prefer to investigate any issues themselves by visiting or ringing a respondent. Once a clarification or issue has been resolved, supervisors will then communicate with the data manager via WhatsApp (or other agreed upon communication channels).



Figure 57. Starting a supervisor back check

- 6. Overseeing interview schedules. Supervisors will keep track of enumerator's schedules, and each morning they will brief the enumerator on where they need to go that day. Supervisors will also keep oversight of the replacement strategy; for instance ensuring that enumerators are making appointments and returning to selected respondents who are not home rather than more conveniently moving on to another household straightaway.
- 7. *Daily debrief.* Supervisors will also hold a debriefing session with enumerators at the end of every day, discussing any problems encountered. Where needed, supervisors will then raise issues to the survey lead and/or data manager. Supervisors can communicate with the data manager via the supervisor WhatsApp group.

Data manager

Each country will have a data manager. In some cases, for instance in Ghana, this will be a member of the survey team. In other countries the role is part of the subcontractor team. The data manager reports to the survey lead and must inform the survey lead if they have any concerns about any aspects of the data collection. For instance, if the data manager repeatedly identifies issues regarding a particular enumerator, the data manager must report this to both the fieldwork supervisor and the survey lead. The lead then decides what actions to take.

The CAPI survey contains several in-built data quality features which can be used by the data manager to run data monitoring checks, in real-time whilst the survey is being conducted. These features include: (1) timestamps to see how long each enumerator took to answer each question in the survey and to track any potential abnormalities, e.g. enumerators working too fast or too slow, and (2) GPS location to locate where interviews took place, reducing sampling error by ensuring interviews were conducted within the correct cluster and tracing random walks.

Data managers will need to communicate regularly with the fieldwork team. After running daily checks, the data manager should send updates to the supervisor WhatsApp group and, when necessary, the enumerator WhatsApp group. For any larger concerns regarding the data, data managers should contact the survey lead, country coordinator and central team by email. In particular, data managers should communicate to supervisors on a daily basis:

- Any issues in the data that need to be clarified or investigated
- A list of interview IDs for supervisors to backcheck this process is partly automated, since 10% of survey forms will be flagged at random by SurveyCTO.

Data managers can also contact the enumerator WhatsApp group with any issues to be resolved – this can be particularly useful in the first few days of data collection, as enumerators can learn from each other's mistakes.

Data manager monitoring checks will be a combination of automated quality checks and manual checks. The data manager should run data checks as regularly as possible so that any issues can be quickly dealt with by the fieldwork team. The minimum frequency for data checks during data collection is every three days.

All checks will be conducted via the SurveyCTO desktop platform, which data managers will have access to via a personal log in. Once logged in, data managers should make their way to the Monitor tab, see Figure 1. At the top of the monitor page is a short tutorial – 'Getting started' – of SurveyCTO's data monitoring features, which all data managers should complete to familiarise themselves with the platform. Data managers will also have a pre-fieldwork call with the ODI central team to run through the features and main checks.

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Figure 1. SurveyCTO desktop: monitor tab and 'Getting started' tutorial

Monitoring data

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Figure 2. SurveyCTO desktop: key features of monitor tab

Under the monitor tab, for each country survey there are several elements data managers will use, which are numbered in Figure 2:

- (1) is the main country survey here you can see the number of completed submissions, and can launch the data visualisation tool for manual checks the SurveyCTO Data Explorer by clicking on 'Monitor form data' at (2).
- It is possible to share the Data Explorer with other members of the fieldwork team (namely the survey leads) via clicking 'External viewers' at (3). There it is possible to share access to view the data visualisation tool via email, but importantly no rights to edit data or to download data.
- Lastly, at (4) you can access the supervisor backcheck survey form submissions, which the data manager will need to check, see below.

Data managers will use the *Data Explorer* tool to visualise the data in real time and run data quality checks. By clicking on 'Monitor form data' as per point (2) in Figure 2, data managers can then select which submissions they would like to view– for instance they could set the time period so as to only view submissions from the previous week, or the previous day – and can then click 'Start Data Explorer,' as in Figure 3. Note that if you are trying to view more than 1,000 submissions in the Data Explorer, it could take several minutes to load.

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Figure 3. Entering the Data Explorer on SurveyCTO

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Figure 4. SurveyCTO Data Explorer

Figure 4 shows the Data Explorer. The Data Explorer will open a pre-programmed 'workbook' with several summaries of variables and relationships between variables already visualised under eleven groups. They are:

8. Shortcuts for global filters. The Data Explorer allows you to disaggregate the data displayed in the workbook, by categorical variables – particularly useful when data managers wish to view submissions from a particular research area, cluster, or enumerator. Another useful filter for data managers is to filter the Data Explorer to only show submissions from respondents that consented to participate – this will exclude non-responses or households that did not have anyone in the right age range.

It is likely that data managers will start their data quality checks by first applying filters to the Data Explorer. To do this, data managers go to a field summary of the variable they

wish to disaggregate by and click on the category of interest. Figure 5 shows the process for applying a global data filter to view submissions for one cluster 'Estancia de Bras'. When you click on the category of interest, a box will appear with four options: you can 'View submissions' for the entire category, you can 'Compare these submissions', you can 'Add to global data filter' to only see submissions from this category' and you can 'Exclude from this summary' submissions from this category. Data managers can click on 'Add to global data filter' to filter by this category, (see Figure 5). Similarly, by clicking on 'Exclude from this summary', you can exclude all submissions from this category from the Data Explorer. Categories which are included as a global data filter will be highlighted yellow, as seen for cluster 'Estancia de Bras' in Figure 5. Any applied global filters and/or exclusions will also be highlighted at the top of the Data Explorer in a yellow bar (Figure 5). Global data filters/ exclusions can be removed by clicking on the yellow category itself (Figure 5), or the yellow bar at the top of the Data Explorer. The first section of the workbook contains some shortcuts for global filters, that will likely be useful to the data manager: consent variable, research area variable, cluster variable, enumerator variable and interview end date. Figure 6 shows a screenshot of the Data Explorer with a global data filter applied to show only submissions from the previous three days.





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Figure 6. Global data filter applied to view only submissions from the previous three days

- **9.** Overview of submissions. This section includes summaries of the number of interviews completed per research area per enumerator, per cluster per enumerator, and the number of consented interviews per enumerator. Note that the overview will be dependent on which global data filters are currently applied to the workbook.
- **10.** GPS. This section includes maps with the GPS coordinates of interviews marked. Here the data manager can conduct checks to make sure the sampling strategy was adhered to. Data managers can check if interviews took place within the correct clusters, and check if enumerators have followed the random sampling strategy (check if interviews are concentrated or dispersed). Data managers can also check how many missing values there are to identify if enumerators are experiencing any difficulties in recording GPS, and if there are any patterns in non-recording GPS coordinators across enumerators (Figure 7).



Figure 7. Checking GPS on SurveyCTO Data Explorer

- **11.** Duration. For each survey module, and for the entire survey (from the moment that consent was given to the last question answered), data managers can view the average time duration, by enumerator. This is an important tool to check data quality as if, for instance, a particular enumerator completes an interview too quickly, it could be indicative of the enumerator's interview style being too fast, or that the enumerator is not reading the questions to respondents fully, or even that the interview is fake. All of these could impact data quality.
- **12.** Don't know and refuse to answer responses. Data managers can check the number of 'don't know' or 'refuse to answer' responses by enumerator. There is a variable which shows when a survey form has more than 10% don't know responses or 10% refuse to answer responses, to highlight any potential issues with particular questions or the interview style of a particular enumerators.
- **13.** Re-interviews. There is a question within the survey form that marks submissions as reinterviews. Survey forms which are re-interviews will be listed here – for each reinterview form, the *original* interview ID will be given here. Under the 'Re-interview' group on the Data Explorer, survey forms which are **re-interviews** will be highlighted and the *original* interview IDs (for interviews which were deemed erroneous through backchecks or other monitoring processes) are listed. The original (erroneous) survey forms for interview IDs that have been re-interviewed will be deleted by the central ODI team during data cleaning. Data managers should note down these original interview IDs in their records, and include them in the survey execution report. In order to know if the sample size has been achieved in a cluster, remember to always to subtract the number of re-interviews from the total number of interviews completed..
- 14. Other answers. Data managers should check the list of 'other' answers given to 'please specify questions.' If there are any missing or unclear answers, this should be queried with the field team and it may involve a revisit or phone call to the respondent.
- **15.** Outliers. Data manager should check the summaries of numerical variables in this section to spot, and investigate if necessary, any potential outliers.
- **16.** Sample composition. Includes visualisations of the basic characteristics of the sample so far including gender, age and mother tongue by research area and cluster. Data managers can add additional variable or variable relationship summaries here as desired.
- **17.** Key variables. Similarly, summaries of some additional key variables are included here for a quick overview. Data managers are free to edit and add to this section as desired.
- **18.** Respondent behaviour. Lastly, summaries of enumerator questions about respondent behaviour make up the last section, including details on whether the respondent was distracted or appeared bored during the interview.

Within the Data Explorer, it is possible for data managers to easily add additional variables and relationships to the workbook, as they deem necessary, by clicking 'add field summaries' or 'add relationship summaries.' They can then simply click 'Save' at the top of the page for these variable and relationship summaries to be included the next time they enter the workbook.

A useful feature of the Data Explorer is the **search function** at the top of the page. This is the quickest way for data managers to find specific submissions, by searching for a particular interview ID in the search bar, as in the first image in Figure 8. By clicking on 'View', you will
then be able to view (and if required edit) a particular submission, which will appear in the Data Explorer, see second image in Figure 8.

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Figure 8. Search function and viewing specific submissions in the Data Explorer

There are several other ways to open individual submissions or groups of submissions on the Data Explorer. As mentioned above with regards to applying global data filters, clicking on any green bar in a data summary (from a histogram for continuous variables, or from bar charts for categorical or binary variables) will give you the option to 'View submissions,' through which you can view all the submissions that you have selected. Looking at the example in Figure 9, which looks at the total interview duration variable (in seconds), the data manager would likely want to investigate interviews that appear too short or too long. By adjusting the bin number of the histogram, labelled (1) in the first image in Figure 9, you are able to get a better sense of the distribution of the total duration variable. In the second image of Figure 9, you can see a small proportion of submissions have a duration of less than 1500 seconds, you can click on the relevant bar of the histogram, click 'View submissions,' and this will open all of these individual submissions to view (and edit).

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Figure 9. Viewing individual submissions using 'View submissions'

Another way to view individual submissions can be seen in Figure 10. Summaries in the Data Explorer which show the relationship between two variables are blue (with summaries of single variables in green). By clicking on a cell in a cross-tabulation, you can then click 'Click to view' and view all relevant individual submissions. The example in Figure 10 shows how to view the three individual submissions from 'Enumerator F' for which survey module G was completed in less than 44 seconds. These particular interviews can then be checked for any additional issues or patterns.

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Figure 10. Viewing individual submissions using 'Click to view'

A final way to view individual submissions is by clicking on other hyperlinks on the Data Explorer. For instance, you may wish to investigate missing values from variable or relationship summaries. In Figure 11, you can see that GPS is missing for one submission (N missing: 1). The '1' is a hyperlink – as before, by clicking on this you will be able to view the individual submission which is missing. Similarly, if you were to click on the number '165' (from N:165 in Figure 11), you would view the 165 individual submissions which have a response to this relationship summary.



Figure 11. Viewing individual submissions using other hyperlinks in the Data Explorer

The Data Explorer can be manipulated to adjust the display of field and relationship summaries as the data manager wishes, using the **Display** function. For instance, categorical

variables can be visualised as pie charts or bar charts, with frequencies or percentages, as is shown for one variable in Figure 12. For relationship summaries, data can be visualised via crosstabs, means, scatterplots etc. as desired or appropriate. It is possible to reverse axis for relationship summaries as highlighted in Figure 13, and as noted above, bin numbers can also be adjusted. Figure 14 shows a scatterplot of two discreet numerical variables age and subjective wellbeing (measured on scale from 1 to 10) – as you can see, the Data Explorer automatically includes a line of best fit and correlation. Note: each of the points plotted on the scatterplot are hyperlinks which can be clicked on to view individual submissions. To switch between a scatterplot and crosstab view, you can click on the icon which looks like an eye at the top right of the summary (see Figure 14).







Figure 13. Changing the 'display' of variable relationship summary: mean, crosstab and reversing axis



Figure 14. Viewing the relationship between two numerical variables in the Data Explorer

Although the Data Explorer workbook is pre-programmed, it is possible for data managers to add additional variable and variable relationship summaries as they see fit. To do this is very simple: on the Data Explorer, click on any green box with a white cross. You will then be able to 'Add field summaries' for summaries of single variables, 'Add relationship summaries' of two variables' and 'Add group' to add a new section to the Data Explorer. It is important to click 'Save' at the top of the Data Explorer, if you would like any changes you make to the Data Explorer to be saved for the next time you open the Data Explorer workbook.

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Figure 15. Adding new variable summaries in the Data Explorer.

Another aspect of the Data Explorer is the automated data quality checks. These are preprogrammed by the central team at ODI. If an automated data quality check is not passed, it will 'trigger' a 'warning'. The automated checks will run nightly, and a summary of the results of the test will be sent to the data manager via email each morning. The automated data quality checks are:

- Tests for group means to compare enumerator's speed.⁷ The mean durations of each submission and each module will be compared across different enumerators. If an enumerator is completing surveys significantly quicker than other enumerators, this will trigger a warning.
- Tests for outliers in numerical questions to flag any potential outliers. There are already
 constraints programmed into survey form, which means that, for instance, an enumerator
 cannot input that a respondent has more than 30 children. This automated check will be
 triggered if a value is above or below 2 times the interquartile range.
- Test for values that are too low or too high. If an enumerator completes a module in less than 60 seconds, the survey form will trigger a warning. Data managers may wish to change this threshold of 60 seconds to lower or higher, which might differ across languages.
- Test for consent rate by enumerator.

Data managers may wish to amend these automated checks and/or add additional checks. An example of this might be that the trigger for a survey module being completed in less than 60 seconds might be too high or low for a certain module. Automated checks are amended outside of the Data Explorer, under the Monitor tab on the SurveyCTO platform. Figure 16 shows a screen shot of the automated quality check editor, which can be accessed by clicking on 'Checks'. Amendments can be made by clicking Edit next to a check. Similarly, new quality checks can be added by clicking 'Create quality check.' Changes to the automatic quality check should be discussed with the ODI central team.

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⁷ Tests for equality of means will be ANOVA.



Figure 16. Amending or adding automated quality checks under the monitor tab on SurveyCTO

Alongside the email automatically sent daily to the data manager with results from the automated checks, the results of the automated quality checks are shown within the Data Explorer. Figure 17 shows four submissions have triggered the automated quality check for outliers for question A15. As you can see in the screenshot, you can click on 'View submission' to view individual submissions that have triggered the warnings in order to investigate.

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Figure 17. Automated quality checks visualised in the Data Explorer

Results from automated quality checks are also shown in individual submission view, see Figure 18 for an example.



Figure 18. Automated quality checks visualised in the individual submission view

One final tool data managers can use to investigate any potential issues is the text audit function on the individual submission view. If the manual or automated checks have highlighted any issues with interview duration, you can enter an individual submission and click on the hourglass symbol to 'Show text audit data,' see Figure 19. Once text audit data is enabled, you will be able to see what time the enumerator arrived at each question, and how long they spent on each question.



Figure 19. Text audit data on individual submission view

Clarifications and corrections

Looking at a combination of the data visualisations/ manual checks, results of automated checks and individual submissions will give data managers a good sense of the data and any potential issues that need to be investigated or clarified by the fieldwork team. If data quality checks have highlighted an issue to be queried, confirmed or corrected by the fieldwork team, the process is as follows:

- **1.** *Contact supervisors, enumerators and/or survey leads (as appropriate)* via the WhatsApp groups, or optionally by phone or email, with any questions or clarifications. Data managers must always include the relevant interview ID for reference.
- 2. *Find the relevant submission in the Data Explorer.* When the issue has been investigated by the fieldwork team and a correction has been identified and needs to be made, data managers will search for the relevant interview ID in the search function on the Data Explorer to find and view the specific individual submission.
- 3. Un-approve submission. All interview submissions (apart from those identified for the backcheck, see below) are automatically 'approved,' which means they have been sent to the server dataset. To make an edit to an interview submission, it is necessary to unapprove the submission to temporarily remove it from the server dataset. This is done by clicking on 'Click here to un-approve,' and when prompted 'Un-approve submission' see Figure 20. The individual submission will now be un-approved, or 'Flagged and held for review (not yet released)' see the last image in Figure 20 and can be edited.

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Figure 20. Un-approving individual submissions to make corrections

4. *Editing values.* Figure 21 shows a screenshot for correcting the value for question O3, by clicking on the pen symbol. After you correct the value, confirm the correction by clicking on the tick. It is essential to also leave a comment next to the correction to explain why the answer was either corrected or left as it is, for instance including details of investigations by field teams, as in Figure 21. It should be noted that all corrections made to submissions are automatically recorded, meaning there is an audit trail of all edits made by the data manager. This audit trail can be viewed in the individual submission, as seen in last image of Figure 21.

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Figure 21. Editing values in individual submissions

5. *Re-approve submission and save changes.* After corrections have been made, the submission needs to be re-approved and sent back to the server dataset once again. You can click on 'Flagged and held for review (not yet released) to do this, see Figure 22. Here you first classify the submission as either 'Good', 'Okay', 'Poor' or 'Fake', and are able to leave a general comment about the submission. Then you can click 'Approve' to send the submission back to the server dataset. Afterwards you must click on 'Save changes.'

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Figure 22. Re-approving submissions

Supervisor backchecks

Supervisors need to backcheck 10% of submissions, and it is up to the data manager to both identify the 10% of submissions and to check the results of the backcheck. A setting is enabled on the SurveyCTO platform to highlight and set aside a random 10% of submissions under the 'Monitor' tab. These submissions are not automatically approved and added to the server dataset, and as a result need to be approved by the data manager once the supervisors have completed the backcheck.

Data managers can identify the randomly selected submissions to be backchecked by the following process:

- **19.** *Find submissions under 'Monitor' tab on SurveyCTO.* In Figure 23, you can see that for the main survey, 38 submissions are not approved and are awaiting review, highlighted in the yellow box.
- **20.** Click 'Review now' to view the individual submissions and make a list of interview IDs. Data managers should click through the individual submissions and note down all the interview IDs.
- **21.** *Communicate the interview IDs of the 10% to the supervisors.* This can be communicated in the WhatsApp group.

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Figure 23. Submissions randomly identified for supervisor backchecks

Supervisors will complete backchecks – which comprises of 10 survey questions – via a second survey form, the 'supervisor backcheck' form, either in person or on the phone and upload them to the server. Data managers can find the submissions for the backchecks under the 'Monitor' tab, see Figure 24. All of the submissions for the supervisor backcheck will be automatically *unapproved* so that it is easy for the data manager to keep track of which backchecks they have checked.

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Figure 24. Supervisor backcheck submissions under the 'Monitor' tab

Data managers must then check the results of the supervisor backcheck by:

Once these have been completed, data managers must open each supervisor Back check form – in the same process as they would for a main survey form on SurveyCTO, and cross check this with the interview form from the main survey which is held for review. As in figure 4 above:

- **22.** Click on 'Review now' to view the individual submissions for the supervisor backcheck form. In Figure 24, you can see there are six submissions which are outstanding for the data manager to check. Clicking on 'Review now' will open the individual submission view.
- **23.** Open the Data Explorer for the main survey form and search for the original interview submission. Use the interview ID from the supervisor backcheck individual submission view and type this into the search bar in the Data Explorer for the main survey form to find the original interview submission. View the original individual submission.
- **24.** Compare the results of the 10 supervisor backcheck questions with the answers from the original interview submission. When scrolling through the two submissions, it is useful to have two windows open next to each other, see Figure 25.

CDV/4.06444700		Culturistics from Wind Day 02 2020 44:20:44 CMT: 0000 (Core
CPV1-26114733	#1 of 1	Submission from Wed Dec 02 2020 11:38:44 GMT+0000 (Gre
	© ⊠ r* ⊕	Attachments Options
* Approved	Click here to un-approve	 Flagged and held for review (not yet released)
timeA1 72		interview_ID_BC CPV1-2614733
noteA1 - Vamos começar por lhe fazer algum outras pessoas desta casa.	as perguntas sobre si e sobre as	ID_VN - O número de identificação da entrevista que está a venificar novamente é Stjorteviev_ID_BCJ. Esse é o número de identificação correto para a entrevista? Sim
A1 - A1 Guantos anos tem?		vrongid - SUPERVISOR. Por favor, desize para trás e tente digitar novamente o ID correto da entrevista.
A2 - A2 É casado, ou vive com um parceiro c [Não]	omo se fosse casado?	notebacicheck - Abordar agora o agregado familiar e explicar o processo de verificação reformativa na inminido.
A3 - A3 Alguma vez foi casado? [Não]		resuspens a su inquinuo.
A4 - A4 O seu cônjuge/parceiro vive na mesr	no casa que você?	consent - Unquindo selecionado da o seu consentimento informado para ser parcialmente re- informação? Sim
A5 - A5 Quando era criança, que língua falav [Língua crioula (Cabo Verde)]	a em casa com os seus pals?	noconsent - SUPERVISOR: Por favor, anote em seus registros que o entrevistado selecionado não consentiu em ser verificado novamente. Desíze até o final e sala.
A5_other - Por favor especificar		duration 1
A6 - A6 Qual é o nível mais elevado de educ [Terciário (Mestrado)]	ação formal que completou?	
A6_other - Por favor especificar		on_consent A1-A1 Quantos anos tem?
A7 - A7 O seu pai completou o ensino primár [Sim, completou]	io?	38

Figure 25. Comparing results of supervisor backcheck with original submission

25. *Record results of backcheck in an Excel file.* Figure 26 shows an example of the results of a backcheck check in an Excel file.

	A	в	С	D	E	F	G	н	1	J	к	L	м	N	0	Р	Q	B
1						1	2	3	4	5	6	7	8	9	10			
				Enumerator	Supervisor											Total	Pass	
2	Inter	view ID	Cluster	name	name	A1	A7	A33	E13	F1	J4	125	127	M3	M6	errors	fail	Action needed
3	CPV1-	27103006	Tarrafal 06	A	X											0	Pass	None
4	CPV1-	29122633	Ribiera da	В	Y											0	Pass	None
5	CPV1-	28115817	Praia	С	X				х							1	Pass	None - E13 corrected.
																		Respondent needs to
6	CPV1-	26155957	Tarrafal 02	D	Z								x		x	2	Fail	be re-interviewed.
7	CPV1-	24103851		A	X											0	Pass	None
8	CPV1-	23145200		С	Y											0	Pass	None
9	CPV1-	25170014		В	Z											0	Pass	None
10	CPV1-	22104854		Mario	Marculino											0	Pass	None

Figure 26. Recording results of supervisor backcheck checks in Excel

26. *Contact field team if clarifications or re-interviews are needed.* If the backcheck highlighted two or more errors, the original interview has not passed the backcheck and this interview must be repeated in full. Data managers will communicate with supervisors to make sure that any required re-interviews occur.

- **27.** Approve main survey submissions when checks have been completed and passed. If one or no errors have been identified, the backcheck has been passed. The data manager must then 'approve' this interview so that the interview is no longer held for review and can join the server dataset, in the same process as discussed above.
- **28.** Approve supervisor backcheck forms when checks have been completed. Once data managers have completed the backcheck check, they can also approve the supervisor backcheck form so that it is no longer held for review (unapproved) under the 'Monitor' tab.

In summary, there is a daily check list for data managers:

- 1. Run quality checks on the Data Explorer.
- 2. Check any issues or queries raised by the fieldwork team.
- **3.** Inform fieldwork team of any issues or necessary clarifications.
- 4. Make any necessary corrections identified by the fieldwork team.
- 5. Inform supervisors of the 10% of survey forms to be backchecked.
- 6. Check backchecks have been completed and compare back checks to original interviews.
- 7. Check re-interviews have been completed.
- 8. Keep a record of re-interviews to ensure that these are not included in the 500 sample size.

7.11 Data processing and reporting

7.11.1 Data processing

Several members of the survey data collection team are involved in handling and processing data. Table 11 shows the workflow of data processing from collection in the field by enumerators to analysis of the final data sets by the MIGNEX team.

	Where and how data is stored	Who handles data
During fieldwork		
Data collection in the field	Completed interviews are stored during the day on tablets. Enumerators are responsible for looking after tablets. Enumerators will collect respondent contact details on a paper Record of visits form.	Enumerators
Data uploaded to server	Each night, supervisors collect tablets from enumerators to check and upload completed interviews to the server. Data is encrypted as it is uploaded to the server, and once uploaded interviews are automatically deleted from the tablets.	Supervisors
	enumerators nightly and store them securely.	
Data monitored on SurveyCTO server	Data uploaded to the EU-based SurveyCTO server is stored there in order for data managers to run data monitoring and quality checks.	Data managers, ODI team
After fieldwork		
Destroying of Record of visits	Supervisors will destroy the paper Record of visits forms, which include the contact details of respondents.	Supervisors
Data cleaning	Raw data is exported in .csv format and saved to a limited access MIGNEX OneDrive folder, accessible only to the ODI central team and PRIO.	ODI team and PRIO
	The ODI team will export the .csv files to.dta format and then use Stata to clean data and remove personal identifying information from the data set (i.e. GPS location).	
	Once the raw data for a country has been exported to the OneDrive, it will be deleted from the SurveyCTO server.	
Data analysis	After data cleaning, ODI will transfer the final data sets in .dta format to the MIGNEX OneDrive Collaboration folder for analysis by the MIGNEX team. There will be ten country-level final data sets.	MIGNEX team members from WP6, WP7, WP8, WP9 and the ODI team.
Publishing data	Anonymized data (i.e. data where blurring/masking has been applied to preclude identification)	Publicly available

Table 11. Workflow of data handling and processing

7.11.2 Survey execution report

Once the fieldwork is completed, the survey lead, with input from the data manager, prepares a survey report summarising key details of survey implementation. The report contains information on sampling execution and any other information that may be needed during data analysis. The report is based on a template with a number of tables to be filled in by the team. The template will be available in English and French. It contains the following information:

- Name of survey firm or collection entity
- Contact details of survey lead
- Dates and location of enumerator training, number of enumerators trained, number of individuals participating in the data collection, and names of training instructors
- Information on the one-day field test and any changes made
- Quality control measures in place.

For each research area it contains:

Sampling procedure

- List of clusters and estimated household size
- Outcome of the household estimates verification exercise
- Fieldwork dates, including reasons for potential delays
- Name and contact details of fieldwork supervisors
- Name of enumerators and their gender, age, native language and the language(s) they conducted interviews in
- Languages(s) survey was conducted in
- Detailed breakdown of interviews that could not be completed for specific reasons
- List of selected respondents that had to be replaced, and reasons for replacement
- Number of interviews by clusters
- Number of interviews completed on paper and not CAPI
- Quality control measures outcomes, including list of interview IDs for interviews which were checked or verified by data managers and/or fieldwork supervisors, and potential changes that were made as a result of this check.
- Detailed description of any problems or significant events encountered in the field (e.g. incidental findings, any security issues, sampling problems, problems with any interview question, etc.), and how this might have affected interview conduct and responses given
- Any other comments or observations.

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Annex 1. Survey instrument

See next page.

MIGNEX survey instrument

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This document is an Annex to *MIGNEX Handbook Chapter 7: Survey data collection* and covered by the same CC-BY license. In other words, the content can be re-used but only with attribution. References to the survey instrument should cite the handbook chapter (i.e. Hagen-Zanker, Hennessey, Carling and Memon, 2020). See <u>mignex.org/d031.</u>

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	-	

Legend

Red	Module headers (not to be read aloud)
Grey	Not to be read aloud (not applied in Module 0, questions for enumerators)
Grey italic	Instructions for enumerators.
[KP]	'Key phrases' with additional translation
[T]	Tailored to country-specific context

A Basic information

We are going to start by asking you some questions about yourself and the other people in your household.

A1 How old are you?

- (a) [NUMERICAL, YEARS]
- (b) Don't know
- (c) Refuse to answer

A2 Are you married, or living together with a partner as if married?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A3 [ONLY IF A2=(a)] Have you ever been married?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A4 [ONLY IF A2=(b)] Does your spouse/partner live in the same household as you?

- (a) Yes
- (b) No, elsewhere in [RESEARCH AREA]
- (c) No, elsewhere in [COUNTRY]
- (d) No, abroad
- (e) Don't know
- (f) Refuse to answer

A household is a group of people who eat and live together. If the spouse/partner does not live in the same household, ask where he or she lives to select the appropriate response.

A5 When you were a child, what language did you speak at home with your parents?

- (a) [SELECT LANGUAGE from P4]
- (b) Other [PLEASE SPECIFY]
- (c) Don't know
- (d) Refuse to answer

Multiple responses possible. If they spoke a different language with their mother and father, select both languages.

A6 What is the highest level of formal education you have completed?

- (a) None/no formal education
- (b) Religious schooling only
- (c) Primary school (started without completing)
- (d) Primary school (completed)
- (e) Lower/junior secondary
- (f) Upper/senior secondary
- (g) Tertiary (Bachelors)
- (h) Tertiary (Masters)
- (i) Tertiary (PhD)
- (j) Other [PLEASE SPECIFY]
- (k) Don't know
- (I) Refuse to answer

A7 Did your father complete primary school?

- (a) No, he did not
- (b) Yes, he did
- (c) Don't know
- (d) Refuse to answer

A8 [ONLY IF A7=(b)] And did he complete secondary school?

- (a) No, he did not
- (b) Yes, he did
- (c) Don't know
- (d) Refuse to answer

A9 Did your mother complete primary school?

- (a) No, she did not
- (b) Yes, she did
- (c) Don't know
- (d) Refuse to answer

A10 [ONLY IF A9=(b)] And did she complete secondary school?

- (a) No, she did not
- (b) Yes, she did
- (c) Don't know
- (d) Refuse to answer

I will now ask you some questions about your household, which means the group of people who eat and live together with you. When I ask about people in your household, I mean everyone who has lived in this house for most of the time in the past six months.

A11 Are you the head of the household? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

The head of the household is the person who makes big decisions in the household, for example on how to spend the household's income.

A12 [ONLY IF A11=(a)] Is the head of household... [KP]

- (a) Male, or
- (b) Female?
- (c) Don't know
- (d) Refuse to answer

A13 Let's talk about the adults in your household. How many men aged 18 years or over live in your household?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Enumerators to prompt 'including yourself' if the respondent is male

A14 [ONLY IF A13>0] How many of these are aged 40 years or over?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A15 How many women aged 18 years or over live in your household?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Enumerators to prompt 'including yourself' if the respondent is female

A16 [ONLY IF A15>0] How many of these are aged 40 years or over?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A17 Now let's talk about the children in your household. How many children aged 17 years or younger live in the household?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A18 [ONLY IF A17>0] How many of these are aged 4 years or younger?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A19 [ONLY IF A17>0] How many boys aged [12-17, OR RELEVANT SECONDARY SCHOOL AGE] years old live in the household? [T]

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A20 [ONLY IF A19(a)=1] Is he enrolled in secondary school?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A21 [ONLY IF A19(a) >1] How many of these boys are enrolled in secondary school?

- (a) [NUMERICAL]
- (b) Some of them, but don't know the exact number
- (c) Don't know
- (d) Refuse to answer

A22 [ONLY IF A17>0] How many girls aged [12-17, OR RELEVANT SECONDARY SCHOOL AGE] years old live in the household? [T]

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A23 [ONLY IF A22(a)=1] Is she enrolled in secondary school?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A24 [ONLY IF A22(a) >1] How many of these girls are enrolled in secondary school?

- (a) [NUMERICAL]
- (b) Some of them, but don't know the exact number
- (c) Don't know
- (d) Refuse to answer

A25 **[ONLY IF A17>0]** Thinking about all the children in the household now – so everyone who is aged 17 years or younger – how many of them are your own children?

- (a) [NUMERICAL]
- (b) Don't know
- c) Refuse to answer

This includes biological, fostered or adopted children.

A26 [ONLY IF A25>0] What is the age of the youngest one?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

A27 Do you have any children aged 17 years old or younger who do not live in the same household as you?

- (a) Yes
- (b) No
- (c) Don't know
- (d) Refuse to answer

This includes biological, fostered or adopted children.

A28 [ONLY IF A27=1] How many children do you have aged 17 years old or younger who do not live in the same household as you?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

This includes biological, fostered or adopted children.

A29 [ONLY IF A28>1] What is the age of the youngest one?

[ONLY IF A28=1] How old is the child?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Now I have some questions about education and schools.

A30 How important would you say that going to school is for children's futures? Is it...

- (a) Very important, [KP]
- (b) Quite important, [KP]
- (c) Not particularly important, or [KP]
- (d) Not at all important? [KP]
- (e) Don't know
- (f) Refuse to answer

If the respondent asks which school, say attending schools in general, not a particular one. If they ask based on which information, say we are asking them about their opinion.

A31 Overall, would you say schools in [RESEARCH AREA] are...

- (a) Very bad, [KP]
- (b) Bad, [KP]
- (c) Fair, [KP]
- (d) Good, [KP]
- (e) Or very good? [KP]
- (f) Don't know
- (g) Refuse to answer

If the respondent asks, which school, say schools in general, not a particular one. If they ask based on which information, say we are asking them about their opinion.

A32 Do you think that, in general, the schools in [RESEARCH AREA] prepare children well for their future? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A33 Have you participated in any vocational or skills training course in the last five years? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A34 [ONLY IF A32=(b)] Have the new skills you learnt in the training course been useful for earning income afterwards? Would you say that they have been...

- (a) Very useful, [KP]
- (b) A bit useful, or [KP]
- (c) Not at all useful? [KP]
- (d) Don't know
- (e) Refuse to answer

Now I will read some statements about the lives of men and women. Please tell me whether you mostly agree, or not.

A35 In [RESEARCH AREA] women have the same opportunities as men. [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A36 Only men should be responsible for providing income. [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A37 Education is more important for boys than girls. [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A38 When a mother works for pay, the children suffer. [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A39 Only women should take responsibility for the household. [KP]

- (a) No
- (b) Yes
- c) Don't know
- (d) Refuse to answer

B Livelihoods

I am now going to ask you some questions about earning a living.

B1 How easy or difficult is it to find a good job in [RESEARCH AREA]? Would you say that it is...

- (a) Very easy, [KP]
- (b) Easy, [KP]
- (c) Difficult, or [KP]
- (d) Very difficult? [KP]
- (e) Don't know
- (f) Refuse to answer

B2 What is your own current work situation? Are you...

- (a) Employed and receive a salary,
- (b) Day labourer/ casual work
- (c) Farming, fishing, or rearing animals,
- (d) Working on your own account or running a business,
- (e) Studying,
- (f) Unemployed,
- (g) Not working because of long-term sickness or disability
- (h) Doing unpaid housework, looking after children or other persons, or
- (i) Doing something else? [PLEASE SPECIFY]
- (j) Don't know
- (k) Refuse to answer

If the respondent lists several activities, ask which one they spend the most time on. If not sure which response their daily activity belongs to, select 'doing something else' and write a detailed description.

B3 Would you say that you are mostly...

- (a) Satisfied, or, [KP]
- (b) Dissatisfied with this? [KP]
- (c) Don't know
- (d) Refuse to answer

For the main activity specified in the previous question.

B4 Are you actively looking for new work?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Actively means asking around for work, looking online or in newspapers, applying for work.

B5 In terms of creating jobs, do you think the authorities are...

- (a) Doing well, [KP]
- (b) Doing OK, or [KP]
- (c) Doing badly? [KP]
- (d) Don't know
- (e) Refuse to answer

B6 In general, do you find that earning a living and feeding a family in [RESEARCH AREA] is... [KP]

- (a) Easy, [KP]
- (b) Manageable, or [KP]
- (c) Difficult? [KP]
- (d) Don't know
- (e) Refuse to answer

B7 Compared to five years ago, do you think that earning a living and feeding a family in [RESEARCH AREA] has... [KP]

- (a) Become easier, [KP]
- (b) Stayed the same, or [KP]
- (c) Become more difficult? [KP]
- (d) Don't know
- (e) Refuse to answer

B8 And how do you expect it will change over the next five years? Do you expect opportunities for earning a living and feeding a family in [RESEARCH AREA] to... [KP]

- (a) Become easier, [KP]
- (b) Stay the same, or [KP]
- (c) Become more difficult? [KP]
- (d) Don't know
- (e) Refuse to answer

B9 Have you or another person in your household started a new business during the past year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B10 [ONLY IF B9=b] Did the person who started the business invest money or time in the business?

- (a) No
- (b) Yes, money
- (c) Yes, time
- (d) Yes, both time and money
- (e) Don't know
- (f) Refuse to answer

B11 [ONLY IF B9=(b)] Would you say that this business is...

- (a) Failing, [KP]
- (b) Struggling, [KP]
- (c) Doing well, or [KP]
- (d) Doing very well? [KP]
- (e) Don't know
- (f) Refuse to answer

B12 Do you plan to open a new business within the next 12 months, or not?

- (a) No
- (b) Yes
- (c) Possibly
- (d) Don't know
- (e) Refuse to answer

B13 Do you know of any foreign businesses that have invested in [RESEARCH AREA]?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B14 Do you know of any person who used to live in [RESEARCH AREA], and now lives in another country, who has invested in a business here?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B15 Do you know of any governments or organisations from other countries that work towards improving life in [RESEARCH AREA]? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

For example, international NGOs or UN organisations

B16 [ONLY IF B15=(b)] Do you think that their work...

- (a) Makes a big difference, [KP]
- (b) Makes a bit of a difference, or [KP]
- (c) Makes no difference? [KP]
- (d) Don't know
- (e) Refuse to answer

B17 All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" where would you put your satisfaction with life as a whole? [KP]



Enumerator should show this card when they ask the questions and then record the response on the tablet.

B18 If you think about the ways in which [RESEARCH AREA] is changing, do you think that overall, things are ...

- (a) Mostly changing in good ways, or [KP]
- (b) Mostly changing in bad ways? [KP]
- (c) Don't know
- (d) Refuse to answer

Now I will mention some things that may or may not occur in the future. For each one, please think about the next five years, and tell me if you are worried about it, or not?

B19 Insufficient income [KP]

- (a) No
- (b) Yes
- c) Don't know
- (d) Refuse to answer

B20 Disease and poor health [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B21 Conflict and violence [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B22 Climate change [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

B23 Losing traditions and customs [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

C Migration aspirations and attitudes to migration

C1 In five years' time, do you think you'll still be living in [RESEARCH AREA]? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

The question is about what the respondent thinks is most likely. If they instead respond by saying what they hope or want, ask 'Do you think is most likely that you will still be living here, or that you will have moved?'

C2 [ONLY IF C1=(a) OR (c) OR (d)] Do you think you'll still be living in [COUNTRY]? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

The question is about what the respondent thinks is most likely. If they instead respond by saying what they hope or want, ask 'Do you think is most likely that you will still be living here, or that you will have moved?'

C3 Would you like to go and live in another country some time during the next five years, or would you prefer to stay in [COUNTRY]? [KP]

- (a) Go
- (b) Stay
- (c) Don't know
- (d) Refuse to answer

C4 [ONLY IF C3=(a)] Which country would you like to go to? [KP]

- (a) [SELECT COUNTRY from P5]
- (b) Don't know
- (c) Refuse to answer

C5 If you stay in [COUNTRY] would you like to... [KP]

- (a) Stay here in [RESEARCH AREA], or
- (b) Move somewhere else?
- c) Don't know
- (d) Refuse to answer

C6 During the past year, have you thought seriously about leaving [COUNTRY] to live or work in another country? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

In this question we only want to know if the respondent has seriously considered migrating, regardless of whether they concluded that it is best to stay or to leave.

C7 During the past year, have you thought seriously about going to live or work somewhere else in [COUNTRY]? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

In this question we only want to know if the respondent has seriously considered migrating, regardless of whether they concluded that it is best to stay or to leave.

C8 If someone were to give you the necessary papers to live and work in a richer country, would you go, or would you stay in [COUNTRY]? [KP]

- (a) Go
- (b) Stay
- (c) Don't know
- (d) Refuse to answer

Richer countries are countries like USA, Canada, European countries, Gulf countries.

C9 If you were to go to live or work in a richer country, do you think your family would... [KP]

- (a) Approve, or
- (b) Disapprove?
- (c) Don't know
- (d) Refuse to answer

Richer countries are countries like USA, Canada, European countries, Gulf countries.

C10 In the past five years, have you ever prepared to move to another country, but not been able to go? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

C11 Have you ever had a passport for international travel?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

C12 [ONLY IF C10=(b)] And do you have a valid passport now?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

C13 [ONLY IF C10=(b)] During the past five years, did you apply for a visa for going to a richer country?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Richer countries are countries like USA, Canada, European countries, Gulf countries.

C14 Has anybody ever encouraged you to go to a richer country? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

We only want to know if someone else has suggested migration to the respondent, as opposed to going on a holiday or short trip. Richer countries are countries like USA, Canada, European countries, Gulf countries.

C15 Has anybody ever offered to help you to go to a richer country, either for free or for money?

- (a) No
- (b) Yes, for free
- (c) Yes, for money
- (d) Don't know
- (e) Refuse to answer

Prompt if they say yes, but don't say whether it was for free or for money.

C16 Have you ever encouraged anybody else in [RESEARCH AREA] to go to a richer country? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

We only want to know if the respondent ever suggested to someone else that they should migrate as opposed to a holiday or short trip. Richer countries are countries like USA, Canada, European countries, Gulf countries.

Now I will read some statements and I would like you to say whether you agree or disagree.

When people leave [COUNTRY] and move to a richer country...

C17 It makes life harder for those who stay behind [KP]

- (a) Agree
- (b) Neither agree nor disagree
- (c) Disagree
- (d) Don't know
- (e) Refuse to answer

C18 They still contribute to [COUNTRY] [KP]

- (a) Agree
- (b) Neither agree nor disagree
- (c) Disagree
- (d) Don't know
- (e) Refuse to answer

C19 They support their family members in [COUNTRY] [KP]

- (a) Agree
- (b) Neither agree nor disagree
- (c) Disagree
- (d) Don't know
- (e) Refuse to answer

C20 They often regret that they have left [KP]

- (a) Agree
- (b) Neither agree nor disagree
- (c) Disagree
- (d) Don't know
- (e) Refuse to answer

C21 They get rich [KP]

- (a) Agree
- (b) Neither agree nor disagree
- (c) Disagree
- (d) Don't know
- (e) Refuse to answer

C22 If someone from [RESEARCH AREA] wants to go live or work in a richer country, how easy or difficult do you think it would be to actually do it? Would it be... [KP]

- (a) Very easy, [KP]
- (b) Easy, [KP]
- (c) Difficult, or [KP]
- (d) Very difficult? [KP]
- (e) Don't know
- (f) Refuse to answer

D Health

We are moving on to some questions about health now.

D1 During the past year, have you or anyone in your household been seriously ill or injured or had another serious health problem?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

D2 [ONLY IF D1(b)] Thinking about the most recent time, did the person who was sick or injured receive formal health care? By this I mean the kinds of examination or treatment that a doctor, nurse or pharmacist would be able to provide [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Other examples of formal health care providers include physiotherapists, psychologists and midwives from a hospital, clinic or health centre.

D3 [ONLY IF D2=(a)] Why not?

- (a) It was not necessary
- (b) Received other kinds of health care (not formal health care)
- (c) Too far away/no transportation
- (d) Waiting time too long
- (e) Quality not good
- (f) Couldn't afford to pay
- (g) Don't have health insurance
- (h) Didn't know where to go
- (i) Don't feel welcome at health centre or clinic
- (j) Other [PLEASE SPECIFY]
- (k) Don't know
- (I) Refuse to answer

Multiple response possible. Listen to the response and mark all that apply. Do not suggest specific reasons.

D4 Generally speaking, would you say formal health care in [RESEARCH AREA] is...

- (a) Very bad, [KP]
- (b) Bad, [KP]
- (c) Fair, [KP]
- (d) Good, or [KP]
- (e) Very good? [KP]
- (f) Don't know
- (g) Refuse to answer

D5 In the past five years do you think that formal health care in [RESEARCH AREA] has become...

- (a) Worse, [KP]
- (b) Stayed the same, or [KP]
- (c) Become better? [KP]
- (d) Don't know
- (e) Refuse to answer

D6 Do you, or others in your household, sometimes get health treatments from someone else who is not a doctor, nurse, or pharmacist – for instance a herbalist or witch doctor? [T] [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Other examples are priests, unlicensed midwives, shamans, healers.

D7 In general, how would you rate your own health today? Would you say that it is... [KP]

- (a) Very good, [KP]
- (b) Good, [KP]
- (c) Moderate, [KP]
- (d) Bad, or [KP]
- (e) Very bad? [KP]
- (f) Don't know
- (g) Refuse to answer

This is referring to physical health, not mental health.

D8 [ONLY IF A18>0] Think about the child aged four years or younger in your household that had their birthday most recently. How would you describe their growth and health? [KP]

- (a) Very good,
- (b) Good,
- (c) Moderate,
- (d) Bad, or
- (e) Very bad?
- (f) Don't know
- (g) Refuse to answer

D9 Have you heard about the recent coronavirus disease or COVID-19?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

D10 [ONLY IF D9=(a)] As far as you know, has anyone here in [RESEARCH AREA] died from the virus?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

D11 [ONLY IF D9=(a)] Have you or others in your household been seriously ill from the virus?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

D12 [ONLY IF D9=(a)] Have you or others in your household experienced government measures to contain the virus, such as travel restrictions, school closures, or meeting in groups not allowed?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer
- D13 [ONLY IF D12=(a)] How would you say that these measures affected you and your household? Did they...
 - (a) Cause severe hardship, [KP]
 - (b) Cause some difficulties, or [KP]
 - (c) Not make much difference? [KP]
 - (d) Don't know
 - (e) Refuse to answer

We are interested in all impacts, including financial losses, the effects of school closures etc.

E Social protection and social cohesion

Has anyone in your household received any of the following support from the authorities or other organisations in the past year? [KP]

E1 [1ST SOCIAL PROTECTION SCHEME RELEVANT TO RESEARCH AREA]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

E2 [2ND SOCIAL PROTECTION SCHEME RELEVANT TO RESEARCH AREA]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

E3 [3RD SOCIAL PROTECTION SCHEME RELEVANT TO RESEARCH AREA]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer
E4 [4TH SOCIAL PROTECTION SCHEME RELEVANT TO RESEARCH AREA]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

E5 [ONLY IF E1=(b)] How valuable has [1ST SCHEME RELEVANT TO RESEARCH AREA] been for your household? Would you say that it has been...

- (a) Very valuable, [KP]
- (b) A bit valuable, or [KP]
- (c) Not valuable? [KP]
- (d) Don't know
- (e) Refuse to answer

E6 [ONLY IF E2=(b)] How valuable has [2ND SCHEME RELEVANT TO RESEARCH AREA] been for your household? Would you say that it has been...

- (a) Very valuable, [KP]
- (b) A bit valuable, or [KP]
- (c) Not valuable? [KP]
- (d) Don't know
- (e) Refuse to answer

E7 [ONLY IF E3=(b)] How valuable has [3RD SCHEME RELEVANT TO RESEARCH AREA] been for your household? Would you say that it has been...

- (a) Very valuable, [KP]
- (b) A bit valuable, or [KP]
- (c) Not valuable? [KP]
- (d) Don't know
- (e) Refuse to answer

E8 [ONLY IF E4=(b)] How valuable has [4TH SCHEME RELEVANT TO RESEARCH AREA] been for your household? Would you say that it has been...

- (a) Very valuable, [KP]
- (b) A bit valuable, or [KP]
- (c) Not valuable? [KP]
- (d) Don't know
- (e) Refuse to answer

E9 Would you say that the poor in [RESEARCH AREA] get help from the authorities if they need it? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

This could include financial transfers, food aid, housing, other kinds of in-kind support and other practical support.

E10 Thinking back to five years ago, has help for the poor from the authorities... [KP]

- (a) Gotten worse, [KP]
- (b) Stayed the same, or [KP]
- (c) Gotten better? [KP]
- (d) Don't know
- (e) Refuse to answer

E11 Would you say that...

- (a) Most people in [RESEARCH AREA] can be trusted, or that [KP]
- (b) You can't rely on anybody? [KP]
- (c) Don't know
- (d) Refuse to answer

E12 During the past year, have you participated in any kind of volunteering or community group?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

This could include mutual support groups, education committees, neighbourhood committees, NGOs etc.

E13 What is your religion?

- (a) [SELECT FROM LIST from P6]
- (b) Atheist, agnostic, no religious beliefs
- (c) Other [PLEASE SPECIFY]
- (d) Don't know
- (e) Refuse to answer

E14 [ONLY IF E13 IS NOT (b)] How important would you say religion is in your life? Would you say that it is...

- (a) Very important, [KP]
- (b) Somewhat important, [KP]
- (c) Not too important, or [KP]
- (d) Not at all important? [KP]
- (e) Don't know
- (f) Refuse to answer

E15 [ONLY IF E13 IS NOT (b)] Would you say, you share your faith with others... [KP]

- (a) At least once a week,
- (b) Once or twice a month,
- (c) Several times a year,
- (d) Seldom, or
- (e) Never?
- (f) Don't know
- (g) Refuse to answer

By 'share your faith with others' we mean, for instance, praying together or going to a church or mosque.

F Migration-related networks and migration policy

Now I am going to ask you some more questions about family, relatives and friends.

- F1 Do you have any family members, relatives or friends who live in another country?
 - (a) No
 - (b) Yes
 - (c) Don't know
 - (d) Refuse to answer

F2 [ONLY IF F1=(b)] In which countries?

- (a) [SELECT COUNTRIES from P5]
- (b) Don't know
- (c) Refuse to answer

Multiple response possible.

F3 [ONLY IF F1=(b)] Did any of them live in your household before they moved to another country?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

F4 Do you have other family members, relatives or friends who left [COUNTRY], lived abroad for at least one year and later moved back to [COUNTRY]?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

F5 [ONLY IF F4=(b)] In which countries did they live?

- (a) [SELECT COUNTRIES from P5]
- (b) Don't know
- (c) Refuse to answer

Multiple response possible.

F6 [ONLY IF F4=(b)] Do any of them now live in your household?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

F7 [ONLY IF F1=(b)] Have you seen, talked with, or exchanged messages with any of your family members, relatives or friends abroad during the past year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

F8 [ONLY IF F1=(b)] Would you say that there is any of them that you have been in contact with every month?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

F9 [ONLY IF F1=(b) OR IF F3=(b)] Has anyone who lives abroad sent money to you or anyone in your household during the past year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

This can be money sent by either family, relatives or friends,

F10 [ONLY IF F9=(b)] Was any of the money you received sent by someone who used to live in your household?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G Migration patterns

G1 Do you know anyone who used to live here in [RESEARCH AREA] who has moved to another part of [COUNTRY] during the past five years?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G2 [ONLY IF G1=(b)] Would you say that you know more than ten people who have done so?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G3 Do you know anyone who used to live here in [RESEARCH AREA] who has moved to another country during the past five years?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G4 [ONLY IF G3=(b)] Which countries did they go to?

- (a) [SELECT COUNTRIES from P5]
- (b) Don't know
- (c) Refuse to answer

Multiple response possible.

G5 [ONLY IF G3=(b)] Would you say that you know more than ten people who have moved to another country during the past five years?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Have you or someone you know in the past five years...

G6 Been injured whilst on the way to move to another country? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G7 Lost their life on the way to move to another country? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G8 Been detained on the way to move to another country, not reaching their destination? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G9 Tried to move to one particular country, but was stuck in another country instead? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G10 Been deported from abroad and forced to come back to [COUNTRY]? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G11 [ONLY IF G6=(b) OR G8=(b) OR G9=(b) OR G10=(b)] Did any of these things happen to you personally?

- (a) No
- (b) Yes

Sometimes there are TV shows, events or other information about migration – about people moving from one country to another. Over the last year, have you seen or heard of any of the following in [RESEARCH AREA]? [KP]

G12 A TV advert or programme about migration?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G13 A workshop or event about migration? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G14 A radio programme or advert about migration?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G15 Social media or a website about migration?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G16 A poster or newspaper advert about migration?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

G17 [ONLY IF G12=(b) OR G13=(b) OR G14=(b) OR G15=(b) OR G16=(b) Do you remember what the campaign or campaigns were telling you to do or not do?

- (a) Explaining what migration is
- (b) Telling people to migrate
- (c) Telling people how to migrate
- (d) Telling people not to migrate
- (e) Welcoming immigrants from other countries
- (f) Warning people about immigrants [KP]
- (g) Warning people about dangers of smuggling [KP]
- (h) Other [PLEASE SPECIFY]
- (i) Don't know
- (j) Refuse to answer

Listen to the response and record the option that fits the best. Do not read out options.

G18 [ONLY IF G12=(b) OR G13=(b) OR G14=(b) OR G15=(b) or G16=(b)] Do you remember the organiser?

- (a) National government
- (b) Local authorities
- (c) NGO
- (d) International organisation
- (e) Other [PLEASE SPECIFY]
- (f) Don't remember
- (g) Don't know
- (h) Refuse to answer

H Personal migration history

H1 Did you grow up...

- (a) Here in [RESEARCH AREA],
- (b) Elsewhere in [COUNTRY], or
- (c) In another country?
- (d) Don't know
- (e) Refuse to answer

If the respondent moved during childhood, record where he or she lived for most of the time between age 6 and 12.

H2 [ONLY IF H1=(c)] In which country did you grow up?

- (a) [SELECT COUNTRIES from P5)]
- (b) Don't know
- (c) Refuse to answer

H3 [ONLY IF H1=(a)] Did your father grow up here in [RESEARCH AREA]?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Try to limit the use of 'don't know' for this question. Help the respondent if necessary. The answer should be 'yes' if the father lived in the area at all as a child, regardless of whether he also spent parts of his childhood elsewhere. If there is no information about the father, ask about the father's siblings. If any of them grew up in the area, indicate 'yes'.

H4 [ONLY IF H1=(a)] Did your mother grow up here?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Try to limit the use of 'don't know' for this question. Help the respondent if necessary. The answer should be 'yes' if the mother lived in the area at all as a child, regardless of whether she also spent parts of her childhood elsewhere. If there is no information about the mother, ask about the mother's siblings. If any of them grew up in the area, indicate 'yes'.

H5 [ONLY IF H1=(c)] When did you move to [COUNTRY] for the first time?

- (a) [Number of years ago]
- (b) Don't know
- (c) Refuse to answer

H6 [ONLY IF H1=(b) OR (c)] When did you move to [RESEARCH AREA] for the first time?

- (a) [Number of years ago]
- (b) Don't know
- (c) Refuse to answer

H7 [ONLY IF H1=(a)] Have you ever lived elsewhere for at least one year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

H8 [ONLY IF H1 IS NOT (c)] Have you ever been to another country?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

H9 [ONLY IF H8=(b)] Did you live in another country for at least one year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

H10 [ONLY IF H1=(c)] Other than the country where you grew up, have you lived in another country for at least one year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

H11 [ONLY IF H9=(b) OR H10=(b)] In which countries did you live for at least one year?

- (a) [SELECT COUNTRIES from P5]
- (b) Don't know
- (c) Refuse to answer

Multiple response possible.

I Poverty and wealth

Now we will move on to a few questions about your household's financial situation.

If you think about your household's income, would you say that the most important source of income is...

- (a) Income from wages,
- (b) Income from agriculture, fishing, or herding,
- (c) Income from business,
- (d) Income from renting out property,
- (e) Money received from people living abroad,
- (f) Money received from people living elsewhere in [COUNTRY],
- (g) Support or aid from the authorities or other organisations, [KP] or
- (h) Other? [PLEASE SPECIFY]
- (i) Don't know
- (j) Refuse to answer

Wages is a regular income paid by an employer.

12 What would you say is your household's second most important source of income?

- (a) Income from wages
- (b) Income from agriculture, fishing, herding
- (c) Income from business
- (d) Income from renting out property
- (e) Money received from people living abroad
- (f) Money received from people living elsewhere in [COUNTRY]
- (g) Support or aid from the authorities or other organisations
- (h) Other [PLEASE SPECIFY]
- (i) None (only one source of income)
- (j) Don't know
- (k) Refuse to answer

Enumerators should NOT read out the options a second time here but should prompt respondents if needed.

13 Think about the difference between rich and poor households in [RESEARCH AREA]. Imagine that on this card, 1 represents the very poorest households and 10 represents the very richest households in [RESEARCH AREA]. Where would you place your own household?



- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Enumerator should show this card when they ask the questions and then record the response on the tablet.

I4 Thinking about your household's current financial situation, would you say your household is ... [KP]

- (a) Finding it difficult to get by, [KP]
- (b) Coping, or [KP]
- (c) Living comfortably? [KP]
- (d) Don't know
- (e) Refuse to answer

I5 Looking back to five years ago, has your household's financial situation ... [KP]

- (a) Become better,
- (b) Stayed the same, or
- (c) Gotten worse?
- (d) Don't know
- (e) Refuse to answer

I6 When your parents were the same age as you are now, do you think their standard of living was... [KP]

- (a) Worse than yours is now,
- (b) About the same as yours is now, or
- (c) Better than yours is now?
- (d) Don't know
- (e) Refuse to answer

17 When your children are the age you are now, do you think their standard of living will be ... [KP]

- (a) Worse than yours is now,
- (b) About the same as yours is now, or
- (c) Better than yours is now?
- (d) Don't know
- (e) Refuse to answer

If respondents don't have children or don't want children in the future, ask them to imagine what the standard of living will be like for nieces or nephews.

I8 Over the past month, how many times have you or anyone in your household gone to sleep without having had enough food to eat that day?

- (a) Never, [KP]
- (b) Sometimes, [KP]
- (c) Often, or [KP]
- (d) Always? [KP]
- (e) Don't know
- (f) Refuse to answer

If you needed [AMOUNT IN RELEVANT CURRENCY] for an emergency, would you or someone else in your household be able to get it within a week? [T]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

If necessary, prompt with an example of an emergency, e.g. health emergency of household member if fits in the context.

I10 [ONLY IF I9=(b)] How would you obtain the money? [T]

- (a) Sale of household assets
- (b) Household savings
- (c) Loan from a bank
- (d) Loan from a credit, microfinance, savings organisation
- (e) Loan from landlord or employer
- (f) From family or friends outside of country
- (g) From family or friends inside country
- (h) Non-profit or religious organizations
- (i) Other [PLEASE SPECIFY]
- (j) Don't know
- (k) Refuse to answer

If respondents find it hard to answer, or give several answers, ask 'how would you first try to obtain the money?' or 'how do you think it is most likely that you would obtain the money'. Do not suggest specific responses.

I11 Do you or people in your household own any land?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I12 Is your home...

- (a) Owned by someone in the household,
- (b) Rented, or is there
- (c) Another arrangement [PLEASE SPECIFY]?
- (d) Don't know
- (e) Refuse to answer

I13 How many rooms are there in this house?

- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Don't include the kitchen, bathrooms, corridor, and garage in the count. Rooms divided by non-permanent materials (e.g. a curtain) are counted as only one. If the household lives in several buildings, count the rooms in all the buildings that are used as residence.

I14 What material is the floor in most of the house made of?

- (a) Concrete or cement
- (b) Tiles, brick, granite, stone
- (c) Wood
- (d) Vinyl
- (e) Dirt, sand, dung
- (f) Cane
- (g) Other [PLEASE SPECIFY]
- (h) Don't know
- (i) Refuse to answer

I am going to read out a list of different items. For each, could you tell me if your household has any of the following items in working condition?

I15 Television

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I16 Refrigerator

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

l17 Car

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I18 Bicycle

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I19 Chair

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I20 Radio

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I21 Washing machine

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I22 Moped/motorcycle

- (a) No
- (b) Yes
- (c) Don't know
- d) Refuse to answer

Fieldwork version, 20 August 2020.

I23 Air conditioning

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I24 Computer

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Laptops can be considered computers, but tablets should not be included.

I25 Do you, yourself, own a mobile phone?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

I26 [ONLY IF I25=(b)] Is your mobile phone a smart phone?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

If respondents do not know what a smart phone is, explain that this is a phone that has a touch screen and can take photos that can be shared with others.

127 Have you ever used the internet from any location and on any device?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Using the internet includes, for instance, watching videos, reading news, or using apps such as YouTube and Facebook.

I28 [ONLY IF I27=(b)] Have you used the internet in the past year?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

[ONLY IF I28=(b)] During the last month, how often did you use the internet? Was it...

- (a) Almost every day,
- (b) At least once a week,
- (c) Less often, or
- (d) Not at all?
- (e) Don't know
- (f) Refuse to answer

I30 Imagine that you were to receive a gift of [AMOUNT IN RELEVANT CURRENCY] – how would you spend the money? [KP]

- (a) Basic needs (including food, education, health)
- (b) Vehicle (car, bike, tractor)
- (c) Renovate/extend house
- (d) Start a business or invest in current business
- (e) Pay off debts/savings
- (f) Finance migration
- (g) Other [PLEASE SPECIFY]
- (h) Don't know
- (i) Refuse to answer

This is a hypothetical question. If they ask from whom, say from a long-lost family member. Do not read out the options or give examples to respondents.

J Institutions and governance

J1 Have you heard of any demonstrations or protest marches in [RESEARCH AREA] in the past year? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J2 [ONLY IFJ1=(b)] Did you personally participate?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J3 [ONLY IF J1(a) OR J2=(a)] If you heard about a demonstration for an issue you care about, would you go? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J4Were you eligible to vote in [THE MOST RECENT NATIONAL or LOCAL ELECTION]?[T][KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J5 [ONLY IF J4=(b)] Did you vote in that election?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J6 Did you participate in any party meetings or political rallies in the lead-up to the election? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

J7 In [RESEARCH AREA], are voters offered money to vote for a candidate during elections? [KP]

- (a) No
- (b) Yes
- c) Don't know
- (d) Refuse to answer

J8 How much do you trust the police? Do you trust them... [KP]

- (a) Completely, [KP]
- (b) Mostly, [KP]
- (c) A little, or [KP]
- (d) Not at all? [KP]
- (e) Don't know
- (f) Refuse to answer

J9 How much do you trust the courts of law? [KP]

- (a) Completely, [KP]
- (b) Mostly, [KP]
- (c) A little, or [KP]
- (d) Not at all? [KP]
- (e) Don't know
- (f) Refuse to answer

J10 And how much do you trust the armed forces? [KP]

- (a) Completely, [KP]
- (b) Mostly, [KP]
- (c) A little, or [KP]
- (d) Not at all? [KP]
- (e) Don't know
- (f) Refuse to answer

J11 All things considered, how good a job does the [LEVEL OF LOCAL GOVERNMENT RELEVANT TO RESEARCH AREA] do in running [RESEARCH AREA]? Using this card on which 1 means you think [LEVEL OF LOCAL GOVERNMENT RELEVANT TO RESEARCH AREA] is doing a terrible job and 10 means it is doing an excellent job in running this area, where would you put it? [T] [KP]



- (b) Don't know
- (c) Refuse to answer

Enumerator should show this card when they ask the questions and then record the response on the tablet.

J12 Now thinking about the [CENTRAL GOVERNMENT IN NAME OF CAPITAL], how good a job does it] do in running [COUNTRY]? Using this card on which 1 means you think [CENTRAL GOVERNMENT IN NAME OF CAPITAL] is doing a terrible job and 10 means it is doing an excellent job in running [COUNTRY], where would you put it? [T] [KP]



- (a) [NUMERICAL]
- (b) Don't know
- (c) Refuse to answer

Enumerator should show this card when they ask the questions and then record the response on the tablet.

Now let's move on to thinking about corruption.

J13 In [RESEARCH AREA], how much of a problem is corruption nowadays? Is it... [KP]

- (a) Not at all a problem, [KP]
- (b) A small problem, or [KP]
- (c) A serious problem? [KP]
- (d) Don't know
- (e) Refuse to answer

Corruption is dishonest behaviour by people who are in authority or who have important responsibilities.

J14 In the past year, has anyone in [RESEARCH AREA] asked you, or expected you, to pay a bribe for his or her services? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

A bribe is when someone expects you to make a payment for a service they should have provided regardless.

J15 In your opinion, over the past five years, do you think corruption in [RESEARCH AREA] has...[KP]

- (a) Become less of a problem,
- (b) Stayed the same, or
- (c) Become a bigger problem?
- (d) Don't know
- (e) Refuse to answer

Corruption is dishonest behaviour by people who are in authority or who have important responsibilities.

J16 In terms of fighting corruption, do you think the authorities are... [KP]

- (a) Doing well, [KP]
- (b) Doing ok, or [KP]
- (c) Doing badly? [KP]
- (d) Don't know
- (e) Refuse to answer

Corruption is dishonest behaviour by people who are in authority or who have important responsibilities.

K Security

K1 Do you think that here in [RESEARCH AREA] it is safe to walk the streets at night?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

In general, for both men and women.

K2 Compared to five years ago, has [RESEARCH AREA] ...

- (a) Become more dangerous, [KP]
- (b) Stayed the same, [KP]
- (c) Or become safer? [KP]
- (d) Don't know
- (e) Refuse to answer

K3 In the past five years, have you or anyone in your household experienced theft, burglary or robbery? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

K4 In the past five years, have you or anyone in your household experienced assault or physical violence? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Please tell me whether, in the past five years, you have ever personally feared any of the following types of violence?

K5 Violence at a political rally, public protest or demonstration [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

K6 An armed attack by armed forces or militias [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

K7 Any other types of violence among people in [RESEARCH AREA] [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

K8 Have you personally experienced any of these types of violence in the past five years?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

This question is about experience, the previous one about fear. Remind the respondent of the types of violence, if needed.

K9 If you felt threatened or in danger, who could help you? Could you turn to...

- (a) The police,
- (b) Armed group, [KP]
- (c) Courts,
- (d) National authorities, [KP]
- (e) Community leaders, [KP]
- (f) Religious leaders, [KP]
- (g) Someone else [PLEASE SPECIFY], or would you have
- (h) Nobody to turn to?
- (i) Don't know
- (j) Refuse to answer

Multiple answers possible

K10 In terms of reducing crime, do you think the authorities are...

- (a) Doing well, [KP]
- (b) Doing OK, or [KP]
- (c) Doing badly? [KP]
- (d) Don't know
- (e) Refuse to answer

L Environmental issues

I am now going to ask about environmental problems in [RESEARCH AREA] which you may have experienced. [KP]

L1 In the last five years, has your household been affected by droughts?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

L2 Has it been affected by floods?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

L3 Has it been affected by soil degradation? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

Soil degradation is when the land becomes less fertile.

L4 And has it been affected by crop or livestock disease? [KP]

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

- L5 [ONLY IF L1=(b) OR L2=(b) OR L3=(b) OR L4=(b)] How far have these problems affected your household's livelihood or income? [KP]
 - (a) Not at all, [KP]
 - (b) Somewhat, or [KP]
 - (c) Very much? [KP]
 - (d) Don't know
 - (e) Refuse to answer
- L6 If you think about the coming five years, how do you expect your household's livelihood or income will be affected by environmental problems such as droughts, floods, soil degradation, or crop and livestock disease? [KP]
 - (a) Not at all, [KP]
 - (b) Somewhat, or [KP]
 - (c) Very much? [KP]
 - (d) Don't know
 - (e) Refuse to answer

M Infrastructure

We are in the last part of the interview now, and I have some more questions about your home and daily life.

M1 Is the nearest marketplace within walking distance?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

In urban areas, this could refer to a food market, supermarket or shopping mall.

M2 [ONLY IF M1=(b)] Roughly how many minutes would it take you to walk there?

- (a) [NUMERICAL, MINUTES]
- (b) Don't know
- (c) Refuse to answer

M3 Do you have electricity in your home?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

M4 [ONLY IF M3=(b)] Does the electricity come from...

- (a) The public electric grid, [KP]
- (b) A generator,
- (c) Solar power, or
- (d) Another source? [PLEASE SPECIFY]
- (e) Don't know
- (f) Refuse to answer

M5 What is your main source of energy for cooking?

- (a) Electricity
- (b) Gas
- (c) Oil (including kerosene)
- (d) Charcoal
- (e) Firewood
- (f) Other [PLEASE SPECIFY]
- (g) Don't know
- (h) Refuse to answer

M6 What kind of toilet does your household have?

- (a) Flush toilet (linked to sewerage)
- (b) Pit/latrine
- (c) Pan/bucket
- (d) Other [PLEASE SPECIFY]
- (e) No toilet
- (f) Don't know
- (g) Refuse to answer

M7 [ONLY IF M6=(a) OR (b) OR (c) OR (d)] Do you share it with other households?

- (a) No
- (b) Yes
- (c) Don't know
- (d) Refuse to answer

M8 What is your main source of water for drinking?

- (a) Tap
- (b) Well
- (c) River sources
- (d) Bottled water/sachet water
- (e) Other [PLEASE SPECIFY]
- (f) Don't know
- (g) Refuse to answer

M9 [ONLY IF M8=(a) OR (b)] Is this water source...?

- (a) Only for your household, or
- (b) Shared with other households?
- (c) Don't know
- (d) Refuse to answer

M10 [ONLY IF M9] How long does a round trip to fetch water usually take, in minutes?

- (a) [NUMERICAL, MINUTES]
- (b) Don't know
- (c) Refuse to answer

A round trip means walking there and back. Do include any time spent queuing.

M11 How often do you have shortages of water from your usual drinking water source? Would you say that it is...

- (a) Never, [KP]
- (b) Sometimes, [KP]
- (c) Often, or [KP]
- (d) Always? [KP]
- (e) Don't know
- (f) Refuse to answer

M12 Compared to five years ago, how reliable is your current source of water for drinking? Would you say it is...

- (a) Worse,
- (b) The same, or
- (c) Better?
- (d) Don't know
- (e) Refuse to answer

N Risk

We have now come almost to the end of our interview. I would like to ask you three more questions about yourself.

- N1 Imagine that a kind man came to give you a gift. He said that 'you can choose between either receiving [AMOUNT AND CURRENCY] right now or playing a game of tossing a coin. If we play and it's heads, you receive nothing. But if we play and it's tails, you receive [3 x AMOUNT AND CURRENCY].' Would you play the game or take the [AMOUNT AND CURRENCY]? [KP]
 - (a) Take the certain amount
 - (b) Play the game
 - (c) Don't know
 - (d) Refuse to answer
- N2 Now imagine that he gave you a different choice. He said that 'either you can receive [AMOUNT AND CURRENCY] right now, or you can receive [3 x AMOUNT AND CURRENCY] in one year.' What would you choose? [KP]
 - (a) Take the lower amount now
 - (b) Take the higher amount in one year
 - (c) Don't know
 - (d) Refuse to answer
- N3 Finally, imagine a different type of choice. He said that 'you can choose between either receiving [AMOUNT AND CURRENCY] right now or playing a game of tossing a coin. If we play and it's heads, you receive nothing. But if we play and it's tails, you receive [6 x AMOUNT AND CURRENCY] in one year.' Would you play the game or take the [AMOUNT AND CURRENCY]? [KP]
 - (a) Take the certain amount
 - (b) Play the game
 - (c) Don't know
 - (d) Refuse to answer

0 Questions for enumerators

To be completed before the interview

Please answer the following questions before approaching the selected household.

01 What is your name?

- (a) [SELECT FROM LIST from P1]
- (b) Other [PLEASE SPECIFY]

02 Which research area are you in?

(a) [SELECT FROM LIST from P2]

03 Which cluster are you in?

(a) [SELECT FROM LIST from P3]

The interview ID is: $[_ _ _]$. Please write down the interview ID in the Record of visits.

04 Now approach the household and knock on the door. Is an adult home at the selected household?

- (a) Yes
- (b) No

[ONLY IF 04=(b)] This was the first visit to [interview_ID]. Please mark 'Not home' on the Record of Visits form with the date and time. Exit the survey form here and don't forget to click 'Save changes' so you can return to this form when you return to this household later.

- 05 [ONLY IF 04=(b)] Welcome back to the first return visit of [interview_ID]. Please knock on the door once again. Is an adult at home at the selected household?
 - (a) Yes
 - (b) No

[ONLY IF 05=(b)] This was the second visit to [interview_ID]. Please mark 'Not home' on the Record of Visits form with the date and time. Exit the survey form here and don't forget to click 'Save changes' so you can return to this form when you return to this household later.

- 06 [ONLY IF 05=(b)] Welcome back to the final return visit of [interview_ID]. Please knock on the door once again. Is an adult at home at the selected household?
 - (a) Yes
 - (b) No

[ONLY IF 06=(b)] This was the third and final visit to [interview_ID]. Please mark 'Not home' on the Record of Visits form with the date and time. Please swipe to the end of the form to complete this form and click 'Save form and exit.'

- 07 [ONLY IF 04=(a) OR 05=(a) OR 06=(a)] Please read the following to the adult at the door: Hello, my name is [NAME] and I work for [SURVEY ORGANISATION]. I am conducting a survey of young adults in this area. Are there any 18-39 year olds that live here?
 - (a) Yes
 - (b) No

[ONLY IF 07=(b)] Please mark on the Record of Visits form 'Not target' with the date and time. Please swipe to the end of the form to complete this form and click 'Save form and exit.'

- 08 [ONLY IF 07=(a)] Now it is time to randomly select a respondent from the household. How many 18-39 year olds are there in this household? Write down their ages on a sheet of paper.
 - (a) [NUMERICAL, WRITE ON SHEET OF PAPER]

ONLY IF 08>1 The random number is: X. Please select the respondent that corresponds to this number.

ONLY IF 08=1 As there is only one household member aged 18-39, please interview that respondent.

- 09 [ONLY IF 07=(a)] Is the selected respondent at home and available to be interviewed?
 - (a) Yes
 - (b) No
- 010 [ONLY IF 09=(b)] Why was the selected respondent not interviewed?
 - (a) Respondent refused to be interviewed
 - (b) Another household member refused for the respondent to be interviewed
 - (c) Respondent was not at home
 - (d) Respondent was too busy
 - (e) Respondent was ill
 - (f) Respondent was drunk or on drugs
 - (g) Respondent was handicapped in ways that were not compatible with interviewing (e.g. deaf)
 - (h) No enumerators spoke a language the respondent could understand
 - (i) Other [PLEASE SPECIFY]

[ONLY IF 09=(b)] This was the first visit to [interview_ID]. Please mark 'Busy' or 'Not home' on the Record of Visits form with the date and time. Exit the survey form here and don't forget to click 'Save changes' so you can return to this form when you return to this household later.

- 011 [ONLY IF 09=(b)] Welcome back to the first return visit of [interview_ID]. Is the selected respondent at home and available to be interviewed?
 - (a) Yes
 - (b) No

012 [ONLY IF 011=(b)] Why was the selected respondent not interviewed?

- (a) Respondent refused to be interviewed
- (b) Another household member refused for the respondent to be interviewed
- (c) Respondent was not at home
- (d) Respondent was too busy
- (e) Respondent was ill
- (f) Respondent was drunk or on drugs
- (g) Respondent was handicapped in ways that were not compatible with interviewing (e.g. deaf)
- (h) No enumerators spoke a language the respondent could understand
- (i) Other [PLEASE SPECIFY]

[ONLY IF 011=(b)] This was the first return visit to [interview_ID]. Please mark 'Busy' or 'Not home' on the Record of Visits form with the date and time. Exit the survey form here and don't forget to click 'Save changes' so you can return to this form when you return to this household later.

013 [ONLY IF 011=(b)] Welcome back to the final return visit to [interview_ID]. Is the selected respondent at home and available to be interviewed?

- (a) Yes
- (b) No

014 [ONLY IF 013=(b)] Why was the selected respondent not interviewed?

- (a) Respondent refused to be interviewed
- (b) Another household member refused for the respondent to be interviewed
- (c) Respondent was not at home
- (d) Respondent was too busy
- (e) Respondent was ill
- (f) Respondent was drunk or on drugs
- (g) Respondent was handicapped in ways that were not compatible with interviewing (e.g. deaf)
- (h) No enumerators spoke a language the respondent could understand
- (i) Other [PLEASE SPECIFY]

[ONLY IF 013=(b)] This was the third and final visit to [interview_ID]. Please mark 'Busy' or 'Not home' on the Record of Visits form with the date and time. Please swipe to the end of the form to answer a final question, complete this form and click 'Save form and exit.'

015 [ONLY IF 09=(a) OR 011=(a) OR 013=(a)] Now it is time to obtain informed consent. Please read out the oral statement to the respondent and answer any questions. Does the selected respondent in this household give informed consent?

- (a) Yes
- (b) No

016 [ONLY IF 015=(b)] Why was the selected respondent not interviewed?

- (a) Respondent did not give informed consent
- (b) Another household member refused for the respondent to be interviewed

[ONLY IF 015=(b)] Please mark 'Refused' on the Record of Visits form with the date and time. Please swipe to the end of the form to complete this form and click 'Save form and exit.'

- 017 [ONLY IF 015=(a)] Is this a re-interview?
 - (a) Yes
 - (b) No
- 018 [ONLY IF 017=(a)] Please enter the eight-digit number from the original Interview ID for the respondent you are re-interviewing.
 - (a) [NUMBER]

To be completed after the interview

Please thank the respondent for their participation. Complete the next few questions once you have left the respondent.

- 019 Please record your GPS location
- 020 What gender is the respondent?
 - (a) Female
 - (b) Male

021 What language was the interview conducted in?

- (a) [SELECT FROM LIST from P4]
- 022 Was the respondent bored or impatient?
 - (a) No
 - (b) Yes

023 Do you think anyone influenced the respondent's answers during the interview?

- (a) No
- (b) Yes

024 Did the respondent or anyone else make you feel uncomfortable or threatened during the interview?

- (a) No
- (b) Yes

025 Was there any other problem in the interview?

- (a) No
- (b) Yes [PLEASE SPECIFY]

Annex 2. Terms of reference for MIGNEX survey

About MIGNEX

MIGNEX – Aligning Migration Management and the Migration–Development Nexus – is a fiveyear research project (2018–2023) with the core ambition of creating new knowledge on migration, development and policy. We want to show how development processes affect migration and how migration processes affect development.

MIGNEX is funded by the European Union's Horizon 2020 Research and Innovation programme. MIGNEX informs the development of European policy, but the project is carried out independently.

Data collection for MIGNEX will take place in 2020 and will consist of a survey, qualitative data collection and policy analysis at the national level.

The research will be done in ten countries origin or transit for migration to Europe and span diverse migration and development contexts. With the exception of the policy review, data collection will be done in 2-3 smaller research areas per country. In INSERT COUNTRY, these are INSERT RESEARCH AREAS.

About the survey

The MIGNEX survey covers 25 research areas across ten countries and has a target sample of 12,500 respondents in total. In INSERT COUNTRY the survey will cover 500 respondents in RESEARCH AREA 1, 500 respondents in RESEARCH AREA 2, and 500 respondents in RESEARCH AREA 3 [DELETE RESEARCH AREA 3 AS APPROPRIATE]. It is an individual survey, with some household level data being collected.

The MIGNEX survey covers the general population of young adults (aged 18-39) in each research area. We will use a three-stage stratified probability-proportional-to-size cluster sampling strategy with random walks to ensure a random sample is collected. Support by the MIGNEX team will be given in preparing the sampling frame and instructions, but survey leaders and fieldwork supervisors will have a critical role in ensuring the success of the sampling strategy.

The survey consists of a number of modules to collect individual and household level information on migrant and development topics, including migration history, aspirations, poverty and vulnerability, livelihoods, institutions and governance, access to and satisfaction with education, health and social protection, environmental issues and security.

The survey will be delivered on tablet computers or phones, and the survey is expected to take about one hour. The survey will be conducted in INSERT LANGUAGES.

What we are looking for

We are looking for an experienced organization to conduct the survey, with support and inputs given from the MIGNEX team. The assignment will include the preparations for the survey (including for sampling), translation of the survey instrument, delivery of the survey including quality control by fieldwork supervisors and preparation of a survey execution report.

More specifically the services requested include:

- Application for research permission and other approvals needed to conduct the survey in INSERT COUNTRY
- Translation of the survey instrument (parallel translation) and other documents needed for data collection
- Testing of the survey instrument
- Contributions to the enumerator guide
- Co-delivery of the one-week survey training, including all logistics (training venue, refreshments etc.), contribution to training materials and organization of one-day fieldbased training day near the training venue.
- Preparation/ procurement of additional items needed by fieldwork team (e.g. first aid kits etc.)
- Survey of 500 respondents per research area, including logistics, transport, accommodation, subsistence, as well as supervision and quality control, adhering fully to the survey and sampling specifications given by the MIGNEX team
- Survey execution report upon competition of the fieldwork
- The survey will be run from INSERT DATES.
- The survey leader should be fluent in English to allow for close collaboration with the MIGNEX survey team. [DELETE IF NOT NEEDED]

How to apply

If you are interested in taking on this project, please send your proposal to NAME OF COUNTRY COORDINATOR by email (INSERT EMAIL ADDRESS) by INSERT DEADLINE.

The Technical Proposal should include:

- Name and contact details of leader
- Description of experience in the migration and development fields
- Description of experience in running surveys, including names of surveys, sample sizes and dates (in table format)
- Description of experience in INSERT RESEARCH AREAS
- Description of the data collection team. Include CVs for potential fieldwork supervisors and explain selection process for the enumerator team, and their experience and language skills.
- Whether your organization owns tablet computers/ phones to be used for the survey

The Annex should include:

- CV of proposed leader
- CV for fieldwork supervisors

The Financial Proposal should be prepared in Excel and should include:

- The total cost to deliver the MIGNEX survey in Euros
- A detailed budget for staff time broken down by activity and staff members
- A detailed budget for reimbursables, noting down both unit costs and number of units for each item

Once you have submitted your proposal, we will schedule a video-call at a mutually convenient time to discuss your application.

We will inform you by INSERT DATES on the outcome of your application.

Annex 3. Information sheet for respondents

See next page.



INFORMATION ABOUT PARTICIPATION IN THE MIGNEX SURVEY

WOULD YOU LIKE TO PARTICIPATE IN THE MIGNEX PROJECT?

We invite you to contribute to a research project by helping us learn about life in [RESEARCH AREA]. The project is carried out by researchers in Europe, Africa and Asia who study 25 local areas across ten countries. [RESEARCH AREA] is one of the local areas that have been selected.

The project itself is called MIGNEX. Its purpose is to generate new knowledge about development, migration and policy. Your contribution would be very valuable to us.

WHO IS RESPONSIBLE?

The project is carried out by an international team and funded by the European Commission. The project website www.mignex.org contains more information about the project and will include all the project results. The project is scientifically led by Research Professor Jørgen Carling (jorgen@prio.org) and administratively managed by Mira Ivanova (miriva@prio.org), both at the Peace Research Institute Oslo, www.prio.org (+47) 22547700.

The following institutions make up the project team: Peace Research Institute Oslo, Norway; Danube University Krems, Austria; University of Ghana, Ghana; Koç University, Turkey; Lahore University of Management Sciences, Pakistan; Maastricht University, The Netherlands; Overseas Development Institute, United Kingdom; University of Oxford, United Kingdom; Samuel Hall, Afghanistan and Kenya.

The survey data collection in [COUNTRY] is carried out by [ORGANIZATION]. The person in charge is [CONTACT PERSON'S NAME, E-MAIL, PHONE NUMBER].

WHAT DOES PARTICIPATION ENTAIL?

We would like to interview you about life in [RESEARCH AREA], your own life and family, your perspectives and your thoughts about the future. The interview will last about one hour. We ask the same questions to 500 people in [RESEARCH AREA].

We will not collect your name, contact details, or date of birth.

HOW WILL THE INFORMATION WE COLLECT BE USED?

The information collected in the project is handled in accordance with the data protection requirements of

the European Commission. The Norwegian Centre for Research Data has judged the project's procedures to be compliant with the relevant legislation.

The data we collect will be shared with other members of the MIGNEX team in Europe, Africa and Asia. It will not be possible to identify participants from any information we publish.

The data we have collected will later be made available for other researchers. This will not contain any information that could reveal the identity of participants, and it will be the only form of the data that is kept after the project ends. It is scheduled to end in 2023 or 2024.

WHAT ARE YOUR RIGHTS?

Your participation is completely voluntary. Even after agreeing to take part, you can withdraw at any time, without giving a reason and without any negative consequences. If there are questions you do not want to answer, you don't have to.

Our handling of your personal data is based on your consent.

For as long as you can be identified in the data, you have the right to obtain access to the personal data held about you; ask for personal data about you to be corrected; request that personal data about you be erased; receive a copy of your personal data. To do so, use the contact details provided above. You can also complain to the Data Protection Officer.

The Data Protection Officer for this part of the project is Peter Gee, Overseas Development Institute, dataprotection@odi.org.uk, +44 20 7922 0300.

DO YOU CONSENT TO PARTICIPATING?

We will be very grateful if you agree to participate.

Do you have any questions about participating in the project?

Have you understood and are you willing to participate?

Do you give us permission to share the information with our colleagues in the MIGNEX team who work in other countries?