Planning for, Preparing & Monitoring Household Surveys

Maria Jones
So you’re preparing to run a household survey...

1. Design questionnaire
2. Translate
3. Pilot
4. Set survey protocols
5. Draft survey manual
6. Train enumerators
7. Plan field work
8. Monitor data quality
So you’re preparing to run a household survey...
- Start from existing surveys, not from scratch!
  - microdata catalogue, JPAL/IPA, IFPRI, IHS/EICV, DHS, govt
- Get feedback from RT & govt early and often
- How to create a survey comprehensive enough to meet needs of RT & govt, but short enough to be manageable in the field???
  - Balancing act → important role for FC!
- If follow-up (panel), be mindful to only modify questions when necessary; better to add/subtract
Design questionnaire

Ask of each question:

- What is the specific rationale?
- How will this variable be used in analysis?
- Is this question redundant or repetitive?
- Is there any risk of different interpretations?
- Is it framed as a leading question?
- Does it contain only a single topic?
  - If multiple, break it up!

→ most surveys are too long!
→ a pre-analysis plan simplifies this process
Design questionnaire

- Formatting matters much more for PAPI than CAPI
  - CAPI: **must** have readable & printable version
  - PAPI: use excel or word
    - Excel simpler to organize (one tab per module)
    - Word easier to paginate but buggy
- Always leave space for enumerator comments
  - wide bottom margin in PAPI
  - extra paper sheet for notes with HHID if CAPI
- Questionnaire structure:
  - Group questions into modules
  - Write introductory script for each module
  - Questionnaire order / flow
    - start with modules that are ‘easy’; most tedious modules toward the middle; ‘sensitive’ modules near the end
### Examples of PAPI questionnaire design conventions

<table>
<thead>
<tr>
<th>Number</th>
<th>Question</th>
<th>Answer instructions or answer codes</th>
<th>Answer space</th>
<th>Skip code</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.2.1</td>
<td>Did your HH sell any livestock during the past 12 months? Hari amatungo mwagurishije mu mezi 12 ashize?</td>
<td>1= Yes 2= No</td>
<td></td>
<td>If 2 ► D.2.3</td>
</tr>
</tbody>
</table>

### Use letters for multiple response questions to avoid confusion
- AB less likely to cause confusion than 13

| B.1.15 | What problem(s) did he/she suffer from? Ni ubuhe burwayi yahuye na bwo? | A = Malaria Malariya  
B = Typhoid Tifoyide  
C = Hepatitis A Epatite A  
D = Diarrhea or Parasites Impiswi, Inzoka  
E = Respiratory infection Indwara y’ubuhumeke  
F = Skin disease Indwara y’uruhu Skin  
G = Accident/injury Impanuka/gukomereka  
H = Dental problem Indwara y’ameny  
I = Gynecological Ikibazo cyo kubyara  
J = Other (specify) Indi (Yivuge) | | |
|        |                                                      | A D | | |
Answer Codes

- Responses should be coded
  - open-ended questions in large HH surveys rarely analyzed / used
  - establish / validate response codes during pilot
- Answer codes should be consistent through the questionnaire and (ideally) across rounds of data collection
  - If in BL, 1 = yes 2 = no DO NOT change to 1 = no 2 = yes in FUP!
- Codes should be visible with question text
  - Long code lists can be on back page, a “flap” or a laminated sheet
- Instruct if codes should be read out loud
- Clarify if multiple responses allowed
- Cue cards for enumerators with important historical events to help with time references (including age)
Design questionnaire

Miscellaneous notes

- Be very clear with definitions:
  - all terms (household?), recall periods
- Make units flexible to avoid enumerators doing math
  - How much rent do you pay for your dwelling?
  - Units could be week, month, year, etc.
- PAPI specific:
  - unique ID code and page number on all pages
  - Be thoughtful about pagination
    - Horizontal rosters across two pages should open like book
So you’re preparing to run a household survey...

Translate questionnaire
Always translate to local language(s).

- Enumerators should NEVER translate on the fly.
- **But beware!!** Bad translation → delays, field errors, confusion, bad data, etc

**WHO does the first translation matters**

- **GOOD:** professional translator; sector-specific knowledge; experience with surveys
- **BAD:** survey firm management, government counterparts with other tasks. Takes significant time and skill!
Translate Questionnaire

- Back-check first translation
  - Should be “blind” check
    - Translate local language → English without seeing original English version.
    - FC compares; reconciles discrepancies.
  - Done by *skilled translator* with no connection to first translator
    - A bad back-translation causes more problems than it solves!
- Expect to make lots of corrections and refinements to translation through pilot and training
  - Discuss each translation during training as a triple-check
  - Insure you have bilingual staff dedicated to correcting translation
  - Be VERY careful of version control!!
    - Best to work with a bilingual questionnaire (English and local language printed side by side) until final printing – helps insure revisions are reflected in both languages.
So you’re preparing to run a household survey...

Pilot questionnaire
“Piloting” is a multi-stage process

- **Pre-pilot**
  - Informs questionnaire design
  - Best done on paper for new instruments, even for CAPI

- **Full pilot**
  - Refine instrument, test software for CAPI

- **Enumerator training pilot**
  - Field practice for enumerators, validation of final instrument

**Considerations:**
- Unless fluent in local language, you need bilingual support!
- Do NOT pilot in sample area, but find a similar population
- Train staff for pilot carefully; the better they understand the instrument and its objectives, the better they can help you
Pre-pilot

- Relevance:
  - Critical for new survey instruments
  - For FUP, only need to pre-pilot new modules / questions

- When
  - As soon as there is a complete draft of the survey instrument with initial feedback from RT and government
  - Minimum 4-6 weeks before enumerator training
  - Can be done by RT / government before survey firm is contracted
  - If CAPI ➔ pre-pilot before designing software
    - Do on paper: focus on content of questionnaire, not programming
    - pre-pilot ~3 months before training to allow time for programming
Why

- Test new questions ("new" to context or recent creations of RT)
  - Identify questions that are unclear, require significant explanation, or make respondents uncomfortable
  - Probe for possible responses to questions that need answer codes
- Check flow and sequencing
  - Which modules take longest? Which seem sensitive?
  - Does order of questions within module make sense?
  - Confirm skip patterns are correct and comprehensive

Who?

- Small team (2-5) of highly experienced field staff
- Good opportunity to engage government counterparts involved in questionnaire design
  - but experienced enumerators will give best feedback
Pre-pilot

- Planning
  - Example schedule:
    - Day 1 – pre-pilot in field location 1.
    - Day 2 - debrief and revise.
    - Day 3 – pre-pilot in field location 2 (using revised instrument).
    - Day 4 – debrief and revise.

- Tips
  - Sit in on as many pre-pilot interviews as possible
    - Pay attention to interview flow & body language of enumerator and respondent – Pauses? Confusion? Frustration? Loss of interest?
    - Request enumerators to ask respondents for their feedback – sometimes surprising!
  - Duration of pre-pilot interviews not particularly informative
    - Will be significantly longer than planned for final interviews
Full pilot

- **Relevance**
  - Always beneficial; essential for CAPI surveys (if pre-pilot done on paper)

- **Why**
  - **CAPI-specific objectives**
    - Validate software:
      - all modules and all questions appear and are in order? correct answer options? Consistency checks? Range checks?
    - Test hardware:
      - how long do batteries last? quality of audio recordings?
    - If pre-filling information from previous survey rounds / census, check code works as expected
  - **In-field objectives**:
    - Verify translations
    - Check skip checks are comprehensive and correct
    - Confirm answer codes are comprehensive / exclusive
    - Make note of difficult areas for enumerator training
Full pilot

- Why (cont’d)
  - Data objectives (critical for CAPI; ideal for PAPI)
    - PAPI: test data entry software by entering all completed surveys
    - CAPI: test that data exports correctly (all variables appear and are correct format)
    - Test skip patterns, variables ranges, internal consistency
      - update CAPI checks / data editor guidelines accordingly
    - Assess response variation of any new (not previously fielded) questions

- When
  - At least 2 weeks before training
  - After pre-pilot revisions completed & survey firm contracted
  - After data entry / collection software fully developed
Full Pilot

- **Who?**
  - Small team of experienced field staff from survey firm
    - Ideal to involve staff who will be field supervisors during survey
  - Not necessary to use same staff as pre-pilot
    - But doing so reduces amount of training needed

- **Planning**
  - Example schedule: same as for pre-pilot; alternate day in field with day of feedback; repeat with new iteration of survey
  - Rule of thumb: 40 total interviews to create useful pilot dataset

- **Tips**
  - By end of full pilot, questionnaire flows smoothly and all major errors addressed.
  - Making significant changes after this point is costly!!
So you’re preparing to run a household survey...

Set Survey Protocols
Survey Protocols

- Define all protocols in enumerator manual and discuss on day 1 of training
- Protocol for who in HH to interview
  - How to identify target respondent
    - Head of HH? Primary farmer? Entrepreneur? Female with children?
  - What if target respondent is not available? Would someone else in HH be appropriate respondent?
  - Same target respondent for all modules?
    - Need for gender-disaggregated data?
Survey Protocols

- Protocol for HH selection
  - Critical if sampling has to be done in-field
  - Ideally HH sample constructed before fieldwork

- Protocol for household replacement
  - How many visits to a HH before the HH is replaced?
    - Depends on type of survey and round
    - Attrition especially concerning for FUP in panel survey
So you’re preparing to run a household survey...

Draft Enumerator Manual
Process:

- First draft of manual done by FC
  - Based on discussions with research team on content and observations from pre- and/or full-pilot
- Draft manual reviewed by RT
- Manual discussed with survey firm; request suggestions for addition (rarely subtractions)

Manual provides basis for enumerator training

- Manual is working document throughout training; note all key points of discussion and clarifications
- Print manual for all field staff at start AND end of training (final version goes with them to field)
## Contents:

- Motivation / purpose of study
  - Broad strokes (see example on next slide)
  - Don’t go into detail on IE design (usually don’t want enumerators to know difference between treatment and control)
- Roles, responsibilities & expected behavior of field staff
- Survey protocols
- Questionnaire conventions
- Explanation of specific questions, by module
- All definitions and master code lists
- CAPI only: detailed explanation of hard and software (include screen shots and pictures)
The Purpose of the TVST OVAY Follow-Up Questionnaire

This survey is a follow-up to a baseline survey conducted in March-April 2010 across Malawi. The survey is an evaluation of the Technical and Vocational Skills Training for Orphans, Vulnerable, and At-Risk Youth (TVST OVAY) program being conducted by the Technical and Vocational Education Training Authority (TEVETA). It is operating under a grant from the National AIDS Commission (NAC) with funds from the Global Fund. The evaluation is being coordinated the World Bank while the Invest in Knowledge Initiative is coordinating the data collection and data entry components of the evaluation.

The program identified 1,900 vulnerable Malawian youth to participate in a job skills training program. They were chosen on criteria of need including economic impoverishment, orphan status, and large numbers of dependents relying on them for support. They were identified in late 2009 and trainings for some of the participants have taken place over the past year. For others, they are still waiting for their turn to begin training, which should begin within the next month. Participants were matched with skilled craftsmen called master craftsmen (MCs) in a range of roughly twenty different economic activities such as tailoring, bakery, and brick-laying, to learn a skill or craft. They worked with these MCs for three months, were given small stipends and typically moved away from home for the duration of their training. Participants should have been given tools by TEVETA in order to begin income generating activities, though it is possible that in some cases the tools have not been delivered.

The aim of the survey is to evaluate the impact of an informal job skills apprenticeship program on at-risk Malawian youth aged 14-24. It is believed that participating in such a program will have a range of economic and health outcomes for these chosen youths. The study is also trying to understand the reasons why some identified beneficiaries chose not to participate in the program and why some others chose to drop out after beginning.

The data collected in this exercise will be critical to improving future rounds of this program which are already being planned. The results from the study will help clarify what the exact outcomes of the program are for the participants, which parts of the program are most important, and which parts could most be strengthened. In collecting this data, you will be helping to improve the livelihoods of future participating vulnerable Malawian youth.
So you’re preparing to run a household survey...

Train Field Staff
Enumerator training

- Enumerator manual is basis for training content
- Plan training agenda with survey firm
  - FC & survey firm project coordinator should co-lead training
  - Survey firm brings training experience and practiced facilitators
  - FC contributes questionnaire-specific knowledge
- Training should be fully bilingual
  - English (or FC working language) AND interview language.
  - FC **MUST** understand every discussion during training
    - Do NOT allow for long discussions in local languages without translation!
  - Do NOT rely on survey firm to understand questionnaire fully
Enumerator training

- 1–2 weeks total
- Example schedule
  - 3 – 6 days: classroom training
  - 1 - 2 days: enumerator pilot
  - 1 day: review field experience & final evaluation
  - 1 day: select final field teams and organize logistics
- CAPI specific
  - Do initial classroom training with paper questionnaire
    - focus on content, not technology
  - Add 1/2 day introduction to tablets / smartphones (more if enumerators new to CAPI)
  - Add 1 day of mock interviews using tablets before pilot
 ENUMERATOR TRAINING

- Classroom training
  - Read each and every question, in both languages
    - Seems tedious but very important!
  - Training room must have:
    - Chalkboard/whiteboard for notes and explanations
    - Projector so everyone can see questionnaire
  - Exercises:
    - After each module, enumerators do mock interview in front of group, group gives feedback
    - Supervisors brainstorm tricky scenarios to act out in role plays
    - Enumerators have to spot errors in completed modules
    - Enumerators fill out modules based on role play, then switch and “grade”
enumerator training

- Timing depends on length/complexity of questionnaire, aptitude of surveyors
  - Do NOT rush, make sure instrument fully understood
    - Re-training in the field is much harder / more costly
    - Incomplete training → bad quality data

- Keep in mind:
  - Need to leave time after the end of training for final questionnaire revisions (and printing if not CAPI)
  - But try to avoid long delays between end of training and start of data collection
Enumerator training

- Start and/or end each day with pop quizzes on key points to gauge comprehension & insure people are paying attention
  - give prizes to make it lively
  - Use quiz results for final enumerator selection
  - Example quiz question:

1. On your first visit to a selected HH, you find that the target respondent (male head of household) is not available. What do you do?
   a. Interview the eldest son.
   b. Interview the wife
   c. Schedule a callback.
   d. Ask the supervisor for a replacement household.
Enumerator selection

- Always train more enumerators than needed for survey (approximately 10% extra)
  - Announce at beginning of training that selection will be competitive, based on performance during training
  - Make sure selection process is transparent and understood by all from beginning of training
- Minimum criteria for enumerators:
  - *Language*: speak and write national & local language(s) fluently
  - *Literate and numerate*: able to read and do simple math
  - *Education*: at least a high school degree, usually some post-secondary degree (depends on country and pool of options)
  - *Willing to do physically demanding work in remote areas*
  - *Previous data collection experience* (extra plus if household surveys)
  - *Knowledge / experience in sector* of IE a plus (degree in agronomy helpful for enumerators conducting agricultural surveys)
Enumerator selection

- Rank candidates based on:
  - Engagement during classroom training
  - Grades on daily quizzes and final test
  - Performance during field pilot
- Keep list of best of non-selected enumerators for replacements in case of illness or contract terminations
So you’re preparing to run a household survey...

Plan Fieldwork
Plan Fieldwork

- Timeline for data collection
  - Considerations
    - Timeline for intervention
    - Relevant time of year for type of data
      - Ex: if agricultural, better to go after than before harvest
      - Seasonality – if FUP, collect data at same time of year as BL
  - Plan by working backwards
    - determine when to start based on when you need to finish
    - Include a significant buffer!
  - Allow more time for a panel survey, tracing respondents usually more time-consuming
Plan Fieldwork

- Typically field plan developed by survey firm
  - FC needs to discuss / review
- Composition and number of field teams depends on:
  - time constraints (how many weeks to complete survey?)
  - duration of interviews (how many interviews per day?)
  - Transportation & cluster sizes (enumerators per cluster?)
- Rules of thumb:
  - 20 – 35 enumerators (dependent on sample size)
    - If larger team required, consider multiple trainings / survey launches
  - 3-6 enumerators per supervisor
    - larger field teams → less carefully scrutinized data
    - smaller teams → inefficient / costly for transportation
Field Team

**Enumerator:**
- conducts household interviews

**Supervisors:**
- manage teams of enumerators
- introduce survey teams in village
- accompanies team members to spot-check interviews
- checks all surveys for completeness
- Keeps log of interviews completed

**scrutinizer (PAPI):**
- reads through questionnaire in detail to catch errors or inconsistencies that need to be resolved in field
- After approving, sends on to data entry team

**Data editor (CAPI):**
- Develops electronic data collection template
- Exports and reviews data on daily basis
- Insures data matches field logbooks

**Field manager**
- plans and oversees field work
- manages all field teams
- handles logistics and budget
- Primary liaison with FC and research team
Planning field work

- FC prepares Fieldwork Logbooks (together with survey firm)
- Logbook includes details on sampled HHs (and replacements) by cluster
- Fields for teams to fill out indicating:
  - Date HH visited
  - If HH replaced & reason why
  - If HHs interviewed, who interviewed, and enumerator
### Sample Fieldwork Logbook

**Village:** KAPITA APA  
**Village Code:** 1  
**Logbook # pages:** 2

<table>
<thead>
<tr>
<th>Enumerator</th>
<th>Date</th>
<th>Comment</th>
<th>Replaced by</th>
<th>Reason for replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VILLAGE FOCUS</strong> GROUP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AEDO INTERVIEW</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HH Code</th>
<th>Name of HH head</th>
<th>Target respondent interviewed?</th>
<th>Other respondent interviewed?</th>
<th>Enumerator</th>
<th>Date</th>
<th>HH Code</th>
<th>HH Head Name</th>
</tr>
</thead>
<tbody>
<tr>
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<td>LUSE M--------</td>
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<tr>
<td>31</td>
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<tr>
<td>121</td>
<td>BYSON W--------</td>
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<tr>
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<td>MODESTER M-----</td>
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<tr>
<td>38</td>
<td>FALESI C-------</td>
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</tr>
<tr>
<td>85</td>
<td>MATRIDA C------</td>
<td></td>
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</tr>
</tbody>
</table>
So you’re preparing to run a household survey...

Monitor Data Quality
Monitor data collection

- First few days of data collection are critical!
  - Easier to instill good habits than break bad habits
  - Ideal if all teams start in same area for easy communication
  - If big problems persist, pause survey and re-train

- FC role
  - In-field supervision
  - Monitor response rate and number of interviews
  - Data entry
  - Independent audits
  - Data consistency and quality
Monitor data collection

- In-field supervision
  - Physically accompany field teams & sit-in on interviews
    - See what’s happening firsthand, do not rely on reports from survey firm
    - Aim to observe all field teams and most enumerators
    - If you have English version of questionnaire, translator not really needed
  - Make note of common mistakes / problems and regularly communicate them to all field teams
    - Give feedback to individual enumerators and debrief with team
    - Identify enumerators who consistently under-perform – make sure survey firm has a clear plan of action for consequences / replacement
  - PAPI: review questionnaires already checked by supervisor / editor, point out any mistakes that were missed.
    - Pay careful attention to consistency checks; these are hardest for PAPI
  - Lots of general troubleshooting!
Monitor data collection

- Monitor response rate and number of interviews
  - Review fieldwork logbooks regularly (daily at first)
  - Insure number of reported interviews matches number of questionnaires entered (PAPI) / downloaded from server (CAPI)
  - Use logbook data to check fieldwork progress
    - Is work on schedule? (number of interviews / day)
    - Any numerators or field teams under-performing?
    - Rate of household replacement?
    - Rate of respondent replacement?
Monitor data entry

- Everyone makes typos!
- Double data entry removes entry errors for PAPI
  - Must be in survey firm contract
  - First and second entry done by different people
  - FC reconciles and identifies discrepancies
  - Dedicated staff to review and correct discrepancies
- Difficult to know if data entry errors with PAPI
  - Best practice: audio-record interviews and have data entry team do full second entry; reconcile and compare results
    - Test error rate for subset
    - Set protocols for how errors will be addressed
Monitor data quality

- Independent Audits (a.k.a. backchecks):
  - Objectives
    - Verify HH was interviewed (enumerator not sitting under tree)
    - Validate critical questions (key outcomes; skip code triggers)
    - Confirm status of replaced HHs – especially important for FUP
  - Instrument
    - very short (1-2) page version of questionnaire
    - Avoid questions with answers that could change over short period of time (how many times did you eat meat in the last week?)
  - Sample
    - administered to small random sample (~10%) of respondents
Monitor data quality

- Independent audits (cont’d)
  - Protocols
    - How will back check data be compared to survey data
      - Best practice: do-file merges audit data with full data, compares responses & flags discrepancies
    - What to do if discrepancies found (must be in contract)
      - When will HH revisits be required?
        - example – discrepancy rate > 10%
      - Who will do revisits?
        - Best practice: 3rd party accompanies supervisor and enumerator, assesses source of discrepancy
    - Consequences for enumerators if audit shows problems?
      - If HH was not interviewed, contract terminated
      - If data was falsified, can follow 3 strikes policy or terminate (depends on severity)
  - Considerations:
    - Auditors must be independent of survey teams, kept separate from field teams as much as possible
    - Auditors should be highly trained; better than the average enumerator
    - Bad quality audits lead to confusion, delays, and respondent fatigue!
Monitor data quality

- Review data consistency and quality
  - Traditional PAPI: data available only months after survey
    - must rely on supervisors & editor to scrutinize questionnaires
    - Should provide list of checks for editor
    - Challenges
      - takes intensive training and a lot of attention to detail
      - Difficult to do in real-time
      - Costly to return to field if mistakes identified late
  - Best practice: in-field data entry (a.k.a CAFÉ)
    - Data entry clerks with field teams; first entry in real time
    - Most important to create tighter feedback loop: explaining inconsistencies well early on will prevent them from recurring
    - Data entry team will also provide valuable feedback to enumerators and editors
Monitor data quality

- Review data consistency and quality
  - CAPI and PAPI with in-field data entry
  - Run program of consistency and quality checks
    - Write this do-file before fieldwork starts
    - Ideally run daily; at minimum as each cluster is finished
  - Agree on protocol for correcting errors *ex-ante*, especially when revisits will be required
    - This must be in contract with survey firm
    - Rule of thumb: more than 3 errors per HH triggers revisit
  - With CAPI surveys, can build consistency and quality checks into template to avoid most of this process!
So you’re preparing to run a household survey...

- Design questionnaire
- Translate
- Pilot
- Set survey protocols
- Draft survey manual
- Train enumerators
- Plan field work
- Monitor data quality
Dataset!!!!

It's a Boy!