Introduction

Most textbooks written on survey research focus on theories and methods (for example, Moser and Kalton 1971). Few concentrate on the practical aspects of managing a household survey (Hoinville and Jowell 1978, Fowler 1993 and Lutz et al. 1992 are some of the most helpful texts), and even fewer concentrate on such issues in low-income countries (a notable example is Bulmer and Warwick 1993). However, it is vital that surveys are well managed for results to be reliable and meaningful. Poorly managed surveys can result in falsified or incomplete data. Good management requires time to plan and think about all those involved in the process of the survey: the respondents, interviewers, supervisors, coders and the wider community. This paper draws on our experience of running a randomized household survey in three locations in the rural area of Makueni district, Eastern Kenya. The paper outlines the various strategies used to: gain access to the local community; recruit and train interviewers; supervise; plan day to day activities; and manage data.

Key words: survey, Kenya, interviewing, health-related quality of life

Managing a household survey: a practical example from the KENQOL survey

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It is vital that surveys are well managed for results to be reliable and meaningful. Poorly managed surveys can result in falsified, lost or incomplete data. Good management requires time to plan and think about all those involved in the process of the survey: the respondents, interviewers, supervisors, coders and the wider community. This paper draws on our experience of running a randomized household survey in three locations in the rural area of Makueni district, Eastern Kenya. The paper outlines the various strategies used to: gain access to the local community; recruit and train interviewers; supervise; plan day to day activities; and manage data.

Preparations for start of survey work

Any survey research involves enlisting voluntary cooperation from the prospective respondents. Researchers should not assume that just because a project is about health it is necessarily going to be welcomed by a community or its leaders – there might be many suspicions and questions. It is a basic premise of ethical survey research that respondents should be informed about what it is they are volunteering for. Respondents should have the following information before being asked to answer the questions:

1. name(s) of survey organization(s);
2. sponsor’s name(s);
3. a description of the purpose(s) of the research that is easy to understand and in the local language;
4. a statement concerning confidentiality/anonymity;
5. assurance that co-operation is voluntary, and that no negative consequences will result for those who decide not to participate in the survey.

The KENQOL team approached the local administration including the District Officer, Chiefs, Sub-chiefs and Village Elders. The team described the activities that would be
undertaken in their locality, the purpose of the research and all the issues addressed above. Subsequently, the chiefs and their sub-chiefs held village meetings to explain to the local community and ask for their cooperation. Various members of the team, including the principal investigator, supervisors and field assistants who had worked in the project for a long time, were present at the various village meetings (barazas) to answer any questions raised by people and to become known locally as the project team.

We also approached political leaders (e.g. local leaders of KANU – Kenya African National Union, the current ruling political party) and social leaders (e.g. head of women’s groups, pastors of churches, headmasters) so that people who were able to attend the barazas heard about the research in churches, through schools and in market places. Our long-standing field assistants were particularly helpful in this regard.

For the KENQOL household survey it was also necessary to obtain maps to enable the households to be sampled and identified by the fieldworkers. For most household surveys in rural areas of developing countries maps are probably not available, unless they have been produced locally. Should local maps be required, it is certainly worthwhile investigating whether or not the local area has been mapped. The KENQOL project was fortunate to be working in an area where another research group had undertaken household surveys. This group had prepared maps for two of our three study sites, and agreed to supply our project with copies to assist our research. Alternatively the research area could be mapped in advance, but this task should not be considered lightly. The KENQOL group had to map the remaining one study area for the household survey. This study area contained 230 households and took 3 months of a local demographic’s time to complete.

Time should be taken in advance to prepare field kits for each field interviewer. The KENQOL field interviewers were given the following items for their daily use (other items can be added depending on local circumstances):

- a letter of introduction to the community members asking for their assistance;
- a badge with the interviewer’s name, indicating the bearer as a field interviewer;
- two t-shirts (uniform) with the name KENQOL printed on them to help identify interviewers;
- a hat to protect them from the scorching sun;
- watches to help them keep time and appointments;
- bags in which to carry questionnaires and other items;
- a clipboard to lean on when recording responses;
- pencils and sharpeners;
- water bottles and money for drinks;
- a bicycle with a pump and repair kit;
- a medical kit each that contained basic first aid items such as an ointment to cleanse a wound and plasters;
- a number of questionnaires (which were indicated in the register) showing household numbers and names to visit;
- local map with households numbered;
- a list of household heads to help locate the households faster (by mentioning household head’s name);
- a log sheet to record number and outcome of calls made.

**Recruiting interviewers**

For our survey of 550 people based in a relatively small area (three locations), we relied on word of mouth via local leaders and our previous field assistants to advertise for jobs. Other methods might include advertising in local newspapers or at local community centres depending on the local situation. We found it necessary to be clear that candidates would be selected on ability, through a two-stage selection process (interviews and performance on a paid training course).

There is no rigid set of rules for distinguishing good potential interviewers from bad ones. As with all personnel work, the recruiter’s experience and judgement play a large part. We looked for the following qualities during the interview process:

- confidence and maturity, to enable interviewers to deal more easily with the occasional aggressive or suspicious respondent;
- physical fitness – survey interviewing can be very demanding if interviewers are asked to walk or cycle long distances or stand for long periods of time, and they need to be willing to spend a lot of time outdoors in all weathers;
- availability and willingness to work unusual hours, as interviewers often have to work in the evenings or at weekends in order to interview those at work during the day;
- literacy and fluency in Kiswahili and English;
- age (18 years and over), with a minimum of secondary level education.

Whilst interviewees are waiting to be interviewed they can be asked to complete a questionnaire (i.e. name, date of birth, date of interview, location of their house) and to read a letter of consent. The letter of consent can include a few ‘check questions’ at the end. This allows for assessment of legibility of handwriting and comprehension of simple questions. This is a useful method for initial screening of field workers.

In addition to a general interview each prospective candidate was asked to demonstrate their ability to ride a bicycle; learn the introduction to the interview and recite it; and attempt to gain an interview through a role-play with the interviewers. The interviewing team included the survey supervisor, data manager and local field supervisor. The main purpose of the interviews was to select those who would attend our training course. We chose a few more than needed for the actual survey to encourage full participation in the training (which was then used as a second stage selection procedure), and to ensure that if any interviewers dropped out we would be able to recruit further trained interviewers.

Ultimately, our interviewers were people from the local area living within a relatively short bicycle ride from the project office. Most had completed secondary school within the previous couple of years. A few were older and had some experience of survey work, or had worked on other KENQOL project activities. We paid the survey interviewers...
a monthly wage, matching the amount paid to others working on research projects in the surrounding area. Alternatively, the interviewers could be paid on an interview-completed basis, but this may encourage interviewers to complete survey forms falsely.

**Training interviewers**

Taking training seriously is key to good quality survey data, especially if interviewers have little or no past experience of survey interviewing. We also found it was a useful time for the team to get to know and work with each other. Overall our training lasted 15 days and included: 4 days on project specific aspects, 6 days general training, 2 days practising in the field with specified members of the community willing to help and 3 days familiarization with the whole field site (which also helped to check on an old map). This was a longer training period than is often usual because several interviewers were very inexperienced and for some it was the first job they had since leaving school.

**Content of training**

The content of training needs to include both general teaching about interviewing that applies to all surveys as well as information specific to the particular study on which interviewers are to work. The general topics covered included:

- how to contact respondents, introducing the study and gaining an interview;
- how to handle interpersonal aspects of the interview without causing bias;
- ways of dealing with interruptions, likely problems and difficult situations;
- methods for probing inadequate answers;
- procedures for recording responses.

With respect to project specific information, the following was covered:

- purposes of the project, sponsorship, the general research goals and anticipated use of the results – this information is basic to providing respondents with appropriate answers to questions and helping to enlist cooperation;
- conventions used in the survey instrument with respect to wording and skip instructions, so that interviewers can ask the questions in a consistent and standardized way;
- the specific approach for sampling respondents;
- details regarding the purposes of specific questions;
- the specific steps to be taken with respect to confidentiality, and the kind of assurance appropriate to give to respondents;
- the impact on the project of any of the above being done incorrectly.

**Procedures used in training**

Whilst there is no ideal procedure, it is good to use a mix of methods for teaching. Our training included the following:

- Short lectures by each team member (the authors and local field supervisors) on specific aspects of the project and survey interviewing, followed by discussions amongst the group.
- Demonstrations showing the standardized interview to give a quick sense of how to administer an interview. We also demonstrated an interview with good and bad aspects and asked each person to note down what they observed prior to a discussion on the qualities of a good interview.
- Written materials outlining aspects of good practice for review at their leisure.
- Role-play. We used different techniques, for example a ‘round the table’ questioning, where each interviewer asks a few questions from the questionnaire with the trainer acting as the respondent. This helps the interviewers get a ‘feel’ of what is going to take place in the field. Interviewers also practised on each other and in small groups with others as observers.

**Table 1. Some do’s and don’ts of interviewing**

<table>
<thead>
<tr>
<th>Do’s</th>
<th>Don’ts</th>
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<tbody>
<tr>
<td>Make a pleasant impression on the respondent.</td>
<td>Do not pass critical judgement.</td>
</tr>
<tr>
<td>Put the respondent at ease.</td>
<td>Do not over-sympathise with any response.</td>
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<tr>
<td>Remain neutral.</td>
<td>Do not say ‘good’ to any response.</td>
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<tr>
<td>Be smart and clean.</td>
<td>Do not make critical faces.</td>
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<tr>
<td>Be confident.</td>
<td>Do not smoke or chew during an interview.</td>
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<tr>
<td>Teach the respondent what to expect.</td>
<td>Do not show you want to get on with something else.</td>
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<tr>
<td>Motivate the respondent to respond accurately.</td>
<td>Do not look at your watch during the interview.</td>
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<tr>
<td>Make sure any materials needed are easily to hand.</td>
<td>Do not show dislike or embarrassment about the interview content.</td>
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<tr>
<td>Sit facing the respondent.</td>
<td>Do not rush respondents through the questionnaire.</td>
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<tr>
<td>Look at the respondent often.</td>
<td>Do not waste their time by going too slowly.</td>
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<td>Use only the probes on the questionnaire.</td>
<td>Do not start an interview with a respondent who is very busy at the initial call – make an appointment for another time.</td>
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<tr>
<td>If a respondent changes their mind, record the new answer and note they changed their mind.</td>
<td>Do not sit too near respondents so they start reading the questions instead of listening to them.</td>
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<td></td>
<td>If a respondent does not understand a question, do not rephrase it – just repeat it.</td>
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</table>
How to do (or not to do) . . .

- Group ‘brain storms’. For example, to think of all the potential problems that might arise during an interview. This was also a non-threatening way of raising worries and of targeting later training.
- Developing posters. We developed our own posters for the do’s and don’ts of interviewers (see Table 1), which later adorned the field office during the survey!
- Observation and training of interviewers in the field. Having completed the above steps, the trainees went to the field accompanied by the supervisors to practice (outside the study site). The supervisors first gained an interview from a respondent, who then answered the questions. They then proceeded to another home where the trainees tried to gain an interview. Other trainees attended to observe and be involved in the subsequent discussions. Gaining several interviews (about five) seemed to give enough experience for the trainees to gain confidence. At first the trainees were closely supervised but later on they were left on their own to gain interviews and to handle any kind of problems that they came across. This also helped them practice recording responses.
- Tests of knowledge, which involved written exercises designed to test specific aspects of the training and whether they were reading the written material; oral rehearsal of the standard introduction; role play in front of the whole group to gain an interview; and dealing with a specific problem during an interview.

Supervision

The main aim of the supervisors is to maintain a good quality survey and ensure that it is completed as expected, and on time. Supervision of interviewers is essential for detecting bad work; encouraging good work, ensuring the safety of interviewers and generally inspiring the survey team. There are various aspects of interviewer performance to supervise. We supervised both the quantity, quality and work rate of each interviewer. These processes involved:

- Improptu observation of interviews, to check whether:
  - the correct introductions were made;
  - the respondent and household selection was happening correctly;
  - the interviewer was asking the questions in the right way and correctly interpreting and recording the answers;
  - the interviewer satisfactorily answered any queries the respondents may have had.

- Post-interview visits to a random selection of households who had completed interviews, to check:
  - whether the household had been visited, and by whom;
  - the respondent’s understanding of the purpose of the questionnaire;
  - method used to select a respondent.

A further check can involve re-interviewing a proportion of respondents on a few questions, and checking the answer with the original interview for discrepancies. It is essential to handle this with care and not to imply that you are questioning the integrity of the respondent.

Visits to those who had refused to respond, to:
- ascertain why and whether there were any problems;
- deal with any upsets, e.g. visit the community leaders with respondent, if required.

Clearly any such visits need to be handled with great care. We found great benefit in making these visits with a respected and known community member.

Review of completed questionnaires in the field with the interviewer, to:
- assess the response rate, the refusal rate, visits per household to secure interviews, and completion rate of whole questionnaire by interviewer;
- to monitor the missing data and number of ‘don’t know’ answers by question and interviewer.

If data entry is happening while the survey is ongoing, it may be possible to have computer generated summaries and detailed problem lists that can be made available to field coordinators to assist with the review of completed questionnaires.

Meetings between supervisor and interviewer, to:
- check that interviewers still knew the standard introduction;
- give feedback following field observations and reviews of completed questionnaires;
- find out if they had any questions or problems with the work in order to facilitate their progress.

The supervisor can accompany the interviewer for at least one interview a week to help ensure that standards are maintained.

Keeping logs of activities and progress, including:
- daily log sheets (for interviewer) to note who was visited, where, outcome of visit and any action points;
- supervision records (for supervisor) to note questionnaire number by household, interviewer and quality of completed data;
- bicycle maintenance records (for ‘fleet’ manager) to sign in/out bicycles by day and cost of any repairs by bicycle if appropriate;
- location of questionnaires (for data manager) to note location of questionnaire when in the field, with supervisor, person responsible for coding or photocopier.

We divided our team of nine interviewers into two groups, with one person in each group given local field supervision responsibilities whilst out interviewing (e.g. helping find houses if they were difficult to locate, dealing with any immediately arsing problems, carrying the first aid kits). In
addition we appointed one of the interviewers to be responsible for maintaining the bicycles and ensuring they were fixed and returned for cleaning on time. Throughout the survey one supervisor was based in the field or local office all the time, with regular and lengthy visits from the data manager.

The qualities of a good supervisor are also important to consider. We found it was important that they are able to demonstrate the art of interviewing to the trainee; help solve and think through problems that arise during interviewing; give advice about planning the work, using maps and scheduling calls to maximize response rates; support and inspire a team; give trainees sufficient attention and accompany them to the field on their first visits; give critical feedback constructively; be around and keep in touch with interviewers during the fieldwork; and be extremely well organized. It is useful also for the supervisors to do some coding as this gives a good feel for how well questionnaires are completed, but in the future, we would build in more time and money for field-based coders.

Fieldworkers need to know that their work is carefully scrutinized, that mistakes (deliberate and accidental) will be picked up and that they will be made accountable for them. Therefore, one very important element of supervising household surveys is the ability to discipline fieldworkers. It is essential to make clear during the training stage the exact expectations of fieldworkers and what they can expect if they compromise the integrity of the survey. During survey training we had made it clear that any non-random choice of respondent would result in the fieldworker being withdrawn from the team. Unfortunately, during the course of our survey it was necessary to ask one survey interviewer to leave because questions were raised about his choice of respondent in one case and his approach to interviewing in two other cases. As a result, all his interviews had to be re-checked with respect to the method of respondent selection (this did not take too long, because he also had the lowest work rate). Having since discussed how his case was handled, we would suggest handling such an event differently in the future. Next time, we will still remove such an interviewer from interviewing in two other cases.

A typical day during the survey

(1) Interviewers meet the supervisors in the morning and receive everything they need for the day’s work.
(2) Problems encountered in the field are discussed and suggestions given to alleviate them.
(3) The interviewers go to the field.
(4) Problems encountered in the field or make visits to the field.
(5) Interviewers return and hand back completed questionnaires, persisted hard to gain interviews) received a prize. We changed the criteria each week and did not give the criteria out in advance to minimize the impact of potentially odd or unknown incentives. In the end everyone received a prize for something over the course of the survey.
(6) Supervisors check completed questionnaires, ask for clarifications and log return of questionnaires by number.
(7) Supervisors either remain in the office coding work from the previous day or make visits to the field.
(8) Supervisors check completed questionnaires, ask for clarifications and log return of questionnaires by number.
(9) Supervisors either remain in the office coding work from the previous day or make visits to the field.
(10) Interviewers allocates questionnaires for next day, logging who takes each questionnaire. Bags locked overnight for confidentiality.

Day to day management

Each day, the supervisor allocated questionnaires and other materials to be used in the field. Each morning the interviewers, with the help of the supervisors, planned the daily routes to minimize covering unnecessarily long distances. Ideally any second or subsequent calls should be phased in with first calls at other addresses to limit the need for special trips. The interviewers plan ought also to allow for all addresses to be visited during the first half of the survey period.

Data management

It is essential that data are carefully monitored. At any one time, it should be possible for the supervisor to know where
an individual questionnaire. This requires that the move-
ment of questionnaires be controlled tightly during a survey.
Each questionnaire had a unique identifying number and, as
they arrived from Nairobi, these were entered into the
logbook. Following this, a questionnaire’s movement out and
back to the field, to coding, storage in the study area and
return to Nairobi was logged. All questionnaires were kept
safely in lockable boxes which only supervisors had access to,
in order to maintain confidentiality. 4

All coding was done as soon as possible in the field following
the interview. This helped to highlight any mistakes that
could be rectified while the interview was still fresh in the
interviewer’s mind or by re-visiting the household. Coding
is an exceptionally boring job, but it still requires train-
ing and a clear coding sheet that explains how each question
should be coded. It is a task that can usefully be undertaken
by all interviewers (providing standardization of coding is
maintained and monitored) at some stage as they learn how
the information begins to be used and transformed (we think
it helped to improve the recording standards during inter-
views). For straightforward surveys, field staff can be trained
to code the interviews during the course of the interview. This
would require a lot of time and care during the training, but
it helps to minimize the time between completion of ques-
tionnaires and data entry. We also ensured that the data
manager checked the coding. Once the questionnaires were
returned to Nairobi the data were double entered and
checked using the usual procedures.

Conclusion
Taking the time to plan a survey and work out the various
management and training strategies is essential to conducting
a good quality household survey. We think the best advice we
received prior to conducting the survey was to always know
where a questionnaire was and how well it had been com-
pleted, and to assume you want to be able to work with the
same interviewers amongst the same people again in the
future.

Endnotes
1 Interested readers can see Fox-Rushby et al. (1997, 2000) or
Amuyunzu et al. (1995) for further information, and are welcome to
contact the authors.
2 Any interviewers with injuries attended a local clinic paid for
by the research project, even those with very minor injuries.
3 Interviewers worked in pairs to travel to and from the house-
holds.
4 All interviewers were asked to maintain confidentiality — and
not to discuss people’s replies with anyone else outside of the project.

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