

Sustainable Livelihoods from Fluctuating Fisheries

DFID Fisheries Management Science Programme

(R7336)

ANNEX 3

Investigating the Livelihoods of Artisanal Fishing Households in Low Income Countries

Methods Manual for Fieldwork

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Section A: Organisation of Livelihoods Fieldwork

1. Overview

This manual sets out a proposed set of fieldwork methods for investigating the livelihoods of artisanal fishing households in low income countries. The methodologies are based on the following criteria:

- Relatively easy to implement with a small team comprising one or two social science researchers trained to postgraduate level, a fisheries specialist, and 2-3 field assistants or enumerators
- Can be achieved within a 7-10 day research period per village or port, with scope for return visits to validate information
- Achieves a balance between cost, feasibility and statistical representation or defensibility¹.
- Aims to involve fisherfolk, local authorities and village residents in the research process, through use of participatory techniques, return visits to synthesise and check preliminary findings, and to provide channels of communication of local-level issues to decisionmakers at district, national and international level.

This is not the entire methodology that is needed for policy-relevant livelihoods research, which also requires work on micro-macro institutional links (for example, the impact of fisheries regulations on local level fisheries management) and engagement with relevant policy processes in the countries where research is being conducted. However, field research comprises a large and complex enough array of activities to merit treatment on its own.

The aim of livelihoods fieldwork in a fisheries context is to achieve a good understanding of the following aspects of fishery-based rural livelihoods:

- the livelihood patterns and strategies of fishing individuals and households, and how these are changing over time
- the particular livelihood features and constraints of poor fishing households, as distinct from the better-off or richer families in fishing communities
- the institutional context of fishery-based livelihoods at village level, with emphasis on the factors that inhibit rather than facilitate livelihood choices and options for the poor
- community fisheries management institutions and their interactions with the livelihood strategies and access to resources of the poor in fishing communities

In pursuit of these aims, a modular fieldwork research methodology is advocated (see Diagram A1). This consists of a generic livelihoods sample survey, and associated generic qualitative livelihoods data collection exercise, plus a set of components that are specific to fishing as a livelihood activity. This ensures that fishing activities are nested within a livelihoods context, rather than the livelihoods research being seen as peripheral to detailed fishery sector studies.

¹ The use of relatively small sample-sizes for household surveys recognises that household survey data is timeconsuming to collect and validate, and that such surveys can generate vast quantities of data which are then seldom properly validated and analysed. These drawbacks are well recognised in the major UNDP and World Bank household surveys conducted as part of national Poverty Reduction Strategy Programmes. This approach seeks to complement, rather than replicate these large-scale survey and monitoring exercises.

Some key features of the general fieldwork approach are as follows:

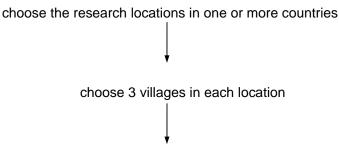
- purposive selection of up to 3 locations in a case-study country designed to explore a variety of different fishery circumstances (for example, varying by nature of catch, deep or shallow inland lakes, or marine fisheries, remoteness from markets etc)
- purposive selection of 3 villages at each location to represent differing facets of the the particular fishery being examined at that location
- qualitative research in each village and location designed especially to examine the the institutional context of fisheries livelihoods
- livelihoods sample survey comprising 30 households in each village, thus typically 90 households in a location
- stratification of sample by wealth groups in order to bring out clearly the critical constraints experienced by poor fishing households in particular

Note that the term location as used above typically refers to a district or area of a district identified by reference to a particular spatial or technical fishery resource feature, e.g. small-scale Lake Tanganyika fishery.

2. Research design, village and household selection

General

The sequence of events that result in a particular set of villages and households being researched looks approximately as follows:

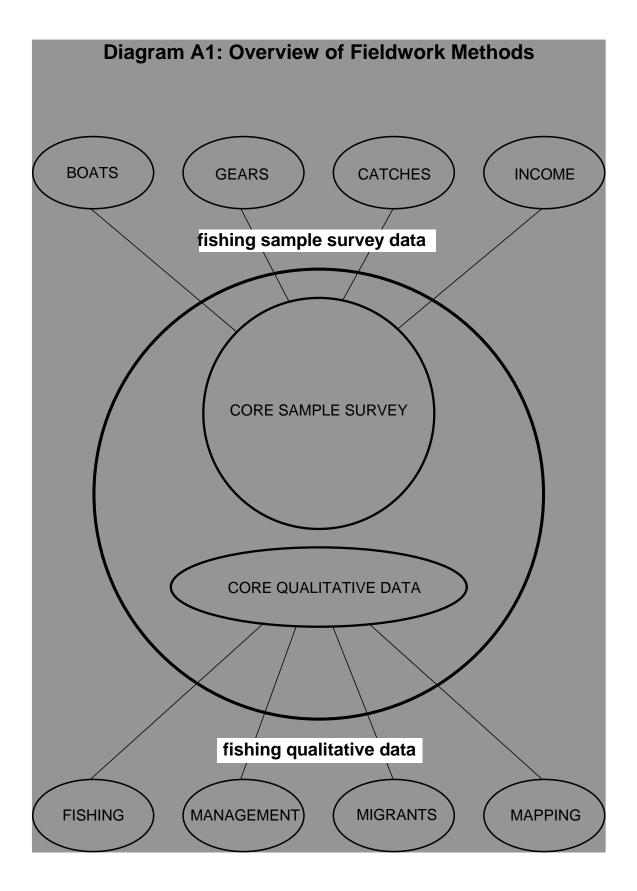


choose 30 households in each village

Location Selection

This implies establishing a set of criteria for choosing districts or sub-districts within countries to undertake the research. These criteria are as follows:

- representative fishing-based livelihood patterns for that country (in a broad sense)
- relative extent of rural poverty in different places
- presence of particular fisheries features considered important to understand for policy purposes
- geographical spread and agro-ecological or oceanographic variation
- logistical feasibility (organisation, distances, budget etc)



The first of these criteria is a difficult one involving balancing a number of considerations. The critical factor is that the research should be seen to have captured a "typical" spread of fishing-based livelihood patterns, so that findings have policy relevance on a broad scale. An alternative way of looking at this is to avoid locations that are highly atypical in terms of the types of fishing livelihoods they represent (for example, the one location that has a fairly developed commercial fishery utilising large motorised vessels, or the one area where there is a luxury tourist resort providing sport fishing)

Village Selection

Having made a choice of locations or districts, and, usually, zones within those districts to conduct research, the next stage is village selection. Here again purposive choice of 3 villages should approximate a set of criteria, some of which are similar to those for selecting districts, while others are slightly different:

- village selection should bear in mind poverty-relative wealth considerations, given the typical poverty reduction focus of livelihoods research
- villages should differ from each other in some important respect, for comparative purposes
- this difference could be varying degrees of remoteness from infrastructure and services e.g. on a main road, on a dry season-only feeder road, lacking proper road access
- alternatively, villages might differ in the degree of their reliance on the fisheries resource e.g. heavily reliant on fishing, less reliant, and not very reliant

This last criterion has the important implication that just because fishing livelihoods are under investigation, this does not mean that all households interviewed need to rely heavily on that resource for their livelihoods. From a livelihoods perspective, as applied to fishing communities, what is interesting is the way families combine fishing with other activities in a variety of different ways, and for various strategic reasons, and the extent to which a division of labour occurs so that some families specialise in fishing, while others do not.

Household Selection

It is envisaged that the selection of households for interviewing in a sample survey should take place at the same time that qualitative, PRA-type, work is being conducted in a village. The first stage of household selection is for a community wealth-ranking exercise to be conducted, whereby village households are divided between poor, middle, and well-off categories. Then with a list of households in each income-wealth group, a random sample of 10 households is taken from each group. In summary:

- PRA wealth-ranking of village households, resulting eventually in 3 income-wealth groups
- random sampling from each income-wealth group
- 10 households from well-off group
- 10 households from middle group
- 10 households from the poor group
- this gives 30 households in total per village
- 90 households per research district or location

While this procedure will yield a statistically defensible sample of households in fishing villages it may not provide enough detail on fishing as an activity if only a minority of households in the fishing village actually engage in fishing. There are several alternatives here. One is to follow the procedure as stated so that at the very least the typical patterns of livelihood in the fishing village are captured, but to add additional fishing households equally

across the wealth categories until a sufficiently large sub-sample of such households is captured. The minimum sample size of specifically fishing households that would enable general things to be said about fishing as an activity in that community is 30 households.

Alternatively, if the objective of the research is so definitely oriented to fishing as to exclude non-fishing households from the zone of interest, then the sampling frame can be respecified to exclude non-fishing households, and the entire process of undertaking wealth ranking and sample selection is then done only on fishing households.

PRA wealth ranking is best conducted by someone experienced in this method. Two main approaches seem to be followed: one depends on a consensus discussion in a focus group meeting, the other depends on household ranking by a number of individuals (key informants), or small groups, and the final division into categories is determined by adding together individual rankings. Note that if done properly, wealth ranking will often yield more than three wealth sub-groups, therefore the re-organisation of the sample frame into three groups must take place after the wealth-ranking by amalgamating adjacent sub-groups. Also, wealth ranking can be a valuable exercise in itself, independently of its function as a means of stratifying a household sample. The process of wealth ranking yields valuable information on the criteria utilised within the community to distinguish relative wealth and poverty. In addition, the wealth ranking exercise can be used to draw out information about the dynamics of poverty in the community i.e. who is moving between wealth categories and what causes these movements.

3. Conduct of secondary data, key informants and PRA-type research methods

The qualitative research methods (Section B below) should precede the sample survey, so that members of the community have already got used to having the research team around, and have had a chance to voice their views on a variety of different issues, before selected households are interviewed.

PRA-type work in villages does not need to utilise very complex or lengthy participatory techniques. For better or worse, PRA methods are deployed in the context of the type of research envisaged here for information gathering purposes rather than in order to involve people in an active process of change i.e. they are more RRA than PRA. In many instances, the type of information being sought can best be obtained via group discussions, and these may involve a general cross-section of the village, or groups formed around particular activities or issues e.g. boat owners, boat crew, migrant fishermen, wives in fishing households etc. Sometimes these groups will suggest themselves due to the membership of people in a community management activity e.g. a beach village committee, but researchers should be alert to how representative is the membership of such self-defined groups, and sometimes group formation drawing on a wider population and deliberately including poorer members of the community will be more appropriate.

In other instances, specific understanding of strategies and constraints may be more accurately obtained through discussions with individuals and households. This is a matter of judgement on the part of the researcher, and so-called "triangulation" whereby the same information is approached using several different methods should be considered, especially where there is a lack of clarity concerning the interpretation of issues or events.

The main areas of interest to be covered utilising qualitative research methods are set out in Section B of this manual, under the sub-headings B1, B2, B3 etc. These typically provide a checklist of the points that need to be covered in group meetings. They may also suggest other PRA-type activities that should be conducted such as mapping of the seasonal

migration patterns of fishermen. Sometimes they ask for specific quantitative data on which a consensus view is sought e.g. past and current prices of fishing gear or fish sales.

It is important that PRA field notes are written up soon after the conduct of group activities, while the direction of the discussion, and key points raised, are still fresh in the mind of the facilitator. In some cases (see Table B1 in Section B) a format for summarising discussions on a single page is suggested.

4. Conduct of the sample survey

Many of the questions in the sample survey (Section C below) are to do with people's work and incomes. Income is a sensitive matter, which is sometimes difficult to discuss with people, and enumerators should make very clear to respondents that this information is for research use only and no one else will know about it. Sample selection should include some "spare" households in case of non-cooperation by one or more chosen households. Enumerators should try to develop a good relationship with the family, and should be prepared to make repeat visits to clarify points that do not seem to make sense or to obtain more complete information.

Enumerators should also be sensitive to gender relations, and where it seems evident that clearer results would emerge by interviewing a particular woman or man separately, then this should be done in order to improve the accuracy of the data (both women and men may conceal details of particular activities and income flows from each other). Some further points about the conduct of the sample survey are:

- (a) aside from gender-sensitive income data, interviews should be conducted with several members of the household present, so that individuals can remind each other of information that requires recall up to one year back
- (b) where information is required of a household member who is absent (e.g. someone out earning wages), a return visit must be done to complete this information
- (c) the attempt should be made to collect gender-sensitive income data from the individual concerned – this is likely to apply especially to specialist income-generating activities such as fish drying, beer brewing (Form E) or work outside the home (Form F); one way of achieving this may be to have both a female and male enumerator visit the household, which may make separate discussions with individuals easier to do (see also note below on Form J)
- (d) after initial completion, the survey forms should be checked carefully for the consistency and accuracy of the information they contain. The proposed range of sample sizes is relatively small, so attention to detail is important. Answers which do not make sense, or which contradict each other in different parts of the questionnaire, should be checked by revisit to the household.
- (e) enumerators should have a supervisor, who signs off on the front page of the questionnaire only when completely satisfied with the quality of the data on the form. If there are problems with the replies, return visit to the household should be made to try to sort them out
- (f) in general most of the survey can be completed with a single visit to the household, provided this has been fixed in advance so that the relevant members of the household are there to be interviewed

(g) note, however, that Form F must be completed for <u>each individual</u> who has obtained non-farm or non-fishing income during the past year, including casual wage work, permanent wage or salary work, self-employment in a non-farm or non-fishing activity like trading or brick making, or pension income resulting from former full-time employment

The sample survey contains two forms that elicit qualitative rather than quantitative data. These are Forms I and J. Form I should be applied to <u>all</u> households. Form J is designed as a checklist of gender questions to discuss separately with a woman, or group of women, in the household. Form J should be implemented only to <u>one out of every five</u> households in the sample i.e. to 6 households per village (if the sample size of 30 is adhered to). These households can be selected by listing the sample households sequentially, then picking a random starting point (e.g. HH No.3) and selecting each fifth HH down the list (e.g. Nos 3, 8, 13, 18 etc.).

5. Two final points regarding livelihoods field research in fishing communities

(1) Blocking or Inhibiting Factors in Peoples Livelihoods

A key purpose of livelihoods research in the context of poverty reduction is to discover what stops people from doing things, as well as what helps people to do things. The factors that stop people from doing things may not be at all obvious, either because they are regarded as "normal" or because people feel they cannot do anything about them anyway. Cultural factors or social norms that prevent women or men from doing certain things is one example of the first type of reason. Licenses and taxes imposed by district authorities is an example of the second type of reason. It is very important that researchers probe further when someone says something like "this is not worth doing because. " In many ways, some of the most important new insights of this research are likely to emerge from an understanding of these factors.

(2) The Why? not just the What?

Field researchers sometimes have a tendency to stop further questions when they have discovered <u>what</u> is happening. For example: "do you keep goats?" is a what type of question, and if the respondent says "yes", then the field researcher usually moves on. However, for good livelihoods research, this type of question needs to be followed by <u>why</u> the person does this thing. From <u>why</u> questions all kind of other things can usually be pursued, such as why one thing is better than another, or why someone does this rather than something else. For example, "why do you keep goats?" "I keep goats because they provide me with a means of obtaining income when fish catches decline" "what is the period, then, that fish catches decline?" In this way a more complex view of the different reasons for pursuing a complex livelihood strategy can be revealed.

6. Outputs from fieldwork research

The aim of the fieldwork research was for a set of outputs useful for further work and analysis to be produced downstream, resulting in ideas to be fed into ongoing policy processes such as poverty reduction strategy plans, decentralisation, communitybased or co-management of fisheries. The work is also intended to provide an empirical foundation to current discussion about the utility of the 'livelihoods approach' for poverty reduction in the context of the fisheries sector

7. Data Entry, Coding, Variable Names and Analysis

After the fieldwork was completed, the data on the survey forms were transferred to computer, using a database entry system (Access). Data was entered in the same format as it appeared on the survey forms. Since the survey forms were designed for codes to be entered at the time of completing the form, for the most part coding was already done and codes could be entered directly to the computer. Similarly variable names had already been devised, corresponding to the cells for data entry. Data entry formats incorporating checks for data consistency were provided.

A copy of the data is now lodged in the DFID-funded Livelihoods Research Centre at ODG in the UK, as well as the original copies that are held in the institutions to which research partners are affiliated.

Section B: Secondary Data, Key Informants and Group Methods

1. Introduction

This section of the manual contains advice and guidelines for conducting the secondary data collection, key informant, and group or PRA-type research activities in sample villages. An overview of these data components is given in Diagram B1

The overall objective of using these research methods is the same whenever the objective is to discover the factors inhibiting the ability of people to find routes out of poverty. The interest is in people's livelihoods, whether they are improving or deteriorating, the factors that help them to construct stronger livelihoods, and those that weaken their ability to make a viable living. Also relevant are the factors that cause people to diversify their livelihoods i.e. that increase the range of different activities that they undertake in order to gain a living.

The setting out of particular methods here should not be regarded as the only way of collecting the different types of information that is asked. It will often prove useful to seek the same information utilising several different methods e.g. key informants, group meetings, spot interviews with individuals, in order to triangulate different sources and reach a multi-faceted view of the topic under investigation.

Many of the sub-sections below pose livelihood issues in the form of questions, but it is not intended that these are necessarily asked in their current form. Researchers will need to think through how they will address each of the issues implied by the question, and what will be the best way of gaining the required understanding. Researchers should seek and note different perspectives, not aim for a single answer. There may, of course, be occasions when everyone widely concurs about a particular issue, but many others when they do not, and silences may sometimes indicate when individuals are reserving their view about something.

The following principles apply especially to sub-sections B4 to B6

- 1. Focus on ranges of experience and difference, not on "averages"
- 2. The prime interest here is poverty, so we need to disaggregate understandings according to different households, strategies, relative poverty and wealth
- 3. Investigate gender differences for all of these issues, as appropriate
- Seek understanding not just description: the '<u>why</u>' not only the 'what' (see end of Section A above)
- 5. Probe on changes and trends whenever appropriate
- 6. Ask about problems, constraints, hindrances, faced for any of the issues, if appropriate.
- Vary research methods according to what seems most appropriate some of the issues that are listed here under group methods may be better approached through interviews with a range of different individuals
- 8. It is important to have a firm idea about how data gets recorded and written up good records need to be kept during group meetings, perhaps by someone other than the facilitator, and notes should be written up straight afterwards; the same applies to semi-structured interviews with individuals and households

In summary, the purpose of the qualitative research can be summarised as identifying ways whereby it becomes easier for people to construct viable and improving livelihoods. This implies that:

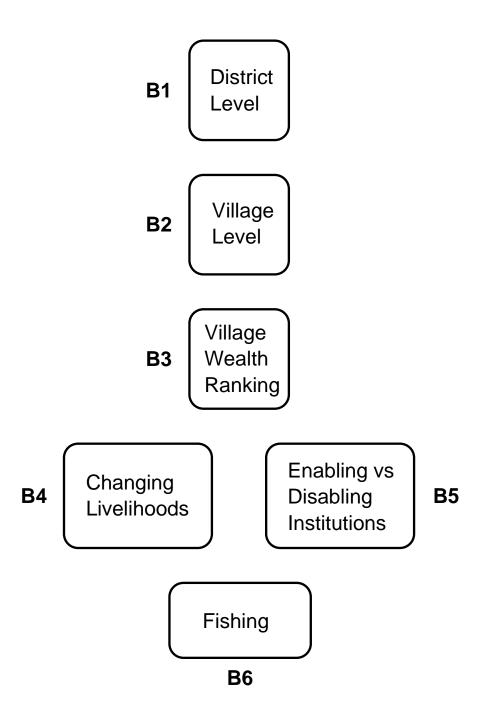
- we need to know not just what people do, but why they do it
- we need to know what it is that enables people to do certain things relatively easily, but makes other things very difficult for them to start up or engage in
- what are the factors in the policy environment which includes policy institutions of all kinds and levels – that help people versus those that hinder or block people's options and opportunities

2. District profile

The main method used here is secondary data collection, supplemented as required by key informant interviews. The purpose of this component is to be able to place the village and household level fieldwork in the context of the district and agro-ecological zone where the research is taking place. Key items required are:

- district map showing chief agro-ecological zones, forests, rivers, lakes etc.
- district and sub-district maps showing location of survey villages, roads, towns etc.
- district and sub-district demographic data
- location, number, and level of schools in the sub-district where survey villages are located
- location, number, and level of health facilities in the sub-district where villages are located
- agro-ecological data for the district or sub-district where fieldwork is taking place: areas under forest reserves, cultivation, main crops or farming systems
- any other features of special or notable interest with respect to that district or subdistrict, e.g. recent road upgrades, major public works (dams etc.), new industries that have come into the district, major problems that are well-known for that district (stealing of nets, lack of transport to market etc)
- change in the district: what are the main things that have been changing in this district over the past five years or so – is it getting richer or poorer? are income or wealth differences widening or narrowing between different parts of the district? are people migrating away from or into this district? are there any events in the last five years for which this district is well-known e.g. environmental change, drought, civil unrest etc.

Diagram B1: "Map" of Qualitative Data Components



3. Village profile

The main methods here are secondary data and key informants, supplemented where necessary by informal group or individual discussions. Key items required are:

- name of community and parish; its location; map showing key features of village and surrounding area
- number of households; village population
- ethnic affiliations, linguistic groups, main religions
- significant migrations into area over the past two or three decades
- main current sources of livelihood in the village
- change in the village: what are the main things that have been changing in this village over the past five years or so is it getting richer or poorer? Are people migrating away from or into the village?
- institutions and organisations in the village; what institutions exist *within* the community? what *outside* organisations are represented or active within the community?
 - → what traditional institutions exist (e.g. traditional chieftancy: is there a traditional chief? how is he selected? what is his role? what other 'traditional' institutions exist?)
 - \rightarrow what political institutions exist (village chairman, elected councils, etc.)?
 - → what formal organisations exist (e.g. community-level branches of development agencies, official cooperatives)?
 - → what community-based organisations (CBOs) exist (fishermens associations, farmers groups, cooperatives, credit associations, social/religious organisations)?
 - → what production services exist (e.g. fisheries extension, credit, supply of nets, marketing)?
 - \rightarrow what social services exist (e.g. health clinics, schools)?
 - → what non-government organisations (NGOs) exist?
 - \rightarrow what significant private businesses operate in the locality
- what development initiatives have taken place within this community in the last ten years? how were they implemented? what happened? (probe for history, attitudes, comments).
- common property: what key productive resources are held in common by the community? what criteria, rules and institutions govern access?
- land tenure: what is the main type of land holding in the village (e.g. private ownership, customary tenure);
 - → if someone wants more land or to start-up farming here, how is access to land obtained?
 - \rightarrow how is ownership, access, control over land distributed between men and women
- what has been the impact of AIDS/HIV in this village? what proportion of households have been affected?; how big is the problem of orphans created by this illness? (checks with health clinic records etc. may be useful in this context)

Note: when establishing a list of the existence and function of organisations and institutions, it is also important to probe about their effectiveness. Do they actually do anything? How responsive are they to the needs of their members or to the community as a whole? Some supplementary PRA work may be required in order to establish some of these aspects e.g.

institutional mapping/Venn diagrams, ranking. Also change is important – which institutions are declining and which are rising in importance.

<u>Output</u>

The output of this section should be a village-level report corresponding to the checklist given above. This report should also try to take a critical view of things that do not work, especially institutions that do not work well for the poor. Of special interest is to identify factors in the social and institutional environment that inhibit rather than encourage people from taking advantage of livelihood opportunities or creating new opportunities for themselves.

4. Village wealth ranking

This has already been discussed in Section A above. Initially, this exercise should be conducted with participants themselves choosing the number of income-wealth groupings, and defining the criteria separating one group from another. This information has value for the livelihoods analysis in itself, and field notes from the exercise should be written up. As well as the groupings, the <u>criteria</u> utilised by villagers for distinguishing households are of research interest; for example, the rich may be distinguished by having land holding above a certain size, or cattle above a certain number, or possession of particular types of physical asset, or some combination of these or other indicators. Also, the wealth ranking exercise may provide an opportunity to discover something about the <u>direction of change</u> i.e. who is moving into or out of poverty in the village, and the reasons for this.

After the wealth ranking exercise has been completed; households must be regrouped in order to distinguish three income-wealth categories, as a prerequisite to random sampling within each category. The three categories are:

- the poor
- the middle, or better off
- the well off, or rich

In most cases, this regrouping should be straightforward (the rich and the poor stay the same, and other groups end up in the middle). However, if the exercise produces a lot of groups, some thought may need to be given to how these match the poor, middle, rich distinction; and some help from informants may be needed in order to re-classify households in this way.

<u>Output</u>

The groups, criteria and other information about the dynamics of poverty discovered during the wealth ranking exercise should be written up for each village. The re-classifying into three groups results in the sample frame from which the stratified random sample of households is drawn.

5. Village livelihoods, past and present

The principle method to be used here is that of the village group meeting, which in this case should be a group that represents a reasonable cross-section of the community. Facilitators should be sensitive to the tendency for a few people to dominate group discussions, and should try to elicit responses from the less forthcoming members of the group. The discussion should aim to discover activity patterns of the village and how they have been

changing over the past ten years, including things that have got worse or better, and some general points on environmental change. Questions asked here could also be asked of selected individuals across different social groups in the village, as a way of confirming understandings. Questions specific to fishing are given later (B6). Points to cover in discussion include:

- what are the main sources of income in the village now? is this the same as five years ago? the same as ten years ago? are those sources of income as important now as they were five and ten years ago?
- what new activities are commonplace now, that were rare or did not exist before? activities that have started in the last ten years? the last five years? how important are these new activities now for the incomes of people in the village? what activities have stopped?
- what do villagers consider to have got worse in the last five years? last ten years? for those whose standard of living has deteriorated, what are the main things that have caused their lives or livelihoods to go down in the last five or ten years?
- what do villagers consider to have improved in the last five years? last ten years? for those whose standard of living has increased, what are the main things that have got better in the last five or ten years?
- what have been the main agricultural problems in the village over the past five or ten years? what has been happening with maize? other food crops? livestock? milk? etc both production and marketing problems can be discussed here.
- what has happened to people's access to natural resources over the past ten years? access to land for cultivation? fragmentation of holdings? distance of holdings from homestead? access to forests and forest products? timber? woodfuel? water for agricultural and household purposes? hay for cattle etc.?
- what has been the impact of AIDS/HIV on the village in the view of members of the group? are many households affected? what are the main effects on people's ability to gain a reasonable living? how has the village responded to children who are orphaned due to this illness?
- how has the status of women changed in this village over the past five or ten years? are there more women that are heads of households than before? are there activities that women do now that they did not usually do before? what livelihood activities are women still not permitted to do in this community?

<u>Output</u>

Information elicited should be written up in a summary report, and can also be summarised in a matrix format as illustrated in Table B1 below.

TABLE B1: EXAMPLE TABULATION FOR SUMMARISING GROUP DISCUSSIONS

(illustrated by the information asked in Section B4 of the Methods Manual)

Village:

Checklist ID (Section of Manual):

This form is for summarising information obtained from group discussions in each village. The form will vary with respect to the topics listed down the left hand side according to the group or sub-group of topics under discussion (Sections B3, B4, B5 etc). A form like this provides a convenient way of summarising qualitative research findings but should be completed in rough first, making sure from field notes that all main points of general agreement are covered, before making a clean version later.

Group	Now	5 Years Ago	10 Years Ago		
Question					
Main					
Incomes					
Comments:			0		
New					
Activities					
(started)					
Comments:					
Got					
Worse?					
Comments:					
		1	1		
Got					
Better?					
Comments:					
Agric and					
Marketing					
Problems					
Comments:		u	U		
Access to					
Natural		┠			
Resources					
Resources		┣			
Commencente		11	1		
Comments:					

6. Effect of institutions on livelihoods

The same methods can be used here as for the preceding Section, possibly even the same group of people can be used provided that this does not result in "respondent fatigue". Of special importance here are the factors that inhibit rather than encourage people from taking advantage of livelihood opportunities or creating new opportunities for themselves.

- are there particular activities in the village that require special permission or a license in order to be allowed to do that thing? [make list of such activities]
- for these activities, what person, or organisation or institution grants permission or issues licenses? [link this to the relevant activity]
- what is the cost of getting permission, or obtaining a license to start-up this activity? probe here both for official and 'unofficial' costs e.g. gift payments to traditional authorities or to local officials
- are there particular activities that individuals in the group would like to do, but are unable to do because of the costs that are imposed on starting up the activity?
- are there any restrictions on moving produce (fish, crops or livestock) from the village to the town for sale?
- if so, what are these restrictions? are payments required to any person or institution in order to move goods from one place to another?
- amongst the village organisations and institutions (sub-section B2 above) which ones are the most helpful for improving people's standard of living? [rank list in order of priority as given by people in the group]
- what is it that these organisations do that help people to gain a better living?
- are there people in the village who are excluded for some reason from the benefits that these organisations can provide? if so which group of people?
- amongst the village organisations and institutions (sub-section B2 above) which ones are least helpful, or even block, people from doing things to improve their standard of living [make ranked list of unhelpful organisations and institutions]
- what is it that these organisations do which hold people back from gaining a better living?
- are there people in the village who are particularly disadvantaged by the way these organisations or institutions work? if so, which group of people?

7. Special questions on fishing

Fishing as an activity poses special problems for investigation, due to the cyclical and seasonal nature of fish stocks and their varying location at different times. Households tend to specialise in fishing or not to fish at all. Fisherfolk tend to be more mobile than settled farmers and are sometimes a different ethnic group from the resident agriculturalists in lakeshore villages. Owners of boats and gears may be different from users of those same assets, and wage (or catch-share) labour arrangements may be prevalent. Qualitative data research can be divided into four main categories:

A. general discussion about fishing, in a broadly representative village group meeting (as for Section B4 above)

- B. discussion about regulations, access and management with members of fishing households (fishing focus group meeting), and key informants, resident in the village
- C. if relevant, discussion with migrant fishermen who are temporarily sited at or nearby to the village
- D. mapping of migratory movements made by fishermen

Category A:

Some main questions in a general village discussion about fishing are:

- (a) overall importance of fishing for survival in this community? is this just a minority occupation? do most households have members that fish, or are there some families that specialise while others do not fish at all? obtain count of households that fish and households that do not fish in this village
- (b) how big an area is fished by people based in the village? do village-based fishers move around and often fish elsewhere?
- (c) where are the main sites that village-based fishermen go for fishing? (a rough map may be helpful here)
- (d) how has the importance of fishing changed compared to five years ago? ten years ago?
- (e) is it still possible in this village for people who were not fishing before to take up fishing? is fishing seen as a good way to strengthen livelihoods? what are the barriers for people who want to take up fishing?
- (f) what are the seasonal characteristics of fishing as an occupation? what are the peak months for catches, and the lowest months during the year? draw up a calendar showing seasonal changes in fishing; have there been any changes in the seasonal pattern of fish availability compared to five years ago? ten years ago? (reasons for these fluctuations? weather, drying constraints (e.g. rain), fish movements/availability)
- (g) aside from regular annual patterns of fishing, are there cyclical changes that occur across years e.g. very good years for fishing occurring every three years or every five years? what is the recollection of the community about years (over the past 10-15 years) that have been very good or very bad years for fishing (reasons/understanding of fluctuations – biological stocks, weather, markets, costs?)

Category B

Some main questions for discussion with a focus group of fishing households are as follows:

- (h) what are the chief regulations about fishing and access that the village understands to apply to their fishing activities? do people comply with these regulations?
- (i) how are the regulations policed? what is the penalty for non-compliance? is this an individual penalty or one imposed on the community?
- (j) does the village have its own (community management) system for regulating seasonal access to fish and permitted fishing gears, and how does this work?
- (k) have either formal or village regulations changed over the past five years? past ten years? and if so how have they changed?
- (I) are there conflicts between the way the village authorities would like to manage access to fishing, and the rules that are imposed from outside by the fisheries department?
- (m) do the rules (whether village-based or imposed from outside) mean that some individuals have permanent rights to fish while others are always excluded from fishing?
- (n) have outsiders been coming into fishing over the past five years? if so, what effect have they had on the fishery? what effect do new fishermen have on the way that fisheries are managed here?

After discussing these questions in a village group situation, they should be followed up by discussions with key informants to check on the understanding of different people about matters of regulation and access. For example, individuals who are in authority in the village, selected people who specialise in fishing, selected people who do not fish in order to find out why they do not fish if they are located on the coast or lake shore.

Category C

This category comprises migrant fishermen who are located at or nearby to the resident village. Questions to be asked of this group are:

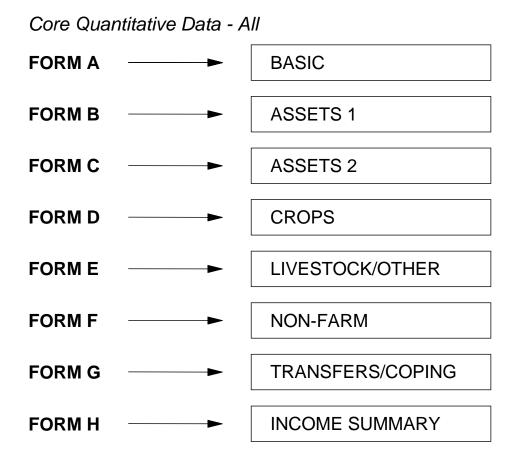
- (o) where are you from? (place of permanent residence)
- (p) which fish are you catching? what is the main fish that you come here to catch?
- (q) duration of stay on lake shore? other places you fish? always go to the same places? where are these places? do you come every year? or do you come only when you hear that there are good stocks here? [this set of questions should allow a "map" of places on the lake, river or coastline that are favoured by this group of fishermen to be drawn, together with info on the time they spend at each location]
- (r) why do you come to this village in particular? what are the advantages of being located here? [list reasons given by the group, and follow up particularly on relationships between the migrants and the resident community e.g. exchanges, trading arrangements etc.]
- (s) do you need permission from the village authorities to be here? how do you get this permission?
- (t) is it easier or more difficult to get permission to fish at this site compared to 10 years ago? 5 years ago?
- (u) what rules and regulations (e.g. rules about when you are allowed to fish, or about net size etc.) apply to your fishing activities? are these good rules? what do you see as the good or bad points about these rules?
- (v) in your place of permanent residence what is the main activity of your family (e.g. farming etc.)? how important is fishing for you (i.e. for your livelihood) overall? (e.g. very minor, about a quarter, half etc.)
- (w) in general has access to fishing got more difficult? or less difficult? over the past 5 years? the past 10 years? what are the reasons for access getting worse or better?

Category D: Mapping Movements

This is the mapping exercise alluded to in Section C above, and is about discovering the movements that fishermen make to different parts of the lake in order to sustain their fish catches. This does not require "formal" research methods, but will require visiting villages and beaches, at intervals, along the coast to find out where fishermen are from, and to ask them about the main places that they fish. Seasonal information about fishing locations should be included. Questions asked are where are you from? how long are you here? what other sites do you fish? in which seasons do you move between these places? For villages visited for PRA or sample survey purposes, this can obviously be done at the same time as the PRA.

Section C: Sample Survey Forms

Diagram C1: "Map" of Sample Survey Forms



Qualitative Data - All Households

Qualitative Data - 1 in 5 Households

FORM J ----- GENDER

Quantitative Data - Fishing Households

FORM K ------ FISHING

Livelihoods Research in Fishing Communities

HOUSEHOLD LIVELIHOODS SURVEY FORMS

Date of Interview:		Name of Interviewer:	
Household Code:		Household Name:	
Ethnic Group:		Village Name:	
Residence in Village:	(number of years or "always")	District:	
Income Group:			

General Instructions

- 1. Household code should be of the form TZDxVyHz, where x = district number (1, 2 or 3), y = village number (1, 2 or 3), and z = household number (z = 1 to 35)
- 2. Forms A to I should be completed for all households
- For 1 in every 5 households (the same sub-sample of households as selected for Form J below), Form A should be accompanied by a sketch of the relationship between household members ("family tree")
 The place to do this is in the space provided on Form A-1. See Form A-1EX for an example
- 4. If there is not enough space on a particular Form e.g. Form A or Form E, then insert an extra copy of the form for the additional information.
- 5. A separate Form F should be completed for each household member who has earned income outside the home during the past year. This includes wage income, salary income, self-employment income (i.e. own business like trading, transport etc), and pension or similar types of income
- 6. Form H should be used to check calculations for all sources of income
- 7. Form I & J contain qualitative questions; Form J applies to only 1 in every 5 households (see Section A p.8)

FORM A

FORM A: BASIC HOUSEHOLD DATA

Household Code:

Village:

Members of HH currently resident

ID	Name	Age (years)	S	Sex		Relationship to H/H head		Education Level Reached		Main Occupation	
	coding		1 = <u>1</u> 2 = <u>F</u>		$2 = \frac{\text{Wife/husband}}{3} = \frac{\text{Child}}{2}$ $4 = \text{Other relation}$ $5 = \frac{\text{Other permanent}}{2}$		1 = None 2 = P4 3 = P7 4 = S4 5 = S6 6 = Higher		$3 = \frac{1}{4}$ $4 = \frac{1}{4}$ $6 = \frac{1}{4}$ $7 = \frac{1}{4}$	Child 2 = School House/farm 5 = Fisherman Farmer 5 = Fisherman Govt./Parastatal employee Private sector employee Self-employed (non-farm)	
			CODE		CODE		CODE		CODE		
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

Total resident HH members:

Members of	family perm	anently or n	nostly away

ID	Name	Age (years)	S	ex		Relationship to H/H head		Education Level Reached		Main Occupation	
			CODE		CODE		CODE		CODE		
11											
12											
13											
14											
15											

Members of family permanently or mostly away (same people as for previous question)

ID	When left	Years away	C	Current place of residence	mo	Sends money How often?		How much (each time)?	Year total	
	Year Person Left	No of Years Away	1 = In this district (<u>name</u>) 2 = In Uganda (<u>place</u>) 3 = In <u>Kampala</u> 4 = Abroad (<u>country</u>)		_	$1 = \underline{Yes}$ $2 = \underline{No}$ $1 = Each \underline{week}$ $2 = Each \underline{mont}$ $3 = Few times$ $4 = O\underline{ccas}ional$		Each <u>month</u> Few times <u>year</u>	Amount Each Time	Calculate Amount for Year
			CODE		CODE		CODE			
11										
12										
13										
14										
15										

Total Estimated Remittances in the past Year:

(period from. to)

FORM B

FORM B: ASSETS 1 - LAND, LIVESTOCK AND HOUSING

Household Code:

Village:

B1 Land Owned and Operated by the Household

Shambas and Gardens

Field	Area		C	Ownership	Rent In Land	Rent Out Land	Use of Field	Field
ID								Cultivated By
	Area of ea field or plo		2 = 3 =	owned- <u>idle</u> owned- <u>used</u> own- <u>rent out</u> r <u>ent in</u>	Amount paid Ushs	Amount received Ushs	Crop, crop mixture, fodder, idle etc. (to be coded later)	1 = <u>jointly</u> 2 = <u>women</u> 3 = <u>men</u>
		UNIT	CODE					
A								
В								
С								
D								
E								
F								
G								
Н								
I								
J								
Total No of I		tals (Rent	als UShs): Total Area C (= sum codes			I Area Used for Farming: ng land rented in or borrowed)	

B2 Numbers of Livestock

(all data here refers to the past year up to the date of interview)

Livestock Type	Number	Number	Number	Number	Number	Number	Number	Number	Number	Current
	Now	Year Ago	Born	Died	Bought	Sold	Gifts In	Gifts Out	Eaten	Price*
									(at home)	
Cattle										
Goats										
Sheep										
Pigs										
Chickens										
Turkeys										
Other:										

* adult animal or bird, price that could be obtained by selling now

B3 House Construction

Wall Construction:	(co	oncrete, b	rick, wood, mu	d & wattle etc.)	
Roof Construction:	(tile	ed, corruç	gated iron, asb	estos, thatch etc.)	
Piped Water Y/N:	Drinkable Water	? Y/N		Mains Electricity Y/N	

FORM C

FORM C: ASSETS 2 - HOUSEHOLD ASSETS, CREDIT AND SAVINGS

M/F

C1 Selected Farm and Household Assets

Item	No. Owned	Current Price*	
Hoe or Spade			
Axe			
Bush knife (panga)			* If known, curre
Water Container			typical purcha
Cooking Pot			price of item f
Bowl			shop or store.
Bucket			
Hurricane Lamp			
Torch			
Bed			
Watch			
Clock			
Radio			
Cassette/Radio			
Television			
Telephone			
Refrigerator			
Sewing Machine			
Bicycle			
Motorbike			
Tractor			
Car or Jeep			
Pickup or Truck			

_

[E] Savings and Credit

Does anyone in this househo	Id belong to a credit group or scheme?	If YES, names?
Name & type of scheme: (e.g. ROSCA etc)		
Last amount borrowed:	Purpose of Loan:	
Interest Rate:	Loan Repayment Period:	Grace Period:
Does this scheme also allow	Y/N for savings? If YES, is this regular	(and how often?)
Aside from the scheme, do a	ny members of the household have savings	Y/N with a credit organisation or bank?
(Optional) estimated total am	ount of savings at time of interview:	

Y/N

FORM D

FORM D: CROP OUTPUTS AND INCOME

Household Cod	e:							V	/illage:		
	Unit	Quant	ity	Quant	ity	Total	Ave	Gross	Variable	Net Total	Net Cash
Crop Name		Consur	ned	Sold	I	Produced	Price	Income	Costs	Income	Income
(all major and minor crops should be listed)		A quantity	в %	C quantity	D %	E = A + C	F	G = E x F	н	l = G - H	J = I x D
				1							
						Tot	als:				

WORKING SPACE (VARIABLE INPUT COSTS)

(this table is for working out the variable input costs i.e. cash costs for each crop)

Crop Name	Name of Input	Quantity Used	Price per Unit	Cost of Input	Total Costs for each Crop
		к	L	M = K x L	(sum of M values)

FORM E

Household Cod	e:							١	/illage:		
			_								
Milk Cattle:	No:			Total Da	ays	Milked:		Average	e Daily Milk `	Yield:	
_				(per cow)						
	Unit	Quant	ity	Quant	ity	Total	Ave	Gross	Variable	Net Total	Net Cash
Name of		Consun	ned	Sold		Produced	Price	Income	Costs	Income	Income
			I								
Activity		Α	В	С	D	E = A + C	F	G = E x F	н	I = G - H	J=Ix D
		quantity	%	quantity	%						
Livestock											
					Sul	o-Total Live	stock:				
_											
Other NR*											

Dther NR*

Sub-Total Other NR:

* income-generating NR-based household activities such as beer brewing, handicraft manufacture, pot making, charcoal making, other forest products, fish processing (drying, smoking) should be listed here, and calculations made about their contribution to household income. Fishing as an activity has a separate form (use Form K)

WORKING SPACE (VARIABLE INPUT COSTS)

(this table is for working out the variable input costs i.e. cash costs for each type of enterprise

Activity Name	Name of Input	Quantity Used	Price per Unit	Cost of Input	Total Costs each Activity
		к	L	M = K x L	(sum of M values)
		· · · ·			
				1	
		,	/	, 	
		,		· · · · · · · · · · · · · · · · · · ·	
		,		· · · · · ·	
		,		· · · · · ·	
		,		· · · · · · · · · · · · · · · · · · ·	
				1	
	,	1		1	

FORM E: LIVESTOCK AND OTHER NR OUTPUTS AND INCOME

FORM F

FORM F: NON-FARM INCOME RECEIVED BY HOUSEHOLD

(incomes obtained outside the home, incl. wages, salaries, self-employment, pensions)

Name	of Respondent:		Sex:	
	Type of Work	Amount Earned Last Month	Amount Earned Past Year	Place of Work
		Enter here earnings for past month. For <u>regular</u> weekly pay this should equal weekly X 4	Enter here earnings for year up to date of inter- view. For <u>regular</u> earn- ings, this should equal monthly X 12	1 = <u>nearby</u> 2 = <u>district</u> 3 = town (<u>name</u>) 4 = city (<u>name</u>)
CODE				CODE
1	Wages - Seasonal			
2	Wages - Regular			
3	Salary - Private Sector			
4	Salary - Govt Sector			
5	Business Income (net personal income from bu	siness i.e. gross income minu	s costs)	
6	Pension Payments			
7	Other Non-Farm (e.g. property rents other thar	land, insurance payments etc	p.)	
		YEAR TOTAL:		
	er of Forms F eted for this household		Fotal Non-Farm Income Earned by Household Members	

FORM G

FORM G: TRANSFERS, FOOD SECURITY AND COPING

Household Code:

Village:

G1 Physical Transfers and Payments In-Kind

(incl. gifts from relatives e.g. food, clothes, food aid from govt., food-for-work etc.)

Description (incl. units)	How Often times/year	Amount Each Time	Total Amount	Approx Value per Unit	Approx Total Value	Approx Value All Items
						(past year)

G2 Regular Food Consumption of Household

[main staple foods eaten during past week]

Main Staple Foods	Number	Amount Eaten per Day		Current Price	Cost of	Main Foods
(Last Week)	of Days	Units (e.g kg)	Quantity	per Unit	per Day	per Week
Maize Flour						
Other						
Other						

G3 Food Stocks and Losses

Crop	Date of	Тс	otal Stored	Amount in	When Store	Los	s in	E	stimated	%	Ma	ain Reason
Name	Last Harvest	Lá	ast Harvest	Store Now	Ran Out	Ste	ore	Qı	uantity Lost	Loss		for Loss
1 = maize	approx date		quantity	quantity	approx date	1 = Yes 2 = No		amount		est. proportion lost	2 = i	odents nsects damp or rot
CODE		UNIT				CODE		UNIT			CODE	

G4 Response to Shocks (last 3 years)

e.g. drought, floods, theft of cattle, illness or death of family member

Event (Describe Event)	When Happened	Effects of Event* (Give Details)	Response to Event* (How Did Household Recover from the Event?)
to be coded later	date event occurred	e.g. hunger, crop loss (specify) animal loss (specify), house damage etc	e.g. sale of animals to raise cash (give details); HH member migrated for work (details); gifts from relatives etc.

FORM H: HOUSEHOLD INCOME SUMMARY AND CHECKLIST

This checklist should be completed jointly by the enumerator and the supervisor after all the other forms have been completed and collected together. This provides an opportunity for checking the accuracy of the data collected, and values that appear implausible should be followed up to check for accuracy

ID	Description of Income	Source of Data	Amount	Checked
1	Crop Income*	Form D		
2	Livestock Income*	Form E		
3	Income from Renting Out Land	Form B		
4	Other Household/NR-Based Inco	ome* Form E		
5	Non-Farm Income (Year Totals)	Form(s) F		
6	Remittance Income	Form A		
7	Income from Fishing	Form K		
8	Estimated Income In-Kind	Form G		
	Total Income Fro	m All Sources:		

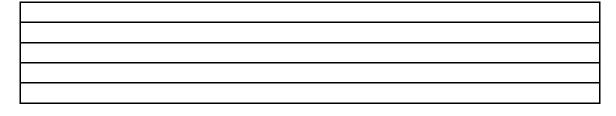
* For crop, livestock and other household/NR income, it is the Net Total Income that should be entered here.

FORM I: CHANGES IN GAINING A LIVING Household Code: Village: **I1** At present members of this household gain a living by: (the purpose here is to reconfirm the main activities found in the household survey) 12 Has this pattern of activity changed over the past five years or so? YES/NO **I3** If yes, then what were the main activities for gaining a living five years ago? **I4** Paying attention just to farming activities, does the household have **MORE/FEWER** different farm activities (i.e. different crops or animal types) than 5 years ago? Why? YES/NO **I5** Has the HH started "new" farming activities in the past 5 years? Why? **I6** Would the household like to engage in any specific new farming activity, or expand any existing activity? **YES/NO** If yes, specify? What is preventing this from happening?

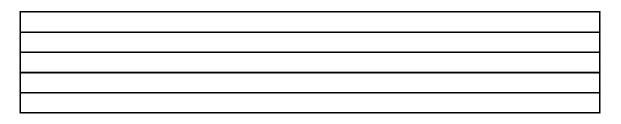
FORM I

- **I7** Moving now to non-farm activities, does the household rely **MORE/LESS** on non-farm activities now than before?
- **18** If the household is relying *more* on non-farm activities than before, what are the main reasons for this?

- **19** If the household is relying on *fewer* non-farm activities than before, what are the main reasons for this?
- **I10** Would members of the household prefer to have **MORE/FEWER** non-farm activities in the future?
- **I11** If members of the household would prefer to engage in *more* non-farm activities, what are the main things that prevent them from doing this?



I12 If members of the household would prefer to engage in *less* non-farm activities, what are the reasons stopping them from specialising in agriculture?



I13 During the past five years, has the situation of this household been

IMPROVING/WORSENING/STAYING THE SAME ?

I14 What are the main reasons given by household members for these changes or trends?

I15 During the past ten years, has the amount of land available to the household for agriculture

REDUCED/STAYED THE SAME/INCREASED?

I16 If available land has reduced or increased, what have been the reasons for these changes?

FORM J

FORM J: GENDER DIMENSIONS OF CHANGING RURAL LIVELIHOODS

The following questions are designed to reach a better understanding of women's tasks, resource access and control, and their role in household decision making. The checklist is designed to provide the basis for individual discussion with a woman, or group of women, who are household members. This discussion should be recorded in a notebook. Form J should be implemented to 1 in every 5 households in the sample survey i.e. to 7 households in each village.

- J1 What access do women in this household have to land and fields?
- **J2** Describe extent and nature of this access. For example, fields that are cultivated by women but belong to men in the household; fields that are cultivated by women, and are under women's control [provide details]
- J3 For fields that are under the management control of women:(a) how was access to this land acquired?e.g. borrowed from relatives, rented, allocated by customary tenure, inherited from parents
 - (b) do they control the output from these plots?
- J4 What livestock do women in this household own or have access to?
- J5 Are there types of animal that women are not permitted to tend? If so, what and why?
- J6 Do women control the disposal or sale of the animals that they tend? (give brief details as required)
- J7 Do women control the use or sale of livestock products? (e.g. milk, meat, wool, hides, manure etc - give brief details)
- **J8** Aside from the crop and livestock details already discussed, what is the role of women in family decision-making? In respect of the following, is decision-making by men or jointly? How are conflicts resolved when they arise?
 - decisions about incomes and spending
 - decisions about allocation of women's labour?
 - decisions about sale of products?
- **J9** In relation to gaining a living, are there certain activities that women *cannot* do? Why? (religion, class, ethnicity, cultural norms, etc)

- **J10** In relation <u>either</u> to gaining a living <u>or</u> to household work, are there certain activities that women *must* do? Why? (religion, class, ethnicity, cultural norms, etc)
- **J11** Do certain activities done by men and women have more value than others? If so, which? and who does these activities?
- **J12** How much flexibility is there for changing the workloads of men and women? or for sharing tasks?
- **J13** How much do women rely on social networks to share burdens and workloads? Describe (e.g. sharing tools or childcare, exchanging labour, helping with tasks like carrying water)
- **J14** How is household money managed? (income pooling or separate management by men and women)
- **J15** Which of women's income earning activities do they value the most? Why? (e.g. ability to retain income, work with other women, better status in the family)
- J16 Do women keep all the money that they earn from activities under their own control?
- J17 Do women receive cash income from their households? If so can they spend this freely
- **J18** Are there certain things that women are expected to pay for and other things that men are expected to pay for?
- **J19** Is the money that women earn spent on different things from the money they receive from their husbands? If so, how?
- J20 What are the resources that women consider they are most short of to help the family gain a living? [make priority list](e.g. land, fodder, grazing, their own time, labour from others, credit for inputs etc.)
- **J21** In terms of gaining a living, have women's activities changed over the past five years? If so, how?
- **J22** Have the lives of women become easier/stayed the same/more difficult over the last five years? What are the factors that explain the answer to this.
- **J23** In terms of gaining a living, what would women like to be doing in the future? What are the factors that prevent them, or could help them, to achieve their stated goals?

FORM K

FORM K: FISHING ASSETS AND INCOME

Household Code:

Village:

K1 Fishing Assets (Owned or Rented by members of the household)

Boat Type	No.	Ownership Own/Rent	Main Power Source	Current Boat Cost	Gear Type	No.	Ownership Own/Rent	Current Cost
1 = dugout <u>canoe</u> 2 = <u>planked</u> canoe 3 = <u>larger</u> planked		$1 = \underline{\text{owner}}$ $2 = \underline{\text{joint}}$ $3 = \underline{\text{rent}}$	1 = <u>paddle</u> 2 = <u>sail</u> 3 = <u>outboard</u>	(excl. motor)	$1 = \underline{\text{line}} 2 = \underline{\text{trap}}$ $net types:$ $3 = \underline{\text{cast}} 4 = \underline{\text{gill}}$ $5 = \underline{\text{seine}} 6 = \underline{\text{lift}}$		$1 = \underline{\text{owner}}$ $2 = \underline{\text{joint}}$ $3 = \underline{\text{rent}}$	
CODE			CODE					
How much does an	out	board motor	cost? Size HF	P:	Current Cost:			

K2 Estimated Income from Fishing

			<u>if</u> owner o	or renter		<u>if</u> labour	
ID	Name	Fishing	Value of	Operating	Net Value	Cash or	Annual Fishing
		Work	Catch	Costs		Equivalent	Income
	as given in Form A	1 = owner 2 = labour 3 = renter 4 = other (write)	average per week (recently)	use space below (per week)	(per week)	use space below (per week)	* calculate from no. of weeks below (approx)
		CODE					
		,					

TOTAL:

Total Household Income from Fishing:

K3 Working Space for Values, Costs and Income

Value Calculations:	

Use space above for average catch value per week: (talk through with respondent e.g. amount of different species caught per week X current sales prices = value of catch per week)

Cost Calculations: (typical costs per week)
Wages:
or Fish Share:
(cash equivalent)
Fuel:
Net Repairs:
Others:

Weeks Fishing per Year:

* Annual income = weekly income X number of weeks

i.e. approx number of weeks per year that typical catches are obtained