

CIMMYT EASTERN AFRICAN ECONOMICS PROGRAMME
GUIDELINES FOR EXPLORATORY SURVEY DISCUSSIONS WITH FARMERS

These guidelines are very useful during discussions with farmers. Each set (A - E) contains questions which could require 1-2 or more hours on the farm.

In the course of the Exploratory Survey three or four farmers may be asked each set of questions. The researcher may feel clear and confident about responses to some question sets after talking to two farmers, other sets may require discussions with five or six farmers. After a set of questions has been discussed with two farmers, detailed notes in the same numbered format as the Guidelines should be written up. Information gaps for that set can be filled by questioning other farmers.

It is useful to decide on several specific introductory questions to establish that the new farmer is indeed in the Recommendation Domain being investigated. The questions should refer to some key characteristics of that target group.

SET A: These questions help to describe the farming system through the enterprise pattern and use of products within it and to identify recent changes in the relative importance of the enterprises farmed. Questions (1) and (2) are preliminaries for all respondents.

ENTERPRISE PATTERN, OUTPUT USE AND SYSTEM TRENDS

- (1) List the crops grown and livestock kept by local farmers. Note whether each enterprise is farmed by most or just a few and, if only a few, what is special about those few.
- (2) Obtain rough estimates for each enterprise.
 - a) The number of fields devoted to it; b) The total area involved; c) The output the farmer would usually expect from this commitment.
- (3) For each major crop, list the varieties grown, making it clear whether each farmer grows more than one variety or some grow one and others another.
- (4) For the major crop varieties and animals, list the end uses to which they are put. In the case of crop varieties this includes the fruit and any other part of the plant used as a byproduct. Animal products and byproducts are equally important.
- (5) For each identified end use, detail the sequence from field preparation through harvesting, storage, processing and use. Include when it is taken during the life-cycle of the plant or animal.
- (6) Changing patterns:
 - a) Note crop varieties or livestock that used to be widespread among farmers of the area but are now disappearing. Assess why these enterprises are declining.
 - b) Note crop varieties or livestock that recently are becoming increasingly widespread. Assess why these enterprises are expanding.

- (7) Determine the cultural practices that are used in growing three major crops.
- a) Cultivation practices:
 - (i) List how many practices are done.
 - (ii) What methods are used for each and under what conditions?
 - (iii) Are these methods ever changed? If so, under what conditions.
 - (iv) Determine the usual timing of these operations for each planting.
 - b) Weeding practices:
 - (i) How many times is each crop weeded and what method is used each time?
 - (ii) Does the number vary from year to year?
 - (iii) What factors cause the number to vary?
 - (iv) Have any other methods ever been used? How does the farmer feel about them?
 - (v) What are the usual timing of weedings (for each planting if more than one).
 - c) What items are usually purchased for each enterprise (seed, fertilizer, herbicide, insecticide, fungicide, hired labour, or machinery etc.)?
 - (i) Source of purchase.
 - (ii) Quantity purchased, price paid.
 - (iii) Year purchases started for each crop.

SET B: Questions to further describe the farming system through specification of the enterprise and food calendars and food preferences.

ENTERPRISE CALENDAR, FOOD PREFERENCES AND FOOD CALENDAR

- (8) For each planting of main crop establish the usual time of seedbed preparation and usual time of planting.
- a) Assess the major reasons why local farmers use different varieties, and if relevant, plant them at different times.
 - b) Determine reasons for varied planting of the crops (if appropriate).
 - c) Identify the latest possible time for a viable planting i.e., where expected yields justify the enterprise.
- (9) For each crop variety establish the usual time for direct harvest for use from the field (if appropriate) and the usual time of final harvest.
- (10) For each livestock type establish;
- a) the usual timing of births,
 - b) the usual milk producing and dry periods,
 - c) any special time when meat is consumed.
- (11) Detail the main dishes eaten by the farm families in the area. Include preferred constituents and the preferred state of each constituent.
- (12) What substitute dishes are eaten when preferred foods are not available?

- (13) Identify whether any new foods are becoming popular and replacing traditional ones. Assess why old foods are losing popularity and why new ones are gaining popularity.
- (14) For which two of crops is the loss of output in a season most serious for the farm family?
- (15) For Question #3 a certain level of output is expected for each crop:
- what is the lowest output the farmer remembers?
 - what year was this?
 - what factors caused this low output at the time?
 - can other factors also strongly influence output?
 - how soon in the season can the farmer tell output will be poor?
 - when this is noticed what action is taken to look for other sources of food/cash?
 - if output is poor - for example in the year mentioned - how does the farmer manage for food/cash?
- (16) For Question #2 the size of the area planted for each crop was estimated:
- does this area change much from year to year?
 - which year was the smallest area the farmer planted?
 - why was the area small that year?
 - which year did the farmer plant a lot more area than usual?
 - why was the area planted larger that year?
- (17) Are there main foods which are purchased by families all the year round or at certain periods?
- (18) Are there main foods which have to be purchased at certain periods in poor years? If so indicate for each food:
- how frequently this occurs?
 - what is the reason?
 - when did this occur last for the most families in the area?
- (19) What are the prices on the major foods just before and just after the main harvest?
- (20) Using a table like the one below list preferred and substitute foods in the lefthand column.
- Shade out the months when supplies of each constituent are readily available every year.
 - Cross hatch the months when supplies of the food may be uncertain.
 - Leave blank those months when supplies are never available.

| MAJOR LOCAL FOODSTUFFS | J | F | M | A | M | J | J | A | S | O | N | D |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| MAIN STARCHES | | | | | | | | | | | | |
| SUBST. STARCHES | | | | | | | | | | | | |
| MAIN RELISH | | | | | | | | | | | | |
| SUBST. RELISH | | | | | | | | | | | | |

SET C: These questions prompt for information on the types of constraints on land, labour, and cash and also how they may hinder system expansion.

LAND, LABOUR AND CASH AVAILABILITY

- (21) Can the farmer get more land for gardens if felt to be necessary?
- How would more land be obtained?
 - Would it be near or far away from the village?
- (22) Will all the crops grown do well on all of the farmer's gardens?
- Detail the characteristics of soil and/or location most suitable for the main crops.
 - Are crops changed in the gardens depending on the season?
- (23) Are the same crops grown in the same place year after year? If not what rules are used to move crops to different gardens?
- (24) Some questions about the farmer's household.
- How many people are there in the family?
 - How many work on the farm?
 - full time
 - part time
 - Which work on which crops is done only by
 - men
 - women
 - children?
 - Are there special responsibilities for
 - water
 - fuel
 - cattle herding and feeding?
- (25) a) Which is the busiest month of the year for farming in the area?
- What work is going on at this time and for which enterprise?
 - Is there another busy period?
 - What main work goes on at that time?
 - Are these the two busiest periods every year? If not how do the circumstances change?
- (26) a) Is labour hired during the year?
 - permanent
 - casual
 - customary
- When and for what work is casual or customary labour used?
 - Do other farmers in the area hire labour during the year? Are their reasons the same as this farmer's?

- (27) a) Is any machinery used during the year?
 b) If so what crop/operations is it mainly used for and at what time of the year is it used (hired)?
 c) Do neighbours use machinery? Are their reason the same?
- (28) What do the farmers in the area do for cash income?
- (29) Do many families have members working off the farm?
 a) Permanently - what are the locations and types of work?
 b) Temporarily - what kind of work is temporarily taken up? Is it taken up at this time because opportunities arise or farmers need cash?
- (30) What is the most difficult period of the year for cash for local families? Is it because income is scarce or expenses are very high? If expenses are high what are the major items requiring cash?

This is the end of the initial phase of investigation. Preliminary analyses are now made.

1. Identify farmers' priorities.
2. Identify resource constraints.
3. Identify farmers' decision criteria.
4. Identify farmers' management strategies.
 - a) in regards to external challenges.
 - b) in regards to resource constraints.
5. Identify potential points of leverage in the farming system, (i.e. major factors contributing to low productivity) and specify the enterprises and production practises involved.
6. Work out approximate levels of return to actual cash outlays.
7. Derive a rough labour allocation profile from the cropping calendar.

Although Sets D and E cover a whole range of practices. The analysis in the final stages should focus on production practices being compromised by current farmer management strategies. The production agronomist in the team can provide benchmark information on what technically ideal practices should be used in light of the leverage points identified for local farming conditions.

SET D. These questions seek to detail the compromises in production practices and timing of activities on crop enterprises which have been identified as points of leverage on the farming system.

- (31) How does the farmer decide where to plant the crop?
 What factors are considered in making the decision?
- (32) Land preparation:
 a) What is the method of land preparation?
 b) When does the land preparation start in relation to the start of rains and to planting time?
 c) What sequence of work is involved if there is more than one operation?

- d) How does the farmer work? Is a whole field prepared before planting, or a portion of the garden prepared and planted the same day?
- e) What is the final form of the seedbed?
- f) Are there alternative methods of land preparation? If yes, why are they used?

(33) Planting:

- a) How are the plants of the main crop arranged in the field? (i.e. number of plants per station, spacings.)
- b) If other crops are mixed with the main crop, it is important to describe the sequence the crops are planted in the field.
- c) How do the farmers plant in relation to rainfall? (i.e. dry planting before the rains, the same day of rainfall, within a certain period after the rains begin.)
- d) Do farmers make one or several plantings of the crop each season?
- e) Do farmers commonly replant their main crop?
- f) What is the method of putting seed in the ground, and how many seeds are planted per hole?

(34) Weeding and Thinning.

- a) What implement or implements are used for weeding and what pattern of work is followed among the plants in the ground?
- b) How soon after planting is the first weeding done? Does the timing vary with conditions, if so how much and which conditions?
- c) How many weedings will normally be done? Will this vary with the date of planting, weather, or the soil in the field?
- d) Do they thin the plants either in the row or from each planting hole? If so at what age or stage? Do they use the thinnings for cattle feed?

(35) Pest Control if any.

- a) Timing and control method for major pests?
- b) Assessment of proportion of local farmers using pest control?

(36) Use of fertilisers/manures.

- a) Type of fertiliser/manure and source?
- b) Usual rate, method and time of application?
- c) Assessment of proportion of local farmers using fertiliser/manure?

(37) Use of leaves, plant tops and stalks for cattle feeding.

- a) Proportion of local farmers following this practice?
- b) Method of feeding animals?
- c) For leaves indicate the number of pickings made and the number of leaves taken.
- d) For plant tops indicate the stage of plant growth when the top is taken. Is this a critical time for cattle feed?

(38) Method and timing of harvesting and storing.

- a) At what stage does harvesting begin?
- b) What method is followed in picking and shelling the crop and disposing of stover or other crop residues?
- c) How is the crop stored? (i.e. drying and preservative used.)

- (39) Seed selection and preservation.
- Do farmers usually select seed in the field or from their stored harvest? If from storage, when is it selected?
 - What criteria do local farmers use when they choose next year's seed from their own crop?
 - Do they process and preserve the chosen seed in a special way?
- (40) Is the crop treated in any way, either while in the field or in the household? Are there resources used in growing the crop in a way not covered here?

SET E. These questions seek to detail the compromises in production methods and the timing of production activities in livestock enterprises which have been identified as points of leverage on the farming system.

LIVESTOCK HUSBANDRY.

- (41) a) Relate the composition of the herd to major uses of the livestock enterprise.
- Does the farmer own the animals or are they borrowed?
 - When food or cash are needed, which type of animal is sold first?
- (42) a) What are the main ways of disposing of animals? (i.e. consumption, loans to neighbours, sales to neighbours or butchers?
- What disposals from the herd were made over the last year?
 - What types of animals and through which channels?
 - Are some categories of animals difficult to sell?
- (43) a) Has the farmer had any animals die over the last year?
- What are the main causes of death among farmers' animals?
 - Is anything done to prevent unwanted death?
 - If animals are ill, can the farmer take steps to treat them?
- (44) a) Which month of the year do the animals usually calve?
- Is it the same month every year? If not on what does the month of calving depend?
 - Does calving at this time cause any problem:
 - with the calves
 - with the mothers?
 - What period of the year is preferred to have calves?
 - What benefits would this bring i) to the calves ii) to the mothers?
 - Is any control exercised over the time when cows are serviced?
- (45) Discuss with the farmer the calving history of the animals. Try to elicit for one or two animals-
- Age at first calving.
 - Number of calves born,
 - died as calves,
 - survived,
 - disposition of survivors,
 - Calving interval.

- (46) How are the calves reared?
- What access do they have to their mother?
 - Up to what age do they continue to suckle?
 - Is any special food or treatment given to encourage weaning?
 - Do the calves run with the herd?
- (47) What is the milking regime?
- Who milks the animals? b) How many times each day?
 - What period of the year are animals dry and are they all dry together? If not then what means are used to maintain a continuous supply of household milk?
- (48) a) Where is the source of water for the animals, does this vary with the season?
- Are the animals taken to water or is water brought in?
 - How frequently are animals watered in the dry season? How far must they be walked to water?
 - If water is brought in does the farmer give more to some animals than others, if so which type of animal?
- (49) a) What are the major types of feed used over the year (e.g. grazing on common land, grazing on own farm, grass or other fodder carried to animals?
- Does the community exercise any control over the grazing of common land?
 - Which are the most difficult months for feeding the animals?
 - How far will animals move to grazing in the dry season?
 - Are these feeds given to all animals or do some types get priority?
- (50) Livestock husbandry practices (specify seasonal variations).
- Who herds the animals during the day?
 - Are all animals herded together or is the herd split up?
 - Is there any communal herding?
 - Who decides where the animals will go for grazing at various times of the year?
 - How are the animals housed at night, are they all together?
- (51) a) Is the cattle manure used on the fields?
- Is it mixed with any material in the night shelter?
 - What materials? (ii) When are they mixed in?
 - At what time of the year is the manure moved out of the night shelter?
 - Is it handled or 'managed' in any way prior to application on the fields?
 - Is the night shelter a reasonable site for storing manure without too much loss of quality?

The detailed description of management practices on those aspects of enterprises associated with identified leverage points, and the comparison of present with technically ideal practices, will have identified compromises and provided points of potential intervention in the system. Possible new materials and methods to exploit these leverage points are pre-screened for viability in the system and their acceptability to the farmer. As a final part of the informal survey farmers attitudes are tested to new materials and methods which seem suitable. Unless such tests show antipathy to the ideas put forward these materials and methods form the content for a programme of local on-farm experimentation.