

**Worksheet 4.3: Sample Research Plan for Trials of Improved Practices (TIPs)**

Participants		Population Segments				
Mothers of children aged (months)	Other criteria	A. Highland, urban	B. Highland, rural	C. Lowland, urban		D. Lowland, rural
		1. low-income neighborhood 2.	1. government area 2.	1. shanty town 2. low income neighborhood	1. village 2.	
0 to 4		2	2	2	2	2
5 to 8						
5 to 8	well-nourished	1	1	1	1	1
5 to 8	undernourished	2	2	2	2	2
9 to <12	well-nourished	2	2	2	2	2
9 to <12	undernourished	2	2	2	2	2
12 to 17	well-nourished	2	2	2	2	2
12 to 17	undernourished	2	2	2	2	2
18 to 24	well-nourished	1	1	1	1	1
18 to 24	undernourished	1	1	1	1	1
Totals		15	15	15	15	15

## **Planning the Logistics of the Project**

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The objective of this section is to facilitate planning for the resources and arrangements needed to conduct the research. Thinking about these issues now allows more efficient implementation of the fieldwork.

### **Plan Field Personnel and Supervision Needs**

The number of staff needed depends on:

1. the number of interviews, discussions, and TIPs to be implemented and
2. the amount of time available for completion of the study.
  - If time is short and the sample is large, it is advisable to have several teams working simultaneously, thereby increasing the number of staff needed for data collection and for supervision.
  - The accessibility and distance between sites affects the plan: if sites are very far apart, it may make sense to send separate teams to different sites rather than have one team travel long distances between sites.
  - The various research methods also require different staff numbers and qualifications and different amounts of time to complete.

All of these decisions have salary, accommodation, and transport implications.

Field supervision is critical to the effective performance of the team.

- It is essential that someone be responsible for logistical issues such as transport, scheduling, and making sure that staff have what they need to conduct the research.
- At the same time, oversight of sample selection and careful review of the data collected is an important determinant of data quality.
- Daily supervision is necessary to catch errors or incompleteness of data, so that field workers can revisit households or individuals to correct any problems.
- If teams are working in widely separated sites, additional supervisors are needed.

The research director should make frequent unannounced visits to observe field activities and examine a sample of data forms. The director occasionally should accompany interviewers to understand their work and offer suggestions for improvement. It is also helpful if the director or supervisor validates each interviewer's work early in the research process. This entails revisiting homes where interviews were done and confirming the information obtained. For this type of work, it is important to train supervisors to be supportive rather than critical in dealing with problems and inconsistencies. It is better to have staff feel free to ask questions and raise issues than to have them cover up mistakes out of fear of disapproval or criticism.

### **Schedule Training and Field Work**

To facilitate coordination of activities, draw up an implementation plan that shows the planned dates for initiation and completion of all stages of the research, including training, travel time, sample selection, data collection, and analysis. Time requirements vary widely, but some estimates of the number of interviews or group discussions that can be done by a person each day based on previous experience are in Box 4.7.

Estimates for the total time per phase based on past experiences are in Box 4.8.

**BOX 4.7: TIME ESTIMATES FOR VARIOUS RESEARCH METHODS**

<b>Method</b>	<b>Number per day</b>
1. Household depth interviews with observation	1-2 by each interviewer
2. Recipe trials	1 using a 3-person team
3. Trials of improved practices (TIPs)	2 by each interviewer for the first visit 3 by each interviewer for each follow-up visit
4. Key informant interviews	4 by each interviewer
5. Focus group discussions	2 using a 3-person team
6. Recruitment (average for all methods)	1 day per method
7. Preliminary analysis in the field (average for all methods)	allow one-half day for every 2 days in the field

These estimates are recommended as guidelines to assist in calculating the number of field interviews and time required to conduct the research. In locations where populations are very dispersed, it may not be possible to conduct more than one or two interviews or trials per day and time estimates should be increased accordingly.

In some cases an activity cannot begin until a preceding step has been completed; in other cases overlap is possible, which shortens the overall schedule. It is wise to avoid scheduling too many field activities simultaneously because this makes supervision more difficult.

**BOX 4.8: TIME ESTIMATES FOR DIFFERENT RESEARCH STEPS**

<b>Step</b>	<b>Time</b>	<b>Comments</b>
1. Literature review	1–3 weeks	Depends on number of people and amount of literature.
2. Research design	1 week	
3. Logistics/personnel	1–2 weeks	Depends on procedures and availability of people. If contract is with a company, contracting procedures may take longer.
4. <i>Exploratory:</i> Training Fieldwork Analysis	1 week 3 weeks 2 weeks	Will vary depending on sample size.
5. <i>TIPs:</i> Planning Fieldwork Analysis	1 week 3 weeks 2 weeks	Will vary depending on sample size.
6. <i>Checking:</i> Planning Fieldwork Analysis	3 days 1–2 weeks 1 week	Will vary depending on sample size.
7. Final report and recommendations	2 weeks	
TOTAL for the full process, including exploratory research: about 6 months TOTAL if it is possible to move directly from the background review to TIPs: 3–4 months		

Use the implementation plan to calculate transport and accommodation needs and to make arrangements in advance. It is recommended that the field staff (interviewers and field supervisors) stay overnight in or near the research sites, at least during the work week. Returning to their home location on a daily basis greatly increases the amount of time spent traveling. Interviewers need to be available to meet participants at their convenience, perhaps in the early morning or in the evening. Living together as a team also provides opportunities for frequent debriefing, retraining, and initial analyses of the findings. The cost of accommodations and food, including a driver, is likely to be compensated by reduced fuel costs and less salary expenditure because of the shorter duration of the study.

## Prepare a Budget

To estimate the budget required for the research, include the following line items:

### Personnel

1 research director  
1 field supervisor per field team  
field workers  
expert help, such as a nutritionist, focus group moderator, etc.

### Transportation

vehicle rental (1 per team)  
drivers (1 per team)  
fuel, oil, maintenance

### Accommodation and meals

During training (meals, snacks)  
During fieldwork  
During analysis and report writing (if done away from home)

### Research supplies (for training, fieldwork, analysis, report writing, and dissemination)

Paper, notebooks, pencils, erasers (all activities)  
Photocopies (all activities)  
Flipcharts and transparencies (training, analysis, report writing, and dissemination)  
Computer and printer supplies (optional; mainly for in-house production and printing of materials)  
Tape recorders and cassettes (optional; mainly for FGDs)  
Calibrated cups and implements (for dietary assessments)  
Food, cooking fuel, and utensils (for recipe trials)

### Other expenses

Honoraria for field assistance (if appropriate)  
Facility costs (if needed for dissemination workshop)  
Printing summary of findings (if appropriate)

### Administrative expenses

Secretarial and related support  
Financial support  
Overhead allowance

## Select the Field Team

Hopefully, the recruitment process was started before reaching this point, as suggested in the preparation tasks section of this chapter. Now that there is a research design and plan for recruiting personnel, it is time to select the best candidates. Depending on who is responsible for the research, these may be Ministry or program staff who take leave from their usual responsibilities, or they may be short-term employees, hired only for the period of the research. Some important qualities to look for in selecting interviewers are summarized in Box 4.9.

If possible, it is advisable to select more staff than needed and include them in the training program. The advantages of this approach are that it allows leeway to hire only persons who perform well during the training, and if a few additional staff are needed later to replace workers who quit or become ill, there is already a pool of trained applicants.

In setting up the team, the research director should establish good communication and cooperation within the team. Making an effort to foster good team morale is important because field work can be difficult both physically and emotionally. Ideally, field workers work in teams of two or three members, although they conduct interviews individually. A small team can move together to each community, each person taking responsibility for interviewing respondents with children in a specific age group. Where language varies, team members will have to specialize by language skills instead of by age group.

#### BOX 4.9: CHARACTERISTICS TO LOOK FOR IN THE FIELD TEAM

- Fluency in the local language(s).
- Ability to establish rapport with strangers, converse naturally, and put people at ease so that they can express themselves freely.
- Ability to observe and record situations without judging or distorting.
- Empathy with the type of people who will be interviewed.
- Maturity, ability to handle difficult situations that may arise during fieldwork.
- Comfort in discussing child care, child illness, and child feeding issues. (While men and women are potential team candidates, women are usually more at ease when talking with women about these issues.)
- Previous field experience.
- Willingness to live and work in the study communities during the research.
- Ability to analyze a situation, think and act independently, and write adequately.

#### Train the Field Team

During training, field staff are oriented on background and general issues related to the research prior to learning about and practicing the research methods. Suggestions for more specific training on each method are included in Phase 2. If different teams are being trained to undertake separate methods, it may be efficient to bring them all together for an initial overview session. Topics to covered during training are listed in Box 4.10.

Materials to distribute during the general training include an outline of the research and program objectives, a reference document on infant feeding, worksheets reviewing existing information, and a list of key points on the qualitative research approach.

#### Box 4.10: GENERAL TRAINING TOPICS

- Overview of the program, its background and objectives.
- Objectives of the research.
- Outline of the training: objectives, format, schedule.
- Qualitative research methods: theory, attitudes, skills.
- Background information on child nutrition and feeding practices and their relevance to health.
- Expectations of field staff: responsibilities, attitudes, supervision.
- Field conditions and logistical arrangements.
- Overview of the research design, including methods, participants, and implementation schedule.

The training sessions should be as participatory as possible, using training techniques such as discussions, small-group exercises, and roleplays. Listen to trainees' suggestions, and find out about their previous research and program experience. Also be clear about expectations and the ways in which this approach is unlike research they may have conducted before, such as surveys. Include as many members of the research team as possible—i.e., supervisors and people who will be involved in analysis and writing, as well as the interviewers.

The general training takes one or two days to complete. Then proceed to specific training in the selected methods, as discussed in Chapters 5 through 7.

## **PHASE 2: FORMATIVE RESEARCH METHODS**

*Phase 2 addresses implementation of research activities from the development of question guides, through training and data collection, to initial analysis of results. Chapter 5 covers the exploratory methods, including in-depth interviews, observations, and recipe trials. Chapter 6 describes the Trials of Improved Practices (TIPs), and Chapter 7 discusses the use of checking techniques, such as focus group discussions (FGDs) and key informant interviews.*

*Each chapter covers the major steps that need to be taken for preparation, implementation, and analysis of the various methods. These basic tasks are quite similar for all of the methods that involve data collection: sampling, developing research guides, training the team, collecting the data, analyzing the results, and writing summary reports. The aspects that vary—such as the content of the guides, the skills needed by team members, and the nature of the sample—are highlighted and illustrated with examples. Examples of question guides, data forms, and summary tables that were used in previous research studies are in Appendix B at the end of the manual.*

### **Objectives of Phase 2**

- *To implement the formative research plan by:*
  - *developing question guides and recording forms,*
  - *selecting sites and recruiting participants,*
  - *training field workers, and*
  - *conducting planned research.*
- *To monitor fieldwork and revise research plans and methods, as needed.*
- *To summarize results as information is collected.*

## Chapter 5: Exploratory Research

### The Methods: In-depth Interviews, Observations, and Recipe Trials

A variety of exploratory methods can be used to better understand feeding practices and develop recommendations **prior** to conducting trials of improved practices (TIPs). Usually, at least one of these methods is implemented, except in cases where considerable qualitative information on child feeding is available.

The best mix of methods to use depends on the context and purpose of the work, as summarized in Box 4.2.

- **In-depth interviews** are recommended to understand attitudes and practices of mothers and other family members, health workers, or influential people.
- **Observations** are best for learning about actual practices and usually are conducted during an in-depth interview.
- **Recipe trials** are used to understand the potential for modifying existing recipes or developing new food preparations.

Information contained in this chapter is useful for planning and implementing exploratory research, and for planning and implementing the initial visit of the TIPs when a separate, exploratory research stage is not conducted.

### IN-DEPTH INTERVIEWS AND HOUSEHOLD OBSERVATIONS

In-depth interviews and household observations are complementary and often are implemented at the same time. The primary objectives are:

1. to gather information on current feeding practices and problems that impede proper nutritional intake,
2. to identify the resources available to solve these problems, and
3. to formulate specific recommendations for testing with families during TIPs.

The in-depth interviews and observations involve direct questioning, structured and open observation, and open-ended discussion with mothers, primary child caregivers, and other family members in their homes. They may also include in-depth interviews with health workers or community leaders.

These information-gathering techniques permit guided yet flexible discussions. The topics are predefined, but there are no predetermined categories for answers. Yes and no questions are asked, but the key question is *why*, so interviewers' notes are often extensive. This flexibility allows the discussion to proceed in directions that may not have been anticipated during interview planning. The key to successful qualitative research is deep probing of issues

raised as mothers respond to the questions. Try not to cover too many topics or the interview becomes a survey with little probing.

When planning this phase, remember that the outcome is a description of:

- actual practices and major problem areas,
- possibilities for improving problem practices (i.e., feeding recommendations to test with TIPs),
- major constraints and motivating factors that hinder or promote the key practices, and/or
- attitudes and beliefs of other people who influence the feeding practices of primary care givers.

<b>TASK BOX FOR IN-DEPTH INTERVIEWS AND OBSERVATIONS</b>		
<b>Preparation Tasks</b>	<b>In-depth Interviews</b>	<b>Observations</b>
Prepare the protocol and guides.	■ question guides	■ observation guides
Revise the research plan.	■ ensure that sample is suitable for question guides	
Train the field team.	<ul style="list-style-type: none"> <li>■ developing rapport</li> <li>■ questioning and probing</li> <li>■ dietary assessment</li> <li>■ recording and forms</li> </ul>	<ul style="list-style-type: none"> <li>■ unbiased observation</li> <li>■ what to look for</li> <li>■ structured forms</li> </ul>
Test and revise the protocols and guides.	<ul style="list-style-type: none"> <li>■ to refine and correct and to familiarize trainees</li> <li>■ to estimate amount of time needed for each interview</li> </ul>	
Draft a field plan based on the research plan and results of testing the protocol.	<ul style="list-style-type: none"> <li>■ specify number of respondents per group (age, respondent category, etc.) in each site</li> <li>■ plan now to recruit respondents and divide the interviews among the field team members</li> </ul>	
<b>Implementation Tasks</b>	<b>In-depth Interviews</b>	<b>Observations</b>
Recruit the households.	<ul style="list-style-type: none"> <li>■ select households</li> <li>■ obtain informed consent</li> </ul>	
Conduct household interviews and observations.	■ interview and record findings	■ observe household, feeding episodes, etc.
Conduct interviews with other respondents.	<ul style="list-style-type: none"> <li>■ select participants in research plan categories</li> <li>■ conduct interviews, but usually not observations</li> </ul>	
<b>Analysis Tasks</b>	<b>In-depth Interviews</b>	<b>Observations</b>
Analyze the interviews and observations.	<ul style="list-style-type: none"> <li>■ initial analysis</li> <li>■ sort groups, summarize by</li> </ul>	<ul style="list-style-type: none"> <li>■ compare with interview findings</li> <li>■ examine new issues</li> </ul>

	themes, interpret	raised
Develop recommendations for testing with TIPs.	<ul style="list-style-type: none"> <li>■ list possible recommendations, constraints, motivations</li> </ul>	
Draft a brief report.	<ul style="list-style-type: none"> <li>■ summarize findings and priorities for next steps</li> </ul>	

## Preparing the In-depth Interviews and Household Observations

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### Prepare the Protocol, Question, and Observation Guides

#### 1. Protocol

Prepare a brief written protocol of the steps to follow in the field, from recruitment, through data collection, to initial analysis. This facilitates training and supervision by providing a document to which everyone can refer. The protocol describes the steps for site selection, sampling of households and respondents, and conducting the interviews.

#### 2. Question guides

Develop the question guides and recording forms that are used to collect the information. Question guides are structured to facilitate note-taking and subsequent analysis. The question guide has several sections:

- *Background information* that is important for analysis and interpretation. For example, child's birthdate, mother's level of education, ethnic group, etc. Remember that this is **not** a demographic survey, and no question should be added if it is not relevant to the research objectives.
- If *anthropometry* is measured, include space to record the measurements taken. Of course, field workers need the appropriate equipment, training, and charts to interpret the measurements. References containing instructions on how to measure young children's weight and height correctly are included in the bibliography.
- *List the open-ended questions and probes.* Probes are ways to ask for more information after an initial response is given. They help to guide the interview. All questions must be phrased in a neutral way so the respondent does not think there is a right or wrong answer. Questions that are answered with yes or no generally are avoided. The ideal is to allow the interviewee to tell her story.

For example, ask, "How do you prepare the pap for your infant?" (not "Do you thin the food you prepare for your infant?") Similarly, ask, "How do you feel about what the health worker said to you about...?" (not "How good do you think the advice was from the health worker?")

In qualitative research the phrasing and ordering of questions may vary among interviews. Interviewers ask for elaboration and explanation of new topics or relevant issues that arise during conversation. In this way, qualitative research is different from survey research. The key to successful qualitative research is training interviewers to recognize relevant issues and to encourage participants to discuss them openly.

Several useful questioning approaches are described in Box 5.1. Examples of household interview guides are included in Appendix B.1. Additional references on qualitative research methods are found in the bibliography.

## BOX 5.1: QUALITATIVE QUESTIONS FOR IN-DEPTH INTERVIEWS

**Several types of questions are formulated, depending on the topic and information desired:**

- **Descriptive:** These questions request an account of something, such as an event, organization, etc., in its local context using local language. For example, "What do you do if your child refuses to eat?"
- **Structural:** These enable interpretation of how things, including knowledge, are structured and organized. For example, "What are the steps in making the soft porridge?"
- **Contrast:** These ask the difference between one or more objects and events. For example, "What is the difference between a healthy food and an unhealthy food?"
- **Why:** These ask the respondent to explain the reasons for a situation or an action in his or her own terms. For example, "Why do you give your child this food at that age?"

**Major topic areas** for interviews with mothers or other primary care givers include:

- breastfeeding practices and related attitudes;
- infant feeding practices (introduction of foods, bottle feeding, types of preparation, methods and cues for feeding);
- perceptions of different types of locally available foods;
- illness history;
- health-seeking behavior;
- perceptions of child growth and development; and
- sources of information on child feeding (mass media, family members, health personnel).

See Chapter 2, particularly Boxes 2.2–2.5, for more detailed lists of topics to address in in-depth interviews.

Where specific information on the dietary intake of children is needed, interviewers should conduct a 24-hour dietary recall in addition to the qualitative questions on feeding. This dietary assessment method is discussed in Chapter 6. Dietary recalls require a carefully designed format, special interviewer training, and proper analysis. Appendix C contains guidelines for the team nutritionist on how to use the dietary information.

The topics covered during interviews with fathers, other family members, or health workers may be a subset of or somewhat different from those covered in the interviews with mothers.

*In Swaziland fathers were interviewed about their role in purchasing and bringing home special foods for the infant, including milk formula.*

*In Ghana fathers were interviewed about their overall role in child-raising.*

*Mothers-in-law in Pakistan play a very important role in influencing decisions about child feeding, so they were interviewed on issues such as how breastfeeding practices have changed, what they recommend, when and why.*

*In Nigeria health workers were asked what they recommended and whether they felt that mothers followed their advice and why or why not.*

These examples illustrate that the emphasis varies greatly among programs. One study cannot cover *all* of these topics.

### **3. Observation guide**

If observations are planned, the question guide must include space to record observation notes. For conducting structured observations, specify the behaviors of interest (see Box 5.2).

- For unstructured observations, the observers write a description of everything that happens during a certain event, such as a feeding.
- For structured observations, the observers have a checklist of practices to observe and record on special forms. For example, key features to observe during a nursing episode include who initiated the feeding, what cue was given that it was time to feed, how long the feed lasted, whether the child fed from both breasts, how the child latched on, how comfortable the mother seemed, and who terminated the feed.

A sample structured observation form is included in Appendix B.2. More detailed descriptions and instructions are found in Bentley et al., 1994.

- If interviewers are in the home for an entire day, dietary intake is best recorded by observation rather than 24-hour recall. Observed feeding practices also can be used to validate the recall findings.

#### **Box 5.2: TOPICS FOR STRUCTURED OBSERVATIONS**

- Mothers' activities, particularly with respect to the care and feeding of the target child.
- Children's activities and behavior, and how mothers and other caregivers respond to them.
- Breastfeeding, bottle feeding, and other child feeding occurring during the visits.
- Food preparation, including special foods for the child; family foods; food consistency and dilution; ingredient and portion measurement.
- Family and child meal time, including who feeds the child; whether the child has his own plate; supervision and feeding style; active feeding by mother; whether the child eats all the food offered; special practices and behavior during illness and recovery.
- Conditions in the home, including hygiene (water, garbage, animals); a food inventory; food storage practices.

The draft question guides are pretested and refined several times prior to beginning fieldwork. The final pretest is done during interviewer training.

### **Revise the Research Plan**

Review the research plan developed in Worksheet 4.2. Participant and time requirements often call for adjustments after the question guides are developed. Respecify the numbers and categories of participants for the in-depth interviews and observations and reduce or increase them as necessary.

To define the age groupings for children living in the houses where the in-depth interviews and observations will take place, use a process similar to that described on Worksheet 4.3. Identify the most appropriate age categories, from nutritional and cultural perspectives. Consider whether these categories are too broad and need to be narrowed.

For example, if the Phase 1 review provided adequate information on infant feeding during the first three months and suggested that feeding practices do not change greatly after 24 months, interview in homes with children three to 24 months only. If the review also suggested that mothers of well-nourished children have different feeding practices from mothers of undernourished children, as is very often the case, select homes with well-nourished and undernourished children of similar ages so that practices and attitudes can be compared easily. An illustrative research plan for this example is shown below.

**Illustrative Research Plan for In-depth Interviews  
and Observations per Site (multiply by number of sites)**

Age (months)	Well-nourished	Undernourished
3-5	1	1
6-8	2	2
9-11	2	2
12-17	1	2
18-24	1	1
Totals	7	8

In this example, 15 children from each population unit (i.e., village or neighborhood) are selected to participate in the household in-depth interviews and observations. This number will increase if a wider age range or more children within one age grouping is desired. If only undernourished children are selected, the total per site can be reduced accordingly. If this example includes four sites (i.e., villages), the total sample is 60 households.

The research plan also lists the other family members and influential people to interview and/or observe, as described in Worksheet 4.2. Findings from the in-depth interviews are intended to reveal knowledge, attitudes, and practices but not to estimate prevalences or be interpreted statistically. Select the number of interviews that is likely to capture the *range* of behaviors and attitudes present in the population, and that can be managed by available personnel using available resources.

**Draft a Field Plan**

The field plan specifies *who* is involved (the number of each field team members and their responsibility), *when* (their schedule), and *where* the information is gathered (the exact locations and households if recruiting is already done).

A number of factors are considered in drafting this plan:

- Local logistics (including flights, ferry schedules, other transportation, market days, local customs, and holidays, for example).
- The number of household interviews each team member is expected to do each day. As shown in Box 4.7 interviewers usually can complete two household visits per day, with time for travel, rewriting notes, and organization. If the field team has four members, and there are 24 families to visit in each community, the fieldwork requires about three days per community to complete. If the field team works in pairs, the time is doubled to six days.
- Other people to be interviewed, including health workers and other influential people.
- The special skills of particular team members. For example, there may be only one person per team who can take anthropometric measurements or speak and understand particular local dialects. Or some team members may be trained only to interview and observe in homes with infants whereas others may specialize in interviews and observations of older children.

- The time needed for discussion and reflection on the information collected, as well as organization of field notes and revisiting households when necessary.
- Time for traveling to sites and recruiting the participants.

### **Train the Team**

General training on the overall program and the basics of qualitative research was discussed in Chapter 4. Each field team member who conducts interviews and observations needs specific training in the purpose, methods, and use of the information collected. The training on interviews and observations requires about four days beyond the basic field training. It includes:

- discussion of each step in the interview and observation protocol;
- instructions on correct use of the recruitment forms and practice in recruiting (recruiters may or may not be the same people as the interviewers);
- instruction and practice in techniques for establishing rapport with family members and other informants;
- a complete explanation of each question guide and how to record responses to each question;
- instruction and practice in conducting open-ended interviews with emphasis on developing good listening and note-taking skills and identifying and pursuing conversational cues (new and interesting comments that are relevant to understanding current feeding practices, resistance points, and motivations to change);
- instruction *and practice* in taking anthropometric measurements (optional);
- instruction *and practice* in prompting a complete dietary recall and completing food recall forms;
- instruction *and practice* in developing observational skills;
- instruction *and practice* in using a tape recorder (optional);
- examples of how findings are used to develop program strategies and messages (found in this manual); and
- pretesting and revision of field instruments (at least one day in homes).

**Handouts for the training sessions:**

Qualitative questioning skills are learned best through role-playing using the question guide. Trainees interview each other and then discuss their ability to conduct an open-ended, nonjudgmental interview. This is also an effective way to have the question guide translated, if necessary.

Observation skills are also developed during these role plays by asking trainees to explain what behaviors they noticed during the role play. Trainees should visit a community and practice observing and recording different activities.

- A course agenda.
- A summary of the objectives, methods, and desired outcomes.
- A tentative field plan for the in-depth interviews and observations.
- A brief description of different interview techniques.
- Instructions for special procedures (24-hour food recall; weighing and measuring children).
- All research instruments.

## **Implementaion of the Interviews and Observations**

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### **Recruit the Households for In-depth Interviews and Observations**

Recruitment, using the research plan, is a necessary part of selection that can be done by the field team or local community workers. Recruitment can be carried out while the question guides are being drafted and tested, so that the research process is not lengthened. The steps are enumerated in Box 5.3. The research director supervises recruitment in case there are problems, such as locating enough respondents with the specified characteristics.

It is important to avoid obtaining a biased sample during recruitment. For example, selecting only houses that are along a road or near the health center usually results in a sample of households that is not typical of the community.

A recruitment sheet is completed for each household. A sample recruitment sheet is in Appendix B.3.

When recruiting households it is advisable to find children with a variety of ages if the age groupings are very wide because feeding practices often vary within broad age ranges. For example, if the research plan calls for three children aged 12–18 months, avoid recruiting two 13-month-olds and a 14-month-old. Also avoid selecting households that are extremely unusual due to social or medical problems, and selecting households from the very poorest sections of a village only.

### BOX 5.3 : STEPS IN RECRUITING HOUSEHOLDS

- Recruiters visit all homes in the population unit or work from a census listing of all households in the community. They have directions specifying the characteristics of persons to be recruited. A recruitment sheet is completed only for families or participants with the desired characteristics.
- Information on the recruitment sheet includes:
  - child's age (a confirmed birthdate, if possible);
  - child's recent illness history and/or weight measurement (nutritional status), if these are selection criteria;
  - other selection criteria determined by the program (ethnic or religious affiliation, etc.);
  - complete address or location of the home, names of mother and father; and
  - willingness of the family to have someone visit in the following few weeks to ask questions and observe.
- The research director:
  - sorts recruitment sheets into appropriate categories (age group, nutritional status, etc.);
  - selects the appropriate number of households (randomly, or according to additional criteria to ensure that all of the age segments are considered) as set forth in the sampling design;
  - designates replacement households in the event that some of the families selected cannot participate in the study; and
  - assigns households to interview teams or interviewers, if possible.

### Conduct Household In-depth Interviews and Observations

The household in-depth interviews and observations are the key techniques for identifying problems and potential solutions. Interviews are carried out in each home during one visit or over the course of several visits. Observations and assessment of nutritional status and diet can be conducted during the same visits. The length of time and number of visits depends on what is being observed or discussed and on the participants' reaction. If a visit is too short, participants may not have the time to relax and provide in-depth information. If a visit is too long, or too many visits are made, participants may become frustrated by the inconvenience.

Prior to initiating an interview, it is important to establish credibility and a level of acceptance with the family. Visit the formal or informal community leader to ask for his or her permission to carry out research in the community and explain why the information is being collected. Some programs may want to hold a community meeting to introduce the interviewers before fieldwork begins. In other places the interviewers may make brief introductory household

visits. It is not always advisable to identify the interviewers by profession, especially if they are doctors or nurses, because this can bias people's responses.

Establishing a friendly relationship with participants generally is not difficult if interviewers are sympathetic and speak the local language. Once rapport is established, the family will not feel it must treat the interviewer like a guest, but will go about usual chores, leaving the interviewer to complete notes or to help.

The *in-depth interviews* usually are held in the home or around the housing compound. Specific interview topics, such as food preparation, are discussed in the kitchen area so that the actual utensils used to prepare and serve the food can be observed. This facilitates conversation and permits the interviewer to compare reported practices and beliefs with actual behaviors. Interviewers move around the home with participants, allowing them to continue their daily chores during the interview.

Dietary recalls require greater concentration by participants. These are conducted in the most comfortable environment possible, at a time when participants are not distracted by other tasks.

An interviewer who is in the house repeatedly or for an extended period can introduce discussion about the neighbors or local problems to divert the conversation but still reveal the participants' views. Remember, it is fine just to relax. If the mother sits in the shade for a minute to shell peas, sit with her. Let her begin the conversation.

Start the interview with the basic questions listed earlier: name, address, and family composition. Then guide the conversation by asking different types of questions, probing, and requesting clarifications. Be careful to keep these questions free of suggestions of correct or desired responses.

Unlike formal surveys, where responses are brief, in-depth interviews encourage clarification of what each person says. Ask the respondent to explain the full meaning by repeating or rephrasing a question. Questioning does not have to stick to the guides. In-depth interviewing involves probing for information on new themes and issues as they emerge. If people are reluctant to talk because they do not think they have any information to offer, offer assurance that their views are of great interest and importance.

Decide whether the in-depth interviews are to be taped. Extensive note-taking helps to get the most out of the interviews but it is difficult to take extensive notes and listen attentively at the same time. If the field team lacks prior experience with note-taking, it is worthwhile to tape the in-depth interviews. In this case, field workers listen to the tapes after an interview and add details to their field notes as required. Transcribing the tapes is not necessary.

Interviews are summarized immediately so that decisions about modifying guides and exploring new lines of inquiry are made and acted on.

*Structured observation* is a method for obtaining information about specific practices (food distribution at meal time, where the baby is in relation to the mother throughout the day, or food preparation by the mother, for example). Open observation is when interviewers notice something casually (the presence of a food or other products in the home, for example). Observations conducted during the interview capture the context in which behaviors occur and identify new behaviors or new issues not discussed in the question guide. Observations may confirm or contradict what the respondent reports during the interview and are an extremely important part of the home interview.

## **Conduct In-depth Interviews with Other Participants**

Other participants to interview may include

- family members: fathers, grandmothers, aunts of the child;
- individuals who are currently giving advice on child feeding, pregnancy, or treatment of disease (traditional birth attendants, local healers, community volunteers, health workers);
- other potential sources of information (change agents) including pharmacists, storekeepers, market women, teachers, etc.; or
- individuals whose opinions and support are required for the success of a program seeking to change current (sometimes traditional) behavior (head of the women's group, a local religious or political leader).

It is best if these individuals are interviewed separately and privately, so they feel free to express their own opinions without fear of contradicting each other. This is also easier for the interviewer, because the question guides are different for the various categories of participants, and it is very difficult to record adequately several people's simultaneous answers to questions.

Each participant selects a convenient location and time for the interview. The interview is structured but open-ended, as discussed for the in-depth household interviews. It is relatively short, preferably not longer than an hour (in contrast to the longer household interviews).

## **Analysis of the Interviews and Observations**

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### **Do Initial Analysis of the Household Results in the Field**

Interview results include summaries, tabulations, and insightful verbatim answers.

Notes taken during the interview are reviewed and summarized with some analysis each night to identify important issues or insights. During the initial analysis:

- Each field worker completes his (or her) field notes from each interview and observation. Clearly labeled household summary sheets are prepared, as described below.
- The field supervisor reviews all field notes, makes comments, and requests clarifications when necessary.
- The team and supervisor discuss new issues and problems. Changes to the question guide are possible at this stage.

In the field, interviewers summarize the information from each household by topic and content. Relevant information from various sections of the guide are cross-tabulated. For example, maternal work patterns are compared with child feeding frequency and style, reported practices are compared with observed behaviors, etc. Clearly labeled summary sheets highlight key findings and simplify future analysis tasks. A sample summary sheet is in Appendix B.4.

The feeding history and dietary recall information for each child is summarized separately, using one page per child. Each page is coded with the selection or other criteria, such as the age of the child, area of residence, illness status, or mother's work status. This coding allows sheets to be shuffled, as needed, during different types of analyses. For these reasons, clear labeling is essential.

A sample feeding history summary is in Appendix B.5. Dietary assessment guidelines for the team nutritionist are in Chapter 6 and in Appendix C.

## Sort and Summarize After All the Information Is Collected

The research director, with assistance from the supervisors and field interviewers, is responsible for summarizing all of the interview and observation data across households. This summary identifies patterns in practices and attitudes, and compares and contrasts different population segments and participants. Initial research questions guide the direction of the analysis.

Decide the relevant ways to sort the information (i.e., by site, maternal age and experience, ethnic group, etc.). Then create summary tabulations for important pieces of information. Summaries present responses on a single topic for all households in one site or for all households in the sample. Generally, small groups are compared with one another.

For example, separate the notes into piles for mothers working at home and mothers working outside the home, then write a summary of the important responses on breastfeeding practices: one page on mothers at home and one on mothers working outside. If there are no apparent differences in practices, these groups no longer need to be separated for breastfeeding issues.

Other examples include summarizing:

- breastfeeding patterns by area, nutritional status, illness status, and child care patterns;
- transition to solid food—what food and when introduced—by area, nutritional status, breastfeeding history; and
- feeding frequency and style by age, area, child's state of health, and mother's work pattern.

A conclusion is written on the bottom of each summary tabulation sheet.

*Composite scores*, which draw on the results of observations and interviews, are useful to describe clusters of behavior that includes several practices. Scores for breastfeeding style, complementary feeding style, and food hygiene practices are common.

Composite scores are calculated by identifying a short list of key *practices* in each cluster, scoring the household on each practice, and totaling the score. This is a manual analysis technique (unlike formal cluster analysis), and binary scores for each practice (yes or no) are recommended for simplicity. The average composite scores for different segments can be compared.

Similar composite scores for *knowledge* also may be calculated and compared with composite scores for practices to determine whether there are large discrepancies in knowledge and behavior for different clusters.

*Mothers in Pakistan had a high composite score on breastfeeding style if they*

- *fed on demand,*
- *fed from both breasts,*
- *let the child decide when to stop,*
- *reported that they initiated breastfeeding soon after birth, and*
- *breastfed exclusively.*

In addition to analysis of practices, search for cultural patterns. Pay attention to perceptions or terms that are mentioned frequently and explain common practices. Many cultures have a set of beliefs related to the child's development of abilities to chew, swallow, and digest foods, and these beliefs affect the timing, type, and dilution of

foods that are offered. In some places foods fall into various categories related such to characteristics as their perceived value, hot and cold qualities, or perceived lightness or heaviness.

While such belief systems are interesting, the point here is to discover whether these beliefs affect people's willingness to change feeding behaviors. As usual, focus on information that is relevant to developing child feeding recommendations or program activities. See Chapter 8 for more suggestions about analysis.

*Results of the other individuals interviewed* are also analyzed by area and type of participant (for example, compare all pharmacists' views or the opinions of all midwives). Assess the extent to which responses of influential people on common practices are consistent with what mothers say, and the extent to which these people influence mothers and others in the household and community.

### **Draft a Summary of the Findings**

The report on the results of the in-depth interviews and observations focuses on the points needed to prepare for the trials of improved practices (TIPs). The summary also highlights implications for development of the program and its education and communication activities.

Write a clear summary of the findings immediately after completing the analysis to capture the details accurately. Circulate the draft to the field team for feedback on whether or not it accurately reflects their impressions from the participants. The draft report is incorporated into the final research report, and detailed editing and printing is not required at this point. A sample report is in Attachment 5.1 at the end of this chapter.

Points to include in the summary are:

- a brief summary of field procedures and lessons learned for future programs;
- a description of the communities studied, the participating families, and other respondents;
- a detailed account of the child feeding practices or attitudes that are the focus of the research, such as:
  - breastfeeding patterns (initiation, frequency, duration, supplementation),
  - patterns of age of introduction of foods, type of food, preparation, mode of feeding, quantity, and quality,
  - motivations, constraints, and beliefs of mothers and other participants that encourage or discourage their feeding nutritious foods to young children, and
  - ways in which a child's behavior influences child feeding decisions made by the mother;
- an analysis of the benefit or harm of the specific feeding practices:
  - examine mothers' actions objectively,
  - the aim is to learn how to close the gap between scientifically ideal behavior and actual practices that are hindering child growth and development, and
  - build on current practices to the extent possible;
- information on sources of information on maternal diet and child feeding; and
- conclusions and recommendations regarding the priorities and specific feeding recommendations that will form the basis of the trials of improved practices (see next section).

### **Develop Recommendations for Testing with TIPs**

Detailed accounts of child feeding, including positive practices and problems, are completed before planning the household trials. The information gained from interviews, dietary recalls, and observations form the basis for determining the most logical and practical dietary improvements to try with mothers.

Return to the worksheets completed after the Phase 1 review. Use the results of the interviews and observations to complete column 4 of Worksheet 3.2. Develop recommendations that are likely to be acceptable in these communities. Look ahead to the Assessment and Counseling Guide for TIPs (Worksheet 6.1) in the next chapter. Begin to organize the results to complete this worksheet. Details on how to complete Worksheet 6.1 are found in Chapter 6.

*Examples of insights from interviews and observations:*

- *Mothers often are concerned about green leafy vegetables causing diarrhea or being hard to digest.*

- *In homes with twins in Swaziland, the feeding patterns varied for each twin because the mother felt that the "constitution" of each child was different, and, in fact, because the children behaved differently.*
- *Mothers tend to let children determine when, what, and how often they eat.*
- *In Indonesia children's illness patterns influenced mothers' work patterns, not the reverse. Mothers with sickly or undernourished children tended to stay home.*

## RECIPE TRIALS

Recipe trials use group cooking sessions with mothers to develop and test recipes for appropriateness and acceptability for young children. The method involves bringing a small group of mothers and children together in a setting where special foods or food mixes are prepared, tasted, and discussed.

Recipe trials, interviews, and observations often yield similar information. In most cases it is not necessary to use all three methods. Choose the most appropriate method to gather the data needed to prepare for TIPs. If household observations are not possible, recipe trials are a reasonable alternative because they provide a better understanding of food preparation practices than do interviews or discussion groups. In recipe trials mothers do not just report practices, they actually demonstrate them.

The usefulness of the information collected during recipe trials is enhanced by probing **how** mothers prepare children's food, and **why** they do it in these ways. Focus group discussions (FGDs), described in Chapter 7, can be held before or after the cooking part of the recipe trial, or the trial can be held without a group discussion. In this case, simply take notes, ask probing questions, and record comments during the process of preparing and tasting the recipes.

*In The Gambia FGDs were held during the first hour with a small group of mothers, who then participated in recipe trials during the second hour. During the cooking the facilitator clarified some of the issues that were discussed earlier. Although mothers said they were very willing to add groundnuts to the pap, when it came to actually preparing the fortified recipe, they diluted and sieved the groundnut paste, resulting in much less nutrient value than expected.*

Recipe trials are different from TIPs because they are an exploratory research method used to gather new information about likely practice or recipe improvements, and they are often held only among mothers with children in a relatively narrow age range, as described later. The results of recipe trials are used to design the TIPs.

<b>RECIPE TRIALS TASK BOX</b>	
<b>PREPARATION TASKS</b>	
Design the research protocol.	<ul style="list-style-type: none"> <li>■ key questions: is the goal to test existing recipes or develop new recipes?</li> <li>■ types of ingredients</li> <li>■ rules or instructions for mothers</li> </ul>

Define the sample and type of mothers to include.	<ul style="list-style-type: none"> <li>■ selection criteria: age groups, ethnicity, place of residence, etc.</li> <li>■ number of sites, number of sessions</li> <li>■ group size</li> </ul>
Draft the question guides and recording forms.	<ul style="list-style-type: none"> <li>■ introduction and explanation of recipe trials</li> <li>■ question guides with probes</li> <li>■ structured observation and recording forms</li> </ul>
Train team members and pretest methods and forms.	<ul style="list-style-type: none"> <li>■ one facilitator and 1–2 observers or note-takers per team</li> <li>■ content: objectives and general approach, methodology, roleplays, practice sessions, and revision of methods, if needed</li> </ul>
Assemble materials and equipment.	<ul style="list-style-type: none"> <li>■ utensils and supplies for cooking, serving, washing up</li> <li>■ ingredients (and measuring apparatus, if needed)</li> <li>■ stove and/or fuel</li> <li>■ cassettes and tape recorder, if needed</li> </ul>
Draft a field plan.	<ul style="list-style-type: none"> <li>■ assignment of responsibilities</li> <li>■ scheduling of fieldwork</li> </ul>
<b>IMPLEMENTATION TASKS</b>	
Recruit mothers.	<ul style="list-style-type: none"> <li>■ initial visit: identify mothers, obtain consent, and schedule the recipe trial</li> <li>■ select venue for the session</li> </ul>
Conduct the recipe trials.	<ul style="list-style-type: none"> <li>■ introduction and explanation</li> <li>■ choose volunteers or split into groups</li> <li>■ observe, question, probe, record</li> <li>■ taste recipes and get feedback</li> <li>■ debrief with field team and complete the field notes</li> </ul>
<b>ANALYSIS TASKS</b>	
Summarize results of the trials.	<ul style="list-style-type: none"> <li>■ describe the recipes prepared</li> <li>■ describe the response of mothers and children—which recipes are most popular?</li> <li>■ describe constraints and motivations for using the recipes</li> </ul>
Revise child feeding recommendations and calculate nutritional adequacy.	<ul style="list-style-type: none"> <li>■ identify best options</li> <li>■ assess and describe nutrient content and value</li> <li>■ revise the recommendations for the TIPs</li> </ul>
Write a brief summary of the findings.	<ul style="list-style-type: none"> <li>■ summarize acceptance and rejection of recipes</li> <li>■ list remaining or unresolved questions</li> <li>■ discuss lessons learned and their program implications</li> </ul>

## Preparing for the Recipe Trials

### Design the Research Protocol for the Recipe Trials

#### What are the important questions?

The design of the recipe trials depends on the type of information needed. When recipe trials are selected as part of the research plan, specify the gaps in existing information they are intended to fill.

If the main objective is to learn **how infant foods are currently prepared**, and structured home observations are not possible, assemble a group of six to 10 mothers and ask one or two to demonstrate their usual preparation methods. Ask the others to comment on how they do things differently and why.

To investigate **possible modifications of usual recipes**, ask mothers to discuss practices such as making the mixture thicker, adding one or more ingredients, feeding with a cup and spoon, or increasing serving size.

*In The Gambia mothers were asked to demonstrate their **usual method** of preparing pap, enrich the pap using **larger quantities of the usual ingredients** (millet, sugar, milk), try **feeding thicker pap**, and develop recipes to enrich pap by **adding new ingredients** (groundnut, beans, vegetable oil).*

Recipe trials also allow mothers to be part of the process of developing *new* recipes for young child feeding, using locally available ingredients but altering the usual preparation to make the food more nutritious. The most participatory and innovative way to conduct recipe trials is to provide an array of suggested ingredients, possibly grouped into nutritionally balanced groups and ask the mothers, individually or in small groups, to create and demonstrate recipes using these ingredients.

*In Peru mothers were presented with **groups of ingredients** and asked to come up with one or more recipes using all of the foods. Some of these groups included **new combinations**, such as:*

- *mixing cereal and legume flours,*
- *adding carrots to sweet dishes such as puddings, and*
- *enriching potato dishes with milk.*

Recipe trials are also used to **demonstrate and test existing recipes**. In some settings nutritious recipes or foods that are suitable for children already exist but traditionally are not fed to children. In some programs nutritious recipes or mixes are available already but have never been tested in the community. Recipe trials are used in these situations to demonstrate how to prepare the existing recipes, involve mothers in the preparation process, and obtain comments on the preparation process and the taste, consistency, texture, and other relevant characteristics of the final product.

*A program in Nigeria planned to promote a recipe for enriching maize pap with sugar, palm oil, and a legume. Four legume preparations were identified as nutritionally appropriate:*

- *cowpea flour,*
- *toasted cowpea flour,*
- *soybean flour, and*
- *chickpea flour.*

*Cooking demonstrations were held with mothers and market women to test the acceptability of these options and **choose the most popular combination.***

*In Peru, prepared recipes of different thicknesses and energy densities were presented to mothers. The recipe trials explored which recipes mothers considered **most appropriate** as a first complementary food for infants of five to six months of age.*

### **What foods will be tested?**

With assistance from a nutritionist, select the foods, recipes, or ingredients for testing. These decisions are based on food availability and current feeding practices. If possible, look for ways to **modify existing foods**, rather than developing completely new recipes. And, of course, the ingredients must be **locally available and affordable** to the types of families that participate. Avoid foods that are considered to be taboo or unsuitable for young children.

Remember that one of the purposes of recipe trials is to experiment with **ways of preparing available foods that are not usually offered to young children and finding ways to overcome resistances to their regular use.** Often, mothers require encouragement to feed or combine new ingredients. Once mothers taste the finished product or actually see how something is prepared, they are often more positive about the new recipe.

### **What ground rules guide the recipe trials?**

To help mothers come up with useful recipes, some simple criteria or ground rules are established. These guidelines reflect the research questions. For example, if one goal is to find foods acceptable for ill children, explain this clearly to participants at the beginning.

Other possible ground rules include:

- use a minimum number of ingredients, always include specific ingredients, or use only particular combinations of ingredients;
- prepare a food that is appropriate for young children of a certain age or health status (mothers selected all have a child in the age group of interest); and
- make a recipe that is easy to prepare at home.

*Ground rules used in recipe trials in Peru:*

- *prepare a food with a **thick consistency** (because dilution of infant foods was a problem);*
- *prepare a recipe suitable for children from **six months** of age;*
- *use a **proportion** of wheat flour to legume flour of approximately 2:1; and*
- *use **additional ingredients** to improve taste and make the recipe more acceptable to children.*

Once the basic design decisions are made, write a draft protocol that specifies the key issues to investigate, ground rules to follow, and arrangements for conducting the trials and recording the results. In some cases recipes are developed prior to the trials. In these situations the protocol specifies how to prepare the recipes with the trial participants.

The protocol also specifies the feeding practices (such as quantity of serving or usual mode of feeding) to address and the ingredients that are provided for the trials. As with other qualitative research methods, it is better to focus on fewer issues so that detailed information on each issue is collected. If too many topics are covered during one trial session, key questions may go unanswered.

### **Define the Sample**

Define the sample according to the key questions to be answered. Usually only a few recipe trials are required among a sample of mothers with children of a relatively narrow age range. For example, you may only need to test special recipes for children aged six to 12 months because younger breastfed infants do not require additional foods, and older children typically eat family foods.

*In The Gambia only mothers of children age four to seven months were recruited, because this was the age group about which there were unanswered questions on the consistency of the porridge and the options for enriching it. For other age groups, the foods to be recommended and tested during TIPs had been identified through earlier research.*

Sampling also depends on the number of population segments being studied. Only one, or at most two, recipe trials are required with any given population segment. Conduct the recipe trials in communities that are not scheduled to participate in TIPs.

The number of mothers participating in each recipe trial depends on the purpose of the activity. If all the mothers are expected to cook, limit group size to about five or six. Groups of six to 10 are possible if the purpose is to get feedback on the preparation, taste, and acceptability of the recipes. Purposive sampling is used to select participants according to characteristics described in the protocol. Because the trials are participatory, avoid assembling a group with one or more mothers who intimidate the others because of their social status in the community.

*The sample design from one study in Peru:*

- 10 recipe trials: three urban and seven rural, reflecting the main differences in the population,
  - mothers of children aged six to 24 months, and
  - eight to 10 mothers per group, split into three smaller groups for cooking.

## **Draft the Question Guides and Recording Forms**

The personnel who implement the recipe trials need guidelines on how to:

1. Introduce the trials and explain to the mothers what is expected during the session. This is essential for mothers to feel comfortable and participate actively and creatively.
2. Focus the discussion during the cooking session, clearly identifying the issues to probe. However, the guides should not be so extensive that the cooking session turns into a group interview. Areas for discussion during the recipe trial depend on the purpose of the recipe trials, but may include:
  - usual food preparation for children of certain ages and why it is done that way;
  - local availability and cost of the ingredients provided for use during the trials;
  - acceptability of the proposed combinations;
  - why certain combinations or preparations are not tried;
  - alternative ingredients (or other ways of processing similar ingredients) that have not been provided, but that are common or desirable;
  - perceived ease of preparation and time needed—do mothers feel they can prepare the recipe at home? why or why not?;
  - appearance, consistency, smell, and flavor of finished products;
  - child's response to the finished product, and mothers' perceptions of possible long-term effects of eating this food regularly; and
  - appropriate serving size and frequency of feeding children of this age.
3. Record the information that is demonstrated and discussed during group cooking activities. Several data-recording techniques are used to capture all relevant information:
  - structured observation forms are used to record what is prepared and how, including estimates or measurements of ingredients used, order and techniques for adding ingredients, and actual time required to prepare each recipe;
  - tape recordings and extensive notes on mothers' comments, explanations, and reactions to each other's statements or actions during the cooking process; and