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Global Alliance for Improved Nutrition

Focused Ethnographic Study of Infant and Young Child Feeding 6–23 Months: Behaviors, Beliefs, Contexts and Environments

Manual on Conducting the Study, Analyzing the Results, and Writing a Report

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INVESTING IN PARTNERSHIPS TO STOP MALNUTRITION

Use of this Study Manual

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The Global Alliance for Improved Nutrition (GAIN)

The Global Alliance for Improved Nutrition (GAIN) is an alliance driven by the vision of a world without malnutrition. Created in 2002 at a Special Session of the UN General Assembly on Children, GAIN supports public-private partnerships to increase access to the missing nutrients in diets necessary for people, communities and economies to be stronger and healthier.

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A note to the reader:

As this is a manual, we address the reader/investigator as “you” throughout the document. We make many suggestions about what to do and say in the course of data collection. We urge you (the reader/user) to take these ideas as guidelines and not as demands that must be followed without deviation. As discussed in the next section, there is a large difference between ethnography and survey research. In surveys, investigators try hard not to deviate from an established set of procedures. Ethnography is more flexible, and there is much greater leeway for the investigator to make adjustments and innovations. Above all, we hope that the process of carrying out the FES will be enjoyable, and that you will make interesting and valuable discoveries along the route.

Acknowledgements

Throughout the manual you will find the first person personal pronoun “we.” This is not a royal “we,” but a reflection of the fact that creating the manual was a collective effort. First and foremost it reflects collaboration with Professor Margaret Armar-Klemesu (Noguchi Institute for Medical Research, University of Ghana). The modules were developed with and tested by Professor Armar-Klemesu and her team for the first FES study, which was conducted in Accra, Ghana. We worked closely together throughout the process. She deserves credit for everything that works well, and has been a source of inspiration and insight at every level. I also received many valuable insights and suggestions from Professor Pertti J. Pelto, a pioneer in the use of ethnography in public health, Dr. Jonathan Siekmann, Mr. Dominic Schofield, and Professor Jean-Pierre Habicht. Finally, I would like to express my gratitude to the team at the nutrition think-tank *Sight and Life* for their assistance with copy-editing and proofreading of this manual.

With thanks

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1 INTRODUCTION

This manual is a guide for investigators who want to conduct a Focused Ethnographic Study (FES) to assess the behavioral, social and cultural environment, as well as the local market environment, when interventions to improve infant and young child feeding are being planned or considered. The tool is primarily designed to inform home fortification interventions or interventions to introduce nutritionally fortified foods during the period of complementary feeding. However, as discussed below, it also has a role in other assessment tasks. Its purpose is to assist the Global Alliance for Improved Nutrition (GAIN) to achieve its mandate to "support projects to develop complementary foods and food supplements for children aged 6–23 months that will reach 10 million children globally in five years and decrease anemia prevalence by at least one-third."

Part 1 begins with a brief description of the concept of a focused ethnographic study. It then presents the theoretical underpinnings for behavioral research on infant and young child feeding, which provides the rationale for the content of the FES protocols. It continues with a discussion about how FES data collection links with the theoretical model.

Part 2 describes the methodology of the study. It presents (i) the organization and sequencing of data collection; (ii) an introduction and overview of the methods that are used to collect data; and iii) sampling procedures and issues. As details about the specific research procedures are contained within the individual modules of the data collection protocols, they are not covered in the manual. Part 2 also contains some background discussion that will be helpful for putting the methodological information into the larger context of social and behavioral research.

Part 3 contains suggestions for organizing analysis, and Part 4 discusses presenting the results and writing the report.

1.1 INTRODUCTION TO THE STUDY

A Focused Ethnographic Study is a study that is designed to address a specific set of questions for which an agency, policy-makers, program planners, and/or project implementation teams need answers in order to make decisions about future actions with respect to a social, public health or nutrition intervention. Before the study is initiated, there should be a review of what is currently known from published articles and reports about the topic of concern. This review is followed by collection of primary data using ethnographic methods to obtain information on conditions and behaviors in the population that are important for various purposes, including: (i) identifying potential interventions that are appropriate for a given population; (ii) planning interventions that are appropriate for local conditions; (iii) identifying potential bottle-necks that are likely to affect the success of an intervention; (iv) informing the designing and development of communication strategies and content (especially for behavioral change communication, BCC); and/or (v) deciding whether a proposed intervention is likely to be feasible or effective in a given environment.

1.2 THE THEORETICAL MODEL FOR THE STUDY

The purpose of the interviews is to build a picture of the behaviors, practices and beliefs, and environments of importance to complementary feeding from the perspectives of households and the sectors that supply households with food. The result is a descriptive model of the current situation.

1.2.1 Deciding what is important

The topic of infant and young child feeding is vast, encompassing a large range of issues from food production and supply, through food acquisition to the household management of nutrition within the broader context of childcare. Potentially many different aspects could be relevant to assessing the potential of an intervention to improve nutrition during the period of complementary feeding. Collecting information on all of these aspects would be very time consuming and is simply not practical. Therefore, one has to choose which aspects to focus on and which aspects to leave aside, but the danger in narrowing down the focus is that something of real importance might be overlooked. The history of public health is full of examples of interventions where the designers failed to take into account a social or cultural feature that prevented the successful uptake of the intervention or where they failed to identify an essential element that was required for uptake and was missing in the population where the intervention was introduced.

Although there is no guarantee that some critical sector will not be missed, two features of an FES approach reduce the likelihood that a significant factor will be overlooked:

1) Qualitative interviews, conducted by investigators who are sensitive to the potential significance of information from respondents, provide a means of discovering and examining a specific topic that has not been initially included in the questioning framework. Thus it is essential that investigators be highly attuned to the meaning or potential meaning of respondents' statements, and that they follow up on these through further questioning. This is a critical feature of all ethnography, including focused ethnography. It is essential that investigators do not stick rigidly to the guiding questions, but are always prepared to explore new issues as they arise.

2) The FES protocols, and their modules, are based on a framework that is derived from three sources: (i) empirical social and epidemiological research that provides a body of data about the relative importance of different factors that influence IYC nutrition; (ii) a holistic, multi-disciplinary theoretical framework that reflects current understanding about the "cultural ecology" of infant and young child feeding and care; and (iii) the knowledge and perspectives that have been developed by private and public marketing research science and experience.

1.2.2 The cultural-ecological model for infant and young child food and nutrition: Explaining practices, behaviors, and beliefs from a household perspective

A holistic framework enables us to view the specific outcomes we are interested in within the context of its determinants. Understanding these determinants and their interactions is essential in order to make an educated assessment of the potential of an intervention. It is best to start with a broad framework and then narrow it down to specifics. The diagram below, which has been referred to as a "cultural ecological framework," was designed to provide an overview of the social and cultural elements that affect nutritional status of individuals anywhere in the world.

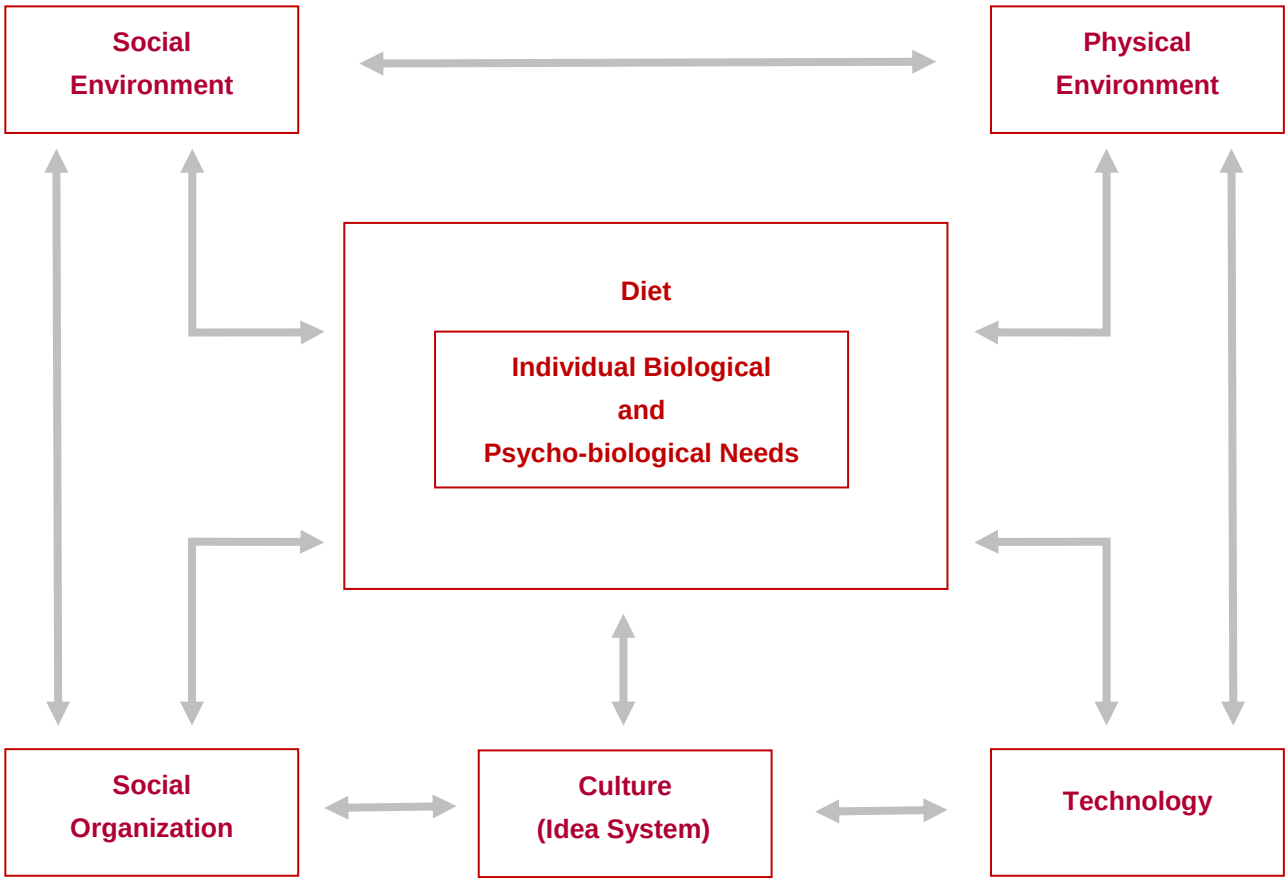

Figure 1. **Cultural-ecological model of food and nutrition**

Social Organization

Beginning in the lower left corner of the figure, the box labeled “Social Organization” encompasses a large set of factors. A primary aspect of social organization at the household level relates to economic conditions. This includes such fundamental aspects as household income, household expenditures for food, housing, clothing etc., the earning potential of household members, and household living conditions. Social organization also refers to socio-demographic features, including household size and composition, and the health status and educational attainment of household members. From the perspective of IYC feeding, another critical aspect of social organization concerns how the household is organized to care for its dependent members; it includes the allocation of responsibilities for childcare in relation to other time allocation to other activities, including food acquisition. Thus, many of the important determinants of IYC feeding are contained within this box.

Technology

The box labeled “Technology” refers to the entire range of tools, techniques and equipment that are involved in the production, distribution, preparation and consumption of food. Many features of household technology directly affect IYC diet, including the presence of refrigeration and other storage facilities, the quality of water available to the household, the ease or difficulty of preparing heated foods, the ease or difficulty of maintaining a sanitary environment, and so on.

Culture

The box labeled “Culture” encompasses all the ideas – knowledge, beliefs, values and perceptions – that affect and relate to the acquisition, preparation and consumption of food. At the household level, we tend to pay most attention to the cultural beliefs and knowledge of the mother. These come from many sources, including her own upbringing, the culture of her friends and neighbors, what she is taught at child welfare centers, who she seeks advice from, what she acquires from mass media sources, etc. It is essential to remember that when it comes to IYC feeding and care, the mother is almost never the only player. The cultural knowledge, beliefs and perceptions of the father (or the mother’s partner), her own parents and her in-laws, other children and other relatives inside and outside the household may also play important roles in influencing IYC feeding.

Another aspect of “culture” as it relates to food is the concept of “core foods.” In nutrition, as well as in the social sciences, the concept of “core foods” (or the “culture food core”) has been used for many decades to capture the idea that there are differences from one society to another in the foods that form the basis of local diets, and that these differences have implications for nutrition planning and nutrition interventions. Do all societies also have an implicit concept of “infant and young child core foods?”

In research on IYCF, the relationship of IYC foods to family foods has generally not been systematically examined. However, it is an important question because of its implications for nutrition interventions. When caregivers already have a concept of “special foods for infants” the cultural context for interventions is different than in communities where infants are not given “special foods.” In addition to determining whether a specific society has a concept of “special foods for infants,” the content of that core, the specific foods that are culturally valued, is also central for intervention planning.

We can illustrate the relationship of the “IYC core” to the “cultural” or “household core” as a Venn diagram. Cross-culturally, the overlap between the two can vary from highly overlapping to two nearly independent domains, as illustrated below:

Figure 2. Relationships of "IYC Core Foods" and "Cultural Core Foods"

The Venn diagram on the left illustrates a cultural situation in which IYC diet in the first year of life is comprised almost entirely of special IYC foods that are not shared with the family. This is the situation in some countries where commercially produced "baby foods" predominate in IYC diets. At the other extreme (the right-hand Venn diagram) are cultures in which there are no "baby foods," and in which only very modest modifications are made to family foods. The investigation of this concept is an aspect of the research in this component of the model.

Physical and Social Environments

In this general model the two environment boxes (labeled "Physical Environment" and "Social Environment") refer to the sources from which households acquire foods. In urban areas most food is acquired in the social environment – the various different types of markets, stores, street sellers, restaurants where foods and food supplies are purchased. In rural areas, where many households grow at least some of their own food, many aspects of food acquisition depend on characteristics of the physical environment, which includes features such as climate, water resources, soil characteristics, transportation networks, and other features that establish the conditions for food production. However, the social environment is also important in rural areas for food acquisition, just as the physical environment influences food patterns, including food acquisition, in urban and peri-urban areas. These differences are matters of degree, which illustrates a basic feature of the model: namely that all of the components affect IYC feeding in all societies, although their relative importance may vary somewhat. Also, all of the components of the model are interrelated and the arrows are a simplification, intended simply to indicate the concept of interrelationships.

1.3 LINKING FOCUSED ETHNOGRAPHIC STUDY DATA COLLECTION TO THE MODEL

The FES is constructed as a set of research protocols for interviewing caregivers as well as people who are involved in food distribution and marketing foods that are used by families to feed their IYC. Each protocol is comprised of modules that are designed to obtain information on one or more of the components of the cultural-ecological model as it applies to infant and young child food and feeding. To illustrate how the content of the FES modules is linked to the theoretical framework provided by the model we will examine two components in more detail: a) infant diet, and b) the social environment looked at from the perspective sources of complementary foods.

a) Infant Diet

For IYC there are two elements in the box labeled "Diet" – breast milk and complementary foods. An essential task for this FES is to answer the basic question: *Is there a place (niche) in the present diet of IYC to improve their diet through, for example, a home fortification packet with multiple micronutrients (MNP), through use of food additions, through a fortified cereal, and/or through alterations in food selection to give a more nutrient dense and diverse diet?*

Each of these questions directs research attention to a different set of specific questions. For example, in the case of home fortification with MNPs, one can ask: *Are all of the foods given to the IYC at different ages equally good candidates or would it be better to encourage their use by promoting use with specific foods or categories of food?* In the case of improving dietary diversity, attention is directed to the household and community food system to identify potential candidate foods. In the case of a new, fortified cereal, would the new food be a substitution for something that is currently being given, or an addition, or both?

To illustrate how answering these questions directs you to further questions, consider, for example, an exploration of the household behavioral environment for examining a new food product. In theory a product should be substituting for or adding to the IYC diet after 6 months of age. The full range to review includes:

(i) Breast milk

(ii) Home-prepared foods that are made for family members and are also given to the IYC, by modifying them to achieve a consistency that the IYC can handle (e.g., by mashing, by premastication or by diluting)

(ii) Home-prepared foods that are made exclusively for the IYC

(iv) Commercial products that are marketed for household consumption and purchased for household consumption, including the IYC

(v) Commercial products that are marketed exclusively for IYC and purchased exclusively for the IYC

(vi) Commercial products that are marketed for household consumption, but are purchased exclusively for the IYC

Several of the modules in the FES are designed to yield a picture of the dietary niche and show how the behaviors that are necessary to adopt the intervention fit within the dietary niche categories. For example, as indicated in the question above, in the case of an MNP one can learn about how the different foods that are given to IYC would lend themselves to use as a carrier for the MNPs.

Other modules yield information on other components of the model, including aspects of culture (such as perceptions and values related to infant feeding), economic and social organization of households as these relate to feeding and care of IYC, with a particular focus on food expenditures. As described below, another set of protocols, with their constituent modules, are aimed specifically at the social environment particularly from the perspective of food procurement.

b) The Local Food Procurement Environment

How families acquire and prepare foods for their IYC is clearly an important determinant of the quality of the child's diet. The family's capacity to modify current practices in order to improve child nutrition is significantly influenced by the constraints and opportunities that occur in relation to food and preparation. In traditional, rural environments, where families are growing at least a substantial portion of their own staple foods, there might not be an IYC core that contains special infant-focused foods and consequently no special requirements for the acquisition of those foods. Foods for infants are simply obtained as part of the home food production and storage system of the household. The extent of "special" food preparation depends, in part, on the nature of the staple food and the ease with which it can be modified to make it suitable for infant consumption. In some cultures, but not in all, more elaborate production of "special foods" for the infant occurs in the form of fermenting grains and/or dairy products.

With the introduction of partial cash economies into subsistence communities, and the expansion of commercial activity into rural areas, the introduction of special infant foods, particularly in the form of infant milks and cereals, has significantly altered infant feeding practices, even in households that remain heavily dependent on their own food production. Therefore, even in rural areas it is important to assess the extent to which households acquire these foods, how frequently they acquire them, and how they prepare them.

Availability is dependent on the local food acquisition environment, including what foods local food sellers stock and the form in which they sell them. In addition to sellers who have permanent locations from which they sell products, availability also

depends on the foods that “transient sellers” (especially market traders) are stocking and bringing into the community. Finally, the stores in larger centers may also be sources of acquisition for families who travel to these centers and include food purchases as part of their activities.

In urban areas, resources for food acquisition and preparation of foods for IYC become even more important in the household management of infant diet. The proximity of stores and the items they stock are central to household decisions. When stores stock staples from which “traditional” infant foods can be prepared, this availability provides urban families with the possibility of continuing with rural traditions. When they stock staples plus commercial foods, family options are expanded. The number of different options will be affected by the number of different products that are accessible to households, given the constraints imposed by household geographic, transportation and economic conditions. (It should be noted that there has been considerable documentation of the effects on household diets in urban areas of what local stores have available.)

In addition to stores, another major source for acquiring foods, especially foods that are already prepared, are so-called “street food” sellers. In urban areas throughout the world there is a large informal sector consisting of individuals who prepare and sell food through various arrangements. A common organizational arrangement is a “kiosk,” which is attached to the seller’s home or set up on the street. Sometimes sellers go door-to-door, selling out of a cart. In many areas, ready-prepared foods are sold within or next to outdoor or covered markets. Many sellers also prepare the foods they sell, but this is not always the case, and some “street food” sellers function in an intermediary capacity between the individuals who prepare them and the consumers.

With increasing employment of women outside the home, the importance of ready-to-eat foods prepared and acquired from stores and from informal sector “street food sources” has expanded greatly. Thus, in an assessment of current practices and potential for change, an examination of what food sellers are doing, how they organize their work, and their beliefs and attitudes related to foods that are acquired by families to give to their IYC is an essential aspect of assessing the capacity of families to change their IYC practices.

c) Feeding IYC Outside the Home

Although we usually think about the home when we consider infant and young child feeding, some of this activity occurs outside the home. When mothers are working away from home, they sometimes take their children with them and also carry food along. Often the IYC are left at home with alternative caregivers, but it is also common, particularly in urban centers, for mothers to leave their young children with someone else. This may be a relative or neighbor, an informal “day care” provider, or a formal crèche or childcare center. The feeding that occurs outside the home

can be a significant part of an IYC's total intake. Therefore, it is important to include an examination of this in a full ethnographic assessment.

1.4 CONCLUSIONS

The foregoing discussion is a "map" that lays out the sectors that contribute to infant and young child feeding-related behaviors. Many of these behaviors are similar across the world because they reflect the underlying commonalities that derive from the components of the model. These commonalities are becoming increasingly more important through processes of globalization. However, there are also significant differences from one location or region to another, which are the result of differences in the content of the components of the cultural-ecological model. Some of these are differences in cultural beliefs and knowledge, but there are also differences in the social and physical environments, in social organization and in technology, all of which contribute to the behavioral picture in any given place at any given time.

2 STUDY METHODOLOGY

2.1 INTRODUCTION

This part of the manual provides you with information about the study methodology. It begins with some background discussion that will be helpful for putting the methodological information into the larger context of focused ethnography and the differences between qualitative and quantitative research for planning and making decisions about nutrition interventions. Section 2 is a short discussion about the concept of "research participants." Section 3 describes the organization of the study. Section 4 lays out the research phases and the tasks in each phase. This is followed by a discussion of research techniques in Section 5. We make a distinction between research techniques and specific research procedures. Here we describe the research techniques that are employed in the study. The specific research procedures that are used to gather each piece of information are presented in the individual data collection modules, which contain sections labeled "procedures." Those procedures are not described here. Section 6 discusses sample size and sampling.

2.1.1 Qualitative versus survey research for nutrition intervention planning

In general, ethnography relies heavily on qualitative methods. It also uses methods that permit quantification and includes survey-type questions when these are appropriate for a particular type of data. Ethnography is designed to provide investigators with the opportunity to learn how people view their situations and behaviors. The goal is to describe typical or usual behaviors, conditions and beliefs and their relationships within a particular population. In contrast, in quantitative survey research the goal is to describe the magnitude, range, and distributions of behaviors, conditions and beliefs for a specified set of questions or "variables." In statistical terms, one can say that the aim of ethnography is to derive a picture of "central tendencies," whereas in survey research one seeks to describe the "distribution" of behaviors, conditions or beliefs.

In survey research the content of the questions is predetermined based on the investigator's assumptions about what is important to know. The investigator tries to identify the important questions, based on previous knowledge and an implicit or explicit theory, as well as a set of assumptions about the conditions in the environment in which the study will be conducted. A key challenge faced by survey research is that the assumptions may be wrong or incomplete. Focused ethnographic research begins with a more open exploration of the topics. Even when the questions are fixed, as many of them are in the focused ethnographic study protocols we are using here, investigators encourage discussion

and the resulting information is regarded as “data” that is later systematically examined.

Social research methodologists make a distinction between questions that are “open-ended” and questions that are “pre-coded.” Pre-coding is based on a set of assumptions about how people will answer. Some questions lend themselves readily to pre-coding because the range of answers is already known. An example is sex because one wants to know only whether the individual who is the object of information is male or female. In surveys demographic and economic questions are often pre-coded with pre-specified categories of response (e.g., 25–34 years, 35–44 years, etc. or primary school, high school, some college, college graduate, etc.). For many research purposes, pre-coding of questions is a fully adequate way and improves the efficiency of data collection. It is also appropriate when the investigators already have a lot of information about the domain of concern and already know what the range of answers will be. A challenge for pre-coded questions is ensuring that the interviewer and the respondent understand both the questions and the responses. This can be greatly improved through piloting, first with “cognitive testing” of the questions to be sure their meaning is understood by respondents, and then with the interviewers (enumerators) to be sure they understand the answers.

In contrast to pre-specified response categories, in open-ended questions the interviewer writes down what the respondent says in response to a question. The questions can be quite narrow but they are asked without offering any pre-specified categories. For example, consider an open-ended question such as: “What are the types of childcare arrangements women make when they have to go out to work?” Presumably there are only a small number of answers to this question, but rather than pre-specifying or pre-coding the answers, the question is asked in a fashion that can lead to further discussion and reveal new patterns. For example, if a mother responds that her own mother takes care of her child the interviewer may follow up with another question, such as “do you have any other relatives who also take care of your child?” In this way, one may discover that babies are being taken care of by older children, but women do not bring it up because they feel it is not a socially acceptable answer.

For many questions an open-ended approach is essential, particularly because one doesn’t want to bias or prejudice the information exchange. For example, if one doesn’t know whether food safety is perceived by caregivers as an issue it would be unwise to ask a direct question about their views on food safety, whereas more general questions about “problems related to feeding infants” will bring this out if it is a significant concern. There are many examples of this methodological strategy in this Focused Ethnographic Study.

When precise statistical information, collected from random samples, is required for decision-making, surveys are essential. In many situations, however, it is

unnecessary to have the statistical precision of a large survey in order to make decisions. In that case focused ethnography provides adequate information for making a considered judgment. In survey research the results are only as "correct" as the original formulation of the questions because there is no "self-correction" built into the questionnaires. If the questions are interpreted differently by the respondents than the investigators intend or the study leaves out questions on some of the most important determinants of behavior, the results will not be as useful for intervention planning as was expected. Thus, when statistical precision is necessary in order to make a decision, it is often important to conduct focused ethnography prior to designing the survey.

2.2 THE CONCEPT OF RESEARCH PARTICIPANTS IN FOCUSED ETHNOGRAPHY

It is wise, from the very beginning of a study, to regard the people you are going to interview as "research participants," rather than as passive "objects" of your study. In all field research that depends on interviewing, the quality of the data you collect is heavily determined by the willingness of the individuals you interview to openly share information with you. This willingness is based fundamentally on trust. By asking someone to answer your questions, you are asking them to trust you with the information they impart. At a minimum "informed consent procedures" are intended to provide the people you are interviewing with sufficient information about you and your intentions that they can decide whether or not they want to trust you.

When you go beyond a simple "question and answer" approach to data collection, as is the case with ethnography, the trust base is expanded. You are asking people to engage in an exchange about a range of ideas and experiences and to share many aspects of their views of their world and their behaviors. Fundamentally, you are asking them to engage in the research process. By remembering this basic feature of ethnographic research, and by considering the people you engage with as "research participants," you will be more sensitive to the needs and reactions of the people on whom you depend for the quality of your study. It provides the basis for an open and honest relationship, even though the duration of the relationship is relatively short.

2.3 ORGANIZATION OF THE STUDY: AN OVERVIEW OF THE RESEARCH STRATEGY

The strategy of this study is to collect information about the various essential aspects of IYC behavior and the local food acquisition environment as efficiently as possible by segmenting data collection according to sources of information. The first level of segmentation is into: (i) information about household behavior, which is collected from caregivers of IYC, and (ii) information about the local food

environment, which is collected from people who are engaged various aspects of selling food to families.

For caregivers, the second level of segmentation is by child age because feeding behaviors change so rapidly over the period from 6 to 23 months. However, as there are also many aspects of feeding behaviors that are characteristic throughout the full period of complementary feeding, a common data collection protocol can be used to obtain information. Thus, this segmentation is by sampling rather than by different data collection protocols.

For the local food acquisition environment, the second level of segmentation is by formal economic sector and informal economic sector actors. Here it is necessary to have different protocols to obtain information.

Another basic aspect of the research strategy is to collect information from as few people as is necessary to obtain an adequate picture. In practice, this means obtaining much of the data from “key informants” and only expanding data collection to “respondents” when key informant data alone is not adequate. In this study the information on the local food acquisition environment is collected only from key informants, whereas the data on caregiver behavior is collected from both key informants and respondents. The distinction between key informants and respondents is described in the next section.

2.3.1 Key informants and respondents

In classic, long-term, community-based ethnography a key informant is someone who is knowledgeable about the community and the culture of the group in which the research is being carried out. Sometimes this is an older person with many years of experience in the community. Depending on the topic a key informant may also be someone with special expertise, such as being a religious functionary, a formal community leader with expertise and experience in governance or a healer with expertise in the local medical culture. Key informants report about their own personal experience and views, but ideally they can also discuss more generally about the experience and views of other people in the community.

Another important characteristic of key informants is that they are articulate. In classic ethnography, a key informant is someone whom the investigator can go back to, to discuss ideas and findings as the research proceeds.

When one undertakes a short-term, focused ethnographic study the classic definition and role of a key informant is often significantly modified. With focused ethnography, the primary criterion for selecting key informants is that they have personal knowledge and experience in the area of specific concern to the project. It is still important for focused ethnography to obtain a range of perspectives and experience from the individuals who serve as key informants. Of course, it is also important to identify individuals who are thoughtful and articulate. If you find that a

person whom you have recruited is shy, is not reflective, is uncomfortable when you ask her/him about what other people in the community do, or is generally not willing to engage in an extended discussion, this is not a good key informant. In such a case it is best to end the interview gracefully and find someone else to talk with. A second departure from classic key informant interviews is that the short time frame for the entire study means that you rarely have the opportunity to do second and third interviews with her/him. The key informant protocols in this FES call for only one interview. However, this does not preclude returning to meet with them again, if the need arises.

2.3.2 What is a respondent?

In many areas of social research the concept of "respondent" refers to any individual from whom you gather data using a more-or-less structured interview schedule or questionnaire. People who answer a short, five-minute "yes/no" survey are respondents. People who complete lengthy, open-ended interviews are also respondents. People who complete psychological tests, such as personality profiles or IQ tests, are all respondents. All of us are respondents when we fill out a government census form.

Ethnographers also refer to "respondents" when they systematically gather data on the same topic from multiple individuals in the community. For example, they often administer open-ended surveys to respondents in the research area when they need to have information on specific topics collected from a sufficiently large sample to allow them to make quantitatively based generalizations about typical or usual behavioral and belief patterns. They also recruit respondents, selected through random sampling techniques, to interview with a standardized interview schedule, in order to test hypotheses about relationships among factors, variables, etc., in the same fashion that other social scientists do.

2.3.3. Key informants and respondents in this study

This FES uses both key informants and respondents. To obtain a picture of the local food acquisition environment you interview only key informants. However, for putting together the picture on household behavior related to IYC you interview both key informants and respondents. Obtaining data from a household perspective is first achieved by interviewing key informants who are caregivers. The results are then used to fine-tune the interview schedule for "caregiver respondents."

As described in more detail below, the study design calls for a minimum of eight caregiver key informants and 30 respondents. Obtaining information on IYC complementary feeding issues from 30 respondents provides a sufficient amount of comparable data to derive generalizations about usual or typical behavior related to complementary feeding. Qualitative researchers generally find that after 30 interviews (and often before that number is reached), the picture does not

change markedly, particularly if they have taken care to obtain the data from a range of different areas and people in the community. This feature – that new information does not change the general picture – is referred to as “saturation.” If you see that you are still getting new information and new perspectives as you approach a sample of 30, you will need to determine why this is happening and add some additional interviews.

Since the information from the key informants is used to fine-tune the respondent protocol there is a considerable over-lap between the specific data collection modules. On the other hand, there are some questions that are asked only of key informants because that is sufficient to obtain background information. Also some data collection procedures are used only with respondents.

Although the same type of information is collected, with the same basic questions, from every caregiver in the respondent sample, it is important to remember that these are ethnographic interviews. You still use the ethnographic approach with the respondents, which is one of encouraging exploration of ideas and issues and recording the discussion so that you can analyze their comments later.

2.3.4. The structure of the data collection instrument

Data collection in this FES is structured into four basic Research Protocols, each of which contains a set of modules:

I. The Caregiver Key Informant Protocol

CKI Module 1:	Foods for Infants and Young Children
CKI Module 2:	Food Preparation and Feeding Practices
CKI Module 3:	Sources of Food Acquisition and Food Expenditures
CKI Module 4:	Types of Problems Faced by Parents of Infants and Young Children
CKI Module 5:	Food and Nutrition Problems of Infants and Young Children
CKI Module 6:	Health and Food Perceptions
CKI Module 7:	Perceptions about Micronutrient Supplements and Fortification of Infant Foods

II. The Caregiver Respondent Protocol

CR Module 1: Demographic and SES Characteristics
CR Module 2: Twenty-Four-Hour Recall for Index Child
CR Module 3: Food Preparation and Feeding Behavior
CR Module 4: Guided Discussion about Perceptions of Value Dimensions
CR Module 5: Factors that Influence What You Feed your IYC (Rating Exercise)
CR Module 6: Perceptions about Micronutrient Supplements and Fortification of Infant Foods
CR Module 7: Estimated Weekly Food Expenditures
CR Module 8: Food and Feeding-related Problems/Challenges

III. The Formal Economic Sector Food Acquisition/Marketing Protocol

FESFA Module 1: Inventory and Characteristics of Food Items the Seller Carries
FESFA Module 2: Perceptions about Factors that Affect Family Purchases
FESFA Module 3: Comparison of a Fortified and Non-Fortified Product
FESFA Module 4: Marketing Challenges and Perceptions about Family Behavior

IV. The Informal Economic Sector Food Acquisition Protocol

IESFA Module 1: Practices and Perceptions

The first three protocols all contain multiple data modules, while the protocol for the informal economic sector key informants contains only one module. Each module is designed to obtain information on a specific topic. They are the equivalent of sections within a questionnaire. Some of the modules are very short, and others are lengthier, depending on the specific topic.

2.3.5 Selecting protocols and modules for your study

This FES is intended to be a flexible tool, in which investigators use the protocols and modules that are most appropriate for their study. That said, we encourage investigators to use most of the modules in a protocol, except when specific planning needs and/or specific environments require substitutions, modifications or a reduction in the number of modules in a protocol.

Be careful in deciding to omit modules, because some of them are linked, as they involve follow-up questions or procedures from a preceding module. For example, in the caregiver key informant protocol, Module 4 asks about problems that parents of young children are likely to face, while Module 5 is a follow-up to the answers in Module 4 to identify and probe on food and nutrition problems. Similarly, in the

caregiver respondent protocol, Module 2 is a 24-hour recall and Module 3 begins with questions about the foods the respondent named in Module 2.

After the initial development of the FES, additional modules were created to meet the needs of particular projects. We now have both key informant and caregiver respondent modules on seasonality and food insecurity. These have produced important insights about communities where food insecurity in general and seasonal food insecurity are significantly affecting food acquisition, food preparation and feeding of IYC. They also provide more in-depth understanding of the role of food insecurity than is obtained with the other modules. However, there may be situations where seasonality is less important and sufficient information about food insecurity can be obtained with the other modules.

In addition to seasonality and food insecurity modules, we have also developed modules to obtain more in-depth insights into caregiver beliefs that are important for behavior change communication. The emphasis is on identifying motivators for behavior change that relate to caregiver values and beliefs and knowledge. These data must be considered in relation to the other factors that facilitate and constrain IYC feeding, which other modules in the FES are designed to reveal.

2.4 RESEARCH PHASES AND TASKS

The study is designed to be carried out in eight phases. Our general approach in this section is to assume that you are an experienced and skilled investigator, and that you do not need detailed instruction on how to carry out these tasks. Our approach here contrasts with the approach we have taken in the individual modules, where we have tried to provide more detailed suggestions, particularly for research procedures you may be less familiar with.

Important Notes:

1. The two caregiver protocols are designed to be administered with audio recording. This feature needs your attention in the initial planning, including budgeting, staffing, and seeking ethical clearance for the study from appropriate authorities. When ethnography is conducted in a community over a long period of time, investigators often take notes during interviews and then write extensive fieldnotes, which are then analyzed later as text. However, in focused ethnography there isn't enough time to prepare extensive fieldnotes. Furthermore, verbatim text from respondents avoids bias introduced by investigator. Therefore, the study methodology calls for audio recording of all interviews, which is followed by translation and transcription (see below).

In some of the individual modules you will see instructions to use data recording forms (which are also provided). For some modules filling in these forms during the interview is essential because you will use them to structure subsequent questions. However, these notes do not substitute for the verbatim, audio record. Also, some of the modules contain demographic and other data that will be used in quantitative analysis and the forms are the most efficient way to consolidate these data for analysis. This is also the case for the cognitive mapping tasks. However, for most of the guided questions, the data will be in the audio recording and the subsequent transcript. In these cases, you can make notes if that helps you to organize and focus, but you should not try to take down a verbatim statement.

2. Note that Phase 6 is optional. It is only important to conduct interviews with crèche owners or women who routinely take care of children as a means of earning income if a substantial portion of IYC are being cared for through such arrangements.

3. The timing of interviews with the formal and informal sector food acquisition key informants is flexible in relation to the interviews with caregiver respondents. These can be conducted concurrently with the caregiver respondent interviews, rather than after they have been completed; that is, Phase 4 and Phase 5 can be conducted simultaneously if that makes for a better organization of the workflow.

1. Preparation for initiating the field research

Tasks:

1. Obtaining permission to conduct the research, including approval of informed consent procedures, as required by appropriate authorities
2. Identifying, recruiting and training field assistants
3. Acquiring familiarity with the research area
4. Identifying appropriate areas from which to draw key informants and caregiver respondents, and make observations studies
5. Determining how to efficiently measure economic status through measurement of living standards indicators, such as characteristics of housing and possessions. Nowadays most countries have some tools for this type of measurement, which have been validated against detailed economic data. You will need to consult with local experts in measuring socio-economic status (SES) and decide which method will be simple enough, but adequate, for the purposes of this study. Once you have decided on a potential set of indicators, it is vital to do a small pilot study to determine that:

a) The indicators are easy to collect
b) The SES scores are easy to calculate
c) The SES scores generally correlate with other indicators that you or others have used in the past to interview families who are economically disadvantaged; that is, that they are adequate to interpret the FES results in relation to project goals.

When you have fine-tuned your indicators and your scoring system, be sure to create a recording form to use with CR Module 1 Part B.

6. Organizing the system to manage and monitor data collection

2. Caregiver key informant interviewing

Tasks:

1. Organizing the sampling
2. Recruiting caregiver key informants
3. Conducting the caregiver key informant interviews
4. Analyzing the caregiver key informant data

3. Preparing for caregiver respondent interviews

Tasks:

1. Deciding what foods and value dimensions to use for Modules 4 and 5
2. Arranging for illustrations of the foods and dimensions and creating the cards for the modules. You will also need a card or cards with pictures of the nutritional supplement or new foods you examine in Module 6
3. Pre-testing the illustrations for clarity and comprehension
4. Creating a card for income brackets (if appropriate)

4. Conducting caregiver respondent interviews

Tasks:

1. Organizing the sampling
2. Recruiting caregiver respondents
3. Conducting the caregiver respondent interviews

5. **Conducting the interviews and observations with formal economic sector and informal economic sector key informants**

Tasks:

1. Organizing the sampling
2. Recruiting key informants
3. Conducting the interviews and inventory observations

6. **Conducting interviews with other sectors of the environment, such as crèche / alternative child caregiver key informants interviews (Optional)**

7. **Data analysis**

8. **Writing the report**

2.5 OVERVIEW OF RESEARCH METHODS

This FES uses several different methods to obtain information from participants. The primary method, which we refer to as "*open-ended questions with guided discussion,"* will already be familiar to you if you have previously done qualitative research. Also, you are probably already familiar with the basic procedures for obtaining *"rating and ranking"* data from respondents. However, the technique we use here may be new to you. Some of the methods, such as *"free listing"* or *"geographic mapping,"* you might not have encountered before. In the following paragraphs, we provide a quick overview of the data collection methods of this study.

1. What is "open-ended questions with guided discussion"?

At the beginning of Part 2 we described the difference between pre-coded and open-ended questions. As we noted, pre-coding is appropriate when the investigators already have a lot of information about the domain of concern and already know what the range of answers will be. The modules that use open-ended questions with guided discussion are intended to provide sufficient structure to ensure that the exchange stays focused on the issues you need to know about, while encouraging sufficient discussion that you are able to elicit and understand the perspectives of your research participants.

In open-ended, qualitative interviewing it is important to keep in mind the difference between **probing** and **prompting**. **Probing** involves questions to elicit more information about a specific topic when the respondent has stopped speaking. An example of a probe is to ask "Can you think of anything else that is similar?" or "Can you tell me more about how you make this?" **Prompting** is more direct. For example, "You didn't mention the hospital as a place to go for help when your child is sick. Is that because this isn't a place people here would go to?" Both probing and prompting have a role in open-ended interviewing, but prompting

must be used cautiously, being very sensitive to how the question is worded. In the example above the interviewer is careful not to impose a value judgment, such as saying, "…Is that because the hospital is a bad place to go?"

Helping your interviewers appreciate the value of probing and becoming comfortable with this interview style is an important part of the training you give them for the study. In this training you should also assure them that deviating temporarily from the specific questions to follow up on statements that help to shed light on IYC feeding and its context is not only acceptable, but encouraged!

2. What is "free listing"?

Free listing is an ethnographic data collection technique that is particularly helpful for what is often referred to as "cultural domain mapping." It is designed to yield an *emic* description from the perspective of the research participant who is being interviewed. The term "*emic*" was coined by anthropologists to distinguish the insider's perspective from that of the outsider perspective of the investigator. The outsider's investigative perspective is referred to as the "*etic*" perspective. All aspects of the cultural ecological model, from knowledge, beliefs and attitudes to family organization, economic and political organization, and technology, can be investigated from both *emic* and *etic* perspectives. When you are trying to understand and describe the situation from the perspective of the people in the community you need an *emic* approach. When you are trying to understand and describe it from, for example, a micro-economic perspective, you use the *etic* theories of economics to analyze your data.

Free listing is one of several techniques to efficiently obtain *emic* data about some aspect of the local situation that you are interested in. The basic idea of a free listing procedure is to ask the research participant a question or set of questions that elicit a series of items (objects, events, issues) which pertain to a particular component of the cultural ecological framework. For example, one can ask: "What are all the different kinds of illnesses that children can get?" or "What are all the different kinds of celebrations here in your community?" These lists can then be used in various ways to understand more about the specific items, including what they mean and how they relate to each other.

3. What is the "rating technique"?

It is often important to know how people regard different elements or aspects of a social or cultural domain. For example, in community health it is important to know how local people view different kinds of illness in children in order to understand their treatment behaviors, such as when they take a sick child for medical care. Are some illnesses regarded as more serious than others? Are some illnesses seen as a problem that needs immediate attention while with others one can wait and see what happens? Similarly in the area of household financial management, some items are seen as more desirable or necessary than others, and it is important to understand how people value different items that compete for scarce monetary

resources. Although beliefs are not the only determinant of behavior, people's beliefs and values contribute to the decisions and judgments that are reflected in their behavior. For example, in the absence of a severe economic constraint to buy potatoes versus rice, cultural preferences are likely to influence purchase decisions.

There are several different techniques that have been developed by anthropologists, psychologists and other social scientists to understand people's ideas about how different elements or aspects of a particular cultural domain relate to each other. One of the techniques we use in this FES has been used successfully all over the world. It is a modification of a method that was originally developed by psychologists, often referred to as the "semantic differential" technique. Part of its effectiveness as a research tool in nutrition and public health is that it does not require literacy and can be used to interview people who do not know how to read. Another reason for its success is that it is interactive, fun to do, and usually doesn't make respondents feel self-conscious or worry that they are not giving "right" answers.

The technique consists of giving people a set of cards, each with a different picture or word, representing an object, a type of person, or even an idea, and asking them to place each card on a board in which the two ends represent different levels of a value dimension. For example, consider the value dimension of personal preference for specific foods. Most people have foods they like a lot and foods that they like less. Many people have at least a few foods that they actually dislike. If you want to find out about the value dimension of personal preferences, you can ask people to "rate" pictures of individual foods with this technique. You specify one end of the board for "Foods I like a lot" and the other end for "Foods I don't like very much." The board has slots or sections (usually five or seven) and the middle section is described in the verbal instructions to the respondent as representing a middle or neutral position. In the case of our food example one could say this slot is for "foods that are just okay, you don't like them a lot but you don't dislike them either." The respondent is asked to take all the cards (which can include up to 15–20 different items) and place them on the board in the slots or positions that correspond to their feeling about the particular items. It is easy to record the responses quickly if each card has a letter designation and the interviewer writes down the number of the corresponding slot, which will vary along the dimension from 1 to 5 or 7. The exercise can be repeated several times, using the same cards but changing the designation of the value dimensions. For example, continuing with the food example, one can specify that the left-hand end of the board represents foods that are especially healthy and the other end is for foods that are not healthy.

4. What is “pile sorting”?

Pile sorting is another technique that is used to map a cultural domain. The purpose of this technique is to identify the *emic* attributes that people use to assess items, such as foods and medicines. In a rating exercise, described above, the investigator predetermines the values that will be used to rate items. In a pile sorting exercise the respondent uses her or his own values or attributes to classify items. The request to the respondent is simply to sort cards (with pictures of items) into piles that “belong together.” The next step is to ask the respondent why she placed items into the same pile and how they are different from other piles. In this way you discover how respondents view the domain, which is often different, in at least some respects, from the way the investigator views it. For example, in some cultures there are ideas about foods that are safe to be consumed together and foods that should never be eaten at the same time. But the usual way of interviewing about foods does not reveal this. The pile sorting technique is used in one of the optional modules intended to obtain insights into beliefs and attitudes necessary for behavior change interventions.

5. What is “geographic mapping”?

Mapping is another data collection technique that is used in community research. Essentially it consists of working with research participants to create visual maps on which they indicate the locations of specific features of concern for the investigator. Here is an example from a research project for an HIV prevention program in an international border region of an Asian country: The investigators wanted to know where to set up their activities to reach the people who most needed prevention information because they were at high risk for contracting the disease. Consequently the data-gathering team mapped the locations of sex workers, truck stops, hotels and lodges, and other important points along the highway. The map provided a framework for presenting information that was then used to organize HIV/AIDS intervention activities along the highway.

Geographic, *emic* mapping focuses on physical locations, and this is the type of mapping you will use in this FES. Mapping is a useful tool for finding out where people purchase different types of food, where children are taken for childcare, and other related topics of concern to this FES. Mapping can also be used to obtain *emic* perspectives on social dynamics. For example, in urban settings where physical safety is an issue for women in relation to where they are willing to go (e.g., to buy food or obtain supplements) one can ask an informant to indicate, on a map, the areas where she feels safe if she is alone and the contrasting areas where she is more cautious. In this FES, the exercise is limited to geographic mapping of food acquisition sources.

Summary of research methods

In this FES, you will make use of the methods described above. However, it is important to note that you do not use all of the different methods with every type of research participant. The only method that is used with all participants is open-

ended questions with guided discussion. The individual modules provide more specific technical information about the procedures to use when you are applying a particular technique in connection with a specific module.

2.6 SAMPLING AND SAMPLE SELECTION

Within the two broad categories of research participants – caregivers and people who work in the food acquisition environment – you need to interview individuals who represent different types of experience and situations. For caregivers this refers specifically to different lower-income socio-economic levels and to different ages of infants and young children within the broad age range of 6–23 months. In the food acquisition environment this means that you include a range of types of food stores and sellers.

The caregiver key informants and respondents must be individuals whose socio-economic status falls within the economic brackets the project is aimed at. Thus, it is very important to recruit from neighborhoods that represent these income categories. Moreover, as recruitment and interviewing of caregiver key informants and respondents takes place, it is important to keep track of their SES status to be sure that you are maintaining a good balance of the various levels within the lower-income groups that are of primary concern. Sections 3 and 4 of CR Module 1 ("Indicators of economic status through living condition measures" and "Caregiver's estimate of total monthly household income") should be analyzed immediately after an interview is completed, and the information recorded in the system you use to manage data collection. If you are not getting an adequate mix, then you need to shift your sampling (e.g., to another neighborhood or community) in order to make adjustments.

The caregiver key informants and caregiver respondents must also represent mothers of children across the range of ages within the 6–23 month period. In order to ensure that information is collected from mothers who represent each of these categories use the following guidelines for selecting the individuals to interview.

1. Caregiver Key Informants

IYC age group (months)	*Number of Caregiver Key Informants*
6–8	2
9–11	2
12–17	2
18–23	2
	Total Number: 8

For assessing the potential of a complementary food, the period from 6 to 17 months of age is somewhat more important than the period from 18 to 23 months. This is for two reasons: (1) In most places with endemic undernutrition, the period in which children are most at risk is prior to 18 months, and this is when most growth faltering occurs; (2) In most places children are being rapidly integrated into the family diet in the second semester of the second year of life and the use of complementary foods often diminishes rapidly. Nonetheless, it is still important to understand what is happening in this period, and it is essential if you are assessing a nutritional supplement. In our suggested sampling frame (below) we have reduced the number of caregivers with children above 18 months by 2, compared to the other three age groups. However, you may want to add 2 more respondents, depending on what you are assessing. Remember, these are suggested guidelines, not fixed requirements.

Minimum sampling requirements for caregiver respondents

IYC age group (months)	*Number of Caregiver Respondents*
6–8	8
9–11	8
12–17	8
18–23	6
	Total Number: 30

2. Food Acquisition Environment Key informants

There are two different types of people you need to interview in order to get a broad view of the experiences and challenges from a local food acquisition perspective. The two types are sellers in the formal economy (stores and shops) and sellers in the informal economy (street food sellers and temporary kiosks). Within the formal economy, stores and shops range from large markets to small shops. It is important

to include both types in your key informant interviews. Below is a suggested, minimum sample. It would be preferable to have a larger sample.

Types of Food Acquisition Key Informants	*Number*
Formal Economy	
Medium/large stores	3
Small stores/shops	3
Informal economy (e.g., street sellers)	6

2.6.1 Identifying and selecting formal economic sector food acquisition/marketing key informants

1. Identifying the stores and shops

Review the information from the caregiver key informant maps to identify the location of the stores they patronize. This gives you some information to start with about where stores are located. However, note that in Protocol II the caregiver respondents are not asked to specify the locations on a map where they buy foods, and many of them will live in areas where you have not interviewed a key informant. Therefore, you will need to do an informal "inventory" of the stores and shops in these areas.

2. Identifying potential key informants in the stores

For each neighborhood or area, make a list of potential key informants. Be sure that you have several potential research participants in each area, if at all possible.

2.6.2 Recruiting key informants

When you arrive at a store, the first step is to find out who the owner is and whether he/she is available. Then assess his/her willingness to talk. If you think the individual would be a good key informant but is not free at that particular time, make an appointment to come back later. Remember, what you are trying to find is people who are open and "talkative." If someone seems to be shy or suspicious, do not continue with the interview. The goal is to find helpful informants who have some insights and are willing to engage.

Be sure that you select the six formal sector key informants to represent different types of stores and different locations within the research area. If you feel that there is a great deal of diversity among them, then six informants will probably not be enough to get an adequate picture and you should expand the sample.

2.6.3 Preparing for the key informant interviews

The interview protocol is comprised of four modules. One of them, Module 2, uses a rating method in which the research participant is asked to assess the importance of a set of factors that influence what families purchase. You will immediately recall that caregiver respondents also carry out this same task. (See above under “tasks” to prepare for caregiver respondent interviews.) Based on your accumulating knowledge about the community, you may decide to ask the storeowners to rate more factors than you used with the mothers. Remember that this is the only rating you are asking storeowners to do. You are not asking them to rate foods, only reasons or factors that affect buying. Therefore, adding a few more cards should not be a burden for them. If you decide to ask about additional factors or break up the factors in the caregiver respondent set into sub-items, be sure to create the cards before you begin scheduling these key informant interviews.

2.6.4 Identifying and selecting informal economic sector food acquisition key informants

It will be a challenge to identify and recruit street food sellers, who work from carts, from trays they carry, or from the back of trucks, and sellers who set up small kiosks, often attached to their homes or as temporary stands. The maps that were drawn by the caregiver key informants should be of some help because they may indicate locations that you can visit to “check out” the presence of street sellers. These interviews will also contain information about the time of day when informal sellers are more likely to be active.

In addition to the fact that many street sellers are literally “on the move,” in some cases they may not have legal authority to sell foods. This fact may make them reluctant to talk about their work with strangers. Thus, they may be more difficult to recruit, even when you have identified them. Nonetheless, there are ample examples of previous successful efforts with informal sector food sellers, so it is a matter of persistence.

Be sure that you select the six informal sector key informants from different neighborhoods and, if at all possible, do not interview more than one in a specific location.

2.6.5 Concluding comment

The discussions in Part 2 are intended to provide you with suggestions about how to organize the study. You should regard these as guidelines rather than fixed instructions. As stated above, we are assuming that you will bring your own previous research experience to bear when you undertake this FES. Many adjustments are necessary when any project is put into the field, and specific conditions in the local area, as well as differences in the experiences and skills of the research team members, will affect how you go about organizing and conducting the study. As is also true of the individual interviews, flexibility is central to achieving the larger goal of producing a picture of current behaviors and the marketing environment.

3 DATA ANALYSIS

3.1 THE PROCESS OF DATA ANALYSIS

As you start the process of analyzing the complex set of data that has been collected through the field research, there are several issues to keep in mind:

i) Before one begins the work, the prospect of tackling a body of data and trying to make sense of it is always daunting. Once you start, it is much easier.

ii) Data analysis is an iterative process, not a linear one. Even in well-controlled clinical research trials the analysis of results nearly always involves several re-analyses to confirm the correctness of the analytic procedures and the interpretation of the results in relation to competing hypotheses. Epidemiological studies usually require multiple analytic steps, typically involving analyses that were not originally envisioned. With ethnographic research, the iterative nature of the analytic process is magnified several-fold, especially the analysis of "text," the transcribed verbal data from the interviews.

iii) In an FES, including the FES you have just conducted, there are several different types of data sets. It is wise to begin the analysis process by organizing the initial analyses according to topics, types of data, and data sets. However, you should keep in mind that at a later stage of analysis it will be essential to integrate the analyses across these organizational categories.

This section is written with several assumptions about you (the investigator/project leader):

i) That this is not your first experience in analyzing qualitative data, and that you have a background of knowledge and skills to draw on. Specifically, it is assumed that you have experience with the analysis of verbal data ("text"). Text is the primary form of much of the field data you collected as it encompasses the materials that were collected with the modules that used "open-ended questions and guided discussion," (that is, the answers to your questions) as well as the comments that were made by the research participants in conjunction with the modules that used other methods (e.g., free listing, rating and ranking).

ii) That you have prior knowledge and skills in the analysis of quantitative data. For example, it is assumed that you know how to enter data on to spreadsheets and how to calculate descriptive statistics, as well as how to code answers to open-ended questions. We also assume that you know how to create graphs and diagrams for data analysis and presentation.

iii) That you, yourself, are carrying out both the data analysis and report writing because this is the only way to absorb the information that has been collected

sufficiently well that you can integrate the various pieces and arrive at a holistic interpretation of the bigger picture, and hence provide informed answers to the questions the study is directed to. Of course, just as you obtained help with data collection in the field, you will probably decide to seek assistance with the routine aspects of data analysis.

Based on these assumptions, you should regard the discussion that follows as suggestions for potential ways of organizing the analysis of your data. They are not intended as specific instructions. You should set up your work in a fashion that you are most comfortable with and that best fits your circumstances.

3.2 TRANSCRIBING THE INTERVIEWS

Initially your raw data is in two forms: the material that is recorded on the data recording forms and the data on the audio record. Each of these data sets is handled differently. The data on the recording forms is used primarily for quantitative analysis (see next section). Before you can begin the qualitative analysis, the audio records have to be transcribed. They also have to be translated, as you will ultimately have to write the report in English (or another "international" language).

Many investigators find it easiest to do the transcription and translation as a single process in which the written form of the data from the tapes is produced exclusively in English. However, just as it is essential to train translators who are involved in the fieldwork in the art of "literal translation," transcribing and translating is also an art that requires training. It is not easy to find the balance between text that preserves the respondent's words and text that is understandable for coding and quoting in the report. As an experienced qualitative researcher you will have already encountered this challenge and developed methods to deal with it. It is very important to give the transcription-translation process close attention, particularly in the early phase. You will need to work closely with the transcriber/translator throughout.

One aspect of translation that is particularly important for informing behavior change communication is maintaining local words for concepts, foods and other material items, rather than using English words. For example, instead of writing "millet cereal" you should keep the local term, including commercial names, in the translated sentences. Here is an example from Ghana: "I like to give my baby *Hausa Koko* (millet porridge) rather than *Koko* (fermented maize porridge)". Here is another example: "When I have the money to buy *Familia* (commercial cereal) I get it for her." Similarly, if a respondent reports about how she changes the child's diet when he has diarrhea or a respiratory infection, the transcriber needs to keep the local illness term in the sentence, not the English translation.

Maintaining local terms is not only a challenge for training the transcriber; it also requires that you and your transcriber develop a detailed glossary. This will expand over the course of the transcription. You can instruct the transcriber to put the local

terms in italics, which will make it faster when you lift out quotes from the text to use in your report. The glossary will also be reproduced in your report.

It is best to create a separate file for each of the respondents, in which the translated modules are presented sequentially. It will make the analysis easier if each module begins on a new page. During the analysis you will want to create files in which the narrative material from all of the respondents is amalgamated into separate files, of course clearly maintaining the text and identity of the individual respondents.

Finally, make sure that you start the transcription process as early as possible. This is always far more time-consuming than we anticipate. It can be carried out simultaneously with the quantitative analysis.

3.3 SETTING UP ANALYSIS FORMS FOR QUANTITATIVE ANALYSIS

Many of the modules contain data that require quantitative descriptive analysis. We found it helpful to begin the analysis by reviewing all the completed modules and deciding what data to collate in quantitative formats. These included all the demographic information, the food expenditure data, the 24-hour diet data, all the data from the store inventories, the free listing results, the rating results, food preparation techniques, and so on.

As appropriate for the specific topics, you can set up individual spread sheets for each of the separate variables. For example, to examine caregiver ratings on the value dimensions we found it useful to create individual files (spreadsheets) for each food. The example below shows a spreadsheet for five value dimensions; three dimensions – healthiness, cost and convenience – are labeled, and two others are marked xxx and yyy with the expectation that you may have additional dimensions in your study. We have shown hypothetical values for three respondents for a fortified cereal that was listed by key informants (Protocol I), appeared in some of the 24-hour recall records (Protocol II) and was selected as one of the foods in the rating exercise (CR Module 5). On a spreadsheet you can readily calculate descriptive statistics from the table. You can also examine it to observe patterns of distribution in the responses. For example, we see that the responses on the dimensions xxx and yyy show more variability between the respondents than we see on the first three dimensions, suggesting much less cultural consensus related to these values.

Food: “Happy Baby” (a fortified instant cereal)

ID	Value Dimensions				
	Healthiness	Cost	Convenience	xxx	yyy
01	5	4	5	5	2
02	4	5	4	1	4
03	5	5	5	2	5

Many of the answers on the recording forms can be entered as raw numbers directly on to spreadsheets (such as Excel), but some items will have to be coded before they can be put on to forms. For example, parental education and household expenditure are best handled in categories of ranges of values, rather than as raw values. You should decide on the categories based on the distribution of values for specific items in your sample, and not rely solely on usual categorical values. For example, if the education levels are very low, and many of the caregiver respondents have no formal education, you will want to distinguish between levels of primary grades, whereas if the sample, in general, has education to about the 6th grade, then a category labeled “primary school only” would be appropriate as the lowest category.

3.4 SETTING UP A SYSTEM FOR THEMATIC ANALYSIS OF TEXT

There are various ways to organize your data to facilitate qualitative text analysis. One common way, which we personally find to be the most useful, is to identify and tabulate “themes.” Themes are concepts or constructs (ideas, behaviors, issues, etc.), which are reflected in what your respondents have said. Deciding what themes to examine is one of the central challenges of doing ethnography, including focused ethnography.

For this study some of the themes are already clearly established by the structure of the FES and the theoretical framework that underlies the modules. That is, based on current knowledge about complementary feeding behaviors in families around the globe, and local-level marketing issues that also recur across different locations, the data collection modules were designed to emphasize many of the themes that you will want to examine.

Throughout the fieldwork you will have been listening with a “third ear,” developing hunches, and making notes about behaviors, issues and ideas. For example, you may hear some women talk about the fact that the husband or male partner controls

all household food purchases, including foods for infants. This feature – “male control over purchases” – is a theme you will want to examine and include in your report because it affects what women do in relation to infant feeding decisions, and, most importantly, the foods the family will purchase. Similarly, during the course of the interviews, some women may have expressed worries about whether the foods they are giving their children are safe and do not contain contaminants. This can be a “theme” that you decide to examine in your analysis to try and determine whether it is likely to be important – either in affecting what caregivers buy or as a point to stress in the design of social marketing materials.

In summary, the themes that are already built into the study and those that emerged during the fieldwork, and from your reading of notes and transcripts, are all sources for thematic analysis. You will have to make some decisions about which ones to include or the task will become too large to be practical. If the themes are well defined, the task of identifying the occurrences of this theme in the transcripts or notes (coding or otherwise marking the examples) can be given to a research assistant.

There are a number of computer programs available to assist the process of text analysis. If you are already familiar with such a program, and comfortable in using it, then you will probably want to code your data for themes using a program that is designed to help this process. As the texts are already in a computerized file, using a program can save a lot of time, if you already know how to use it. However, if you have no prior experience with computer-aided text analysis you may decide it is more efficient to do coding by hand, simply making notes in the margins of your printed materials. One of the main advantages of computer-assisted coding is that it can save time when you start writing the report because you can easily find quotations that illustrate particular themes.

4 PREPARING AND WRITING THE REPORT

4.1 BRINGING IT TOGETHER INTO A COHERENT PICTURE

Once you have analyzed the different sets of data, the next step is to bring them together into a coherent picture. Writing the report (or reports) provides you with the challenge of pulling together and organizing the results and presenting them in a systematic fashion. The starting point, and the most important guideline, is to organize your presentation in relation to the purposes of the project and the questions you are charged with answering. At the same time, you do not want to limit the report to the specific questions and lose the opportunity to share the new insights and the richness of understanding that ethnography produces.

There is no single “right way” to do this. One way, which we have found to be useful, is to first organize the data according to the ecological framework that is presented in Part 1 (reproduced below). You can review the results for each of the separate components of the model as they relate to the questions. For example, you can ask: “What aspects of technology at the household and community level affect _____ (question of concern)?” If there are technological issues that affect the preparation or storage of foods for infants, how do these relate to the choice of new interventions, the promotion of MNPs, the communication of behavior change messages, and so on.

After you have looked at the individual components, the next step is to examine the interrelationships between and among components that you feel are important from the perspective of answering the questions the study set out to investigate. For example, if household structure, and the presence of older generation family members in the household, interacts with beliefs and knowledge of caregivers and affects what they are willing or able to do, this is an important feature to highlight in the report. As a general guideline we suggest you focus on the data that are important for making decisions about the next steps that follow from the specific objectives of your study.

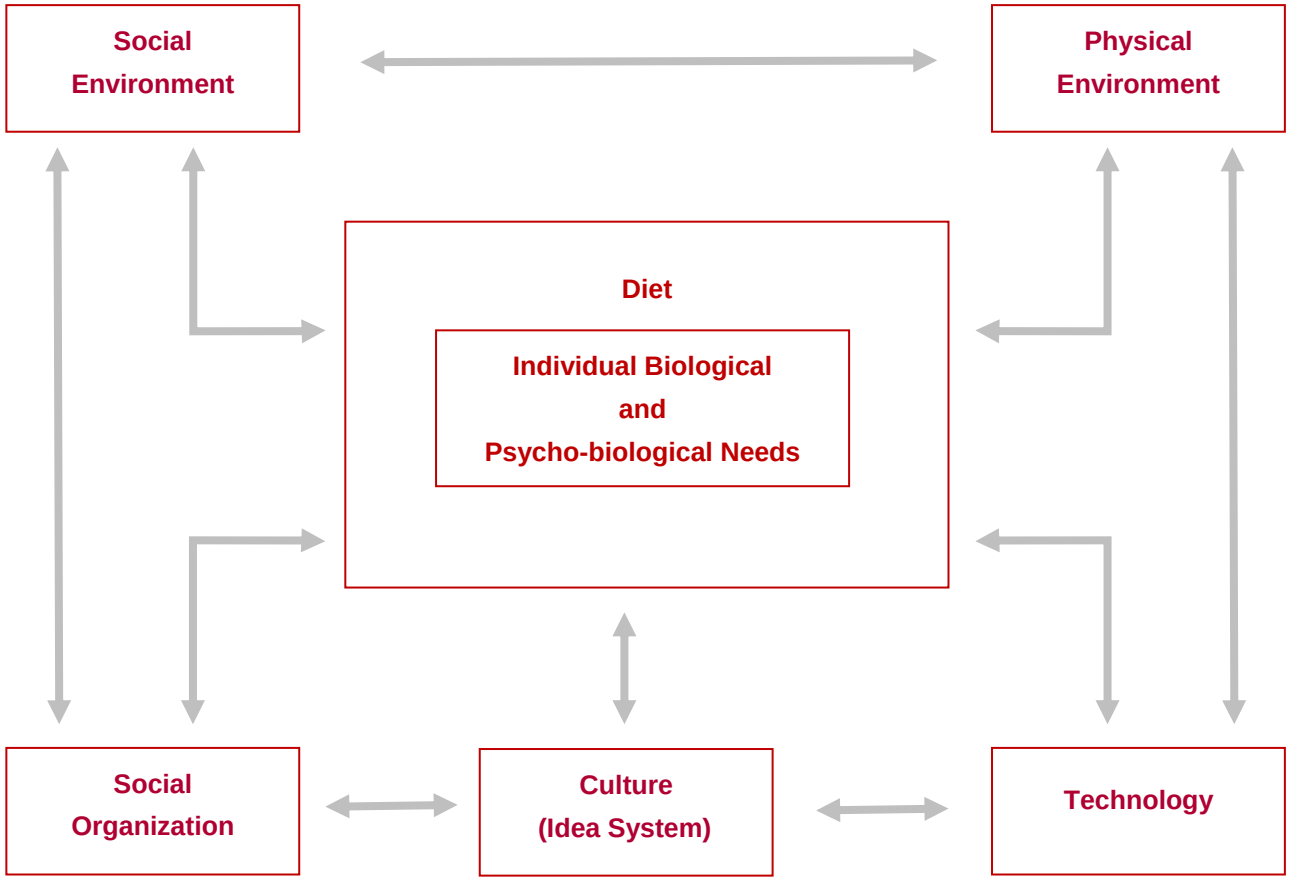

Figure 1. Cultural-ecological model of food and nutrition

We suggest that prior to writing the final report you write up the key findings for each of the components in the ecological model. You can then take these pieces and put them into the report. You could start with any one of the components, but you may find it easiest to begin with the component labeled "Diet." This is where you describe the data on what infants are being fed, including nutritional supplements. This section can also include the findings on food preparation and food acquisition.

Because the different components of the ecological model are highly interrelated, you will have to make decisions about where in the report to introduce specific pieces of information that relate to more than one component. For example, how caregivers prepare and store food reflects the "Technology" they have available, so it is impossible to describe these behaviors without also describing household technology. You may find it easiest to fully describe food preparation under the general heading of diet. Then, in the description of the component labeled "Technology," you summarize the key points rather than repeating details you have already described. For example, the following statements illustrate the types of summary findings you could include in your presentation of issues related to technology, if you have already described details about food preparation technology in the "Diet" component:

“Very few families have refrigeration.”

“The majority of the households cook on coal stoves.”

“Access to water is not a problem for households.”

“Women typically have small sieves, which they use to strain and puree foods for babies.”

There are similar challenges about what information to put into the section on food acquisition and what to put into the discussion of the “Social Environment.” The latter will include all of your data related to local-level food acquisition environments. But inevitably, you will have to include some descriptions about that environment when you discuss food acquisition behavior from the perspective of infant and young child diet. Again, these are not “either/or” classifications, and you can work out, for yourself, how best to organize the task of data presentation.

The component labeled “Social Organization” in the ecological model will contain several different types of data. Within that component there are a number of different topics to cover. One large topic falls under the rubric of “economic factors.” Here you should cover all of the different findings related to economic issues, including information on household expenditures for infant foods and household foods, costs of specific foods, economic status of households, perceptions about the costs of food, and sources of help for food acquisition (including social welfare programs), among others. Information on who buys food and who controls household expenditures belongs here, as well. In addition, you can include relevant information from the thematic analysis.

A description of the socio-demographic characteristics of the sample and of the community fits in the description of “Social Organization.” Here is the place to describe characteristics of education and family structure. Remember to indicate the kinds of variation that occur within the community, including differences associated with ethnic and religious differences. These are likely to be particularly important in urban settings, but may also be present in rural areas.

Another important topic for infant and young child feeding in the “Social Organization” component is the organization of childcare. Here you include information on women’s work inside and outside the home that relates to infant feeding practices. This will also include information on where and how children are fed when their mothers are not feeding them. You may want to include the information from the ratings on “convenience” here, as well as materials about convenience and ease of access from the thematic analysis. These findings reflect the dynamics of how women organize their time, including childcare and feeding. On the other hand, you may decide to describe all of the data related to values under the general component of “Culture.” Again, there is no “right way” to do this, and you should follow an organizational plan that seems best for you.

The component labeled “Culture” is the place to describe what you have learned about values, beliefs and knowledge, including caregivers’ knowledge about vitamins and other nutritional aspects of IYC feeding. This section includes the results of the rating exercises that you didn’t put into the section on Social Organization. This is also the place to describe caregivers’ ideas about foods, about keeping children healthy, concerns about feeding during illness, as well as information about who caregivers get information from. It is also a place to describe other themes that you feel are important for understanding women’s views about infant and young child feeding behaviors.

In some study sites the characteristics of the physical environment play a crucial role in explaining what families feed to their infants and young children, but in others they have a relatively minor effect. Remember that water sources, water quality and water availability are all important aspects of the physical environment. Also, seasonal differences may have substantial effects on the foods that are fed and on food acquisition and food insecurity. Under the heading of the physical environment, don’t forget the effect of flooding and rains on food access.

As mentioned above, from a household perspective, the materials from your research on the food acquisition environment fit within an ecological framework in the component labeled “Social Environment.” On the other hand, the results from these protocols are also an independent part of the research. Therefore, you may decide to divide your presentation of the findings from the food acquisition environment into two different parts – one part that describes them from the household perspective, and another part that is a separate, free-standing piece. Again, there is no one right way to organize the findings, and there are different ways that you can go about it. The FES is directed primarily to describing infant and young child feeding from the perspective of caregivers (and households) and the local food environment. These descriptions provide the basis for developing the answers to many of the questions for which a descriptive ethnographic study is undertaken: Identifying potential interventions or assessing the feasibility of a proposed intervention. However, as discussed in the introduction, an FES can also be used to generate insights and information for promoting improved complementary feeding through behavior change communication in connection with social marketing and/or nutrition education and nutrition counseling. To address those issues, it is essential to focus the report particularly on both the cultural features (beliefs, values) that motivate change and the barriers and facilitators in the **entire** cultural ecological system that affect the potential for change. This is where the “social” in “social and behavior change communication” resides in the acronym (SBCC).

4.2 WRITING THE REPORT

The advice in this section is structured in terms of writing a report that is based on a single field site. However, it is often the case that you will have more than one site because you have to cover major social, cultural and/or ecological conditions. In this situation we have found it best to begin by preparing "free-standing reports" for each of the different sites. (There is, of course, an economy in the work because some of the material, e.g., on research methodology, can be repeated in the reports.) It is usually awkward in an ethnographic study to combine information from different sites in the initial presentation of findings and even in site-specific conclusions.

After you have prepared the separate reports you then prepare a consolidated report that presents the main findings and conclusions for the study as a whole.

In general we have found it helpful to begin the task of writing an FES report by first writing a 3–4-page summary that answers the questions addressed in the study. It is very likely that you will rewrite this after you have finished the rest of report, so the purpose of this initial summary is to help you get started.

Next, you may want to write the methods section, the description of the sample and the description of the community (or communities). Some people prefer to write these sections after they have written the sections with the findings. Which you do first is a matter of individual style.

Once you have the summary, you can write the body of the report, dividing it into sections. Here you present the evidence that contributed to the conclusions you arrived at with respect to the answers to the central questions and the purpose of the research. These sections can be taken from the written materials you developed during the data analysis (described above). Presenting data in the form of tables, charts and graphs is important for effective and efficient communication of your results.

In reporting ethnographic research it is essential to use quotations from respondents. These are used for several purposes. They are an important aspect of defining themes and giving readers an understanding about what a specific theme refers to. They are important for reducing the distortions that are introduced when we present ethnographic material from an *etic* perspective. Structuring the results and the conclusions from an *etic* perspective is fundamental for communicating the results and answering the questions. However, we can try to reduce the distortions of people's own reality that inevitably results from subjecting it to *etic* constructs and *etic* analysis. By liberally including quotations, you give the reader himself or herself an opportunity to assess the validity of your interpretations. Finally, the liberal use of quotes is vital because it give the respondents their own voice. Through direct quotes you give them an opportunity to communicate their views and perspectives.

At the end of each section, it is helpful for the reader if you include short summaries that present the main points and findings.

Another challenge you face in preparing the report is deciding how much data to put in the body of the report and how much to include in an appendix. There are no hard and fast rules that provide guidance here. You have to include enough to support your conclusions, but it is often possible to put much of the supporting evidence in an appendix.

Finally, don't forget the necessity for a short executive summary and a table of contents.

In conclusion: the process of data analysis and report writing is challenging, but it is also rewarding. We hope you enjoy it.