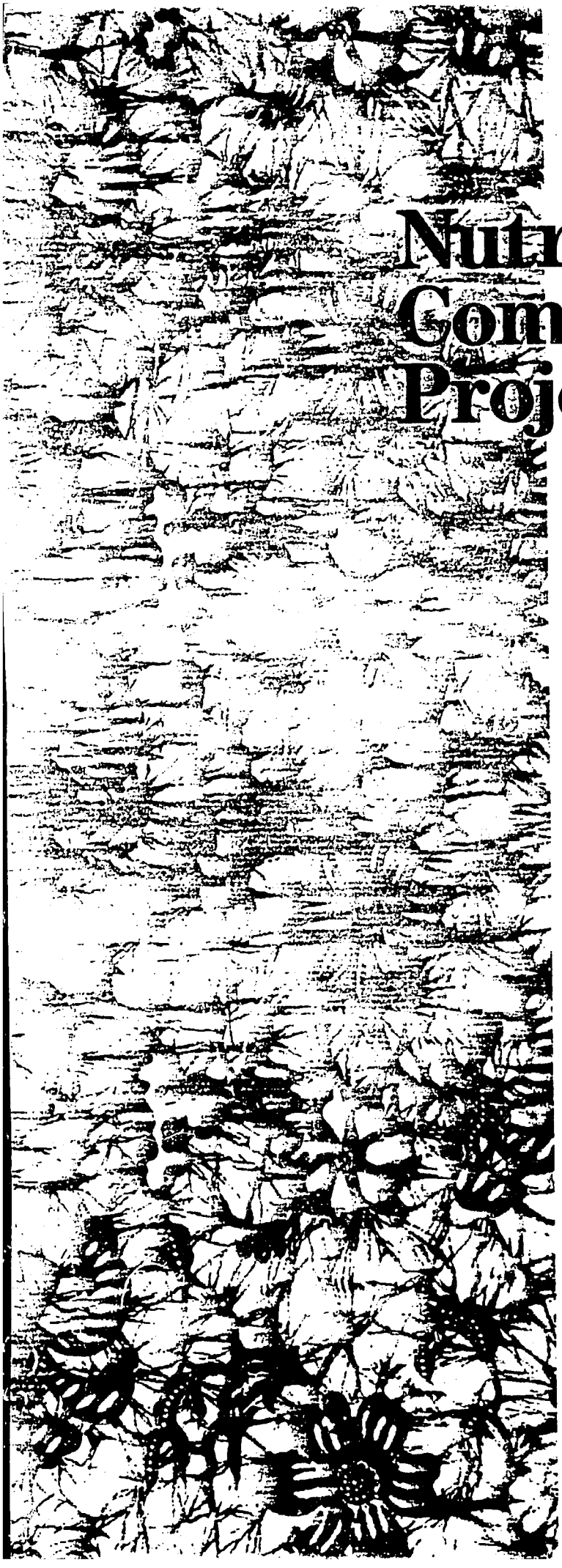

Nutrition Communication Project

Final Report

Rapid Ethnographic Assessment of Infant Feeding

NIGER

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Rapid Ethnographic Assessment of Infant Feeding

August 29-October 2, 1988

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NUTRITION COMMUNICATION PROJECT

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I. Introduction

In August 1988 the Academy for Educational Development's Nutrition Communication Project (NCP) received funding from U.S.A.I.D/Niger to carry out a project focused on child nutrition. The overall goal of this activity was to assist the Republic of Niger, Ministry of Health, Division of Nutrition conduct qualitative research on infant feeding as a first step in an extensive nutrition communication/education program. During the Nutrition Communication Project's (NCP) reconnaissance visit in May 1988, the Nutrition Division expressed interest in strengthening their technical capacity to research knowledge, attitudes and behavior among nutritionally at risk groups; and to use the results of such research to design messages and educational materials on infant feeding. These activities were viewed as "preventive" alternatives to nutrition rehabilitation, and as such, were true to the goals of USAID/Niger's Health Sector Support initiative.

NCP was asked to design and implement a ten week training and research program in **Rapid Ethnographic Assessment.** Rapid ethnographic assessment is based on the premise that while in-depth anthropological studies are often desirable, maternal child health programs can frame their questions sufficiently to collect essential cultural data within relatively short periods of time. A number of tested methodologies served as models for the current program[1].

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[1] Scrimshaw, S. and E. Hurtado, Rapid Assessment Procedures for Health and Nutrition. UNU, UNICEF and UCLA Latin American Center Publications, 1987.

Brown, K. and M. Bentley, Improved Nutritional Therapy of Diarrhea: A Guide for Program Planners and Decision Makers, PRITECH, Management Sciences for Health, 1988 [DRAFT 1987].

Fishman, C. and E. Jenks, Developing Nutrition Education for Indochinese WIC Clients. The Public Health Foundation, Los Angeles, 1987.

A. Objectives

The activity had two primary objectives:

1. To assist the Nutrition Division to test the application of rapid assessment procedures to collect qualitative information in up to two regions of Niger to generate messages and materials on infant feeding, and

2. to train selected members of the Nutrition Division of the Ministry and others in the use of the rapid assessment procedures so as to be able to apply the methodology to future data collection efforts.

Private voluntary organizations with AID-supported child survival programs, were also invited to participate in the training. CARE and HKI/Niger accepted the invitation.

B. Components of the Technical Assistance

The NCP supported the Rapid Ethnographic Assessment (REA) Project with the following inputs:

- Robert Brandstetter, a consulting anthropologist with considerable field experience in Niger, spent ten weeks in country leading the training and research, and performing the preliminary data analysis;

- Claudia Fishman, NCP Senior Technical Advisor, with a team of experts in nutritional anthropology, developed an original, French language training curriculum and set of protocols for conducting community ethnographic research[1]. This was accompanied by a set of supplementary readings focussing on communications design and pretesting.

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[1] Campbell, J., C. Fishman, R. Brandstetter, P. Sedlak, R. Porter and M. Bentley, **Training Course in Rapid Ethnographic Assessment: Infant Feeding** (Programme de Formation en Recherche ethnographique rapide:l'Alimentation du Nourrisson). The Nutrition Communication Project, Academy for Educational Development, 1988.

- Claudia Fishman provided technical assistance in analyzing the field research and developing a communication strategy based on this work. Margaret Parlato, NCP Director, participated in finalizing plans for the follow-on activity. (See Fishman's November trip report.)

C. Long Term Applications

The project represents the first use of rapid ethnographic methods in Niger in the field of nutrition. Specifically, it was intended to yield cultural data with the following long-term applications in mind:

1. to serve as a point of departure for more in-depth studies of infant feeding in different regions of Niger;

2. to generate hypotheses on infant feeding beliefs, attitudes and practices to be analyzed in follow-up quantitative studies;

3. to provide themes, context and language for nutrition promotional messages and educational materials; and,

4. to provide insight and inspiration for health workers to use in counseling interactions.

Hence, while we hoped the activity would generate data of sufficient quality to begin message design, the novelty of the method mandated that our primary objective be to transfer the qualitative research techniques of anthropological assessment to Ministry of Health counterparts already well versed in quantitative survey methods. At first, our colleagues were skeptical about ethnography, given that it is conducted with small sample populations. Yet, without such qualitative data to serve as a baseline, quantitative research is ill prepared to pose culturally relevant and pertinent questions on large scale surveys. All too often interventions fail because they neglect to consider the views, beliefs and behaviors of the people they attempt to help. It is within this context that ethnographic assessment can make a significant contribution to nutrition and health care policy in Niger.

At the institutional level, it appears that by participating in the 10 week activity, managers at the Nutrition Division, at HKI and CARE have all developed some respect for qualitative research, and this is a first step in acquiring a "social marketing approach" to nutrition education.

Finally, beyond these important shifts in philosophy, in fact, **much of substance was learned** from this initial experience. The following preliminary analyses of the data highlight the group's findings and suggest areas for more in-depth exploration that should be undertaken (using focus groups and limited additional observations) prior to message development. **Illustrations are also presented** (a limited number of reports contain color photocopies) to serve as a record and help stimulate the creative process so necessary to media design. In some cases, images captured on film during the rapid assessment [ALL PHOTOGRAPHY BY ROBERT BRANDSTETTER] can serve as models for subsequent materials design.

II. The Program

A. Overview

Between August 29 and October 2, 1988, eleven researchers participated in the classroom training, practice exercises and directed field research comprising the REA Training program.

Work was accomplished in three phases:

- four weeks of training and orientation in Niamey;
- five weeks of fieldwork in Dosso, Loga and Ouallam; and,
- preliminary synthesis and analysis in Niamey.

Claudia Fishman, who conducted a post-training debriefing of participants, found that all who participated in the project felt it was a valuable experience, and many expressed their pleasure at "learning things about their own people." However, the actual field work was extremely tiring, and participants were not able to accomplish the last phase of the training, synthesis and report writing. As a result,

this final report is based solely upon the consulting anthropologist's analysis of his own and the group's collective field notes.

The last phase of training should still be undertaken at a future date, when it might well serve as the first step of message design. NCP will continue to work with the MOH managers and selected staff to develop marketing-based education and communication programs, using the collected data as the starting point for in-depth focus group research and materials design and pretesting.

B. Implementation

Orientation and Training

The Nutrition Division assigned M. Harouna Hammani (Operations Research Chief) primary responsibility for the activity with M. Boukary Amadou (PVO relations and Nutrition Surveillance Chief) as his second. Due to circumstances unrelated to the project, M. Boukary assumed primary responsibility for the field research activities between September 16-24th.

Robert Brandstetter arrived in Niamey on August 21, and spent the first week in preparation, including: the official formalities, logistical arrangements for the consultant, selection and recruitment of personnel for training and field research, reservation of the meeting room and transportation, and planning a detailed schedule for the program. As requested, the Nutrition Division recruited researchers from SMI centers and the local university. In addition, Ide Djermakoye of HKI/Niger and Boubacar Seriba from the CARE Zinder project participated extensively in the eight weeks of training and supervised research. Training began August 29th, in a classroom of the Ecole Nationale de la Sante Publique (ENSP). A "jour continu" was adopted, hence sessions were held from 8:00-14:00, with one coffee break.

The training followed the curriculum and set of materials and exercises developed by AED, Programme de Formation en Recherche ethnographique rapide: l'Alimentation du Nourrisson. This included a general schedule of classroom activities; introductory readings on ethnographic research, and "how to guides" on site

selection, observation, interviewing (key informant, individual and group), data recording; and numerous guidelines for constructing observation and interview protocols and questionnaires. This material was carefully reviewed by the group and discussed at length during the training session. The companion volume of theoretical readings discussed some of the differences between quantitative and qualitative research; the analysis and use of data collected with these two methodologies; and basic principles of social marketing.

Early in the program, Ms. Nancy Keith, a doctoral candidate in education at Michigan State University, led an animated session on her research in progress. Ms. Keith is conducting research on nutrition and child health in a Hausa village. This presentation provided concrete examples throughout the session of actual field procedures as well as theoretical issues.

Practice Exercises

An integral part of the training were the three practice exercises conducted in Niamey. The first consisted of two-person teams visiting the Infant Rehabilitation Sections of three PMIs (MCH Centers) as well as the Pediatric Ward of the Niamey hospital. The objectives of these visits were to familiarize the participants with infant malnutrition by seeing actual cases, to practice observation techniques, and to practice interviewing mothers as well as health personnel.

To prepare trainees for the field, the second practice exercise had participants observe the activities and interview members of familial compounds in a Niamey neighborhood. The final exercise was to visit a rural village near Niamey, observing and noting activities in general and as they pertained to infant feeding.

The participants were asked to write up their notes from these observations and interviews. The day after each exercise, the group discussed what had been observed and recorded, and brought up any problems they had experienced.

As an outcome of both group discussions and exercises, a two page "Bref Guide des Sujets" was produced containing salient questions for both interviews and observations in the field. These questions were discussed in detail at the last training session and served as the basic reference for interviews and observations during the field period. [SEE APPENDIX 1]
As a result of this interaction and contribution of the

group, the consulting anthropologist believes that trainees had a sense of ownership of the project, and were not merely implementing a research protocol as "enumerators."

Fieldwork

Field work took place during a nineteen day period between September 13 and October 2. September 9-12, preparations were made (Ordres de mission requested, camping equipment purchased, money changed, official communications sent, per diem advances made, etc.)

The research team consisted of seven Nigeriens and an NCP (American) consulting anthropologist. The Nigerien members were all actively involved in health and nutrition programs in Niamey, but none had any specific training in qualitative research or social sciences. All of the Nigeriens were Zarma speakers, although not all were native speakers. Three were women. (SEE ILLUSTRATION 1 AND APPENDIX 2 FOR LIST OF PARTICIPANTS)

The first nine day phase was conducted in the arrondissement of Loga. Three teams of two members each worked for three days in three different villages. Due to a loss of two members, the second ten day phase, conducted in the arrondissement of Ouallam, consisted of only two teams of two and three members respectively, working for two days in each of five different villages. During these nineteen days, the team conducted research in fourteen villages across two arrondissements. [SEE ILLUSTRATION 2 FOR TYPICAL SITE AND GROUP DISCUSSION.]

The daily research began around 8:00 in the designated villages and continued until 14:00, when the teams returned to the base for lunch and wrote up their field notes. After dinner each researcher gave a resume of the day's findings and posed additional questions to be probed the following day. In this manner, the constant hypothesis formation and question refinement skills critical in ethnographic research were developed. However, the group did not have the stamina, nor motivation to work across all time periods suggested (such as early morning, during late afternoons and evening meals). Hence, a complete picture of infant feeding, or women's daily routines could not be achieved with this research--though the group developed the skills to complete the picture at a later time.

C. Evaluation of Training Component--Lessons Learned

On the whole, the Niamey training component went well, with most people receiving some theoretical background and practical experience in ethnographic research. This was, however, the first time that this sort of training has been attempted in Niger. There are obviously many lessons to learn about training people in a very short time to do rapid qualitative research. These lessons comprise the following major topics: training materials, planning, personnel, and management.

Training Materials

We have learned that more general materials on ethnography, with "case examples" of what we are looking for in the way of an end product, are needed. It will help to develop an interactive text, placed at the beginning of the NCP training workbook, that lays out a situation and asks the trainees specific questions concerning how they see and would record and interpret the scene. In addition, examples of "field notes" and how they are to be transcribed must be included. Some of the exercises were apparently pitched at too high a level for the trainees, and these must be rewritten. AED is revamping the training program, and its publication, "Ethnographic Techniques for assessing infant feeding" will be available this spring.

Planning

The most critical lesson learned is that twenty days, without a break, is too long a period for field research. It was both physically and mentally exhausting for all the participants, and took its toll on the training and research. Two fieldings of two weeks each, with at least one week at home to rest, meet, reflect and discuss the first fielding is far preferred (and was the schedule recommended in the curriculum, but changed at the request of the MOH).

A few days after the field work (and mandatory rest days) needs to be reserved for the whole research team to meet, discuss, clarify and refine their findings. This is what would have been accomplished during the "Synthesis and Analysis" phase of the training, had the team not been too exhausted to participate.

Personnel

While we still contend that personnel with advanced degrees are not necessary for this kind of research, staff must be selected with attention to their background, experience and interests. Fortunately, the men and women who participated as researchers were personable and flexible, and were able to endure difficult conditions in the bush. As expected, those at the "enqueteur" level had no social science background or research experience. It was expected that they would have some familiarity with working in rural villages and be native speakers of the languages stipulated in the terms of reference shared with the Nutrition Division. When this was not the case, the quality of work of the researcher was inferior.

It must also be stressed at the outset that this kind of study is not easy, the living conditions are hard, the work requires long hours--not normal office hours. A Ministry of Health should seriously consider if it can field its own personnel for this kind of study, or if it should consider finding outside people when this kind of dedication and "village-based" background is required.

Finally, we have also learned that the pedagogical style in most of West Africa cultivates a relatively passive learner who is not used to putting individual ideas forward, nor in being creative or spontaneous. For this reason, a trainer must be particularly sensitive to the difference in learning styles between Americans and Nigeriens, for example, and work hard to provide the additional direction needed in this context. The post-

training debriefing conducted by Claudia Fishman found that the choice of consultant matched our first priority, of providing seasoned field direction, but that the classroom activities would have benefited from a more French-style, directed, teaching approach, expected by the participants.

Management

Clearly, MOH staff carrying out such field work expect special compensation for over-time, off-site, "rough living conditions," and other categories of research work, including preparation of field notes and follow-up group meetings. Special attention needs to be given when making arrangements for such compensation that fit within MOH/USAID operating guidelines.

The Research Report

The remainder of this report presents highlights of the group's findings as interpreted by Bob Brandstetter, the Consulting Anthropologist, and Claudia Fishaman, NCP's Senior Technical Advisor and manager for Africa. Findings are in no way conclusive, representing as they do, relatively small samples of the Djerma-speaking population. However, the findings and interpretations are indicative of the kind of material that rapid ethnographic research can generate.

There is a great deal of "directional material" here that points the way for in-depth study, quantitative verification, focus group exploration, and material design and pretesting. These topics and their potential application are taken up in the discussion section.

III. Findings

A. Ethnographic background[1]

The research was conducted in the two most traditionally Zarma populated regions in Niger--the Zarmaganda and the Zarmatarey, making up the arrondissements of Loga and Ouallam in western Niger. Zarma/Songhai-speakers account for approximately 22% of the population of Niger (1,121,000 people). The vast majority live in rural villages which number from several hundred to several thousand. The traditional social organization consists of extended families, polygamous marriages, patrilocal residence, and patrilineal descent.

Religion

Islam is the predominant religion, although certainly all are not true believers. Nevertheless, even in the most rural areas, many men have made the pilgrimage to Mecca and gained the right to be addressed as 'Hajji.' Marabouts, the Islamic religious leaders and teachers, are an integral part of the village authority structure. Women seem to be relatively unaffected by religious piety, rarely praying at the village mosque, fasting during Ramadan, or living in seclusion. They do consult marabouts, however, for both physical and psychological maladies.

Livelihood

The Zarma make their livelihood as farmers, cultivating millet and, to a lesser extent, sorghum, during the rainy season from June through September. Many households keep chickens, small numbers of cattle, camels, sheep and goats, and occasionally, donkeys. The men usually own the larger animals, but many women own their own sheep and goats. The day-to-day responsibility for grazing these animals is left to Fulani specialists.

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[1] Some ethnographic and agricultural facts reported in this section are based on the consulting anthropologists's prior research conducted in the area. See McCorkle, Brandstetter and McClure, A Case Study on Farmer Innovations and Communication in Niger, CTTA (A.I.D. S&T 936-5826) 1988.

Division of labor

There is a strict division of labor between the sexes. Men are responsible for the land preparation, seeding, weeding, harvesting and storage of cereals. (ILLUSTRATION 3) During the growing season most men work four to six hours a day in their fields. During the dry season, many able-bodied men leave their villages and seek wage labor in the more urban centers of Niger, or elsewhere on the West African coast. This exodus leaves many villages populated by only women, children and the elderly for a good part of the year.

Women are responsible for the domestic chores and cultivation of kitchen gardens. The typical daily routine for women consists of rising around 7:00, starting a fire to reheat the remainder of the previous night's meal for breakfast, washing dishes from the evening meal, sweeping the compound, drawing water from the village well, pounding millet for the mid-day and evening meals (ILLUSTRATION 4), working fields and gardens, gathering fire wood, returning around mid-day to prepare lunch, and preparing the evening meal. Most women also spend time during mid-day to weave grass sleeping mats which they sell at the market to earn petty cash. Significantly, women do not account for time spent in infant and child care, which does not seem to be a 'noteworthy' activity for women (ILLUSTRATION 5).

Women are also responsible for cultivating the dry season vegetable gardens, which the government has encouraged in many villages. The produce from these gardens is intended primarily for the cash market, but some of it also finds its way into the family diet.

B. Food and Nutrition

Diet and food preparation

The expression, 'prendre du mil' (to take millet) is often used to signify eating in general. Indeed, a man has not really eaten unless he has eaten millet in the form of pate. It is only pate which fills the stomach and gives a person strength.

Pate is prepared from millet, first by separating the husk from the grain by pounding it in a mortar with a heavy pestle. After winnowing, the grain is then pounded again, and the cracked grain is sifted from the flour. This flour is put into a pot of boiling water and cooked

until it has the consistency of a stiff dough. As such, it is ready to eat. Pate is almost always served with a sauce made from a large variety of plant and tree leaves such as baobab, 'wanzou,' manioc, peanut, sesame, cowpea, and many types of wild leaves. Vegetables, such as tomatoes, okra, onions, peppers, as well as cow's butter and meat can also be cooked and served in the sauce. The sauce is cooked in a separate, smaller pot, and is poured over and around the pate in a common serving bowl. Pate is usually eaten with the fingers or with a spoon.

Boule is the other major food made from millet. It consists of the cracked grain, sifted from the flour, mixed in cow's milk or water. Boule is uncooked, and the milk or water serves to soften the grain, giving it the consistency of a porridge. Powdered hot pepper and/or sugar is often added as a condiment. Boule is eaten with a large spoon or ladle or drunk directly out of the serving bowl.

The Zarma normally eat three meals a day. The morning meal consists of pate and sauce warmed over from the previous evening's dinner. At mid-day boule is prepared with either cow's milk or water. The evening meal is normally pate and sauce.

Many other foods are also eaten, including sorghum, melons, gourds, citrus, bambara nuts, roasted corn, rice, manioc, yams, peanuts (both dried and green), produce from dry season gardens, and other foods found in the bush. None of these, however, is considered to be "real food", on the same level with millet. Hence, a mother might say that a child who has consumed roasted peanuts, corn, fruit or other small foods -- but, no millet -- has had "nothing to eat all day."

C. The Life Cycle

Pregnancy and birth

For Zarma women, having children is a normal and expected part of adult life. Girls spend nearly all of their time with older girls and women. Almost from the time they are able to walk, young girls begin to learn women's work and to help their mothers with domestic chores. As early as six years of age, girls are given some responsibility for preparing food (ILLUSTRATION 6) and caring for their younger siblings while

their mothers are drawing water, working in their gardens, or are otherwise occupied. Pregnancy, birth, lactation and child care are thus no mystery to them.

Girls can be married as early as twelve years old, and can have their first child by age fourteen. Men, on the other hand, do not marry until they are at least twenty years.

About the seventh or eighth month of a woman's first pregnancy, she goes to her mother's house to have her child. The delivery is assisted by the mid-wife in her mother's village. After the birth, the woman stays with her mother for forty days to rest from the delivery and care for her newborn. She is also freed from the heaviest work, such as drawing and carrying water, pounding millet and carrying firewood during this period. After the forty days, she returns with her child to her husband's village and resumes her normal work routines.

Succeeding births take place in her husband's village. During the last two months she may be helped with the heaviest work by older daughters, sympathetic friends or co-wives. Within a week after the birth, the woman resumes her normal activities.

Birth in the maternites (government clinics) is a relatively recent phenomenon. It is limited to women living close enough to arrive in time for the delivery. After delivery, if there are no complications, women return to their villages within a day or so.

Food avoidances during pregnancy

There is no change from a woman's normal diet during pregnancy, and no special or supplementary foods are prescribed. There are, however, a number of foods that women are counseled to avoid during pregnancy. None of these prohibitions seem to be strict, and carry no strong social sanctions if they are violated.

The most widespread avoidance is the eating of camel meat. Eating meat of any kind is rare in most rural villages, and camel meat is rarely consumed. The reason given why a pregnant woman should not eat camel meat is that it would prolong her pregnancy to twelve months,

the term for a camel. Secondarily, the child would be born with the face or feet of a camel. The seriousness with which this prohibition is respected, however, was illustrated dramatically when a group of pregnant women responded to questions about eating camel meat by saying, "Just give us the meat, and we will eat it!" Another woman said that she, indeed, did eat camel meat during her pregnancy, but nevertheless had a normal child and a normal nine month pregnancy.

Other foods and condiments commonly mentioned to be avoided by pregnant women include bitter tasting plants ('yokargi,' farrey,' 'agargar,' etc.) which would cause diarrhea and abortion. Snake meat was not to be eaten because the child would look like a snake. Goat and wild pig were also to be avoided, especially by pregnant women with maladies called 'samya,' and 'katchiri.' The latter was said to cause leprosy.

Our informants described a variation of the humoral theory of medicine, classifying some foods by their bodily heating or energizing properties ('hot'), while other foods are thought to 'cool' or deplete the body of energy. During pregnancy, extremes of either 'hot' or 'cold' were to be avoided. Cowpeas, peanuts, sugar cane, 'nafa-nafa' (leaves of a wild plant), were called "hot" foods whose primary symptom is stomach pains. Salt, and sauces with natron (hydrated sodium carbonate, a natural salt) were also to be avoided because they were said to cause stomach pains.

'Nafa-nafa,' on the other hand, was also cited as a plant which was prescribed to facilitate delivery, while natron was thought to increase lactation, and was hence a frequent ingredient in galactagogues.

Post-partum practices

Adhering to a humoral theory, our informants believe that following delivery a woman is weak and cold. Post-partum foods help her recover her heat and energy. Several special foods and drinks were mentioned to give the new mother strength, help to evacuate blood and disperse it in her stomach, and to help produce milk. The three most commonly mentioned ingredients in these foods were natron, millet bran, and pepper (piment), in addition to several types of drinks made in the form of bouillie. Ingredients for bouillie are made from a number of wild and domestic plant leaves, barks, and roots, such as 'massa,' 'sabara,' 'kossey,' 'thian

kaney,'etc. A frequently mentioned bouillie given to a new mother consists of millet bran, natron, piment and 'sossi ichiri,' boiled together in water and given to a women to drink for as long as a week after delivery.

Meat cooked with a lot of pepper ('tonkchari',or 'dambou'), 'labdourou' mixed with millet bran, and hot water for both drinking and washing were also mentioned as special post-partum preparations to give the mother strength.

Colostrum

Colostrum, or 'bala,' is referred to as the first milk. No consistent practice for its use was evident. Some women started nursing immediately, and others considered it 'bad milk,' and threw it way, claiming that it causes the infant to have diarrhea and an allergy, called 'kaguiri,' which makes the child itch and scratch itself. The colostrum which is thrown away, however, is done so with care, either poured into a specially dug hole in the ground of the woman's house, or thrown on the roof. This is done so that red ants ('n'tanda') can not eat it and cause the mother to cease producing milk.

Women refer to a three or four day period during which the milk rises. If colostrum is not given during this time, the child is fed a solution of sugar water; the mother dips her fingers in the solution and lets her infant suck the water off her fingers. Often the sugar water will also contain Koranic verses to protect the child. These verses are written on a marabout's writing board and washed off with water. This preparation is known as 'danika,' or 'hantoum hari.'

Some mothers give their children unboiled goat's milk, in place of colostrum, while they wait for their milk to come.

Cow's milk was also given to newborns during this period, although it was not mentioned often, perhaps due to a lack of availability.

In one village, a newborn's mouth and digestive tract were said to be 'opened' ('kara foun') by feeding it the yoke of a raw egg and goat's milk. The egg was intended to be a substitute or replacement for colostrum. It was not clear if this was only done in the case of an orphan whose mother had died during birth, or whether it was a more extensive practice.

In areas where they were available wet nurses could be used by mothers waiting for their milk to come. In other areas, this practice was strictly prescribed because of the possibility of a future incestuous relationship between two children of different mothers who had milk from the same breast.

D. Breastfeeding and Weaning

Breastfeeding

Virtually all infants are breastfed on demand, whenever they cry or otherwise indicate distress. Bottle or formula feeding is very rare as most people do not have the economic means to consider it. In only one case, that of an orphan waiting for his paternal aunt's milk to come, was bottle feeding reported.

If the mother's milk is sufficient, she will breastfeed until the child is weaned. If the milk is insufficient, particularly after the sixth or seventh month, the infant is given bouillie as a supplement. Cow's milk and goat's milk are also substitutes for insufficient breast milk.

Some claim, however, that goat's milk, boiled or unboiled, will cause 'kaguiri'(an allergy) and do not give it to their children.

In cases where the milk does not come easily, a woman can rub the fine sand from a termite mound on her breast, to facilitate the flow of milk.

Most informants said that a child was exclusively breastfed for seven months to a year or until the child is able to crawl and begin to find its own food on the ground, or in the cooking pots and family plate. No special effort is said to be made to prepare a different food solely for a nursing child. However, we observed numerous exceptions to these 'rules'.

It was generally acknowledged that nursing infants should not eat pate before a year because it caused stomach pains and diarrhea. This reluctance to give pate to children under twelve months, would seem to be more the ideal than the actual practice, since observations and interviews indicated that some children were given a thin 'gruel' of pate and sauce, if nothing more than on the mother's fingers.

Boule was not given to children until they could walk. The child's capacity to walk implied that it was also capable of holding the ladle from which boule is generally eaten, or drinking directly from the serving bowl without spilling. A certain level of physical control is necessary before a child is able to eat boule in either case. Hence, a child's readiness for an adult food - boule - is marked by his ability to consume it in an adult fashion. Special implements for feeding boule do not exist.

Some informants said that a child should not be fed solid food until it has cut teeth. Others said a child should not be given any cooked food, i.e. pate, until it has cut teeth.

Bad milk

Nearly all the informants mentioned that women can have bad milk, 'samia wa,' implying that this is a commonly perceived problem with breastfeeding. Bad milk was frequently attributed to be the cause of many infant problems--diarrhea, loss of weight, bad temper, refusal to eat, inability to sit up by oneself, the allergic condition noted above as 'kaguiri,' etc.

Bad milk is caused most often by a substance called 'sira,' or 'kagari' in the milk. 'Sira' or 'kagari' in the milk cause the breasts to swell, the milk to be watery and flow freely from the breasts. It also effects the color of the milk so that it is not white, as it should be, but green, yellow, or bluish. Some informants said that 'sira' occurred in breastmilk with each new moon.

Two tests were described to determine if a mother's milk was good:

1. A knife blade is heated red hot in a fire, and milk is squeezed directly from the breast on to the blade. If the milk shoots off the blade, it is bad; if the milk stays on the blade in drops, it is good. (This test is also used by the Hausa, according to Nancy Keith.)

2. Milk is taken from the breast and put in a bowl or cup. If the infant is a girl, four black ants are put into the milk, and three ants if the infant is a boy. If the ants swim to the side of the container and crawl out, the milk is good. If the

ants do not swim to the side and crawl out, and die, the milk is bad. Some informants said that seven ants were put in the milk, regardless of the sex of the infant, and if any failed to crawl out the milk was not only bad, but the number of ants that died indicated the number of future children that the mother would lose. The bad milk is thrown on the roof of the mother's house so that a type of red ant ('n'tanda) will not eat it. If the ants do eat the milk, it was said that the mother will always have bad milk.

Treatment for bad milk

Several treatments for 'sira' were mentioned. One was to make concoctions of barks from several trees ('bani,' 'diney,' 'banda,' 'ganda damsi,' and 'sabara') mixed in millet bran and boiled in water. This mixture is then given to the woman herself to drink, or to both mother and child. Other plants used to cure bad milk were 'yololo,' 'satala sigossi,' or 'wu barmey yan,' boiled in water and drunk by mother and child.

Another treatment calls for the woman to gather the leaves of the 'sabre' plant and wash them with water at a new moon. The mother then drinks this water and also washes her breasts with the mixture. When she is finished, she throws the residue on the roof of her house.

Another remedy is to pound 'bar,' and mix it with millet, natron and water, to create 'zambo,' which the mother drinks. If the woman's child is a girl, she gives a remaining portion of the 'zambo' to another mother who has a girl, and if the new mother's infant is a boy, she the remainder of the 'zambo' for her to drink.

'Fateau' is another boiled concoction of leaves and water which both the mother and child drink if she has bad milk.

Guitti

'Guitti' is a Zarma word for bitter, or bitter tasting (amer in French). It is also the generic term for at least some twenty-five different 'medicines' or 'tonics' given to infants. 'Guitti' is made by boiling a variety of wild and cultivated leaves, barks, and roots in water, and having the infant drink and bath in the solution.

'Guitti' is given to children for many reasons: to provoke diarrhea in order to clean an infant's stomach; to cure constipation; to prevent stomach pains and dysentery; to counteract the effects of 'sira' and bad milk; to cure 'allergies,' malaria and to insure good health in general.

The decoction is bitter tasting, an infant generally must be forced to drink it. This is usually done by cupping the liquid the palm of the hand and holding the child's nose closed with the thumb and forefinger, forcing it to drink. It can also be given on the fingers or with a small spoon.

'Guitti' is given seven days after birth, or at the time of the baptism. It can also be given very shortly after birth, often the first thing a child tastes. Certain guittis can be given to children up to two years of age, or to age seven, beyond the time of weaning and sometimes for a while after weaning.

In several villages, a 'guitti' made of cotton leaves is given to infants, between four and seven days after birth. This guitti is to intentionally cause diarrhea to clean the child's stomach of impurities including colostrum.

Weaning

For the Zarma, weaning ('kawa'), is both linguistically and practically an act, 'the end of the milk.' One day the child has access to the breast and the next day it does not. It is not a period or a process in which a child is gradually introduced to more solid foods, eventually leading up to its ability to eat adult food off the family plate.

According to informants, the act of weaning ideally takes place between two and three years of age: more precisely, at 23 months for boys and 24 months for girls. Only in rare cases is this ideal obtained, as the mother usually becomes pregnant before this time, and immediately ceases to nurse.

In one village, an old man was said to sell a plant to women which would prevent a mother's milk from becoming bad when she became pregnant. She could continue nursing up to the seventh or eighth month of her pregnancy without fear of hurting either child.

In another village, a guitti-like drink could arrest a pregnancy until the mother was ready to wean. And yet in another village, another plant would permit a pregnant woman to feed her nursing child from only one breast, while saving or reserving the milk from the other for the newborn. The older sibling was always weaned, however, before the newborn arrived.

Children are said to have a "pocket" for milk and a "pocket" for millet in their stomachs. In order for the child to eat millet, the milk pocket must first be broken and the millet pocket opened and prepared. This happens at the time of weaning.

The act of weaning

A child is weaned when he/she: 1) is old enough to eat from the family plate unaided; 2) does not have any more "pity" on its mother; or 3) the mother becomes pregnant again. The mother alone, or in consultation with the father, seeks out a marabout to prepare a 'walaha,' a Koranic verses drink for the child. If they have the means, the parents kill a chicken, giving some to the infant, and drying some for the following days. This dried meat is pounded into a mortar and given to the child in small quantities to help it 'forget the breast' and sleep through the night without waking.

A variation on this practice requires a woman to take a bowl of boule to a marabout, who recites Koranic verses over it and spits in it The child is then given the boule to drink.

If a child does not eat after being weaned, a marabout can be consulted to prepare another 'drink of verses' and give the infant an appetite.

In some cases a 'zima' is consulted in place of a marabout to assist with the weaning. A 'zima' is a traditional healer, either a male or female, whose specialty is herbal treatments.

Mothers employ several different means to physically discourage a child from the breast. They can rub distasteful things on their nipples such as pepper, ashes, cow dung, etc. They can cover their breasts with clothing making it difficult for the child to reach the breast. They also send the child away for a few days to stay with the woman's mother in another village.

Weaning is most generally said to be done on a Saturday, a special day signifying a return, repetition, or

recurrence. In the past, 'Saturday' was probably the periodic market day. Now it is the sixth day of the week, following contemporary enumeration. One interpretation of the choice of this day for weaning, may be a expression for another pregnancy and birth.

A child who is prematurely weaned because of a new pregnancy is known as 'nassizé.' 'Nassizé' children often suffer from a loss of appetite and a loss of weight. They must be treated with a guitti consisting of the leaves of 'kobassaye,' 'dore,' or 'foulun kurgui' to help restore their appetite.

One recourse a woman has to prevent frequent pregnancies is to visit a marabout for a 'drink of Koranic verses.' Since there is no recognized period of sexual abstinence after a birth, the efficacy of this method probably can be questioned. Women can have as many as thirteen children, although rarely do they all survive. The term 'fatia' is a pejorative term used to refer to a woman who has a pregnancy every year, 'like an animal.' While it is acknowledged that the husband has some responsibility for the succession of children, no equally pejorative term or social sanction exists for males.

Some informants claimed that 'fatia' were really the victims of Fulani herdsmen who put a medicine in the well water so that their cattle would reproduce often. The effects of this medicine is transfered to the women when they and their husbands drink the well water.

Post-weaning

One criterion for weaning is the ability to eat from the family plate. Recently weaned children continue to eat with their mothers and other women for some time. Boys, however, as they become older and socialize with other boys, gradually begin eating with their peers. Eventually they eat exclusively with boys and men from the same plate.

Apart from meals supplied and prepared by their mothers or other women, children are essentially responsible for finding and preparing their own food. Children, as well as adults, seem to be snacking all day long, particularly at the end of the growing season, when many fresh foods are available, cultivated and wild. Nearly all of these snacks require very little preparation. Most can be eaten raw, roasted over an open fire or boiled in water.

Young children, for example, will prepare and eat 'nouveau mil' (millet which is still green, and not yet dry enough to prepare for pate) by roasting the head of a stalk on an open fire, removing the kernels and eating them out of hand. (Children who eat too much of this get swollen bellies and stomach aches. They also become the subject of adult amusement.) Children also eat roasted corn and yams when they are available. Sugar cane and peanuts are eaten raw. Bambara nuts ('damsi kwari') and various leaves need only to be boiled in water before eating.

Older boys are able to roam through the fields and bush, hunt and trap all manner of birds, eggs, rodents, cats, crickets, grasshoppers, and so on. Most often the catch is roasted where it is caught, but surplus is also brought back to the compound to share with other family members. Boys eat a variety of wild nuts, berries, and leaves which they find in the bush.

In general, young children in the village have to fend for themselves, eating the crust of pate from the bottom of a cooking pot, collecting raw, pounded millet from the mortar, picking food off of the ground, or 'hanging around' older siblings who give them of whatever is available.

E. Infant health and illness

A healthy child is described as one who eats well, laughs a lot, is plump and dimpled, and grows bigger. A normal child's growth pattern is marked by at least three physical stages: by three or four months an infant should be able to sit by itself; by seven to eight months it should be able to crawl; and by twelve months it should be able to walk. This pattern reflects the stages of readiness for a child to eat adult food, i.e. it must be able to crawl before it can eat pate, and it must be able to walk before it can eat boule.

Sickness

A sick child is described as one who cries most of the time, is sad and thin and doesn't eat, who clings to its mother and doesn't sit up or walk when it should.

A sick child also has frequent diarrhea attacks. At least three types of infant diarrhea were recognized by mothers:

1. Green diarrhea ('kathiri' or 'samya') which is caused by bad milk. This type of diarrhea is treated with the leaves and bark of the 'boy' and 'yololo' bush. The dried leaves of the 'yololo' are made into a powder and put into a bowl of boule. To this is added the excrement of a wild pig and the bark of the 'boy,' to make a guitti, which is given to the child to drink.

2. White diarrhea, having a nauseating smell, is caused by dentition. The Zarma do not have a treatment for this, but a guitti composed of 'calanbal' or 'baricarissi canigandji' can be taken as a preventative. The Bororo, however, are able to treat this type of diarrhea by tying a cord of ficus knots around the infant's neck.

3. 'Anogo', diarrhea with blood and mucus, is caused by bad food.

At least two types of food were cited which specifically caused diarrhea. Fermented boule, particularly when a child has not been drinking a guitti; and eating millet before a child is old enough to eat it. Dentition was also recognized as a common cause of infant diarrhea.

In addition to diarrhea, the most frequent childhood diseases that were mentioned were:

1. Malaria - which is most severe and frequent during the hot rainy season. It is treated with a variety of plants.

2. Measles - treatable in two ways. The first is to pound the sesame plant in a mortar, wipe the paste over the infant's body and give the juice to the child to drink. Another remedy is to give the child honey to drink and wipe onion juice on its body, pressing some of it into the child's eyes to prevent it from sleeping.

3. Whooping cough - treated with the leaves of 'hira bon dani' and 'konrontolo,' mixed in a concoction.

4. Conjunctivitis - treated by dropping the juice of 'bataltal' into the eyes.

5. Meningitis - Without a traditional treatment because it is said that it has been brought to Niger from outside. People must go to a medical center for help.

6. Vomiting - treated by drinking lemon juice and water.

7. Dysentery - known as 'waino' can be caused by eating too much sugar, or rice which is not properly cooked. To treat dysentery, a powdered mixture of leaves is drunk with cow's milk. (This description does not come from a rural village where eating sugar and rice are rare.)

8. Dermatosis

Healers

Mothers can take their sick children to four types of healers in a village:

1. 'Sarkin bori', specialists in the realm of psychological problems caused by 'genis,' spirits and dreams.

2. 'Zima', or 'boka', specialists with plants and treatment of stomach and other physical ailments.

3. 'Bororo', specialists with plants and things of the bush.

4. 'Marabout', healers of last resort. If other healers are unsuccessful, they refer their patients to the village marabout. Marabouts healing powers derive from the versus of the Koran.

The village barber is also be a type of healer. If a child cries too much and has difficulty swallowing, the barber can be called upon to determine if these problems are caused by sores on the uvula. If so, he can surgically remove them. In the past, children were given a type of guitti to drink, prepared from a tree bark, to help heal the incision. Now, however, the

child is given coffee and hot water to drink. (This practice of removing the uvula does not seem to be as widespread among the Zarma as it is among the Hausa, as reported by Nancy Keith.)

The barber is also responsible for circumcising the boys, a practice which usually takes place on the day of the baptism, but occasionally as late as the ninth year.

IV. Discussion

Considerable variation exists between the regions, villages, and even neighborhoods where this research was conducted, as descriptions above indicate. Despite this variation, however, many beliefs and practices are common across all regions. These common beliefs, themes, or decision-making styles, should be addressed first in a nutrition communication program.

What is Food?

Our informants categorized edible things into "real food" = foods containing millet, and "not really food" = everything else; "Adult food" = boule and pate), and "things that may be given to infants" = breast milk, guitti (tonics) and tastes of adult food. Following that, they make finer distinctions of foods that strengthen or weaken the body, heat or cool it, afflict or cure certain conditions. Before introducing an exogenous food categorizing system - such as "The Three Food Groups," efforts should be made to use the categories of existing food classification system. Nutritionists who are trained to see foods as having 'vitamins, proteins and calories', or even 'protecting, strengthening and maintenance' properties should be able to re-interpret these qualities into popular, indigenous nomenclature. (SEE APPENDIX III FOR STRUCTURED TECHNIQUES TO ELICIT FOOD CATEGORIES)

Introduction of solids

In a similar vein, if children are not perceived to 'eat food' before the age of two, (i.e. they eat no boule or other millet foods), it might be appropriate to talk about 'what besides breast milk a child needs to taste daily; and what kinds of 'guitti' need to be prepared to strengthen a baby. Or, using commonly perceived developmental stages, it might be possible to popularize a "special pate" for crawling babies and a special boule for toddlers. Links between tooth eruption, diarrhea and feeding need to be explored as a basis for timing introduction of nutritious foods.

Pregnancy and postpartum

As Zarma women believe that consuming excessively 'hot', 'cold', or 'bitter' substances can harm a woman or unborn child, advice to women about their diets should be based on the concept of 'humoral balance'. Further research (which can be conducted rapidly using food picture sorting techniques--SEE APPENDIX III) is required to draw up a list of food considered 'heating-cooling', or 'strengthening-weakening' so that nutrition educators can speak in relevant categories, and communication materials are relevant and meaningful to the audience.

Breastfeeding

As breast milk remains an important component of the child's diet for approximately two years, beliefs concerning the quality and quantity of breastmilk have a pivotal role in infant feeding decisions.

The belief that a mother can have bad milk, for instance, and that this can cause diarrhea, vomiting, skin disorders and other problems for her child is widespread. These ideas about bad milk, 'sira,' and 'kaguiri' need to be studied in greater depth. It might be necessary to address the issue of 'bad breastmilk' directly and talk about how variations in color and consistency are normal; that women must eat and drink enough themselves; and to continue breastfeeding children with diarrhea. This would lead to discussions of other explanations for children's illness (particularly diarrhea and allergies) - allowing for discussion of appropriate introduction of things besides breastmilk. Again, campaigns directed at use of ORT and supplementary food for children with diarrhea might fall short if mothers (and significant relatives) attribute the problem to 'bad breast milk'. These issues, as well as the different opinions concerning the value and use of colostrum, require further research.

Weaning

Common beliefs and practices were associated with weaning throughout the area studied. For the first year, or until the child can crawl, he or she is almost exclusively breast fed. As soon as a child begins to crawl, he begins to eat millet and other foods that he is given or finds on the ground. And by the time the child can walk, he can eat boule and partake of virtually all adult food from the family plate. The ideal age for weaning was twenty-three months for boys

and twenty-four months for girls, or in general two years, but this was rarely obtained because of ensuing pregnancies. Weaning itself is always an abrupt, definitive act, nearly always to be done on a Saturday.

An integral part of the weaning act is the performance by a marabout, or occasionally a zima, in a ritual or ceremony in which a chicken is killed and then given to both mother and child. At the same time, the marabout writes Koranic verse on his tablet and washes it with water, which the child then drinks. The fact that weaning involves a ceremony led by a marabout suggests that it is seen as the beginning of a difficult period during which the child will need special strength. The child is must increasingly fend for itself. There seems to be a cultural recognition that infant malnutrition, illness, and death commonly follow a child's weaning, and because the general conditions of life do not favor recently weaned infants, supernatural assistance is necessary for them to survive.

This finding suggests that the religious ceremonies surrounding weaning and the Koranic verses used to protect the weanling, might provide the creative theme, context, and language for messages concerning the safe introduction of solids. Other themes that might lend themselves to creative elaboration include 'preparing the child' for breastmilk or other foods, or 'opening the pocket in the stomach' for solids. Experimental messages need to be developed and pretested along these lines.

Tonics or Medicinal beverages (guitti)

The nature of guitti consumption is another common practice. Guitti was always given to young children, and often to their mothers, to cure a variety of maladies and insure good health. Guittis are usually given over a period of time, rather in one single dose, and can be used to bathe both a mother and her infant, as well as to drink.

Guitti, by definition, is bitter tasting, and children must be forced to drink it. Sugar, honey or other additive to make it more palatable were rarely mentioned. A large number of the leaves, barks, and roots used as guitti ingredients are grown. The preparation involves either pounding dried leaves, barks or roots into a powder, or putting them whole into a pot to be boiled water.

The rich variety of leaves, barks, and roots used to make guitti, which may contain essential vitamins and minerals, need to be investigated. Their use should be encouraged where they could provide a source of essential and often missing nutrients. In addition, the use of non-traditional ingredients, such as nutritious condiments or dried and powdered foods, might be suggested as a guitti to help make children healthy. The extent to which 'guitti' is a narrow definition, restricted to bitter foods that are boiled in water or simmered, or can be expanded to other cheap and readily available substances, needs to be explored.

Source of Nutrition Information

The importance of the role played by both midwifes and marabouts in infant health and nutrition, diagnosing bad milk, diarrhea and other maladies and providing for their cure and so on, was also universal throughout the regions studied. As mentioned above, different facets of education campaigns could be developed for delivery by marabouts, midwives and radio that would all be mutually reinforcing.

V. Conclusion and Next Steps

This report has tried to synthesize the results of nineteen days of rapid ethnographic assessment focusing on infant feeding and nutrition practices in fourteen Zarma-speaking villages in two arrondissements of Niger. It is an example of the type and quality of data that can be collected by conscientious health or social workers, minimally trained in ethnographic research under the guidance of an anthropologist.

The research was conducted both as an exercise in a training program and as an initial effort to gather data on infant feeding and nutrition. There are obvious 'holes' in the data, leaving many questions still to be answered.

Ideally, the next step of the ongoing project would be to reconvene the research group for a series of meetings. These would analyze:

1. Important research gaps that were explored, but remain "hidden" in fieldworkers' notes;

2. Areas requiring further observation or interview;

3. Areas that require quantification (such as measurements of mother's time use, quantities of food children consume); and,

4. Areas that require more precision (such as food categories, kinds of foods used throughout the day) [SEE APPENDIX III FOR SAMPLE METHODOLOGY].

Following these debriefings, the working group should decide what kinds of information are most important to gather next. One high priority activity that does not take a lot of time would be to implement focus group discussions to "test out" some of the hypotheses generated by the ethnographic research. This work would be followed by development of scenarios and messages for pretesting. It is at this stage that quantitative methods would be applied to discover the 'universality' of beliefs or practices - and extent to which they are amenable to change through education and communication.

ILLUSTRATIONS

[1] Rapid Ethnographic Field Research Team

[2] An informal grouping of respondents and children in Ouallam

[3] Men in a millet field

[4] Woman pounding millet

[5] Woman prepares food (note green vegetables), nurses her youngest and cares for her three-year-old who is ill. She says that she spends "no time really" in caring for children.

[6] Young girl preparing mid-day meal

Photography by Robert Brandstetter

ILLUSTRATION 1

ILLUSTRATION 2

ILLUSTRATION 3

ILLUSTRATION 4

ILLUSTRATION 5

ILLUSTRATION 6

Appendix I

BREF GUIDE DES SUJETS

PROGRAMME DE FORMATION

RECHERCHE ETHNOGRAPHIQUE RAPIDE

l'Alimentation du Nourrisson

I. La Grossesse:

1. Aliments speciaux
2. Regime spécial pendant la grossesse
3. Aliments interdits, tabous
4. Rythme de travail de la femme enceinte
5. Autres choses concernant l'alimentation, santé, bien-etre de la mère et le bébé
6. Proverbes sur la grossesse, la santé, etc. de la mere et la bébé (signification)

II. L'accouchement/après accouchement:

1. Aliments spéciaux
   A. Mère
   B. Bébé

III. L'alimentation de l'enfant:

1. Quand commence-t-elle?
2. Avec quoi?
3. Voir REA, pp 25-27

IV. Maladies avant et après le sevrage:

1. Liste de toutes les maladies
2. Symptômes
3. Causes
4. Traitement

5. Cas de complication
6. Quelle période de l'année
7. Circoncision

   A. Age
   B. Alimentation spécial, repas spéciaux

V. Le sevrage (l'acte):

1. Quand?
2. Comment?

VI. Alimentation:

1. Liste des aliments locaux disponibles (marché)
2. Qu'est-ce que vous cultivez?
3. Les aliments pendant la famine
4. Qu'est-ce que la maman a mangé pendant les dernières 24 heures?
5. Qu'est-ce que le bébé a mangé pendant les dernières 24 heures?
6. Les resources de la famille, humaines et financières
7. Préparation des aliments/ composition
8. Consommation: qui mange avec qui?
9. Alimentation pendant une fête, carème et cérémonies
10. L'état d'hygiène (Alimentation, Habitat, individuel)
11. Source et qualité d'eau

VII. Activities des femmes

1. Emploi de temps d'une femme (chercher le bois,l'eau, preparation de repas, etc.)
2. Emploi de temps saisonnier
3. Commerce

VIII. Infrastructure du village:

1. Responsables, chef, marabout, matronnes, secouristes.
2. Marché
3. Quartiers

IX. Divers:

1. Aliments chaud/froid
2. Aliments bon/mauvais
3. Les interdits, tabous
4. Sira (bon lait, mauvais, lait) Causes,traitement
5. Instruction dans la famille
6. Relations entre les gens dans la concession
7. Les orphelins-qui est responsable? Pourquoi?
8. Bouki? Combien? Pourquoi? Quand?
9. Situation des orphelins; A qui ils ont été confiés?

Notes

Appendix II

Participants in Training

1) Mme. Philippe Tamma

Age: 32
Lieu de naissance: Kesse (Doutchi)
Marie: Oui
Nombre des enfants: 4
Fonction: I.D.E., PMI Poudriere
Position actuelle: Infirmiere certifiee
Depuis combine de temps: 12 ans
Formation: ENICAS
Langue maternelle: Haoussa
Autres langues: Djerma, Francais

2) Mme. Gagara Haoua

Age: 35
Lieu de naissance: Doutchi
Marie: Oui
Nombre des enfants: 3
Fonction: I.D.E., PMI Gamkalley
Position actuelle: Infirmiere diplomee d'etat
Depuis combine de temps: 16 ans
Formation: ENSP
Langue maternelle: Haoussa
Autres langues: Djerma, Francais

3) Mme. Maoumouni Aissata Boukari

Age: 27
Lieu de naissance: Niamey
Marie: Oui
Nombre des enfants: 5
Fonction: Aide sociale, PMI Yantala
Position actuelle: Meme chose
Depuis combine de temps: 7 ans
Formation:
Langue maternelle: Djerma
Autres langues: Haoussa, Francais

4) Mlle. Aljouma Zeinabou

Age: 27
Lieu de naissance: Niamey
Marie: Non
Nombre des enfants: 0
Fonction: MSP/AS
Position actuelle: Responsable du Bureau des Relations Internationelles
Depuis combine de temps:
Formation: Economiste
Langue maternelle: Djerma
Autres langues: Francais, Anglais

5) Mlle. Killebrew Suzanne

Age: 24
Lieu de naissance: Iowa, USA
Marie: Non
Nombre des enfants: 0
Position actuelle:Volontaire du Corps de la Paix
Depuis combine de temps: 1 an
Formation: Nutritionniste
Langue maternelle: Anglais
Autres langues: Francais, Djerma

6) M. Ide Djermakoye

Age: 38
Lieu de naissance: Agadez
Marie: Non
Nombre des enfants: 0
Position actuelle: Coordonnateur du projet de vitamine A, HKI
Depuis combine de temps: 1 an
Formation: Nutritionniste
Langue maternelle: Djerma
Autres langues: Francais

7) El Jadju Dagobi Aboua

Age: 25
Lieu de naissance: Riga (Mirriah)
Marie: Non
Nombre des enfants: 0
Position actuelle: Etudiant en sociologie, Universite de Niamey
Depuis combine de temps: ?
Langue maternelle: Haussa
Autres langues: Djerma, Francais, Anglais

8) Soumana Ousseini

Age: 30
Lieu de naissance: Yatakala
Marie: Non
Nombre des enfants: 0
Position actuelle: Enseignant/ENSP
Depuis combine de temps: 2 ans
Formation: Sociologue
Langue maternelle: Songai
Autres langues: Haussa, Francais

9) Seriba Coulibaly Boubacar

Age: 27
Lieu de naissance: Gaya
Marie: Non
Nombre des enfants: 0
Position actuelle: Stagaire/CARE
Depuis combine de temps: 1 an
Langue maternelle: Djerma
Autres langues: Haussa, Francais

10) Boukary Amadou

Age: 34
Lieu de naissance: Ganki-Bassarou (Say)
Marie: Oui
Nombre des enfants: 1
Position actuelle: Nutritionniste, MSP/AS/CF
Depuis combine de temps: 1 an
Formation: BAC + 3 ans
Langue maternelle: Djerma
Autres langues: Haussa, Peul, Francais

11) Harouna Hammani

Lieu de naissance: Tillaberi
Marie: Oui
Position actuelle: Nutritionniste, MSP/AS/CF (Responsable du projet RER)
Langue maternalle: Djerma
Autres langues: Haussa, Francais

APPENDIX III

Structured Techniques for Determining Food Categories

Picture Card Sort

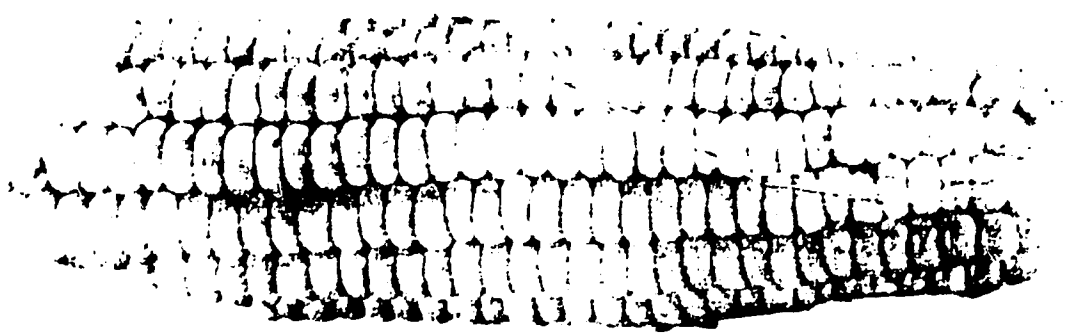
Create a deck of cards displaying color pictures of items that are part of the dietary repertoire (foods, drinks, sweet and salty "mouth amusers", condiments, plants, animals, soils and other items that are consumed) (SEE FIGURE 1). If available, photographs are best as participants usually have less trouble identifying photographs than drawings. While a master deck of all identified foods may be created, participants appear to tire of the activity more rapidly when the deck exceeds 100-120 cards. The cards should be numbered for ease of recording and it will help to write the name of the food in French and local languages on the back of the card (You will probably add to the list of names as you proceed with the activity.)

Before implementing this activity, you will need to ascertain if the participant understands the idea of "pictures" representing real life objects. It will help to bring along two samples of foods and their picture cards to help explain this concept. If the participant can not accept that a picture of a food represents the food "in theory," you will probably not be able to use this technique. However, if participants can not relate to pictures of food in this test, they will probably also not relate to print materials portraying foods. You will need to keep this in mind for later applications. In worldwide research projects, most participants understand the concept of pictures/real things and can discuss foods by referring to and sorting pictures.

Step 1: Basic Sort

Select one card from the deck at random and explain to the participant that the card is a picture of something that she or persons that she knows might eat. Ask the participant to identify the picture. Select another card if she can not recognize the picture. If she asks if it is "X," and that is what it is intended to be, tell her that is correct. Most participants will ask if the picture is a particular food rather than state it emphatically. It might help to go through the deck and identify the cards, discarding the ones the participant can not recognize. However, this can be incorporated in the first sorting activity.

FIGURE 1



Ask the participant to put the cards into piles or groups according to how she thinks the foods go together or are different. This general classification will probably be confusing, and you will need to clarify that you want her to think of the pictures as foods and put similar foods together in one pile into as many piles as necessary. Do not give her specific examples at this stage.

Coding data

Record the numbers of the cards onto your answer sheet (See Figure 2 for example of recording sheet--in the case shown, the respondent separated foods into kinds of meals. The largest category contained "foods to be eaten with rice." In descending order, categories contained snack foods, breakfast foods, desserts and ingredients).

If the participant seems interested, ask her if she can think of another way of grouping the foods. Record these answers as "Self Determined Categories II".

Step 2: Directed Sort

Through ethnographic research, you have probably learned of a number of categories for food. You may think of these as "hypothetical categories." You may now test your hypothesis that the category is salient by asking the respondent if she ever thinks of foods having "X" or "Y" properties. For example, she may think of foods as being "Hot" or "Cold;" she may think of foods as being "Strengthening," or protecting different parts of the body (such as eyes, skin, teeth, organs)--or conversely, harmful to the body; she may distinguish between foods that may be consumed by pregnant women and those that should be avoided; foods may be for Special occasions or for Everyday; foods may be Expensive or Cheap. By looking through your field notes, you should be able to make a long list of potential classifications. Leave spaces on your coding sheet for these most common categories (SEE EXAMPLE, FIGURE 2).

Ask the participant to sort the cards according to one of these systems, and record her answers in the appropriate box. Ask her how she learned about this system. Ask her if she believes it is really true.

Synthesizing Data

After about 10 "food sorting interviews" you will want to begin a "Master Grid". You will need to look upon this sheet as a growing document that will expand with your field work. On a large piece of paper, list the dietary items by number (and name, if you like) down the left hand side and list the categories across the top. Draw a grid so that each food and category has a small box where the two intersect. Each time that a respondent sorts "Y" food into "X" category, place a mark in the intersecting box. (SEE FIGURE 3 FOR EXAMPLE USING AMERICAN FOODS AND SOME VIETNAMESE CATEGORIES).

Analyzing Data

There are computer programs that you could use to analyze the foods and categories. However, one method that can be done by hand is to simply add up the number of marks in a particular food/category "box." Depending upon your sample size (recommended 50-100), you will want to set parameters for how frequently intersections occur. In general, if 10% of the sample make an association, it should be considered important and worthy of further investigation in materials design and

FIGURE 2

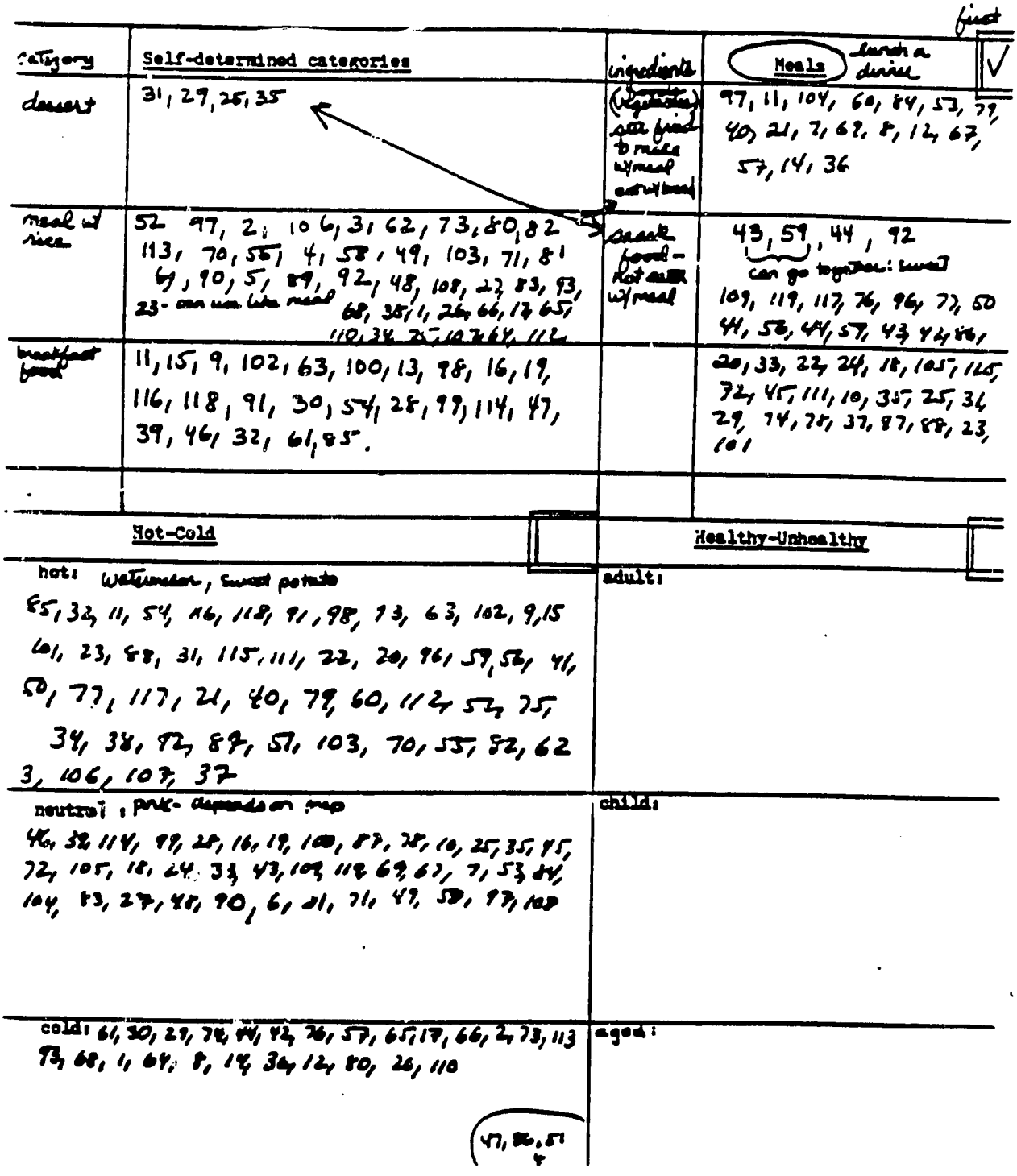
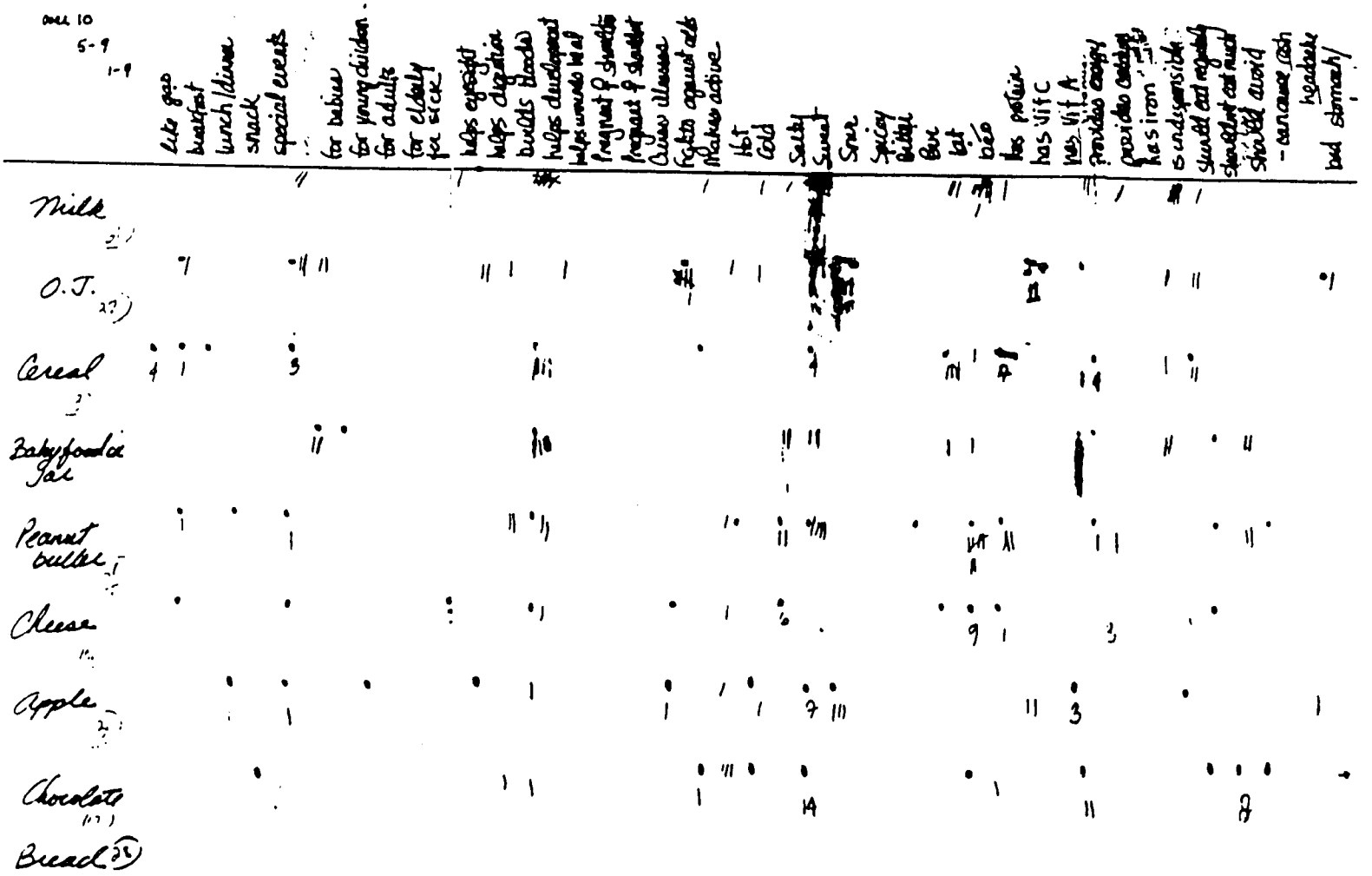

first
Category
Self-determined categories
ingredients
Meals
lunch a drink
V
dessert
31, 29, 25, 35
(vegetables) goes first to mixes w/meal eat w/bread
97, 11, 104, 60, 84, 53, 79, 40, 21, 7, 69, 8, 12, 67, 57, 14, 36
meal w/ rice
52 97, 2, 106, 31, 62, 73, 80, 82 113, 70, 55, 41, 58, 49, 103, 71, 81 69, 90, 5, 89, 92, 48, 108, 22, 83, 93, 23- can run like meal 68, 35, 1, 26, 66, 12, 65, 110, 34, 20, 107, 64, 112
snack food - not w/meal
43, 59, 44, 92
can go together: sweet
109, 119, 117, 76, 96, 77, 50 41, 58, 44, 57, 43, 94, 86,
breakfast food
11, 15, 9, 102, 63, 100, 13, 98, 16, 19, 116, 118, 91, 30, 54, 28, 99, 114, 47, 39, 46, 32, 61, 85.
20, 33, 22, 24, 18, 105, 115, 72, 45, 111, 10, 35, 25, 34, 29, 74, 75, 37, 87, 88, 23, 101
Hot-Cold
Healthy-Unhealthy
hot: watermelon, sweet potato
65, 32, 11, 54, 116, 118, 91, 98, 93, 63, 102, 9, 15 101, 23, 88, 31, 115, 111, 22, 20, 96, 59, 58, 41, 50, 77, 117, 21, 40, 78, 60, 112, 52, 75, 34, 38, 82, 89, 57, 103, 70, 55, 82, 62 3, 106, 107, 37
adult:
neutral: pink- depends on prep
46, 32, 114, 99, 28, 16, 19, 100, 87, 28, 10, 25, 35, 95, 72, 105, 18, 24, 33, 43, 109, 118, 69, 67, 7, 53, 84, 104, 83, 27, 48, 90, 6, 31, 71, 49, 58, 97, 108
child:
cold: 61, 30, 29, 78, 44, 42, 76, 57, 65, 17, 66, 2, 73, 113 93, 68, 1, 64, 8, 14, 34, 12, 80, 26, 110
aged:
47, 86, 51

FIGURE 3


Milk
O.J.
Cereal
Baby food or Jar
Peanut butter
Cheese
Apple
Chocolate
Bread

pretesting. From the initial sort, you will see that some categories are larger and account for more foods. You may make a "tree diagram" to help you think about these larger categories.

With this categorical analysis, you will now want to return to the village setting and see if people actually make food purchase and household distribution decisions according to these categories. It will not help to ask people if this is "why" they are buying, cooking, feeding or eating a particular food because, for them, the categories are implicit. You, as the anthropologist have made them explicit. It is often helpful, though, to ask if a food is the "opposite" category of what you think it is to see what the response is. Or, you can ask if other foods could be "substituted" for the food in use (i.e., if she could not buy "X," would she buy "Y" (a food you think is in the same category) instead.

When you are done analyzing the foods and categories, you can draw up a list of Beliefs and Attitudes that seem to affect food selection by the people you have researched. (SEE TABLES 1 AND 2 FOR EXAMPLES FROM STUDY OF VIETNAMESE AMERICANS).

TABLE 1

Characteristics of Foods Judged to be Important When Selecting Items for Consumption Within the Vietnamese American Home (1)

I. Suitability of the food for a meal
(20/20 classified this way)
A. Breakfast food
B. To be eaten with rice at lunch or dinner
C. Snack food
D. Special occasion food or food for guests
E. Food for young children or sick persons
F. Therapeutic food prescribed by doctor or tradition
G. Ingredients or staple

II. Taste differentiation (20)
A. Flavorless (lạt)
B. Sweet (ngọt)
C. Sour (chua)
D. Spicey (cay)
E. Bitter (đắng)
F. Savory like nuts (bùi)
G. Rich or fatty (béo)

III. Equation with known food items (19)
A. Like gạo (uncooked rice)
B. Like cơm (cooked rice)
C. Like particular vegetable or fruit

IV. Effect on body (19)
A. Makes it generally hot
B. Makes it generally cool
C. Generally makes it full, but neutral
D. Has specific bổ (nourishing) effect
Nourishes bones, skin, teeth, hair
Brain, nervous system, blood
E. Helps digestion
F. Helps development of children

V. Nutrient Components
A. Has protein, vitamins or minerals (4/20 respondants)
B. Has Vitamin C (18/20 respondants)
C. Has iron (12/20 respondants)
D. Has meat element (13)
E. Has milk element (15)
F. Has fat elements

TABLE 2

But these beliefs, in general, were less influential than attitudes in determining choice of a particular food.:

Vietnamese American Attitudes Towards Foods as they Pertained to Food Selection

I. Taste judgement (20/20)
   A. Tasty (ngon)
   B. Bad (do)
   C. Fatty or greasy (beo)
   D. Bland (lat)

II. Frequency of Use (20)
   A. Use it frequently
   B. Sometimes use it
   C. Never use it
   D. Haven't tried it

III. Ease of preparation (20)
   A. Easy to prepare
   B. Time consuming
   C. Difficult
   D. Don't know how to prepare

IV. Usefulness (20)
   A. Can be used with lots of other foods in meals
   B. Can be used only in special ways (e.g. dessert)
   C. Can be used by itself in a meal

V. Category of person who should use (18)
   A. Children
   B. Pregnant or postpartum women
   C. Men
   D. The sick
   E. The elderly

VI. Category of person who should avoid (15)
   Same as V.

VII. Judgement of effect on body (14)
   A. Warms you (good)
   B. Makes you too hot
   C. Cools you (good)
   D. Makes you too cold
   E. Hurts certain parts (teeth, skin)

Food Grid

This paper-and-pencil instrument is suitable for literate health and social workers, nutrition educators, physicians and the like. It will help you see the discrepancies and similarities between the categories that the "professionals" use to think about food and what is more common in the village settings. Understanding the differences and similarities between these categories is a first step in developing education and counseling materials for health and nutrition workers.

You will need to develop and pretest your food grid with a small sample of the intended audience. You may wish to use the food card sorting technique as well to see if the two techniques produce different results.

Directions

Rule an office-size piece of paper (that you can reproduce easily) normal into four columns (SEE FIGURE 4). In the first column, write the heading "Foods." Under this heading list 20-30 foods that appear to be the most important components of young children's diets (as ascertained during your field observations, or as discovered through picture card sorting.)

Head the second column with, "Food's Properties" and you may put some appropriate examples, such as "Sweet, sour; helps skin, etc." What you are trying to get at in this column is Beliefs, and you may ask the question in any way that will elicit people's knowledge about the food

Head the third column with "Opinion of the food." Here you are trying to ascertain people's Attitudes towards the food. By leaving this vague, you will get the most variety in responses.

Head the last column with "How is this food commonly used, or with what other foods can the this food be served?" Here you are trying to get at Practices, and again, you may phrase the question as you see fit.

You will arrive at the best way of phrasing the column headings so that you generate useful answers by pretesting the food grid with a number of respondents. It must be self explanatory to be most useful.

Synthesis and analysis can be done as described above for food picture card sorting.

FIGURE 4

FOODS	Food's Properties (Nutrients; Helps or Hurts...)	Opinion of Food (Good, Bad...)	How is Food Commonly Used
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			