

# **PRITECH**

Technologies for Primary Health Care

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TECHNICAL CONSULTANT VISIT TO  
THE GAMBIAN FOOD AND NUTRITION  
ASSOCIATION (GAFNA)

A Report Prepared By PRITECH Consultant:  
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During The Period:  
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## **Section I Introduction and Objectives of the Consultant Visit**

This trip report describes the results of site visits to the Gambian Food and Nutrition Association (GAFNA) and to the PRITECH West African Office in Dakar, Senegal. These visits were carried out from July 27, 1990 to August 18, 1990 by Joel Gittelsohn, supported by PRITECH. The site visits had the following objectives:

- 1) To assist GAFNA in designing and conducting their ongoing qualitative research on infant feeding. This involved: 1) the introduction and selection of appropriate qualitative data collection and analysis methods; 2) the training of data collectors in these research methods; and 3) review of preliminary data collected and decision-making about continued research.
- 2) To familiarize the consultant with the structure, capabilities, and resources of GAFNA and PRITECH-West Africa, so that research could be focused on meeting the needs of the organizations and the populations they serve.
- 3) To introduce and establish systems for qualitative data management and analysis. This involved the use of computers and training of computer operators in the use of software packages for textual data management and qualitative data analysis.
- 4) To assist GAFNA and PRITECH-West Africa in developing their other research initiatives.

Overall, my time spent with GAFNA was about evenly divided between discussion/presentation, training and computer work, and fieldwork/data collection. The trip report begins with a summary of my travel itinerary and meetings (Section II). The main body of this trip report (Sections III-V) focuses on the GAFNA consultancy. Section VI describes my meetings with the PRITECH West Africa staff. Section VII describes a few important individual meetings. Four Appendices present supplementary materials.

## **Section II. Itinerary**

### **KEY:**

JG - Joel Gittelsohn  
KS - Kinday Samba  
MP - Modou Phall

### **Senegal**

July 27-28	Air travel to Dakar, Senegal
July 29	Meeting with Suzanne Prysor-Jones
July 30	Presentations by JG to PRITECH staff on: 1) comparing qualitative research with quantitative research, and 2) qualitative research methods.  Discussions on proposed Senegal infant feeding during diarrhea study.
July 31	Refining the research on infant feeding in Senegal and assisting PRITECH staff with qualitative data management and analysis system.

### **The Gambia**

August 1	Travel to Banjul, The Gambia  Meeting with GAFNA staff KS and JG prepare infant feeding project budget  Meeting with Dr. Paolo Crivelli (UNICEF)
August 2	Meeting with Kinday Samba. Purposes: formulate research plan and instruments; train field workers; become familiar with computer software; conduct some orientation visits to local villages; and selection of potential study sites.
August 3	Meeting with Albert Cox (GAFNA--Executive Secretary)

Meeting with Ida Ceesay (US AID-- Health, Nutrition and Population Program Officer)

Meeting with Dr. Melville George (Department of Health Services--Director)

Meeting with Isatou Semega-Janneh (Department of Health Services--Head of Nutrition Unit) and Modou Phall (Department of Health Services--Regional Nutrition Assistant--Western Region)

Meeting with Hassan Njai (Gambia School of Public Health--Principal)

Meeting with Michael Hastings (CRS--Country representative), Simon Cole (CRS--Computer Officer), Francis Demba (CRS--Administrative Officer)

JG gives orientation presentation to KS and MP on qualitative research

August 4 JG and KS work on CRS computer, setting up qualitative data management system, familiarizing KS and Simon with the software

JG and KS develop initial plan for qualitative data collection

August 5 SUNDAY -- Day Off

August 6 Interviews with School of Public Health students to select data collectors

Preparation of sample data collection forms

August 7 Village Visit (Fass)

Community permission to conduct research obtained

JG meets Community Health Nurse (CHN) and walk around communities; conducts resource mapping

KS and MP practice other data collection techniques to prepare for training

August 8	Village Visit (Sintet)  Conduct arrangements for training of data collectors
August 9-10	Training of data collectors (at GAFNA)
August 11-13	Preliminary Data Collection (Sara Kunda)  Data entry
August 14	Data Entry  Analysis of entered data  Meeting with Dr. Paolo Crivelli (UNICEF)
August 15	Analysis of entered data  Planning for next six weeks of research  Meeting with Michael Hastings (Catholic Relief Services Country Representative)
August 16	Final Meeting with GAFNA Staff  Planning for next six weeks of research

**Senegal**

August 17-18 Travel to Dakar, Senegal

Meeting with PRITECH Staff: Briefing on progress of the GAFNA infant feeding research.

Travel to the U.S.

### **Section III. Assistance with the Design and Implementation of GAFNA's Qualitative Research on Infant Feeding Practices**

#### **III.1 Purpose of the Research**

GAFNA's current research on infant feeding in the Gambia has two general objectives:

- To provide a solid base of information on infant feeding practices in the country on which to develop and implement appropriate and effective weaning interventions (particularly appropriate weaning foods).
- To develop a broader understanding of the range of biological, cultural, and environmental factors influencing diet and nutritional status in the Gambia.

Within the first general objective, a number of specific objectives have been listed by Kinday Samba in her draft proposal:

- To assess mother's understanding of the process of weaning and the purpose of supplementary weaning foods.
- To examine the attitudes and beliefs that control the use of additional ingredients in the preparation of weaning foods.
- To determine knowledge, attitudes and practices with respect to the use of fermentation in weaning food preparation.
- To assess the factors controlling the introduction and feeding of adult foods.
- To describe infant feeding practices during diarrheal episodes.
- To determine the availability and acceptability of futo kanya as a weaning food supplement.

## **III.2 Background**

High rates of infant and young child malnutrition and mortality relating to malnutrition in the Gambia have been well-documented in the literature (Greenwood, et al., 1987; Pickering, 1985; Rowland and Whitehead, 1979; Whitehead, 1979). Malnutrition in Gambian children is linked to both dietary and environmental factors. The main dietary factor is the late introduction of inadequate weaning foods (Kearns, 1986), while environmental factors include a pronounced "hungry" season (June-September) and contamination of foods leading to illness (Rowland et al., 1972). Underlying many of these factors are beliefs and practices concerning infant feeding and the causes and treatment of illness which affects food selection and feeding to infants and children.

The Gambian Food and Nutrition Association (GAFNA), an association since 1985 (but only an independent entity since October 1989), receives the majority of its operational funding from Catholic Relief Services (CRS), but collaborates with the Medical and Health Department (MHD) of the Gambia. GAFNA is an indigenous organization, staffed solely by Gambians, that participates in the government's development efforts, by providing assistance in its field of competence. Their mission is to improve the nutritional status of all Gambians, through the promotion of local foods and the implementation of food and nutrition activities.

The Gambia currently has a food distribution system managed by Catholic Relief Services, the Title II Health and Nutrition Program (HNP). As part of their efforts to phase out of their traditional operational role in HNP, CRS has supported GAFNA to assume national level coordination of the HNP. The HNP, in turn, has been merged into the MOH Primary Health Care System. The new HNP program, coordinated by GAFNA, will rely on MHD personnel to provide all of the health and nutrition monitoring interventions (Kinday Samba is segunded from MHD to GAFNA). This switchover of activities and roles is still taking place. Another component of the strategy is the phaseover from imported Title II commodities to locally grown commodities that will be used for maternal supplements and weaning foods. Appendix A contains in-depth descriptions of two research site.

## **III.3 Changes in the Original Research Design and Current Status of the Research**

Through discussions with Kinday Samba and other GAFNA staff, it became clear that the original research design (ie. 25 focus groups with mothers and 15 interviews with health providers) was too limited to adequately address the many goals of the research. Focus groups tend to get reported "normative" (ie. standard or ideal) behavior. Though they are useful for many purposes (such as generating group discussion on a subject) it is not a "stand-alone" type of methodology. Behavior reported in a group does not always match what an individual actually does when she is home alone.

After several presentations on qualitative methods on my part, we agreed to use a variety of qualitative methods in the research. These include both reported behavior collected by focus groups and key informant interviews, and actual behavior collected through direct observation.

During the site visit, the following was accomplished:

- 1) GAFNA staff were introduced to qualitative research methods, including a number of specific data collection tasks useful for research on infant feeding and its relationship to diarrhea.
- 2) GAFNA staff and data collectors were field-trained in how to perform the following tasks: free listing of children's foods, free listing of children's illnesses, pile sorting of infant foods, direct observation of household and child care/child feeding activities (including both unstructured "scripting" and semi-structured formats) and key informant interviews with mothers about child feeding. Instruction was also given in the following types of data collection: use of triad sorts, ranking of children's illnesses in terms of severity, use of focus group techniques, etc. Samples of some of the data collection forms are presented in Appendix B.
- 3) GAFNA staff were trained in qualitative data management and some initial aspects of data analysis using microcomputers.
- 4) A plan for the research on infant feeding in the Gambia was devised permitting modification of the research plan during data collection (see Section IV). During my visit, initial data collection on general aspects of infant feeding in some of the study communities was carried out. Later data collection periods will focus on answering specific research questions (including the feasibility of futo kanya as a weaning food and why mothers are not adding groundnuts to their weaning foods).

#### **III.4 Personnel Allocated to the Research**

The main staff working on the research are Kinday Samba (Project Director), Modou Phall (Field Supervisor), Lamin Fatty (Data Collector), Modou Lamin Fofana (Data Collector), Hamat Sowe (Data Collector) and Fatu Apsa (Data Enterer). Kinday is the GAFNA Food Supplements Coordinator, and is working full-time on the project. Modou is the Ministry of Health Western Regional Nutrition Coordinator and is working half-time on the project. The three data enterers are students in the Gambian School of Public Health and are working full-time on the project. They were selected by Kinday Samba and myself from a pool of eight applicants suggested by the head of the school. Fatu is working full-time on the project. The duration for

the current research on infant feeding in the Gambia is from August 1, 1990 to approximately October 20, 1990.

### **III.5 Research Issues/Themes**

Quite a large number of research issues arose while developing the research. Most of the questions that came up were of the "how to do it" variety that arose immediately prior to and during data collection.

#### **III.5.1 Stratification and Sampling**

A very early question that came up was "how do we choose respondents for the data collection?" and "how many people do we ask?". In response, I would explain purposive sampling and the general notion in qualitative research is that you choose the more "culturally-informed" people. Kinday Samba was especially interested in some sort of rule of thumb on "how many." I was able to partly answer the question by asking them to identify the important subgroups or categories of people they would like to sample, then suggested a rough number of times each piece of data collection should be performed within each "cell". The main type of stratification suggested by Kinday was in terms of ethnicity. It was decided to work with the five largest ethnic groups in the Gambia: Wollof, Mandinka, Jola, Fula, and Sera Hule. Each of these five ethnic groups have their own unique language. Kinday also felt the villages sampled should be PHC villages (with populations greater than 400 persons). These will have a PHC center, TBA and CHN (Community Health Nurse, mostly male). These are "key" villages, which usually have 4-6 satellite villages attached to them. There are 57 key villages that contain Primary health Care Centers.

#### **III.5.2 Asking about Common Foods Given to Children**

Free lists are useful in the preliminary exploration of a "domain" (a list of words or concepts in a culture which belong together). One of the primary training exercises was getting free listings of common foods given to children. During the field trials, it became apparent that slightly varying the way the question was asked altered responses ("What are the foods commonly given to children less than one year in this village?" versus, "What foods are good for children less than one year in this village?"). Of twelve respondents, eleven foods were mentioned as "commonly given" three or more times: chur, nebetou, futo, fish, meat, mono (pap), ngin, milk, breastmilk, potatoes and rice. We also asked why each of these foods were commonly fed to children. Reasons given were mostly related to their perceived health benefits: gives strength, makes blood, helps the child gain weight, etc. It also became clear that there were several other cultural domains which should be

explored in this research, including the domains of: "foods to be avoided by children," "illnesses common to young children," and "different kinds of health care that people use here in the village."

### **III.5.3      Using Pile Sorts and Triads**

Once a fairly reliable list of infant foods was created using the free listing technique, the eleven most common terms (see above) were selected using ANTHROPAC (a computer program that assists in the analysis of systematic interview data). Pile sort cards were developed by the GAFNA staff representing each of the eleven foods; all cards were either illustrated with a picture of the food or had a sample of the food attached to the card in a plastic bag. Respondents were asked to sort the eleven cards in any way they wanted, putting those foods they felt were more similar together, and those that were less similar apart. The goal of the exercise was to find out what categories people in the village used to group foods. We found that the selection of knowledgeable/culturally "adept" informants made the task much easier. During the initial fieldwork exercises, such informants were determined with the assistance of the Community Health Nurse (CHN), the alcalo (village leader) and by other community members.

This method was pretested in the primarily Mandinka village of Sara Kunda. In the Mandinka language, we had difficulty expressing the concept "similarity"...and had to use an expression that translates as "goes together". The result was that informants did not give the series of culturally-defined categories that I expected (hot-cold, digestible-indigestible, etc.), but sorted them in terms of which foods would be mixed with other foods. Appendix C presents two matrices. The first shows the aggregated pile sorting data for the sample of twelve respondents. Breastmilk is far off by itself to the left. It was never mentioned as being mixed with other foods. On the other hand, potato, rice, meat, and fish are all together in a clump...and therefore are commonly mixed together. Mono (millet pap) and cow's milk are in a separate clump. This kind of data means a great deal if we are trying to develop an acceptable weaning food. We need to promote the mixing of ingredients which are seen as appropriate to mix together.

### **III.5.4      Are the PHC Villages Representative?**

The weaning interventions to be developed by GAFNA will be effected within the existing PHC system. For this reason, Kinday Samba chose to focus research efforts on PHC villages. However, during the initial period of data collection during my visit, it became apparent that some attention should be paid to non-PHC villages. These villages are often satellite to more central PHC villages, and are smaller and have fewer resources. They may be influenced by the allopathic health care system

to a lesser degree. Kinday and I agreed that some portion of the research effort should be directed towards examining infant feeding patterns in these outlying villages.

### **III.8.8      The Role of Traditional Healers in Child Health**

While doing the fieldwork trainings, the data collectors spent some time locating and interviewing some of the traditional healers of their area, and finding out about their relationship to infant health and diet. What began to emerge in all areas was that a variety of health practitioners were sought for the treatment of children's health problems, and that the pattern of health-seeking behavior varied from area to area. In villages far from urban centers, there appears to be heavy reliance on traditional forms of health care, such as marabouts and herbalists. For instance, in all three villages worked in during my visit, small children were observed wearing strings of leather jujus (protective talismans) around their necks.

During our initial fieldwork trips to study communities, we did not have time to determine the role of traditional healers in infant feeding practices. However, it is likely to be considerable during illness episodes. This possible connection will be explored further in later field visits.

#### **Section IV. Establishing Systems for Qualitative Data Management and Analysis**

A large part of my time was spent familiarizing staff with the operation of the textual data management and qualitative data analysis software. In several discussions with the group, I emphasized the importance of the qualitative database they were building. Because the data are in the form of words, they can be shared with other projects and can be utilized by anyone. The information gathered by these methods is usually context-rich and applicable to many different subjects, so for instance, if GAFNA decides to work on maternal nutrition next, much of the data they collect here will be relevant. Thus, the database is something the program can build upon continually. The demonstration of the textual data management software and the use of Anthropac to analyze the free list and pile sort data that helped this kind of research "make sense" to the GAFNA staff. They could see where the data was going, what would be done with it, how it could be used to answer specific questions, and so on.

GAFNA currently has no computer of its own, though a free computer courtesy of IBM is expected within two months. At the present time, GAFNA makes use of computers at CRS, a short drive away. CRS has three XT-clone computers, each with 40 Mb hard drives, comfortably housed in an air-conditioned room. They have two excellent dot-matrix printers. CRS has full-time computer staff, who can offer assistance to GAFNA people when needed.

GAFNA staff were impressed by the textual data management software, and found it easy to use. I trained both Kinday and Simon (the main CRS computer person) in its operation. Anthropac was also well-received by the staff. During the short period I worked with GAFNA, only a small amount of data could be collected. However, staff were able to see some results on only small samples using the ANTHROPAC program (ie. 6-10 free lists or pile sorts). Thus, there is some "instant gratification" associated with Anthropac, which was not present with the text management software.

Qualitative research differs significantly from quantitative research in several ways. One key area is in the research process. Quantitative research proceeds linearly:

hypothesis formulation ---> research design ---> pretesting of  
instruments ---> data collection ---> data analysis ---> report  
writing

On the other hand, qualitative research is ideally comprised of a series of feedback loops at the data collection and data analysis steps. At certain intervals, the project director (usually with some assistance of the data collectors) reviews the data

collected thus far, perhaps conducts some initial analyses and then decides on how the research should be modified. Thus, the process is more like this:

hypothesis formulation ---> research design ---> pretesting of instruments ---> data collection 1 ---> data analysis 1 ---> modified research design 1 ---> data collection 2 ---> data analysis 2 ---> modified research design 2 ---> data collection 3 ---> data analysis 3 ---> modified research design 3 ---> data collection 4 ---> data analysis 4 ---> report writing

This flexible type of research allows the investigation of new issues and questions as they arise. False leads or unproductive areas of research can be eliminated.

We developed a system for qualitative data management, analysis and research formulation that would allow a flexible/modifiable type of qualitative research. The following steps occur after an initial period of research design, field guide development and training of data collectors has taken place:

1. Data collectors write down their notes in notebooks. These are "raw" notes gathered from key informant interviews, direct observations, focus groups, etc.
2. These raw notes are later re-written by the data collector in small composition books. This phase includes transcription of taped interviews by the data collector. These are now considered "expanded" notes, and are written in full sentences, with commentary by the data collector. Certain kinds of structured interview data do not have to be re-written in an expanded form.
3. The expanded notes are entered as separate data files into the computer by the data entry person (DisplayWrite 4 is the word processor being used in the Gambia). Structured interview data are entered separately into the ANTHROPAC program.
4. These notes are indexed using the textual data management software.
5. At weekly intervals, Kinday Samba reviews the qualitative data, using the search function of the textual data management software.
6. Based on this review, Kinday prepares an assignment sheet for the next week's upcoming fieldwork (see example in Appendix D).

## **Section V. Recommendations for Future Support for GAFNA**

The site visit proved an invaluable opportunity for me to become familiar with GAFNA's structure, capabilities, and resources. I found myself genuinely impressed by the level of accomplishment, dedication, and self-sacrifice of the staff. Several general comments can be made about limitations in GAFNA's capability to conduct this kind of qualitative research on infant feeding:

- 1). GAFNA has in Kinday Samba, an extremely capable nutritionist and project director who has the ability to effectively manage the research, but who lacks time and qualitative research skills;
- 2). GAFNA, as a new organization, lacks an individual responsible for documentation; and
- 3). GAFNA has a lack of current reference materials and basic articles on infant feeding (although they have most of the Dunn Nutrition Unit publications), and a near total lack of materials on doing qualitative research (in my trip I supplied a couple of books on qualitative research to GAFNA).

Based on my experiences, I would offer the following recommendations for PRITECH's continued support of GAFNA's activities:

1. **In terms of the current short-term qualitative research on infant feeding, a second consultant visit will be required to assist with analysis of the data collected, and for developing recommendations and a report based on the analyses.**

In meetings with Michael Hastings (CRS Country Representative) it became clear that there is a definite role for PRITECH involvement beyond this piece of initial research on infant feeding. Implementing a nation-wide infant weaning food program is a multi-year process with many stages, including:

- a. Identifying locally available, affordable and culturally appropriate foods for use as weaning foods. Of key importance will be the determination of weaning foods which are considered appropriate to give to children during diarrhea and other illness episodes.
- b. Testing the acceptability (taste, perceived health benefits, preparation time, etc.) of the food(s) in pilot communities representing a range of ethnic groups.

- c. Developing appropriate educational messages/training formats to communicate the intervention(s) to child caregivers.
- d. Determining and testing systems to maintain the production of the weaning foods (ie. marketing of a weaning "product" by a select group of mothers in each community, promotion of community gardens, etc.).
- e. Expanding the program to a national level. Different strategies may be required for different parts of the country.

Each of these stages will require some kind of initial and follow-up research. For instance, it might be decided to sustain the production of weaning food's ingredients through community gardens. This decision would require a significant amount of research into community gardens in the Gambia, their forms, disadvantages and advantages and the form that would best sustain the intervention. Considering GAFNA's limited personnel and the small number of personnel experienced in nutrition interventions in other local organizations, PRITECH could make crucial contributions to GAFNA through technical assistance and support for many of GAFNA's research/implementation activities over the next two to three years. The following recommendations are some of these potential inputs:

**2. Continued technical assistance should be provided to GAFNA throughout the process of selecting, testing and promoting weaning foods in the Gambia. Of primary importance is assistance in the area of qualitative research methods. Qualitative research methods are needed to identify appropriate weaning foods and evaluate their acceptability to the local population. These same methods can also be used to answer operational questions during the implementation process. Program implementation and educational message development assistance are also needed.**

**3. GAFNA should receive funding to support their research efforts. These research efforts will include:**

- Seasonal effects on the availability of potential weaning foods
- Child-feeding during diarrheal episodes
- Evaluation of pilot weaning food interventions
- Dietary adequacy of different weaning foods
- Sex/age/ethnic factors in infant feeding patterns
- Testing educational messages and strategies to promote appropriate infant feeding in the Gambia

In sum, I suggest an expanded role for PRITECH in the Gambia, working with the Gambian Food and Nutrition Association on their effort to develop effective weaning interventions nation-wide. Discussions with Catholic Relief Services

personnel in the Gambia, with PRITECH representatives in West Africa (ie. Suzanne Prysor-Jones), and with GAFNA staff indicate enthusiastic support for this idea. I myself am personally very interested in continuing to work with GAFNA on this very exciting and challenging project.

## **Section VI. Assisting PRITECH with Other Research Initiatives**

Several days were spent before and after the site visit to the Gambia with the PRITECH office in Senegal. My discussions with PRITECH were comprised of two long meetings:

### **VI.1 Meeting with PRITECH Staff: July 30, 1990**

I began my presentations around 9:30 am. Present were Suzanne Prysor-Jones, Serigne Diene, Mamadou Sene, and Alhassane-Diahate (translator for M. Sene, Africa Consultants International). Adama was supposed to attend, but his wife had given birth suddenly the night before and he was dead-tired. I gave a two-part presentation: 1) comparing qualitative research with quantitative research, and 2) qualitative research methods, both went over well and generated a lot of questions. We discussed how these methods could be used for the infant feeding research in Senegal.

The study in Senegal will focus on the effect of nutrition education efforts on actual infant feeding behavior during diarrheal episodes within the household. They plan to identify cases in the clinic, and then follow them home. Originally their plan was to work within 4-5 clinics, within peri-urban areas of Dakar (for convenience). The communities contain recent migrants, old migrants and life-long residents. There is one health center for every 10,000 people. I made the point that since qualitative research seeks to understand the whole system of factors influencing behavior, using so many sites might not allow deep enough research (they only have 4-6 weeks to do the data collection). Part of the research is operational and evaluative in nature, they want to see a) what kind of nutrition advice health workers are giving to patients (Suzanne Prysor-Jones says not much), and b) to see how that advice is utilized (or not) in the household. My own feeling is that the advice someone gets in the health center is likely to be only one of many types of factors affecting infant feeding decisions within the household. We bandied around the idea of introducing nutrition advice (by the researcher or others?) and observing the effect on behavior within the household. Much of the discussion focussed on developing an adequate sample.

An important consensus was that this was not to be research for research's sake. We are not interested in uncovering "significant" results per se...we are interested in developing useful and workable interventions. Therefore, if an intervention is only satisfactorily adopted by 30% of the recipients, we want to know

why the 30% who adopted it did so, and why the 70% who did not chose not to. We developed the following research design in three phases:

- 1A.
  - a. Participant observation and "scripting" of 4-5 patient-health worker interactions (about diarrhea) in one clinic.
  - b. Observations of the availability of food and health resources in the community surrounding the clinic...(is there a local market? what is available? what are the different types of traditional healers? etc. )...this would also involve talking to local leaders, drawing a map of the community and so on.
  - c. General key informant interviews with knowledgeable informants about health-seeking behavior, diarrhea and infant feeding practices within the community.
  - d. Review of data
- 1B.
  - a. The above techniques will be refined and repeated in a second clinic and community
  - b. Review of data
2.
  - a. A full day's observation will be conducted in 3-4 households in the first community using the "scripting" observation method, so as to not lose important types of behaviors. These are termed "infant feeding illness observations", as they will be located in households with children with diarrhea; ill children will be identified at the health clinic.
  - b. Case-specific key informant interviews will be conducted with mothers about their infant feeding practices during diarrheal episodes (these will include episodes not identified at the clinic). Caretakers will be asked to relate all the different sources for advice on child feeding they received.
  - c. Review of data and developing of preliminary interventions
3.
  - a. Observations of 10 women each in the two clinics of their interactions with health educators/health providers.

- b. Observations of household infant feeding practices (semi-focused) on 10 community-1 households and 10 community-2 households. The observations will take place over a 3-6 hour period (to be determined).
- c. Key informant interviews with health providers.

**VL2            Meeting with PRITECH Staff: July 31, 1990**

The main goal of the second day was to work with Mamadou on refining the research on infant feeding in Senegal and help Adama load up and become familiar with the computer software. Early in the day I began with computer software demonstrations to Adama, Mamadou and Serigne--they were impressed with the potential usefulness of the programs. We hooked up their small Diconix printer so we could view the text software in action. One other fellow came in when I was demonstrating the Food Processor -- he has some software that is used to analyze whole household intake (assuming a distribution of food equivalent to relative requirements).

I started off further discussions with Mamadou by explaining the components of a structured direct observation (a la my Nepal dissertation). The translator was there to help, and Serigne was in attendance part of the time. In the afternoon I arranged to meet with Adama to conduct the software transfer to his Zenith portable, but the little COMPAQ SLE was down due to the humidity. A local computer pro fixed it finally by loading on IBM version 4 DOS and the accompanying new COMMAND.COM. The machine works, but now speaks to me in French! A tremendous irony that I go to francophone Africa and my computer learns to speak French. When the problem was corrected and I instructed Adama in the software operations. Suzanne Pryscr-Jones had copies made of the three manuals I brought with me.

Serigne is studying at Cornell right now, ready to begin the second year of his doctorate under JP Habicht, who is more inclined towards large number sample types of research, while Serigne appears very oriented towards the 2-3 village study, now using qualitative techniques. I encouraged him to come down to JHU for a visit, and perhaps to study for a semester.

### **VI.3            Recommendations for Continued Assistance for the PRITECH West African Office**

On August 17, 1990 I was able to have a third meeting with the PRITECH staff in Dakar which consisted of a debriefing of the GAFNA consultancy. Mamadou and Suzanne had many questions as to how the data collection is being conducted, on the selection and training of data collectors, on the data management process, and so on.

PRITECH--West Africa has several proposals for qualitative research on infant feeding (particularly as it relates to diarrheal episodes). I recommend that the following measures be taken to support these efforts:

1.    **Technical assistance in qualitative research methods is required to help develop individual research plans, for training of data collectors, and for setting up systems of qualitative data management and analysis.**
2.    **A protocol for conducting qualitative research on infant feeding (particularly in the West African context for the purposes of developing interventions) should be developed along the lines of the Community Diagnostic Instrument being field-tested by the WHO for Acute Respiratory Infections. With some initial instruction from a technical consultant, this protocol could serve as a field guide/resource for the research. I have developed such an instrument for investigating women's health in India<sup>1</sup>, and would be interested in undertaking a similar project for PRITECH's infant feeding work.**
3.    **Project staff from the other PRITECH offices in West Africa planning qualitative research on infant feeding should make visits to observe the GAFNA research in action.**

### **Section VII   Selected Important Meetings**

#### **VII.1   Meeting with Ida Ceesay: August 3, 1990**

KS and I took the GAFNA car for a meeting with Ida Ceesay (US AID-- Health, Nutrition and Population Program Officer/USAID/ 60 Lemman Street/Banjul). Ida

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<sup>1</sup> A copy of the protocol developed for the India project is available on request.

Ceesay has not yet visited GAFNA, but says she will do so soon. KS explained a bit about what GAFNA was doing and how it related to CRS (eg. you can't get your nutrition support until you've reported your birth to the PHC TBA). By 1992, GAFNA will have developed a local weaning food to replace the distributed foods (currently CSB). US AID has no nutrition programs; most are involved in agriculture. They do have cooperative agreements with other programs, such as PRITECH. Ida recommended that we contact GARD, the Gambia Agricultural Research and Diversification program. They have done some work in surveying nutritional status in the country. They want to encourage people to eat coarse grains.

**VII.2 Meeting with Dr. George Melville: August 3, 1990**

We drove to the Department of Health Services to meet Dr. Melville George (Department of Health Services--Director). He attended JHU for his MPH in 1986/87. He expressed a strong desire that effective interventions result from this research, not just more research. He made a suggestion that we not use CHNs and other regular health workers (which I had already suggested to KS)--and that we go to the School of Public Health and try and find some of their students. He gave me a draft copy of Isetou's report on an infant feeding survey she had conducted, supported by UNICEF. It is highly quantitative on a large sample of mothers (about 1200). I feel it will be complemented by the type of qualitative research we are proposing for GAFNA. I noted that the survey leaves out many issues (by necessity since it must be performed on so many respondents). For instance, there is a question about mode of feeding the infant, but do not include hand-feeding as a possibility.

**VII.3 Meeting with Mr. Hassan Njai: August 3, 1990**

We drove on to meet with Mr. Hassan Njai (Gambia School of Public Health--Principal). The School of Public Health is a 3 year program. It has 15 students in the third year class. Unfortunately, they are all taking exams the week of the training and will probably be looking for jobs during the two months we need them. As they need long-term jobs, they would lose out by taking this short-term position. Instead, he suggested we use the first year students, who will have a break for a month starting now. Using first year students could actually have some advantages over more advanced students, as they will presumably be less "indoctrinated" into the public health perspective and therefore more objective. We wrote out a description of the characteristics required (ie. linguistic competence, good writing skills, ability to work and live in rural areas, etc.), and he said he would sent over applicants Monday morning. It turns out he will be starting the doctoral program in Population Dynamics at JHU this Fall, so I will be seeing him there.

## **APPENDIX A: Ethnographic Description of Two GAFNA Field Sites**

### FASS VILLAGE (Observer: Joel Gittelsohn)

We arrived in the village of Fassnjagachoi about 10:30 am, our arrival was delayed as the ferry from Banjul to Barre was delayed by one hour. Alasan, the GAFNA driver, comes from this village, and was my guide and interpreter during the day. It turns out his English is quite excellent, but he has been keeping quiet, only speaking in Wollof. The village seemed to me more like a small town...most of the houses in the center were made of cement with tin roofs. Each compound has a green identification number written by STC.

We started on a general tour of the village, after sending off Kinday and Modou to do interviews. In the center of town is a machine for grinding grain, houses in a small concrete building. This was purchased and built with assistance of the Women's Bureau. According to Alasan, it is open every day in the afternoon...fees are charged for the purchase of fuel, but the cost is low (Question: what are the fees?). This mill is intended to ease the workload of women, who must spend a lot of time grinding the flour at home (Question: How much time is spent waiting in line? Is there really a reduction in workload/time?) The Saudi Arabians are building the new well near the seed grain storehouse. Another well near the primary school is sponsored by STC. Across the street two women are selling panket (sweet fried bread). There are several stores in sight in this, the center of town. A number of small goats are tied up around the area.

Alasan, with general directions to take me to all the major sites of interest, showed me a well built by the Germans...very nice with two taps. It is the first covered "modern" major well for this half of the village. It is surrounded by barbed wire (the villagers idea) to keep animals out of the area. We started to walk towards the market and passed a private carpenter's workshop (Question: What are his prices? Who buys, local people?)

The market was built by the Area Council. It is open-air, but roofed by tin sheets. It has eighteen tables built of concrete, with dimensions of about 3X7 feet. At the time I was there, only women were selling. Several tables were shared by two women. We arrived at a little past 11 am, so much of the marketing had already been completed. [Suggestions for Further Research: Do direct observations in the market during regular market hours. Are different things sold early in the morning? What types of foods are most commonly purchased? What do women talk about in the market?] While we walked around the market, small children would come up and touch me and say 'tubaab' (white man). What follows are descriptions of a few of the tables, selected if the goods were different from other tables. [Suggestions for Further Research: Do observations of the types of foods available in the market, as

they vary by season]

- Table 1: Green leaves tied together in clumps (sowa, besap), for cooking
- Table 2: Peppers (small, dried, red); two types of onion; dried fish (4-5"), maggi soup cubes, netatou (a tree seed, from a pod).
- Table 3a: Beans (looked like black-eyed peas); garlic, supa cubes, raw pounded groundnut; yate (a kind of dried shell fish, sort in chunks in a plastic bag to keep away flies); black pepper; onions, dried fish (6-7"); netatou; red peppers; ground up pieces of dried fish.
- Table 4b: Kobonabol (6-8" dried fish); Gedyia (small dried fish); vegetable oil for cooking; maggi cubes, red peppers; onion (linyau); netatou. The fish all come from the Gambia river.
- Table 14: Gedyia (3-7"); Red pepper; degge (peanut butter--the woman would roll out little balls by hand, at 6 bututs each); yate; black pepper; maggi cube; garlic; beans; panket.
- Table 16: Palm oil (2.50 D per 1/2 cup); besap (smaller leaves); aji no moto (MSG); gedya; netatou; black pepper; onion; red pepper.
- Table 17: Okra powder (suguf kinje--for soup; cost 75 bututs per 1/3 cup--it is reportedly available all the time; it is a means of storing okra for a long period); lalo (makes cous slippery so it is more easily eaten); gedya; rock salt; beans; onion; garlic; dahar (sour flavoring, tastes like lime).
- Table 18: Besap flower; onion; beans; plastics bags (I bought one set for 5D); macaroni in very small quantities [Suggestions for Further Research: The macaroni sold in very small quantities brings up the idea of looking at purchases by the power households in the village. Are foods always purchased in very small amounts? How is the macaroni used?]; garlic; red pepper; maggi cubes; loria (used for sauces); also a number of different shells, rings, earrings.

I took a few photos of the market. The women seemed to think it was funny, but had no objection. Alasan said I should thank them when I left, so I did. We went into a local store. Two men were playing damiya out front. A bag of onions was also lying there. I went inside the store and catalogued the main food contents: a gas refrigerator (for sodas); weights; nescafe; sardines (many cans); kerosine lights; clothe; sandals; batteries; envelopes; essential balm; flashlights; ENO fruit salt (to aid digestion), Mentholatum; glasses; tinned milk; nails.

We walked on to the alcalo's house, but he had gone to his fields. In front of the alcalo's compound is a soto tree, planted for shade purposes. The alcalo's compound appears very rich. Kinday and Modou are interviewing the alcalo's wife when we arrive. Alasan reports that the village is not yet electrified. But I did spot one wire leading into a compound that looked like an electrical wire. Alasan thought it was connected to a generator. Chickens roost around the area. We passed by the sheetsto, a building that villagers use to store grains for planting. It is water-tight, and they use insecticides to keep the grain safe. It is of solid concrete construction with a tin roof. The village has a large green and white painted mosque, with two towers.

Alasan showed me the village graveyard, where his mother and father are buried. He remarked on the need to "develop" the grave, ie. put some kind of permanent marker--otherwise people would just forget about it. (Question: What are the responsibilities of children to their parents when their parents die? What is the expense? Is there an equal expense for sons and daughters?) Near the graveyard is an Arabic school, temporarily closed during the rainy season. It appears to be in poor condition.

Alasan's family compound is close by the Arabic school. He shares the compound with an older brother. He raises goats and grows maize in the compound. I was greeted by handshakes by all the compound children and women. His wife came up, and he remarked that she was a "typical African women". It seemed that he was referring to her features. His own wife's natal family lives almost right next door to him. We went inside his house and had a seat, where he showed me his two son's report cards. The both had averaged about 60-66%, but one was doing poorly in Language (20%)...the other poorly in mathematics (26%). Alasan wants to start his own family compound...he already has land given to him by the alcaldo. In village politics, only a compound owner has the right to vote for certain things...thus, as the younger brother, he cannot vote to elect new alcaldos. I asked Alasan if there was a preference to marry within or outside the village; he said that it was up to the individual. She could not be a Samba like him of course, she is a Joof.

We walked by several other buildings. The only school here is a primary school (grades 1-6). There is a cooperative Union which sells groundnuts to the government (Question: are groundnuts a cash crop mainly?) We crossed the main road that penetrates the village and divides it into two parts...I asked Alasan, but he said that there were not names for the different parts...but I am not sure he understood the question. The road is quite strong, with shells embedded in the surface. We walked up to a well currently being constructed by villagers with the aid of CARITAS. Men were doing the construction, with three men pulling up buckets of dirt, and one at the bottom filling up the bucket. Two buys shuttled out

the dirt and dumped it in various locations.

In a nearby compound I noticed several fruit trees: orange, mango and cashew. We walked past the CRS store, which is opened once per month to sell the Corn-Soy Blend (CSB). We stopped in Alasan's elder sister's compound, as we were trying to find one of the local TBAs. In the compound a familiar sight: girls pounding grain using hand logs in a mortar, while boys of similar age lounge around the house, listening to a cassette player. There is a small mosque on this side of the road, so people can easily pray 5 times per day. As we walked by, women teased me and Alasan. A girl pointed out the way to the TBA's house, as Alasan had never been to this part of the village.

#### TBA Interview: Mamasou Joof

Alasan describes the TBA as an excellent woman who is willing to undergo great personal sacrifice to do her job. She is also the lady president for CRS. She invited us to sit down inside her house; there are numerous health posters on the walls...especially for promoting immunizations. It is clear that she is well-integrated into the primary health care model.

I had not prepared an interview for the TBA...so I started off with some basic statistics. I asked her the number of births she takes care of in a month. She went off to get her record book. In 1990, there have been 28 births that she has taken care of (there is another TBA in the other half of the village). While we conducted the interview, her adult son commented frequently from a nearby room. The TBA practiced locally before undergoing to TBA school in Bakau...she says the new system is much better. Throughout the interview I felt like I was getting the "party line"--what she felt I wanted to hear. It will be necessary to work with her more.

I asked her to describe the problems women come to her for (I was interested to see if there was more than just birthing babies). She said she was only responsible for births...but when women are having risky/problem deliveries, she has to provide a slip of paper so they can be admitted. I had trouble asking her what other problems she handled, I am sure they are more than just delivery-type problems. (Question: What types of problems do women come to the TBA for (eg. Leucorrhea)?) [Suggestions for Further Research: If Alasan is going to help with the research in this village in the future, we need to make clear about his role as the interpreter. Quite frequently he would answer for the person, and would cut off my questions. He will obviously make a good key informant...but the two roles need to be kept separate.]

I asked her what other kinds of healers there are in the village, especially different kinds of traditional healers. She kept her answers to allopathic types of healers: TBA assistants (local girls); some other project that dealt with village

cleanliness (would visit compound to see if they are clean). I asked her directly if there was anyone who treat snakebite, witches and so on. She said there was nobody like that living here in the village. She mentioned that occasionally a sambajan (treats snakebite, his ceremony is never observed in public) comes through. I asked her if mothers come to her for advice when their children have diarrhea. She said they did (I'll bet they come for a lot of problems). She said she tells them how to mix SSS, and how to prepare pap with groundnuts, and give them popo, eggs, cassava, and okra powder in soup. I asked her if mothers follow her advice...she said yes, if they want their children to be healthy, they must follow her advice. Her son commented that some people are ignorant and don't follow the advice. She showed me a chart that tells how to prepare SSS (8 bottle caps sugar, 1 bottle cap salt, 1 liter cup of water (or 3 julperl bottles)).

Do women give birth without a TBA present? Presently this is not happening, when women feel their baby coming they have to call the TBA...otherwise they will have a problem getting clinic services. The TBA mentioned that she needs to have a birthing house, for women from outside villages to stay in. (Question: Do many women from other villages come to give birth with her? Don't they have TBAs in their own village? From how far away do women come? Can check on these in her record book.) On the walk back, we passed by the CRS sesame mill...and sheep pens. They raise the sheep for sale on Muslim holy days.

#### Interview with the Nurse at the Naan Werr Pharmacy

Alasan and I drove down to the local pharmacy. The nurse/operator was sitting across the street talking to some friends. The pharmacy has a main room of 10X15 feet and several side rooms. One of these is used as an examination room. The nurses name is Lani Kettah.

I asked him where his patients come from...he said from the CHN, but also from physicians in the MCH program, which operate a MCH clinic on Wednesdays. These patients will be referred to his pharmacy if he has the appropriate medicines. He also looks after people who come in on their own. Some of the common problems they complain of are headache, sores on the body, malaria, diarrhea (birbudow, birtenya-dysentery), chest infections and colds. He then asked who I was (rude of me not to say anything before). He was working before in the Royal Victoria Hospital in Banjul...he does injections.

I looked over the range of medicines he had on his shelves. Among the 30 or so medicaments, he has Vit A + D3, and B complex. I asked him if he had ever seen signs of vitamin deficiencies. He looked a little uncomfortable. He said he had seen one child with night blindness (I supplied the term) who he referred to the hospital. He does not really seem to knowledgeable about nutrition-related illnesses. He says there are B-vitamin deficiencies year-round (but does not seem familiar with

the symptoms). Probably the vitamins are more a profit-making tool than anything else.

### Interview with the Alcalo

We drove back to the heart of the village to find the others and found the alcalo under the soto tree. There were several other older men sitting on the platform with him, and a few boys. I made my greetings and we proceeded to do a short interview.

The alcalo is an elected position (only compound owners can vote). There are 230 compounds in the village, from a tax list. (Question: Are any of the compounds owned by women? What are patterns of female ownership in the village?) For other matters, all adults above 21 years are eligible for voting...his records show 815 adults, but this omits people like Alasan who are voters in other places. This is actually a very large number, as a large number of men are drivers and don't live much in the village. (Question: Why do Alasan and others not vote in the village? By choice?)

I asked the alcalo to describe the ethnic make-up of the community. The majority of the households are Sere (speak Wolof) and Wolof, there are about 20 Fula compounds, 5 Mandinka compounds, 4 Bambara compounds, 4 Manjago compounds, 4 Turkaa compounds, and 2 Jola compounds. Quite a diverse group. He said there are no specific divisions in terms of living by ethnic group, no specific neighborhoods...it is all mixed up. There are also no specific occupations by ethnic group...the type of business/work depends on a household's financial station. The majority of the ethnic groups owning land are Sere and Wolof, but this is because they are the original inhabitants of the village. The alcalo gives the land to you free...and makes you the owner. But after one year you must build a house and start to pay taxes on the land. The alcalo decides what is an appropriate piece of land for a compound, but there is no strict measuring done.

I asked the alcalo if he makes decisions by himself, and what is done if he is not present. He seems to have a number of local men who act as informal advisors. But there are no other official appointees. If he has to leave the village, he will appoint a trusted person to help. I asked him to describe his duties:

1. He is the mediator between the village and the government--he will go and meet government officials when they have something important to tell his village.
2. Within the village he acts as mediator of disputes...all problems should be reported to the alcalo. He maintains peace between the villagers...people

should see the alcalo before going to the police.

3. He is the senior alcalo of the area. At high level government meeting he will be called in, and then need to explain to other less senior alcalos. He will report what they say to the district chief.
4. He is responsible for record-keeping and the collection of property taxes. He then delivers the money to the Area Council. The total taxes per year are 11,930 dalasi. He says that he needs a safe to keep the money, as he is responsible for its safety. He is responsible for every single missing butut.

On his own he started to talk about the major health problems in the village: diarrhea, malaria, headaches, and snakebite...he would like a steady supply of medicines. He recognizes that the people working here are trying their level best. He asked about the relationship between CRS and GAFNA--Alasan answers. The alcalo noted that the CRS machine for processing sesame seeds is very small. All the outside villages come to use it...some people have to wait for weeks!

The alcalo seems to have taken a liking for me, and gives me the name Momodou Joof...and says that I am part of the village now. This may be his way of trying to influence me to give the village the things he says it needs? Alasan and I went back to the jeep and had some lunch. Most of the concrete buildings are painted. I get the impression that this village has had a lot of development influence...there is evidence of many different projects.

After lunch, we drove over to a large community garden outside the village. It is fenced in by wire and appears to cover about 10 acres. I am not perfectly clear on this, but it appears that everyone has a right to their own piece, to use as they will. They supply the labor and they can reap the profits. Some enterprising youths have planted mango trees in many locations (now only 4 feet tall)...inter-spaced among the crops and vegetables. They should mature in 5-6 years. Other crops included: red pepper; tomatoes, okra, cassava, eggplant, winged beans, black pepper, bananas and pumpkins.

On the way back to pick up Kinday and Modou, we stopped by Alasan's plot of land, which he fenced in himself with logs, but which lacks wire to keep out the small animals. He is permitting a neighbor to plant on the land, while he saves money. She asks why 'tubaab' is walking around, not doing anything. There is an expectation that when a white person arrives...he should start giving out something.

[Suggestions for Further Research: Need to do some direct observations inside compounds and inside houses...what are the different types of cooking utensils? how are foods stored? what foods are available in storage? ]

### SINTET VILLAGE (Observer: Joel Gittelsohn)

Kinday, Modou, Alasan and myself left at 8 am to drive to Sintet village, about a 1/2 hour drive from Banjul in the South part of the Western region. Most of the way was paved road, albeit with numerous potholes. Near the village we turned off onto a dirt road, and traveled for 2-3 kilometers.

The first place we always seem to stop at is the CHN. Is this the correct strategy? Doesn't this indelibly identify us with the health system? The CHN has his building outside the main part of town. Every CHN gets his own red motorbike to putter about on. We found him there, talking with some friends. Kinday later remarked that it always seemed when we went to visit the CHNs that they are doing nothing. Admittedly it looked like rain and today is a Wednesday (the day off in many villages). The CHN's friends included Samba Bah (the local Secco manager) and Yaya Tamba (a school teacher). Yaya is on holiday, so agreed to take me around the village.

The village is divided into 5 sections: 1) Tambah Kunda, where the alcalo lives; 2) Nyase Kunda; 3) Kaboom; 4) Busongai; and 5) Fula Kunda. Yaya said that Kunda refers to a portion of an extended family. He was a very learned informant..trying to anticipate my questions, and summarize life and so forth in the village. He described the problems caused for farmers by the late monsoon rains. The first rains were not enough, so many farmers were afraid to plant seeds. Now that the rains are finally here, they are so strong they could wash away the soil.

While walking around the community I noticed that there was no wire fencing like in Fassnjagachoi, all the fencing is with wood and woven wood. This requires a lot of maintenance, as it is broken apart by the stiff monsoon winds. The major crops are maize and early and late millet (cous)...the late millet is most common. The whole area appears more green than F. village, which is closer to the Sahel. There are more big trees here.

We passed by a ceremonial pole and I asked for a description, and took a photograph. The pole was erected when the village recently held a male circumcision rite for all adolescent boys (ages actually range from 7 years to adult). The last was held in 1972. 76 boys were celebrated this year, from many nearby villages and it was a very big festival. The pole is about 10 feet tall, painted and carved near the top and has the following written on it: "A BIG THANK YOU TO MR. BURAMA 'TAMBO THE ALCALO OF SINTET VILLAGE". The pole was crafted in the bush by special priests...the crafting is attended by just a few people. A mud pot is placed on top for spiritual reasons. The pole is not removed until it is destroyed by termites.

I asked Yaya if there was a local market. Currently, there is not...people do all their food purchases in local stores. A market was installed by the local government in 1975...but it did not produce enough money to keep running. [This cuts off one major way for women to earn income and stay close to their homes.] [Suggestions for Further Research: Need to look into food sharing and bartering between households...given the limited foods available in local stores, what foods are bartered? who barter or shares with who? and so on.]

There is no electricity in the community. We passed by the alcala's compound which is very large, with many substantial buildings. I was greeted very warmly by all the women, who asked me a sort of standard series of questions: kashume? (how are you?); kashume kep. (I am fine.); aseki? (and your wife?); um kokobo. (I have one.); anyole? (any children?); eh bajut. (there are none.)...one woman teased me later: asungori? (what about a girlfriend?).

There is a machine for milling flour in a neat tin house...completely sealed. A trained local person is responsible for running it. The cost is 25 bututs per kg of flour produced. We walked past the CRS store...a building with a roofed reception area and a tightly locked (with a metal door) storage room.

Yaya took me to a large women's garden in the community (started by CRS or STC?). Each woman gets 12 5X8' plots to do with as they will. The produce is harvested in the dry season and sold. The women keep the profits. Yaya remarked that despite their age, every woman needs income for emergency purposes...thus they all work in the garden. A local teacher started the garden in 1982, with the assistance of CRS. The garden is surrounded by a sturdy fence of chicken wire and barbed wire, one of the few such fenced in areas in the village. The fence is maintained by village youths. There appears to be no shortage of water for the garden...the area must include over eight wells. Most of these have numerous toads at the bottom. Yaya says they are poisonous and so are not eaten. While walking around the garden, I observed the following types of plants: eggplant (garden egg is the term used here), okra, sorrel, tomato, cassava and red peppers. Most of the garden was not under cultivation when I was there.

While leaving the garden, I observed a number of horses grazing nearby. They are occasionally used for plowing...but mainly are used for sowing and weeding; they are quicker than a cow, but less strong. I asked if they are used for riding, and the teacher responded, "yes, by brave people."

There is a great deal of evidence of projects meant to control soil erosion. In several dirt channels which had traditionally carried away large quantities of soil, rocks had been placed. Soil-Water Management built a barrash (levee) with labor

by villagers to slow erosion of their lowland rice land. Unfortunately, this has led one half of the area to be constantly flooded, with destruction of the nearby forests. Several crocodiles live in the water and pose a threat to small livestock. When they get larger, the crocodiles will move down to the river, predicts the teacher.

On the other side of the levee, rice fields have been planted. In one very recently planted field, a woman kept watch to scare away river birds from her seedlings. She will be out there every day for the first seven days after planting to watch over them. On the other end of the levy is the neighborhood of Kaboom. It has its own woman's garden, built with the assistance of a PCV. He was kicked out the village after only staying there for one year. He hit one village man who had killed a monkey that had been destroying crops. The PCV had been trying to set up a wildlife refuge in the area, but had not been completely successful. Ducks and ducklings are nestled near one house.

We walked back across the levee and into the main part of town, where the alcala lives. We went into the shop of Mamut Jalo, and I recorded all the foods to be found there: rice, sugar, wheat flour, tomato paste (many size cans), margarine, tinned milk, vinegar, atiya (Chinese green tea), ovaltine, lipton tea, Fernijsan (yeast), tobacco, bread, nescafe, mints, sardines, hard candies...and lots of other durable goods. As in all the shops, this one contains no vegetables or fruits or meat (except the sardines). It will be important to observe how households procure these other types of foods. In several of the compounds coconut palms could be observed. Yaya remarked that these were grown for the use of the households and were not sold.

We went into the compound of the village cobbler. He was making jujus, protective scrolls with Arabic verses written on them, wrapped in leather pouches for protection against knife and bullet wounds. After making a number of these, he will sew them onto a special shirt or belt to be worn by adult men. I asked the second man who was present (who did the Arabic writing), what other types of jujus there were, and if any were used to treat children when they are already sick. I wasn't able to get that concept across...and the types of jujus he showed me were for protection against illness.

He brought out his baby son [Suggestions for Future Research: do parents go to the same trouble for female children as well?] who was wearing a fine necklace with six jujus on it. Each juju contained a piece of paper with Arabic verse on it. They are:

1. A square of black goat skin...it protects against Satan and "fairies" (the termed used by Yaya)
2. An irregular triangle of alligator skin...it protects against epidemics.

3. A small deer horn, sealed on one end with blue cloth. It protects the child from epilepsy.
4. A pouch of leather with criss-crossed stitching...it protects against headaches.
5. A small leather ovoid pouch--it contains a "string" that is found on the backs of some newborn babies. Not every child has this string.
6. A small glass bottle with a green cap containing sesame seeds, to protect the child from fright at night.

[Suggestions for Future Research: Do a little research on all children under 5-6 years and count which types of jujus are worn for what ages and sexes. This might indicate which illnesses are seen as most worrisome or severe. Is there a juju to prevent diarrhea?]

I asked the cobbler and the writer if they could make a juju necklace for the baby I would have later. He said sure, and we bargained for a while, settling for a price of 50 D, with a 25 D down payment. No one wanted to state a price at first. I asked him if the jujus would work for a non-Muslim, and he said they would. His name is Majire Fane, and he brought me and Yaya inside his house to show me some of the other jujus. Many of them looked like belts, which when closed about you, nothing could disturb you...any blow directed at you would be reflected back on the person who tried to hit you ("he would fall down"). He showed his piles of books from which he culls the correct verses. It rained slightly while we were inside his house...seated in his bedroom (covered with mosquito netting).

The second store we went into (there are six in the village, according to Yaya) is owned and run by Muteri Jalo. In terms of food items it contains: onions (in big sacks imported from Holland), rice, kerosine, tinned milk, ovaltine, nescafe, tea, margarine, candies, tomato paste, yeast, chewing gum, vegetable oil and palm oil (cost 2.50 D/cup). Yaya says there is no pharmacy in the village...people must go see the CHN, who carries only a limited supply of medicines. This store had the following in the way of medications: plasters, mentholatum, Chinese balm. While none of my interviews probed this point, there is clearly a good possibility for lots of traditional medicine, considering the village's relative isolation...and lack of health services.

The third store was "manned" by a boy, and contained the following foods: vinto fruit drink (I only saw 1 bottle), rice, sugar (sold in boxes of cubes), candy, tomato paste, tinned milk, maggi cubes, vegetable oil, sardines, vinegar, onion, bread, and Lipton tea. As observed earlier, fresh vegetables are not available in stores (is this all the time?). When I asked about the availability of fish, Yaya replied

that dried fish are imported from the coast and sold in houses. [Suggestions for Future Research: I suspect that there is a lot of selling of foods from the house. Need to find out who the main sellers are; what they sell, etc.] Petty traders buy groundnuts from local farmers to sell to the GPND.

Yaya took me on a walk to the river. On the way we bumped into a couple of village notables: 1) Joof Sanyanang, the fisherman, an old man of perhaps 75 years; 2) Fula Sanya, a slightly deaf old soldier (and proud of it) who had fought in WWII; and Karang Secu Drane, the Imam of the village. He is the head of the local Islamic Union. He has gone to Saudi Arabia to request assistance for his village. They have said they will build a mosque (there are three small buildings currently) and an Arabic Technical Institute (teaches at the high school level).

The river Gambia at this point is highly saline, which has led to the deaths of many riverbank trees. It is very barren in appearance. A fisherman fishes with a net some distance upstream. Two other fisherman have gone out on a boat to fish, their children wait for them by the riverbank. On our walk back from the river it begins to rain heavily, and we take refuge in a nearby house. Yaya teases the woman there, calling her his girlfriend. The GAFNA car comes to get me a bit later when the downpour becomes extremely torrential.

APPENDIX B. Sample Data Collection Forms

GAFNA QUALITATIVE INFANT FEEDING STUDY FREE LISTING FORM: \_\_\_\_\_

Main Question (ITEM): \_\_\_\_\_  
\_\_\_\_\_?

Supplementary Question (SUPPL): \_\_\_\_\_  
\_\_\_\_\_?

Informant Name: \_\_\_\_\_ Village Name: \_\_\_\_\_

Ethnic Group: \_\_\_\_\_ No. of Children: \_\_\_\_\_

Age: \_\_\_\_\_ Occupation: \_\_\_\_\_

ITEM:	SUPPLEMENTARY ANSWER:
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____
11	_____

GAFNA QUALITATIVE INFANT FEEDING STUDY FILE SORTING FORM: \_\_\_\_\_

Items to be Sorted: \_\_\_\_\_

Informant Name: \_\_\_\_\_ Village Name: \_\_\_\_\_

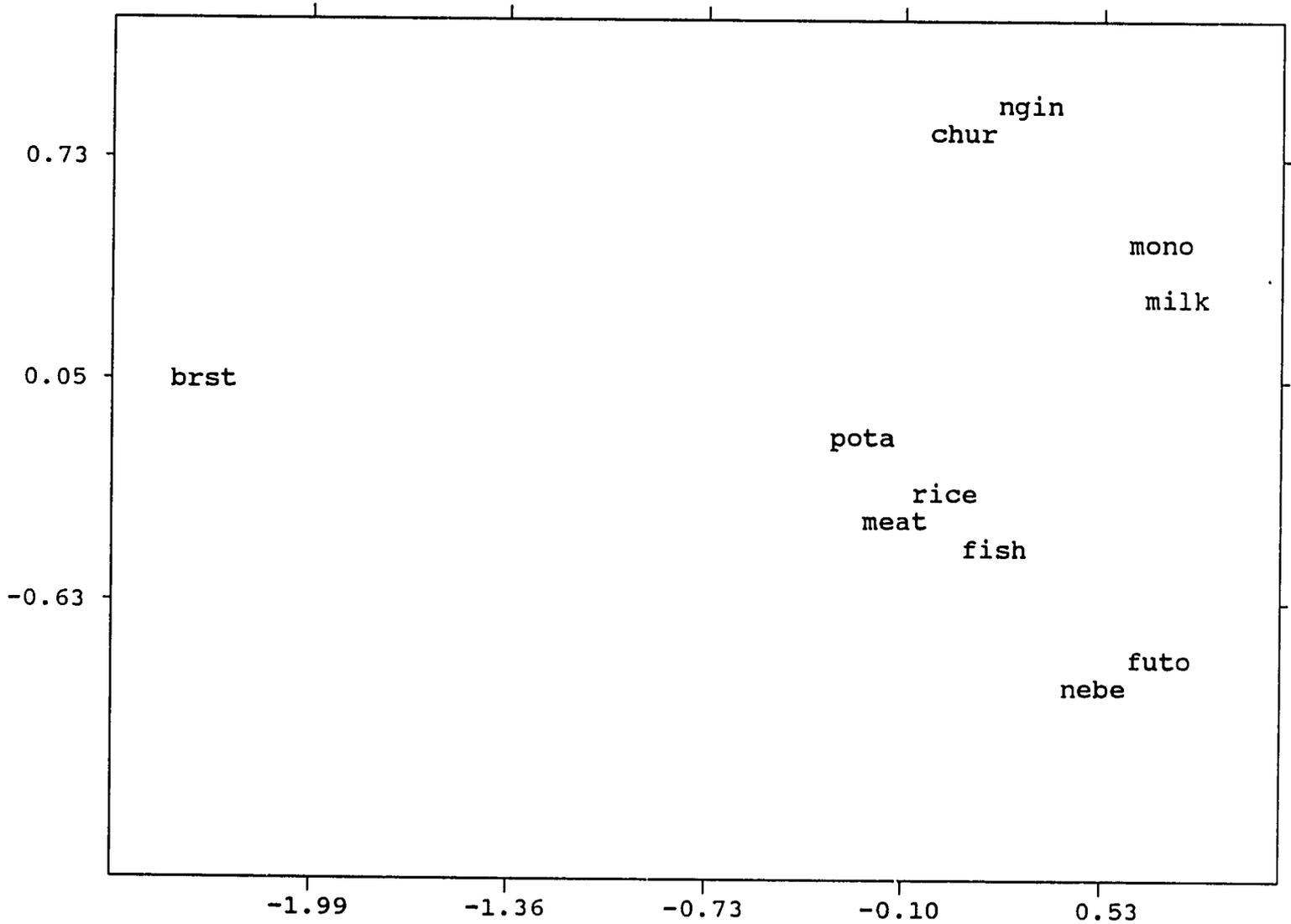
Ethnic Group: \_\_\_\_\_ No. of Children: \_\_\_\_\_

Age: \_\_\_\_\_ Occupation: \_\_\_\_\_

PILE NUMBER	REASON SORTED IN SAME PILE:
1 _____	_____
2 _____	_____
3 _____	_____
4 _____	_____
5 _____	_____
6 _____	_____
7 _____	_____
8 _____	_____

APPENDIX C. Sample Data Collection: Pile Sort Matrices

Aggregated data of 12 female Gambian informants on what common infant foods go with each other.



## APPENDIX D. Sample Weekly Assignment Sheet

### ASSIGNMENT #2 SARA KUNDA VILLAGE, August 21 to 25 1990

#### Lamin Fatty:

- 1.- Conduct 2 general compound observations for minimum 3 hours (note different buildings, draw map, observe activities, etc.)
- 2.- Conduct 3 infant-focused "scripting" observations for minimum 3 hours each (follow child wherever goes, etc.)
- 3.- Conduct 2 woman-focused "scripting" observations for minimum 3 hours each (follow woman wherever goes, etc.)

#### Modou Lamin Fofana:

- 1.- Observe and record amount of household stores and kitchen facilities (including cooking utensils) of all different foods in every household in a minimum of 5 separate compounds. Draw diagrams of each compound. Specify number of people living in a household eating from each store.
- 2.- Conduct a minimum of 15 Free lists on village men and women (don't use CHN or VHW). Main question: "Write down local name (and language used) of each illness).

Supplementary question: "What do you feel causes this illness?"

- 3.- Tabulate illnesses.

#### Hamat Sowe:

- 1.- Conduct minimum 4 key informant interviews (2 male, 2 female) on the following topic:

- Note name, age, village, appearance, marital status, etc. of the key informant:

- "What are all the foods that people consume in this village? (both raw and cooked).

-Probe to complete list:

-What else?

-What wild foods do people eat here?

-What foods do you eat mostly in the hungry times?

- 2.- Tabulate foods from the two interviews.

- 3.- Conduct 3 infant-focused "scripting" observations for minimum 3 hours each (follow child wherever goes, etc.)--confer with Lamin Fatty before beginning this exercise (review his write-ups).
- 4.- Conduct 1 general observation of a nearby "poor" Fula village (this village should not be a PHC village...poorer housing, etc.) Review observations conducted by Dr. Joel Gittelsohn for method of write-up).

Modou Phall:

- 1.- Supervision and review of data and data collectors.
- 2.- From key informant interviews, develop list of ALL foods consumed in the community.
- 3.- Using list developed above, locate key informants (minimum 5) and ask for each food:
  - "Would you feed this food to an infant less than two years? Mark Y for Yes or N for No.
  - Complete above question for all foods.
  - If no, ask: "Why would you not feed this food to an infant less than two years?" Record response.
- 4.- Conduct 1 general observation of a nearby "poor" Wollof village (this village should not be a PHC village... poorer housing, etc.) Review observations conducted by Joel Gittelsohn for method of write-up.
- 5.- Write short review of research so far, assess capabilities and problems with individual data collectors. What are the problems that have been encountered so far?

Data to be collected if time permits:

- Interview with CHN and VHW: What illnesses do people come to THEM for?
- Do more triads for obtaining types of food combinations, write many comments on the back of the forms.

#### REMINDERS:

Equipment needed: Recorders, Cassettes, Batteries, Triad forms, Free list forms, blue notebooks, Write-up notebooks.

## **APPENDIX E.       References**

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