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**International Nutrition Communication Service  
(INCS)**

**CONSULTANT REPORT**

for

**GHANA**

(September 12 - 19, 1982)

(A workshop on how to adapt prototype  
nutrition education materials)

**BY**

Ron Israel, Director  
International Nutrition Communication Service

and

Marian Zeitlin - Consultant  
Through subcontract to  
Manoff International Inc.  
1789 Columbia Rd.  
Washington, D.C. 20009 USA

Submitted by  
Education Development Center  
55 Chapel Street  
Newton, MA 02160

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## INTRODUCTION

RECOMMENDATION: There is a need to operationalize the World Health Organization's Guidelines for the Training in Nutrition of Community Health Workers. The WHO Guidelines provide an excellent technical frame of reference for nutritionists, trainers and curriculum developers. The next step in the development of primary health care nutrition training materials is a series of village-based modules, geared to the current levels of knowledge, skill and time constraints that exist for most village health workers in developing countries. The impact and usefulness of the WHO Guidelines will be greatly strengthened with such auxiliary materials.

The following consultant report describes a Ghanaian workshop on "Adaptation of Prototype Nutrition Education Materials" that led to the above recommendation. Three draft Ghanaian specific village modules are also enclosed as examples of the kinds of supplemental curricula that could be designed. The appended modules will be field-tested in Ghana over the next six months.

Ron Israel  
Director, International Nutrition  
Communication Service

October, 1982

Is there such a thing as a prototype nutrition education material? If so, how should the term "prototype material" be defined? Is it incumbent on the designer of "prototype materials" to provide the user with some guidelines for the adaptation process? From the user perspective, what procedures should he/she follow when trying to adapt "prototype materials?"

A seven-day workshop was held in Accra, Ghana (September 12-19, 1982) to answer questions such as those posed above. Specifically, the Workshop focused on the task of adapting the World Health Organization's Guidelines for Training in Nutrition of Community Health Workers, a self-described prototype material. The goal of the Workshop was to adapt the WHO manual to the needs of the Ghanaian primary health care program. The Workshop was sponsored by the Ghanaian Ministry of Health, the Ghana Medical School's Department of Community Medicine, and the International Nutrition Communication Service (INCS).

The Workshop concluded that the WHO manual was an excellent reference text, a state of the art technical guide for dealing with nutrition problems related to primary health care. However, participants soon realized that the WHO Guidelines could not be operationalized, without drastic modification, to suit the needs of Ghana's primary health care program. The basic functional level of community health worker knowledge and skills in Ghana (as will be discussed later) was not addressed by the Guidelines. An attempt was made to develop a format by which the WHO manual could be operationalized within the context of a task-oriented approach to primary health care nutrition. The authors feel this format has great potential, and that consideration ought to be given to developing a further set of primary health care nutrition prototype resource training materials in this mode.

The Ghana Workshop ended up "adapting" three modules (see Attachments I, II and III) from the WHO manual--"Getting to Know the Community and its Needs," "Diets for Young Children," and "Diarrhoea and Nutrition." These modules (still in draft) will be subjected to a six-month field-test. At the end of that time an evaluation will be conducted to determine the applicability of the Workshop's curriculum development approach, and to determine whether it should be applied to other areas of Ghana's primary health care/nutrition program.

A three-step process of adaptation was used by Workshop participants. The process involved (a) content modification; (b) field observation; and (c) structural analysis. In hindsight participants believe the order should have been reversed; that is,

the Workshop should have begun with a structural analysis of Ghana's primary health care system, the level of knowledge and skill of the community health worker, the method of training, etc.; then the next step should have been village level observation aimed at assessing the beliefs, practices and resources relevant to a given WHO modular problem; and finally, the content of the "prototype" material should have been modified or revised accordingly.

However, since the Ghana workshop was one of the first to deal with the adaptation process, the participants and resource people felt their way through the task. While all concerned were pleased with the outcome, it was agreed that it could have been arrived at more expeditiously.

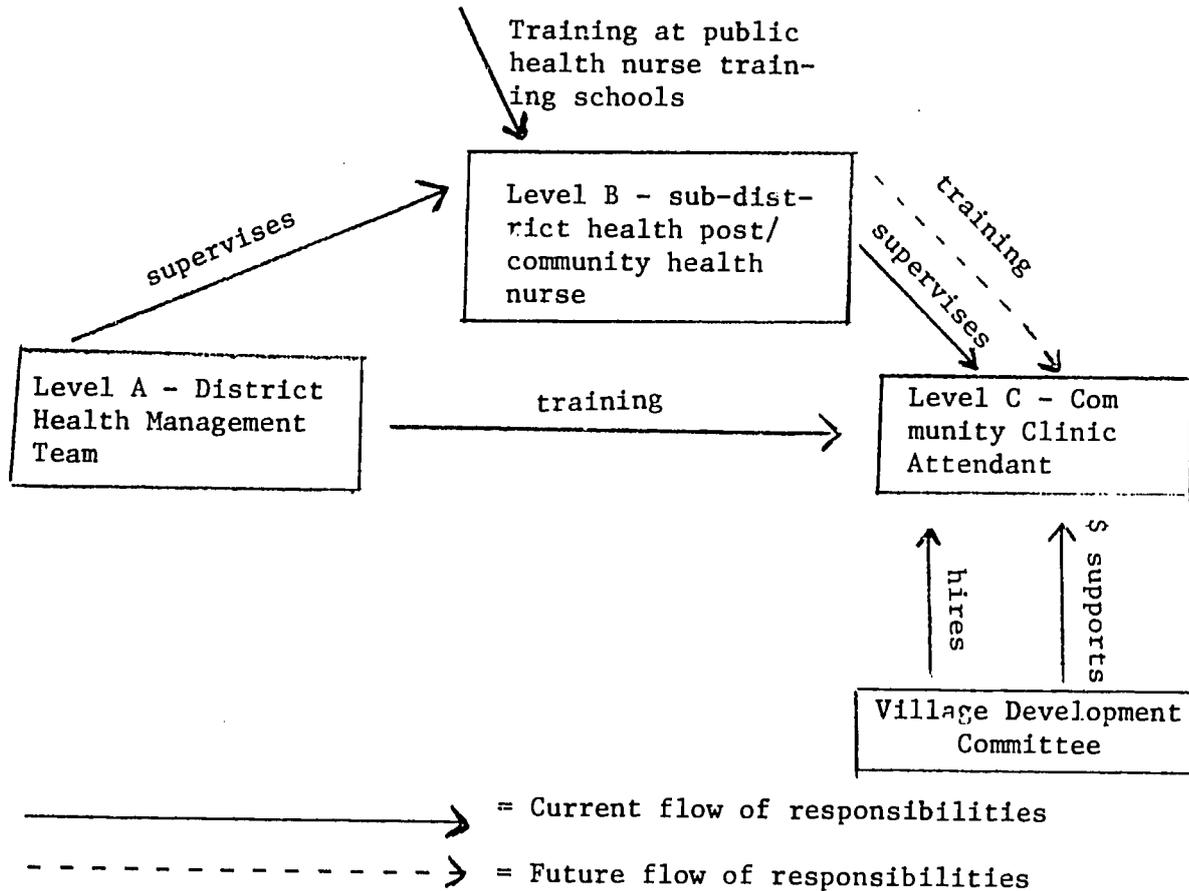
In the final analysis, it was the structural analysis of the existing primary health care system that was the key to shaping the format and content of the three Ghanaian modules that the workshop produced. The analysis focused on seven key variables: the training system itself, the relevance of the technical nutrition content of the prototype, the relevance of the cultural models used in the WHO manual, the relevance of existing support materials, the adequacy of existing program resources, relevant socio-economic factors and existing legislation affecting primary health care/food/nutrition. Each of these factors bears a short description so that the reader can understand the way in which the Workshop adapted the WHO manual.

While the significance of the Workshop for Ghana cannot be adequately assessed for another six months, the lessons learned, that might be applied elsewhere, about the process of materials adaptation are clear.

The primary health care training system: The WHO manual is intended as a prototype for trainers of community health workers. In the Ghanaian primary health care system, responsibility for training community health workers currently resides with a District Health Medical Team that includes the District Medical Officer, the District Public Health Nurse, the District Communicable Disease Control Officer, the Nutrition Technical Officer, the Health Education Officer, and the Hospital Superintendent. The community health worker, officially called the Community Clinic Attendant (CCA) is a middle school leaver, recruited and financed by the village, who is trained for a four-month period by the District Health Management Team. Day to day supervisory responsibility for the CCA is exercised by sub-district level health personnel.

It is envisioned that ultimately the community public health nurses, with two years of special training, will shoulder most of the burden for training CCAs. Ultimate responsibility for

the performance of the community health worker rests with the local Village Development Committee (VDC) that hires and supports the CCA. An unofficial organization chart outlining training and supervisory responsibilities among the various levels of workers in the Ghanaian primary health care system is shown in figure 1 below:



UNOFFICIAL ORGANIZATION CHART OF CURRENT AND FUTURE TRAINING AND SUPERVISORY RESPONSIBILITIES RELATING TO THE GHANAIAN COMMUNITY HEALTH WORKER (CCA)

Figure 1

Given the CCA's educational background, abbreviated training program and broad scope of responsibilities, it soon became apparent that the WHO manual could not be used as a basis for training. Given the fact that supervisors should be trained with the same materials as their trainees, the workshop recommended that the WHO modules could not be used in their present form for training Community Health Nurses (the ultimate trainers of the CCAs). In addition, it was thought that the content of the WHO manual was even too technical for the Community Health Nurses, who are responsible for a broad range of curative as well as preventive tasks at the sub-district level. The Workshop agreed to significantly revise the WHO modules. WHO learning objectives at the beginning of each module were adapted as performance objectives for a task-oriented Ghanaian system. A new section defining the role of the CCA in dealing with each problem area, was introduced. Finally, a series of lessons were developed as a means of helping trainees reach each performance objective.

Technical nutrition content: The technical standards set forth in the WHO manual are excellent. However, perhaps the best example of the way in which the Workshop adapted/modified the nutrition content of the WHO manual can be found in pilot module #2: Diets for Young Children (see Attachment II). Specific Ghanaian weaning foods and recipes are discussed in an attempt to relate the technical principles of the WHO manual to village reality in Ghana. In addition, Workshop participants thought it appropriate to add certain technical suggestions and workbook aids to help community health workers determine the appropriate formulations for locally based weaning foods. For example, it is suggested that "a good rule is to have the baby eat about one portion of the stew for four portions of the main food."

The relevance of existing support materials: The Workshop considered the relevance of the support materials in the WHO manual, as well as other support materials currently in use in the primary health care program in Ghana. A local artist adapted several of the illustrations in the WHO manual to fit the physical characteristics of Ghanaian people. In addition, the participants developed a number of original support materials, for CCAs to use, which were deemed more relevant to the Ghanaian environment. These materials included a Ghanaian pictorial account of the food chain, for use in the module "Getting to Know the Community and Its Needs," and a guide to local oral rehydration fluid preparation for use in dealing with problems of diarrhoeal disease.

The Ghanaian primary health care system has already made a commitment to a teaching methodology for trainees that includes a number of standardized activities such as lecture-discussion, role-playing, demonstrations, and pre-test/post-test. In the process of adapting the WHO modules, participants attempted to incorporate this methodology into a series of lesson plans, or suggested training classes, for the trainer to follow. This blending of two approaches proved quite successful. The Ghana teaching methodology was an excellent attempt to standardize training procedures in a complex system. The modified/adapted WHO modules provided a set of performance objectives and a locally relevant technical context as a framework for the lessons that followed.

Existing program resources: The WHO manual was based on certain assumptions about program infrastructure that are not applicable to Ghana. For example, the entire module on "Nutrition and Diarrhoea" was geared to support the use of packets of Oral Rehydration Salts. These packets are non-existent in most Ghanaian villages. Consequently, the training of CCAs was modified to include procedures on how to prepare and use oral rehydration fluids using sugar and salt and other local resources such as coconut water and rice water.

The Village Development Committee (VDC) is an important program resource in Ghana that may not exist in other countries. In light of the important role of the VDC in financing much of Ghana's primary health care program, the entire module on "Getting to Know the Community and Its Needs" was modified.

Socio-economic factors: Ghana is a country in severe economic trouble at the moment. There is a foreign exchange crisis (hence no baby bottles), inflation is rampant, and there is a shortage of most consumer items. The Workshop team, for example, failed to find sugar in the villages it visited, and hence more emphasis was placed in the adapted modules on local resource mixtures for treating diarrhoea.

Legislation: Unfortunately, participants did not have access to the various laws and regulations pertaining to nutrition and primary health care in Ghana. However, it is important, where possible, to consider local legislative or regulatory requirements that may be in conflict with the prescriptions of prototype materials.

Conclusions: The Workshop on Adaptation of Prototype Nutrition Education Materials yielded the following conclusions, of relevance to countries in other parts of the world.

1. Prototype materials require a common administrative framework, target audience and socio-economic environment. There is no common administrative framework for primary health care programs around the world. Methods of training and supervision vary, as does the level of skill of the community health worker, from country to country. The lack of a common management system, especially, compounds all the other differences of place and custom.
2. Most prototype nutrition education materials should more properly be considered "resource" materials. Given the absence of a common administrative framework, textbook writers and curriculum developers might consider using the descriptor "resource" in reference to those materials intended for international use. It is far less presumptuous to give someone a resource material, and ask them to use it as they see fit, than to give a prototype, which carries with it an assumption of universality given a few adjustments here and there.
3. Prototype materials should include suggestions for ways in which they should be adapted. The still-to-be-written perfect prototype material should include instructions to the user on the process of adaptation. Such instructions should be grounded in the assumptions upon which the prototype was written. In the case of a manual, for example, such assumptions would deal with the skill and knowledge levels of the trainee, the trainee's degree of responsibility, the presence or absence of a teaching methodology, etc.
4. A new task-oriented resource manual for the nutrition training of primary health care workers is needed. Such a manual would be geared to the very basic knowledge and skill levels of primary health care workers that exist in most developing countries today. It would operationalize the guidelines put forward in the WHO manual. The three modules, developed for Ghana, could serve as a trial format for such a manual. If the six-month field-testing of these modules proves successful, INCS would like to expand this approach into a complete operational manual for distribution to other countries.

Suggestions For Ghana Modules

For Training Community Health Workers in Nutrition

1. Nutrition education to all.
2. Good weaning practices
3. Good education on breastfeeding.
4. Transportation.
5. Nutrition and family planning.
6. Diets for young children and correct weaning period.
7. Food production (gardens) and storage.
8. Nutrition and environmental sanitation.
9. Nutrition of mothers.
10. Transportation and diets for young children and proper weaning diets.
11. Diarrhoea and nutrition and diets for young children.
12. Diets for young children.
13. Knowing the community before implementing any of the topics above.
14. Food production and preparation of weaning diets.
15. Nutrition and infection.
16. Knowing the community.
17. Diets for young children.

## Sign-up Sheet

NAME	TITLE	DISTRICT/AREA
Thomas Duodu, M.D.	Chief Nutrition Officer	Nutrition Div., Accra
Ron Israel	Director, International Nutrition Communication Service	U.S.
Dr. Peter Lamptey	Lecturer & Sr. Medical Officer, University of Ghana Medical School	Accra
Dr. Joseph Otoo	Senior Official, Ministry of Health	Accra
Matilda E. Pappoe	Health Educator, Univ. of Ghana Medical School	Accra
Marian Zeitlin, Ph.D.	Consultant/nutritionist	U.S.
Mary D. Odobill	Technical Nutrition Officer	Sekondi W/R
John A. Alonopi	Technical Nutrition Officer	Bawku U/R
Samuel Acheampeng	Technical Nutrition Officer	Aba-Foah, GAR
Issaka John Puribi	Technical Nutrition Officer	Bawku U/R
George Aketawah	Technical Nutrition Officer	Winneba C/R
Constance Sacki	Trainee Technical Officer	Kintampo
S.B. Amponsah	Technical Nutrition Officer	Beaekum/Jaman-Sampa/B/A
Edith D. Kpeh	Trainee Technical Officer	Kintampo
Abraham N. Koley	Trainee Technical Officer	Kintampo
Francis Adu-Samodie	Technical Officer (Nutrition)	Ashanti, Akim
Yan Asante-Anyimadu	Technical Officer (Nutrition)	Atibie (Kwahu_
Edna Ablorh	Technical (Nutrition)Officer	Syhum E/R
Opoku Sarpog	Technical (Nutrition)Officer	Kintampo B/A
James Mami	Technical (Nutrition)Officer	Dormaa Ahenkoo B/A
Sr. Margaret Mary Nrakwah	Course Coordinator, Rural Health Training School	Kintampo
Evelyn Wurapa	N.T.O.	Ketu Dst. Dzodze
Florence Addo	Nutrition Officer	Nutrition Division Accra
B. Ankra-Badu	Statistician	C.H.S., Accra
Mary Arday-Kotei	Health Educator	Health Education Division, Accra
Y.K. Anang	Artist illustrator	Nutrition Div.
Azindow Isaac Mogri	Technical (Nutrition)Officer	Wale Wale H/Centre

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PILOT MODULE No. 1: HELPING THE COMMUNITY TO UNDERSTAND  
AND SOLVE ITS NUTRITION PROBLEMS



A nutrition curriculum module for Ghanaian community health workers - developed for field-testing, by Ghanaian Nutrition Technical Officers (NTOs), The University of Ghana Department of Community Medicine, and the International Nutrition Communication Service, at a workshop in Accra, September 12-19, 1982.

PILOT MODULE # 1      HELPING THE COMMUNITY TO UNDERSTAND  
AND SOLVE ITS NUTRITION PROBLEMS

A. Performance Objectives for Community Health Worker

At the end of this module, the community health worker should be able to:

1. Explain and otherwise demonstrate an understanding of the community health worker's role in helping the community to understand and solve its nutrition problems (lesson 1).
2. Identify the causes of nutritional problems of the community, using the food pathway model (lesson 2).
3. Discuss the importance of food and nutrition with community leaders individually, asking their opinions, explain the causes of mal-nutrition, and ask leaders to suggest solutions (lesson 3).
4. Lead community leaders in a group discussion of nutrition problems and obtain their help in planning and organizing an arm strip or weight survey of children under four years (lesson 4). Note: Either arm strip or weight must be selected as the method, not both.
5. Plan and prepare for either an arm strip survey (lesson 5 a.) or a weight survey (lesson 5 b.), including designated village leaders in planning.
6. Explain the importance of nutrition to an open or general village meeting and organize the villagers to participate in the arm strip or weight survey (lesson 6).
7. Conduct the arm strip or the weighing survey of children under four years to measure the severity of the nutrition problem in the community (lesson 7).
8. Lead community leaders in a group discussion of the results of the survey and in planning solutions (lesson 8).

B. Role of the Community Health Worker in Helping the Community to Understand and Solve its Nutrition Problems

The task taught in this module requires the community health worker to apply basic problem-solving, planning, and group leadership

skills that are not stressed in the modules on feeding of young children and diarrhoea. We are teaching the community health worker to be a community developer, who sensitizes the Village Development Committee to nutrition problems and their solutions, leads them through a very simple survey to measure the number of malnutrition cases in the village, and then assists in organizing appropriate community action.

This may seem to be too high a goal to expect a community health worker with a middle school education to achieve. Certainly she or he could not follow through the steps outlined below in Lesson 1 without the support and assistance of the Village Development Committee (VDC) or chief, if reporting directly to the chief. In fact it is an important and realistic goal. It is important because self-reliance at the VDC level is the major success factor for the development of the village. Externally supplied funds, equipment, foods, and health and agricultural extension agents may come and go. Where transportation and communications are difficult, the presence of external resources in the village is unreliable and is something over which the village community has little or no control.

The self-reliant village that has employed its own community clinic attendants (CCA), set aside farming land for foods to supplement the diets of preschoolers, opened its own day care program to feed and look after young children during the harvest season, improved its own wells to provide more and better water, etc., benefits in two ways. This village improves its nutrition and health without depending on continuous outside assistance. It also develops the ability to attract

outside development programs to the village. As the VDC members become more organized and active, they are more effective in obtaining outside aid when such help is available.

The goal of community self-help in nutrition is realistic in light of the long tradition of village self-help in Ghana. VDCs and other leadership structures such as the chief and council of elders have proved repeatedly that they are able to take action to solve community problems. Such action has been taken in building schools, community clinics, post offices, etc. Response to the need for food should not be more difficult to achieve than the need for health or education.

It is also realistic for the community health worker to assist the VDC in understanding and solving nutrition problems. The community health worker usually is a CCA, who has been employed by the VDC to conduct preventive and curative health activities in the village. Malnutrition is one of the main causes of poor health in young children. Community action can combat malnutrition more effectively than the community health worker acting alone. This module does not expect the community health worker to learn technical methods for community development or for surveys. It teaches him/her to apply ordinary reasoning and conversational skills. All that is required for the survey is to use the arm strip or the scale and a master chart and to record the names and ages of the children under four.

Why should the community health worker first educate the community leaders and conduct an arm strip or weight survey? Why not

simply call a meeting of the VDC, plan programs, and start them? Education is needed because malnutrition usually is not so obvious as other problems. It is a fact that most malnourished children look normal. They are not growing and developing normally, but if you do not know their ages, you will simply think that they are younger than their ages.

A malnourished three-year-old may look like a normal two-year-old. But this child is in danger of dying from diseases that would not kill him if he was eating properly. His brain also is not developing at the right speed. Each malnourished child will do less well in school than he or she would do if the brain had been nourished properly. Because the malnutrition of these children is invisible, it is necessary to educate the community and to conduct a simple arm strip or weighing survey to discover how many of the village children are in danger. These community self-surveys have been very successful in countries such as Indonesia, where the level of education and development in the village is similar to southern Ghana.

### C. Training Procedures and Lessons

Pilot module # 1 consists of a total of eight lessons conducted in the training village one day a week for eight weeks. The trainees will be taught separately in the morning and will help the instructor to apply each lesson in the village in the afternoon.

During the teaching of pilot module # 1, the training village actually will be motivated to understand and solve its nutrition

problems. An arm strip or weighing survey actually will be conducted in the village, and plans for follow-up activities by the village leaders will be made during the final session of the unit.

The trainees and their instructor will meet privately in the village school or clinic or the home of a leader in the morning of each teaching day. Their afternoon field activities will correspond to the lesson taught in the morning. The first morning lesson will explain their role in the community; the first afternoon, they will assist their instructor in discussing this role with the Village Development Committee. The morning lesson on the following week will teach them how to use the food pathway diagram to identify the causes of the nutritional problems in the community. In the afternoon, each trainee will take a copy of the food pathway model and discuss each step with villagers individually. At the end of the afternoon the trainees will come together again and each contribute the problems he or she has identified to a group discussion.

The third morning will teach how to help village leaders individually to understand the problems of malnutrition and to suggest solutions. In the afternoon, each trainee will visit a different community leader to discuss food and nutrition problems. At the end of the afternoon the trainees will meet to share experiences. On the fourth morning the instructor and trainees will prepare to meet with the Village Development Council (or other community authorities) in the afternoon, in order to discuss nutrition problems as a group and explain the need for an arm strip or weighing survey. The fifth morning

15

the instructor will teach the technical procedures involved in conducting the survey; in the afternoon plans will be made with the appropriate village leader. Morning 6 will teach the trainees how to inform the community as a whole about nutrition and about the survey arrangements; in the afternoon, the trainees will assist in the community meeting. The entire seventh day should be spent conducting the survey and plotting the results on a master chart. The morning of day 8, instructor and trainees will privately evaluate the master chart and discuss actions that the community might be willing to take to improve the situation. In the afternoon, they will explain the results to the Village Development Committee members and help them to make concrete plans for follow-up.

LESSON 1

Performance Objective: Explain and otherwise demonstrate an understanding of the community health worker's role in helping the community to understand and solve its nutrition problems.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

Activities	Approach
Pretest	Ask trainees what their role might be in helping the community to understand and solve its nutrition problems. Ask: What should the community health worker do first? Why? What should she do next? Why? What are some of the ways that villages can take action to improve nutrition? Who in the village takes charge of organizing such action?
Instructor-led discussion and lecture	Explain the seven steps that are described in the <u>Content</u> for Lesson 1. Why not simply call a meeting of the Village Development Council to discuss nutrition? What groundwork must take place first? Why?
Explanation of plans for afternoon	Prepare trainees for first meeting with VDC. Explain that instructor will lead discussion but that trainees will be called upon to participate as much as they are able.
Post-test	One trainee plays role of community health worker and others play roles of Village Development Committee members. Ask community health worker-trainee to explain the seven steps to the others. Ask other trainee to explain why the survey is necessary.

Afternoon Field Session

Format and location: Instructor and trainees meet with as many Village Development Committee members as can attend.

Time: Two hours.

ActivitiesApproach


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Pretest	Ask the VDC members what they think the community health worker could do to help them to understand and solve food and nutrition problems.
Instructor-led discussion and lecture	<p>Explain six steps in <u>Content</u> to VDC. First give an overall picture, then go over the steps one by one.</p> <p>Ask VDC what ways they can think of improving the food and nutrition situation in the village. Instructor should take notes to record their answers and correct any large misconceptions, such as idea that the training program will bring them a tractor, for example.</p>

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## Lesson 1 Content

Why Should We Help the Community to Understand Their Problems?

In order to help a community, we must help the community leaders and the people to understand their nutrition problems and to develop solutions to these problems, using community resources. The community must be led to understand its actual needs with respect to nutrition and its ability to take appropriate actions to satisfy actual needs and felt needs. The felt needs are what the community wants or thinks it needs. The actual needs are the things that are really necessary to attack malnutrition. A successful community nutrition program will combine answers to both kinds of needs.

Services that are intended to help people will be most effective when the people themselves help in their planning and implementation. But first the people must realize that there are solutions to their problems. They must also have confidence in their own capabilities. If they feel that a program is being forced on them, they may oppose it and it will fail.

If you live in a community you may think you already know all about it. But to help a community to help itself, it is necessary to study it carefully and in detail. It is essential to know the people--all of them, not simply the ones who live near you or who appear to be important. It is essential to understand their problems and what causes them. It is essential to know what people and what organizations can help in different ways. This requires a systematic study and the desire to understand and help people. The sections below consider the different things the community health worker needs to do to help the community to diagnose and solve its nutrition problems.

### Procedures

In most cases the community health worker's procedure for helping the community to identify its nutrition problems and plan appropriate actions will have at least six steps:

#### 1. Information Gathering

First the community health worker will gather information concerning the nutritional problems of the community by observation and informal discussion with community members during ordinary social meetings and visits. She will use the food pathways model (Figure 1) as a reminder of the common causes of malnutrition and as a guide for observation and discussion. At home or in the clinic she will keep notes under two columns entitled: nutrition problems and possible solutions. After each problem she will put the letters A.N. (for actual need) or F.N. (for felt need).

#### 2. Individual Discussion with Leaders

After one or two weeks the community health worker will continue step 1, but will start to meet individually with village leaders, beginning with the head of the local government body that is responsible for her selection and supervision. This usually will be the chairman of the village development committee (VDC). But in some villages it may be the chief. In this first meeting with the chairman or chief she will present all the steps in her strategy to help the community to understand and solve its nutrition problems. She will ask him to arrange for her to meet with the VDC (or other appropriate leaders) as a group.

Next she will meet individually with the other members of the VDC and with other opinion leaders and influential members of the

community. These may include the sub-district agricultural extension and community development officers, the members of the People's Defence Committee (PDC), traditional birth attendants, traditional healers, religious leaders, school teachers, the chief farmer, the queen fish monger, and others.

During the individual interview she will introduce herself, explain why nutrition is important to health and well being, present the list she has started in step 1, and ask for the personal experience and opinions of each leader to guide her in completing this list. She may use the food pathways model in this discussion if appropriate.

### 3. First Leaders' Meeting

When the leaders have been interviewed individually, the group meeting of leaders should be held. The VDC chairman should introduce the community health worker and her topics to the committee; she should explain the importance of nutrition again to the group, using examples of common interest, discuss the causes identified on her list, and explain the need for a community arm strip or weight survey of children under five. With the support of the senior leader, she should involve the other leaders in planning such a survey.

### 4. Village Meeting to Announce Survey

Plans for the survey must then be communicated to the villagers generally. The community leader will call a general meeting. The community health worker will explain the importance of malnutrition at this meeting, and announce the arrangements for the survey.

### 5. Survey

The community health worker will lead community volunteers in conducting a very simple survey of children under five, using either the arm strip or the weighing scale, depending on the availability of scales. If the arm strip is used the surveyors may go from house to house. If the scale is used, the mothers should bring their children to a central location at a time when they have no farm or household duties. In either case the data will be plotted on a master chart, and every child's name, age, sex, and weight or arm measurement will be recorded.

### 6. Second Leaders' Meeting

With the help of the VDC chairman (or other local government supervisor) the community health worker will hold a second meeting with village leaders to discuss the results of the survey and the action that may be taken. First she will display a master chart (Fig.7, p.43) for all to see and announce the numbers who are well nourished, moderately nourished, and severely malnourished. Next she will lead the group in a discussion of solutions, using the list of possible solutions that she has been making since step 1. Finally, the group will decide upon solutions and follow-up plans.

## 7. Coordination with Health Supervisors

If possible, the community health worker should meet with her health and nutrition supervisor early in this process to review each step. Also, if possible, the supervisor should attend the meeting in step 6 to explain the availability of outside resources and discuss follow-up plans.

LESSON 2

Performance Objective: Identify the causes of nutritional problems in the community, using the food pathway diagram.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

Activities	Approach
Review	Instructor leads discussion of last week's meeting with VDC. What are expectations of the VDC and other village leaders? What will this group need to teach the VDC? Will it be difficult to succeed?
Pretest	Ask trainees what they think are the causes of malnutrition in the training village.
Instructor-led discussion and lecture	Explain food pathway diagram (Fig. 1, p. 16a) Ask trainees to use the diagram to explain difficulties in the food pathway that they expect to discover in the training village.  Instructors should demonstrate how to use the diagram by asking one of the trainees about the problems in his/her home village, step by step.
Explanation of plans for afternoon	Explain that the trainees will take their own copies of the diagram into the village individually in the afternoon and will use it to ask villagers the same questions step by step. Trainees will take notes of <u>problems</u> and <u>possible solutions</u> . They should prepare papers for note taking.
Post-test	Trainees use the diagram to practice asking each other about problems in their home villages, starting at the beginning and going step by step. Don't let them waste time on steps that are not a problem.

Afternoon Field Session

**Format and location:** Trainees go into the village alone or in groups of two. They enter into informal discussion with villagers, using the food pathway diagram to ask about village problems. Villagers may be informed in advance that they are coming, if necessary. Trainees meet back with instructor after one hour.

**Time:** Two hours.

Activities	Approach
Individual discussion	Introductions and explanation of reason for discussion. Questions following food pathway diagram and covering every step unless that step does not exist in the village.
Note taking	Trainees should have paper and pencil. On the paper should be two headings: <u>problems</u> on the left and <u>possible solutions</u> on the right, in such a manner that it is easy to match the solutions to the problems.
Meeting of trainees with instructor	When trainees meet back together with their instructor after about one hour, they should compare their lists of problems and solutions. The instructor will make one big list combining the actual problems and the realistic solutions.
Evaluation	The instructor notes how well individual trainees have been able to make problem and solution lists.

## Lesson 2 Content

Gathering Information by Informal Observation, Discussion,  
and Use of the Food Pathways Model\*

The best way for the community health worker to begin to identify the causes of malnutrition in the village is to befriend her village families socially, to discuss with them informally, and to observe the causes of malnutrition that affect them.

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\*Fig. 1, p. 1-16a.

The economic status of a family (whether it is rich or poor) is perhaps the most important factor affecting nutrition. It relates to things such as the ability to buy food or land or animals which produce food. One can tell the economic status of people by looking at their houses, furniture, clothes, etc. Such observation is important because people often do not like to discuss their financial matters. Education is another important factor affecting nutrition. The level of education of an individual can often be judged by talking with him. Education also depends on the family's economic status.

Since much of the primary health care work is done in rural communities where the majority of the population are often farmers, the question of who controls the land becomes important in considering the nutritional problems. Sometimes the landowners do not live in the community. Most farmers in such communities are landless laborers who have no say in what crops should be grown. The landowners may prefer cash crops (yam, cassava, rice, maize, etc.) because they bring in more money. This considerably reduces the amount of food that could be available in the community. When the land is owned tribally, distribution to all should be guaranteed. But in fact, there may be problems with land distribution.

In communities where the people own much of the land themselves, the following questions need to be considered in judging the community's nutrition status. Is the land that the family farms big enough to supply the family's food needs? Is the land irrigated? Is the irrigation water safe for the family's health?

In communities where women also work, the following questions need to be asked. Can women take their very young children with them to work so that they can breast-feed them during the day? If the children have to stay back, who looks after them? At what times of day or periods of the year do the parents have more time or less time to look after their children?

Seasonal fluctuations in the availability of work, food, and water are common in some communities. Often different seasons are associated with epidemics of diseases such as diarrhoea, malaria, measles, and worms.

Information about the kind and amount of food available in a community is essential in considering nutritional problems. In many village communities small farmers and farm laborers have staple food grains which last only four to five months after harvest. After this they eat tuber roots, cereal gruels, and purchased food. Some families are partly starved as a result of this. In some areas, too, certain foods are seasonal; for example, fish, milk, beans, fruit. When cash crops are grown instead of food crops not only is the food production reduced but money may also be diverted to alcoholic drinks and to nutritionally inferior processed foods

and drinks that cause nutritional problems. Regular home visits and market visits during different seasons of the year give information about the availability and cost of foods. The "hungry season" is a regular occurrence in many communities.

The methods of food preparation and dietary practices are important. How and how often is the food prepared and for how long is it stored? How many meals are eaten each day, and are the children given any snacks? Are any special foods prepared for children? Within the family who eats what, who is served first, are the children fed separately and from their own plates? These factors influence how much nourishment a young child receives.

There are important beliefs associated with food in all communities. These traditions and habits have a strong influence on what food is eaten. Some foods are of high prestige, others of low prestige, and some are for special occasions. Certain foods are forbidden in some families (e.g., animal foods among vegetarians). At different ages and stages of life particular foods are considered to be harmful; for example, coconut water is believed to induce abortions in early pregnancy. In certain areas fish and meat are believed to cause worms in small children. The community health worker must know what people in the community believe about different foods. Only then will she be able to advise them appropriately.

In all communities there will be people who are always ready to help. Their influence should be put to good use. Some people have special skills of art, music, poetry or drama which can be used to spread messages about health and nutrition programs, especially when surveys are done. Excessive use of alcohol can be a major problem in some areas. The community health worker must know about the village and should be sensitive to people's feelings.

The food pathways diagram, Figure 1, p. 1-16a, should serve the community health worker as an observation and discussion guide. She should familiarize herself with the pathway in her own village from the agricultural production or buying of the food through preparation and eating to the end result, which is the nutritional state of the individual village members. As the community health worker goes through each step in this diagram, from the left to the right, she should be able to describe how this step is done by village members. The weather is also important. The steps in the food pathway are: obtaining land, preparing the ground, planting, weeding, harvesting, storing, selling, buying, preparing, cooking, serving, eating, digesting and using food, and the growth and health of the people. Two sub-pathways lead into this main pathway. They are: other employment, leading to income for buying food; and health, which affects the digestion and use of food. Water supply, health care, nutrition programs, and sanitation affect health. The community

health worker should identify the steps in the pathway that cause problems for the community. She should then list the specific nature of the problems under the column heading: nutritional problems. In each case she should ask herself if problems of child-care and the mother's labor or use of time are also involved. For example: scarcity of firewood and long distance from homes to the village water source may be problems for cooking and sanitation. But they may also cause problems for women's work load and child care. Pregnant women may deliver low birthweight babies if they have to carry heavy loads. If the mother is absent collecting firewood and carrying water for several hours the baby may be left with a sister or brother who cannot feed it properly.

In her conversations with the community the community health worker should ask their ideas for solutions to the problems that she identifies. Not all problems will have solutions that are affordable. For example, heavy pounding to hull grain could be avoided by installing an electric mill. But the community may not be able to accomplish this. On the other hand, if the children are not immunized, it may be possible for the community health worker to arrange for the community to be visited by a vaccination team. If possible, the community health worker should meet with her health and nutrition supervisor to discuss resources that may be made available to the community.

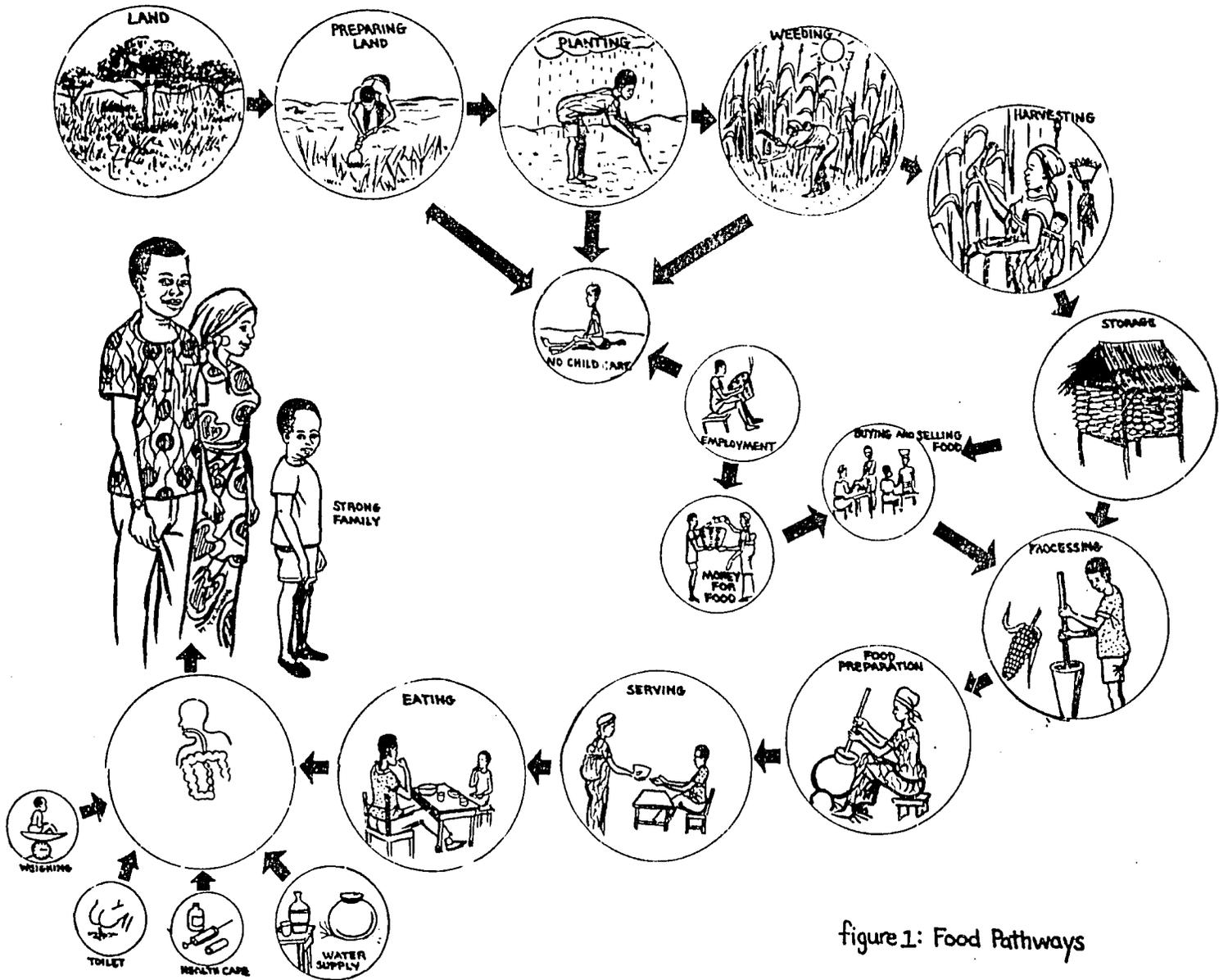


figure 1: Food Pathways

LESSON 3

Performance Objective: Discuss the importance of food and nutrition with community leaders individually, ask their opinions, explain the causes of malnutrition, and ask leaders to suggest solutions.

Preparation of Village: Leaders must be ready to meet individually with trainees.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

ActivitiesApproach


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Revision of working lists	Instructor asks trainees to copy the new list of <u>problems</u> and <u>possible solutions</u> that the instructor has prepared.
Pretest and revision	Ask trainees why it is necessary to meet with leaders individually before holding a group meeting of the Village Development Council. Review the six steps described in content for Lesson 1.
Instructor-led discussion and lecture	Explain that leaders may not know that malnutrition is an important problem because most of the malnourished children look normal, although they are growing and developing more slowly than they should. Explain different points of view of leaders. Food vendors may see food supply and cost problems. Traditional healers would see connection between food and illness. Describe how trainees should approach leaders.
Explanation of plans for afternoon	Assign different trainees to visit different leaders in the village, preferably alone, but in groups of two if necessary. Each one will interview one leader and then they will meet with the instructor afterwards to discuss results.

Post-test                      A trainee role plays a meeting with a leader. She does not use the food pathway diagram to ask questions. Rather she uses the list of problems and solutions and asks the leader her opinion of each problem (pathways diagram can be used if it is very popular).

---

### Afternoon Field Session

Format and location:      Each trainee visits a village leader either at home or at place of work or farming. After about an hour of discussion, the trainees and instructor meet again privately.

Time: Two hours.

### Activities

### Approach

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Trainees meet leaders individually	Trainee first asks the leader's opinion about the food and nutrition problems in the village. Then the trainee explains that malnutrition often is invisible. The malnourished baby looks normal, but it is too small and its brain is not growing fast enough. The trainee explains that a simple arm strip test, or weighing with a scale, can show which children are in danger and which are not. Trainee explains that a group meeting will be called in which village nutrition problems are discussed and plans are made to check the children under four to see if any are in danger from malnutrition.
Taking notes	Trainee asks leaders what village food and nutrition problems are most important to discuss in meeting and notes these under <u>problems</u> list. She asks what possible solutions this leader can see and notes them under <u>possible solutions</u> .
Revision of list	Instructor collects lists from trainees when they meet at the end of the afternoon. Using these lists the instructor makes new changes in the master list before the next lesson.

Evaluation                      Discussion with trainees at end of afternoon and the appearance of their new lists indicate the quality of their understanding. The instructor also should have listened in on their discussions in early afternoon.

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### Lesson 3. Content

#### Meeting individually with village leaders

Individual meetings with village leaders will prepare them for the group meeting which will follow in step 3. Without individual meetings, the community health worker could still meet with the Village Development Council as a group. However, she would not be sure of the outcome of the meeting because the individual leaders would not be motivated in advance and the community health worker would not have an understanding of their points of view and the resources that they might make available. Group consensus for change is much easier to achieve if you have laid the groundwork first individually. The first meeting should be with the Development Council chairman if the community health worker was selected by the Council. If she was selected in a different manner, the meeting should be with her village government supervisor.

After explaining the overall strategy to this leader, the community health worker may ask his help to:

- prepare a list (if one is not already available) of the organizations, formal and informal leaders, and personnel of both government and private organizations that should be contacted.
- find out when the highest community body (this may be the VDC) meets regularly. Make arrangements to present the nutrition strategy either at one of these regular meetings or at a special meeting called for the purpose of discussing nutrition and health.

The individual meetings with the leaders should follow the same procedure as the discussions with community members in step 1. But they should be more formal. The community health worker should explain her purpose and the importance of nutrition. She should ask their opinions concerning nutrition problems and solutions and inform them of the plan for a community meeting.

In discussions with the leaders who may provide program resources, the community health worker should seek the help of any government or

private organizations working in the community. These will mostly include community development programs and national nutrition supplementation programs. The community health worker should have close contact with the schools in the community.

The staff of the nearest hospital or health post are particularly useful. They support and help to train the community health workers. In addition, if the community health worker is not herself a traditional birth attendant or traditional healer, she should seek the cooperation of such people. They know the people and have the confidence of the community, and they have much knowledge about common ailments and have provided health care for years.

There may also be programs to increase the food production in the community, e.g., poultry and dairy development programs, and those for improved fish ponds and home gardens. The community health worker should work closely with these. Other programs which help indirectly include programs for improved sanitation and water supply, and those for the control of infectious diseases and for family planning.

LESSON 4

Performance Objective: Lead community leaders in a group discussion of nutrition problems and obtain their help in planning and organizing an arm strip or weight survey of children under four. Note: Either arm strip or weight must be selected as the method, not both.

Preparation: Report to Village Development Council must be reviewed with VDC chairman or chief before meeting.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

Activities	Approach
Revision of problem/solutions list	Trainees copy the new list of <u>problems</u> and <u>possible solutions</u> that the instructor has prepared since the meetings with individual leaders the past week.
Revision	Ask trainees to review the six steps in helping the community to understand and solve its nutrition problems. What step will they do today?
Instructor-led discussion of plans for the afternoon	Instructor explains that the most important goals for the afternoon meeting with the Village Development Council as a group are to: <ul style="list-style-type: none"> <li>-- convince them of the importance of malnutrition.</li> <li>-- discuss the main causes of malnutrition in the village.</li> <li>-- gain the Council's cooperation in conducting the survey.</li> </ul> Rehearse content using picture of malnourished child. (Fig. 2, p. 1-23.) Instructor announces whether the arm strip or weighing survey will be used and explains the overall plan: for weighing the children can

all be brought to a common place; with the arm strip, community volunteers can go from home to home, or children can be brought together if village prefers. (Fig 2., p. 23)

**Post-test** Ask trainees to explain lesson content using picture of malnourished child.

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### Afternoon Field Session

**Format:** Meeting of as many members of the Village Development Council as can be assembled together.

**Time:** Two hours.

Activities	Approach
Report of activities	Instructor reports to Village Development Council the results of individual discussion with village leaders concerning problems and possible solutions (this report must be very tactful because it is important not to cause public disagreement among VDC members).
Instructor-led discussion and lecture	<p>VDC discusses above report briefly.</p> <p>Instructor explains the need for a survey to the group as a whole. A trainee is asked to explain why the number of malnourished children cannot be counted without using the arm strip or the scale (explain only the one that will be used).</p> <p>The overall plan for the survey is presented. A VDC member is appointed to work with the class in planning the details of the survey.</p> <p>Group discussion continues to answer VDC members' questions. The instructor calls upon the trainees for explanations when possible.</p>

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figure 2: Malnourished Child

## Lesson 4 Content

Group meeting with the Village Development Council

The community health worker must explain to the Village Development Council (or other body) that malnutrition is important because:

- it is a cause of illness and death in children below the age of five years.
- it is a cause of poor growth, poor health, and poor intellectual development.
- it is a cause of weakness and poor working performance in adults.

Illustrate this importance with a picture of a malnourished child\* and explain the typical experience of such a child, who receives only akasa as a supplementary food, gets diarrhea, gets thin, grows poorly, and falls victim to measles or pneumonia and dies. The same child might not die but might recover and continue to develop poorly. This will be the child who fails to pass the first or second year of primary school and who remains poor and illiterate and pulls down the level of development of the community and of the country.

Tell the group that not all malnourished children look as thin as the one in the picture. If malnutrition is mild, it is hard to tell whether the child is growing normally just by the appearance.

Next, explain the causes of malnutrition that you have detected in observing the village and discussing with the leaders individually. Summarize these causes in such a way that each one recognizes his or her own ideas, from your previous interviews. Emphasize feeding practices that can be changed through nutrition education. Tell the leaders that all of you know that there is malnutrition but that you must use the arm strip or weighing scale to determine the seriousness of the problem. By holding such a simple survey you can report to them the exact number of young children who are at risk of being damaged by poor nutrition.

Finally, ask their help in planning the survey and in encouraging the families in their neighborhoods to participate in the survey. Ask for volunteers to help to conduct the survey.

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\*Fig. 2, p. 1-23

LESSON 5.a

Performance Objective: Learn skills for conducting and planning an arm strip survey of village children from six months to four years.

Preparation of Village: Arrange to have five to ten young children at the morning training. Leader(s) helping with survey should be invited to attend the morning session. If they cannot, arrangements should be made to meet with them in the afternoon.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours

Activities	Approach
Review	Class discussion of the previous week's meeting with the Village Development Council.
Instructor-led demonstration	<p>Demonstrate the use of the arm strip* on a small child. Explain the meaning of the colors. If possible, demonstrate using a malnourished child and a well nourished child and a younger child compared with an older child. Ask what should happen to the arm as the child grows older? Explain that it does not grow much between one year and five years, and that even at six months it is big enough to measure.</p> <p>Show trainees how to put the child's name, age, and arm marking onto the master chart. Age need not be totally accurate.</p>
Practice session	Each trainee measures three children in front of the whole group and fills out the master chart for each child. Trainees help instructor to correct any errors.

\*Fig. 3, p. 1 - 27

Plans for afternoon Mothers and children leave, and trainees and instructors discuss afternoon plans. If village leader(s) assisting in the survey are present, plans may be finalized at this time.

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#### Afternoon Field Session

Format and Location: Meeting to finalize survey plans with village leader(s) and to train village volunteers to use the arm strip and master chart, if villagers are going to help to conduct the survey.

Time: Two hours.

#### Activities

#### Approach

Planning meeting with leader(s)

The exact day and method of reaching the families should be decided. It is preferable to go from home to home because communications may not be good and some families may find it difficult to bring their babies to a central location.

Instructor-led demonstration and practice session

If community members will help in measuring the village children by going from home to home in different sections of the village, they must be trained in the same way that the trainees were taught during the morning session. From five to ten young children must be available for the practice session. The same demonstration and practice methods should be used as in the morning, but the trainees should assist the instructor in demonstrating and explaining the use of the strip and the master chart.

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#### Lesson 5a Content

##### The Arm Strip Survey

A community health worker will not be able to carry out a complicated nutrition survey in his or her village. The job of tabulating and analyzing information concerning each child gets more complicated with each item that is recorded. Some villages may have as many

as 300 children below the age of five years. The community health worker would rapidly become overwhelmed if s/he attempted to gather complicated data on so many, unless s/he had the use of a computer, a computer programmer, a typist, etc.

Fortunately, very simple information will enable the community health worker to measure the seriousness of the malnutrition program.

The community health worker can use the arm strip to measure the arms of children under four years old. The instructor should obtain old x-ray film from the nearest hospital in advance so that it can be used during the training to make the strips. If x-ray film is not available, any strong plastic bag can be cut and marked with a ball-point pen. Cut and color or mark it in the following way:

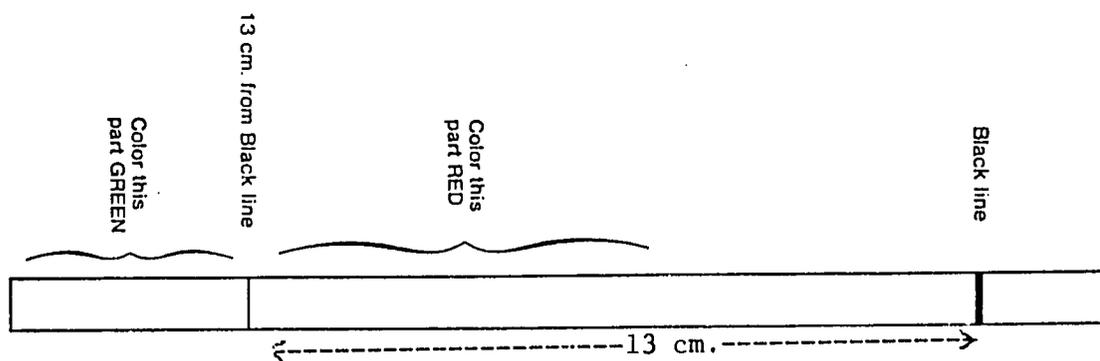


Fig. 3 Arm strip

Table 1 (p. 1-29) will give you a model for drawing a master chart for recording the numbers whose arm circumferences fall in the red, yellow, or white parts. This measurement is applicable from the age of six months, which is the age when malnutrition usually starts in Ghana.

#### How to Measure the Arm

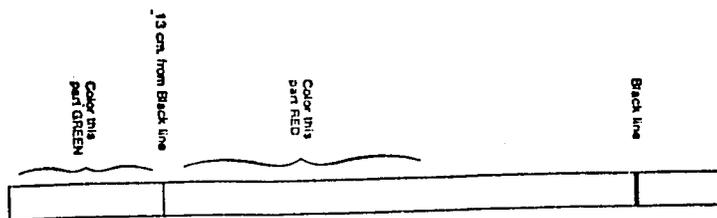
This arm strip does not have a tail that goes beyond the 0 mark. It has been found that such a tail can cause confusion. The method of measuring the arm is shown in the following drawing (Fig. 4, p. 1-28).



figure 4: Arm Strip Measurement

Name

Age



A series of 15 horizontal lines for recording data.

NOTE: red = malnourished  
yellow = mild malnutrition  
green - healthy

Instructions: Wrap the tape gently around the middle of the arm, halfway between the top and the elbow. The tape should make a circle around the arm. There should be no open space between the tape and the arm. The point where the zero (red) end closes the circle by touching the tape indicates the size of the arm. This point should be marked onto the tape in pencil. This mark should then be transferred onto the master chart by laying the tape on top of the master chart so that the colors match. Then the pencil mark must be erased before the tape is used for the next child.

The instructor should first demonstrate this procedure and explain verbally what he or she is doing. The trainees should then practice one by one with the verbal coaching of the instructor. Finally, as a post-test, each trainee should demonstrate that she or he is able to make the measurement and transfer it correctly to the master chart without any help from the instructor.

### Survey Plan

Each surveyor should have a tape and one sheet of the master chart. The trainees should act as surveyors in the training village in order to practice the survey method, but they should understand that volunteers can help with this survey. When the trainees return to their home villages, they can teach volunteers to help them to conduct their own village survey. If their village is very small, they may wish to conduct the entire survey themselves. Each surveyor should be responsible for measuring 20 to 30 children in a neighborhood where the homes are not too far apart. If there are wide distances or steep hills to climb to reach the houses, this number should be decreased. Every part of the village should be reached by a surveyor. No part should go uncovered. This means that there must be about three surveyors for 100 houses or about ten for 300 houses.

At each home, the surveyor should introduce him or herself to the family, check that no surveyor already has been to this house, and ask to measure all children between the ages of six months and four years. Before leaving the home, he or she should report to the family if any young children are in the red and advise them to encourage these children to eat more.

During the survey, the instructor should try to visit three houses with each of the surveyors, starting with the weakest one. After going to three homes with this one and giving guidance or making corrections that may be necessary, he or she should visit three homes with another surveyor, and so on, so that all of the trainees can be supervised and checked in practice. The trainees should know in advance that their work will be checked.

When the surveyors are finished, they should bring their master charts back to a central location so that the total number of children falling into the red, yellow, and white can be counted.

## LESSON 5.b

Note: This method is not recommended unless the community health worker trainees are extremely well educated and can be closely supervised during this survey and their own village surveys. It may require an extra training day.

Performance Objective: Learn skills for conducting and planning a weighing survey of village children from birth to four years.

Preparation of Village: Arrange to have five to ten young children at the morning training and another group in the afternoon. Leader(s) helping with the survey should be invited to attend the afternoon session.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

ActivitiesApproach


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Review	Class discussion of the previous week's meeting with the Village Development Council.
Instructor-led demonstration	Demonstrate the weighing of the young child, using type of scale available. First write the child's name onto a list. Ask the mother when the child was born, using a local events calendar or information from a birth certificate if one is available. Write down the child's age in months. Next, weigh the child and record the weight. Now plot the weight onto a master chart.
Practice session	Each trainee records name and age, and weighs one child and plots weight on master chart in front of the group with the assistance of the instructor.

Further practice	Mothers and young children return home, trainees continue to practice from exercise sheets that the instructor has prepared, by listing the ages and weights of ten children. Each trainee must plot the dots correctly onto a practice chart.
Post-test	Plotting the dots onto the charts is difficult. Practice must continue until all the trainees can do it accurately. Often this will require an extra training day.

---

### Afternoon Field Session

Format and Location:	Continued practice weighing young children. This session can occur at any convenient location, but there should be from five to ten or more mothers with infants on hand for the practice session.
Time:	Two hours.

Activities	Approach
Instructor-led demonstration	Demonstrate the weighing of the young child, using type of scale available. First write the child's name onto a list. Ask the mother when the child was born, using a local events calendar or information from a birth certificate if one is available. Write down the child's age in months. Next, weigh the child and record the weight. Now plot the weight onto a master chart.
Practice session	Each trainee records name and age, and weighs one child and plots weight on master chart in front of the group with the assistance of the instructor.
Further practice	Mothers and young children return home, trainees continue to practice from exercise sheets that the instructor has prepared, by listing the ages and weights of ten children. Each trainee must plot the dots correctly onto a practice chart.

Post-test	Plotting the dots onto the charts is difficult. Practice must continue until all the trainees can do it accurately. Often this will require an extra training day. If graph plotting has been learned, practice shifts to the weighing procedure. Each trainee weighs and records all information for five young children under the direct guidance of the instructor.
Plans for survey	If the trainees have mastered all skills accurately by the end of the afternoon session, plans can be made with the village leader(s) helping with the survey. The exact day and time should be set, and a plan made for sending volunteers from door to door to request the families to bring their young children to the weighing center.
Evaluation	Have the trainees not mastered the following skills? -- calculating and recording age in months -- weighing the children, reading the scale, and recording the weight to the nearest 0.5 kg or nearest pound -- plotting the weight and age dot onto the master chart. If not, schedule second training day before the survey.

## Lesson 5.b Content

### The Community Weighing Survey

In most cases, the community health worker should not be instructed to conduct a weighing survey. She or he should learn to conduct the arm survey because it is much simpler and just as useful to the community. Both methods detect the same severely malnourished children. In mild cases, there is a small difference between children selected by the two methods, and arm circumference does a slightly better job than weight. Those who fall in the red on the arm strip are in slightly more danger of dying from diseases related to malnutrition.

If a weighing program can be started immediately in the village, then a weighing survey will be best because the children's ages and

weights can be written immediately onto their weight charts. An arm strip survey also can be useful at the beginning of a weighing program. If supplies are not sufficient to weigh all children, then only those who fall into the red on the arm strip survey should be enrolled for weighing.

Before deciding to conduct a weighing survey, the instructor should answer the following questions:

	Yes	No
1. Will it be possible to start a weighing program soon in this very village?	_____	_____
2. Have you, the instructor, had a previous training course in weighing children under five and using the master chart?	_____	_____
3. Have you, the instructor, had at least three months' practical field experience in weighing babies and using weight charts?	_____	_____
4. Can you get a scale and master chart to use for this course?	_____	_____
5. Do you, the instructor, feel confident that you can make a local events calendar to determine the age of the children?	_____	_____

If the answers to any of these questions are no, then you probably should return to lesson 5.a, and conduct an arm strip survey instead of a weighing survey. If a weighing program cannot be started soon, the use of a weighing survey may encourage the village to sit back and do nothing until some outside agency supplies them with a scale and weight charts. In fact, much can be done without weighing. If the instructor has not had a previous training course in weighing, it is too difficult to learn from this curriculum unit only. Weighing is something that one must learn from another experienced trainer before attempting to teach the skill to others. Practical field experience in weighing also must be gained under personal supervision. It is necessary to have such experience to be able to handle a large group of mothers and children who come together to be weighed. If the instructor has not personally had the experience, it will be difficult to supervise the trainees during the survey. It obviously

is not sensible to conduct a weighing survey if the scale and master chart will not be available. The strips for the arm strip survey and the master chart for this survey can be hand-drawn and cut from paper, making outside supplies unnecessary. Finally, a weighing survey depends on having accurate ages of children under four years. A three and a half-year-old who weighs 12 kg is much better nourished than a four year-old of the same weight. The arm strip survey can be used without knowing the child's exact age although it is useful to write down the rough age. If all children in the village have birth certificates, the task of learning their ages is quite simple. But this is not usually the case.

If you decide to conduct the weighing survey, use the lesson plan 5.b as a guide, but repeat the same methods by which you yourself were taught to weigh babies when you teach the trainees. Be sure to allow plenty of time for practice and to test each trainee individually several times, until she has demonstrated that she is able to perform each task accurately.

LESSON 6

Performance Objective: Explain the importance of nutrition to an open or general village meeting and organize the villagers to participate in the arm strip or weight survey.

Preparation of Village: The time for the general meeting must be pre-arranged with the Village Development Council chairman or chief. A well nourished baby that can be measured with the arm strip or weighed without crying should be found in advance for the public demonstration.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

Activities	Approach
Review	Review the plans for the survey
Pretest	Have any of the trainees organized a community meeting before? What is their experience?
Instructor-led discussion and lecture	Explain how today's afternoon meeting of the village was planned and announced. Ask trainees if it would be done in the same way in their villages.  Explain how you are going to speak to the village meeting. Then demonstrate your entire speech to the class. Let them role play villagers asking you questions.
Explanation of plans for afternoon	Trainees may hold up the picture, the arm strip or a weighing scale to show the community during the afternoon meeting. But they will not actually help with the speech.
Post-test	Instructor asks trainees to outline a talk that they would give to villagers on the same subject.

Afternoon Field Session

Time: Two hours.

Activities	Approach
Speech to the meeting of the village as a whole, announcing the arm strip or weighing survey	Instructor and training class are introduced by VDC chairman or chief. The instructor gives a short speech announcing the survey. He or she explains malnutrition by holding up the picture of the malnourished and well nourished children. It is not difficult to treat malnutrition, but the cases must be known.
Public demonstration of arm strip or scale	Then he or she demonstrates the use of the arm strip or the weighing scale with the help of the trainees and a mother with a cooperative child, that does not cry, and announces to the mother and to the group that this child is not in danger because he is well nourished.
Announcement of plans	The exact plans for the survey are explained to the community, including the time it will take place, where, and who will be conducting it.
Answering questions	Ask villagers if they have questions. Respond to all questions.

Lesson 6 ContentMeeting with the Community in General

The open meeting with the general community should concentrate on preparing the village for the survey. Announcements for this meeting should be made in advance in such a manner that everyone is informed early enough to attend. The VDC chairman or chief should help to plan this meeting and should arrange to have the meeting time and place announced to the villagers.

48

It is important not to present the subject of malnutrition to the community in such a way that it frightens mothers and children. The picture of the well nourished and malnourished child standing side by side should be shown.\* The speaker should concentrate on the well nourished child and explain that:

- this child eats the proper mixture of foods to make him grow strong
- this child will be intelligent in school and will not get sick often
- even when he gets sick, this child will get well again quickly.

Then the instructor should point to the picture of the mal-nourished child and explain that:

- this child also can grow tall and strong like the other one when we make changes in the food that the child eats.

After this illustration, it is important to explain that the village will hold a survey to see how many children are strong--like the well nourished child--and how many need extra food--like the small thin child. After the survey, it may be possible to give demonstrations to show the best ways of feeding young children so that they will grow up to be healthy and intelligent.

Now the survey method should be demonstrated. If it is an arm strip survey, a mother should bring up a well nourished baby of about one year in front of the meeting. This child should be selected in advance to find a baby that is not too shy, so that he or she will not cry during the demonstration. The arm strip measurement should be demonstrated and the mother told publicly that the child is not in danger because the measurement is in the green. If the method is weighing, the scale should be demonstrated in a similar manner.

Next, plans for the survey should be explained. And finally questions should be answered.

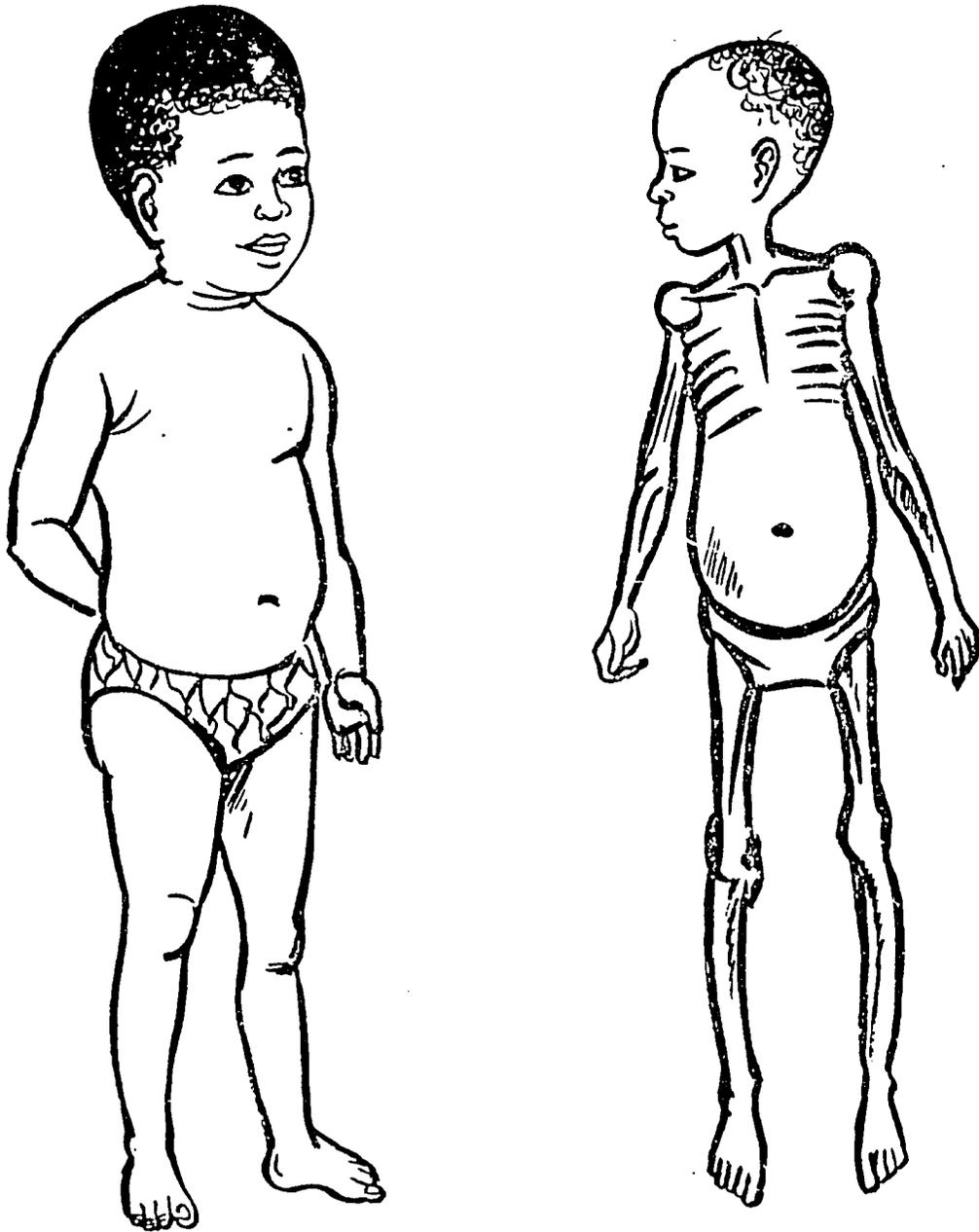


figure 5 : Well Nourished Child

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Malnourished Child

LESSON 7

Performance Objective: Conduct an arm strip or weighing survey of children under four years to measure the severity of the nutrition problem in the community.

Preparation of Village: Preparation of the village should have taken place during the previous week's lesson. All households should know that the survey is on this day. However, it is still advisable to beat a gong or drum to signal the beginning of the survey, or to send volunteers, such as older children, through the community to remind families that the survey is starting.

The entire day will be devoted to conducting the survey. The instructor should have each detail planned in advance with the village leaders, the trainees, and any volunteers who are assisting them. A space is given below for the instructor to fill in his or her plans for the survey; it is suggested that these plans be reviewed with the trainees early in the morning, and that the instructor be prepared to revise them flexibly during the day if changes need to be made in order to complete the job.

ActivitiesApproachReview

Early in the morning, the instructor should review the plans for the survey with the trainees and others who will be helping during the day. Each participant should repeat his or her assignment to the group, in order to avoid misunderstanding.

LESSON 7

Performance Objective: Lead community leaders in a group discussion of the results of the survey and in planning solutions.

Preparation of Village: It may be advisable to explain the results on the master chart to the Village Development Committee chairman or chief and discuss the plan for the meeting with him in advance. The instructor should do this privately, without the trainees.

Morning Session

Time: Two hours.

Activities	Approach
Preparation of pie chart from master chart	Ask trainees the meaning of the results recorded on the master chart. Call on trainees who understand to explain the meaning to the class as a whole. Demonstrate what a pie chart is, and ask each trainee to draw his or her own version of a pie chart showing the numbers of well nourished, moderately malnourished, and severely malnourished. <u>If the literacy level in the village is not high, the numbers should be simply reported, without a pie chart</u> * e.g., 40 well nourished, 12 mild to moderately malnourished, and two severely malnourished.
Instructor-led discussion and lecture	Instructor should now review the list of problems and solutions with the class. First look at the solutions and apply the four criteria listed in the content to lesson 8. Select only the solutions that are realistic answers to important problems. Select no more than two or three. Now, working with the class, make a list of the actions to be taken, the resources needed, and the timetable, as directed in the content section. This is your list of priority solutions for the meeting of community leaders.
Explanation of plans for afternoon	

\*fig. 6.

**Post-test** Explain that the results of the survey first will be presented to the VDC meeting. Assign one of the trainees to be prepared to make this presentation. After discussion of results, you will suggest the priority solutions to the VDC for discussion.

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### Afternoon Field Session

**Time:** Two hours.

Activities	Approach
Meeting with VDC Explanation of survey results	Show the master chart to the VDC. Explain how many children are well nourished, how many mild to moderately malnourished, and how many severely malnourished. If the community is highly literate, also show these results in the form of a pie chart.
Pretest and discussion	Ask the VDC members what solutions can be taken. Also tell the group about the priority solutions on your list. Reach agreement about solutions to be taken.
Planning	For each solution that the group accepts, review the actions, resources, and timetable that you have written down. Revise these plans in group discussion. Depending on the solution, ask the VDC chairman to appoint a committee to commit resources for each solution and list their commitments.

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**Lesson**      **Content**

### Group Meeting with Village Leaders to Discuss Survey Results and Formulate Action Plan

Before this meeting you will count the number of dots on the master chart that fall into each nutritional category: well nourished, moderately nourished, and severely malnourished. If your village

leaders are familiar with the concept of percentages, calculate the percentage of the total falling into each category. You may also wish to make a pie chart like the one below.

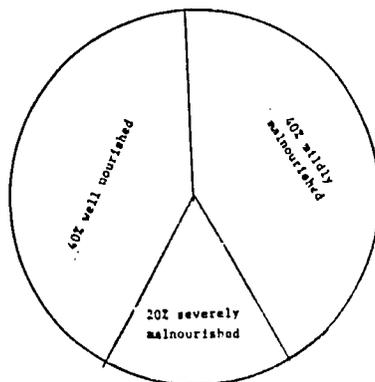


Fig. 6

Pie-chart

Before this meeting you should attempt to contact your nutrition supervisor to ask him or her to attend the meeting and to discuss the possible solutions in advance.

In preparation for the group discussion, revise your list of possible solutions or community actions so that this list includes only the priority solutions that should realistically be considered. Your selection of priority solutions will depend on the answers to the following questions:

- How important is the solution to the community? (How serious is the problem to be solved?)
- How frequent (i.e., common or prevalent) is the problem to be solved?
- How easily can the activities be undertaken by the community health worker and community? How manageable are these activities?
- Are the necessary resources readily available, or can they be easily mobilized?

Now, for each of the priority problems and solutions that you propose to discuss with the group of leaders, make a new list. For each solution, write:

- Nature of the problem.
- What action has to be taken?
- What resources are needed to take that action (what manpower, money, materials, space, time?)

- What is the timetable for the different steps in the plan of action?
- When and how is the progress of the action reviewed?

This task requires work, but it will greatly help you in planning with the community. The revision that the community leaders make of this list will be the community action plan. If you come to the meeting without a first draft, the final product will not be well thought out. It is advisable to show this list to the community head (the senior leader who calls the group meeting) before the gathering.

Open the meeting by showing the results of the weight or arm strip survey. Lead a discussion of the results of this survey. Next, propose your priority solutions for group discussion. In each case that the group agrees to support a solution that you propose, go through each of the steps in the action plan. Get each leader to commit resources to these steps, and list the commitments made. Complete this procedure by forming a subcommittee for each solution or activity, and setting times for subcommittee meetings to continue the development of action plans. Involve other community members in these subcommittees, as appropriate.

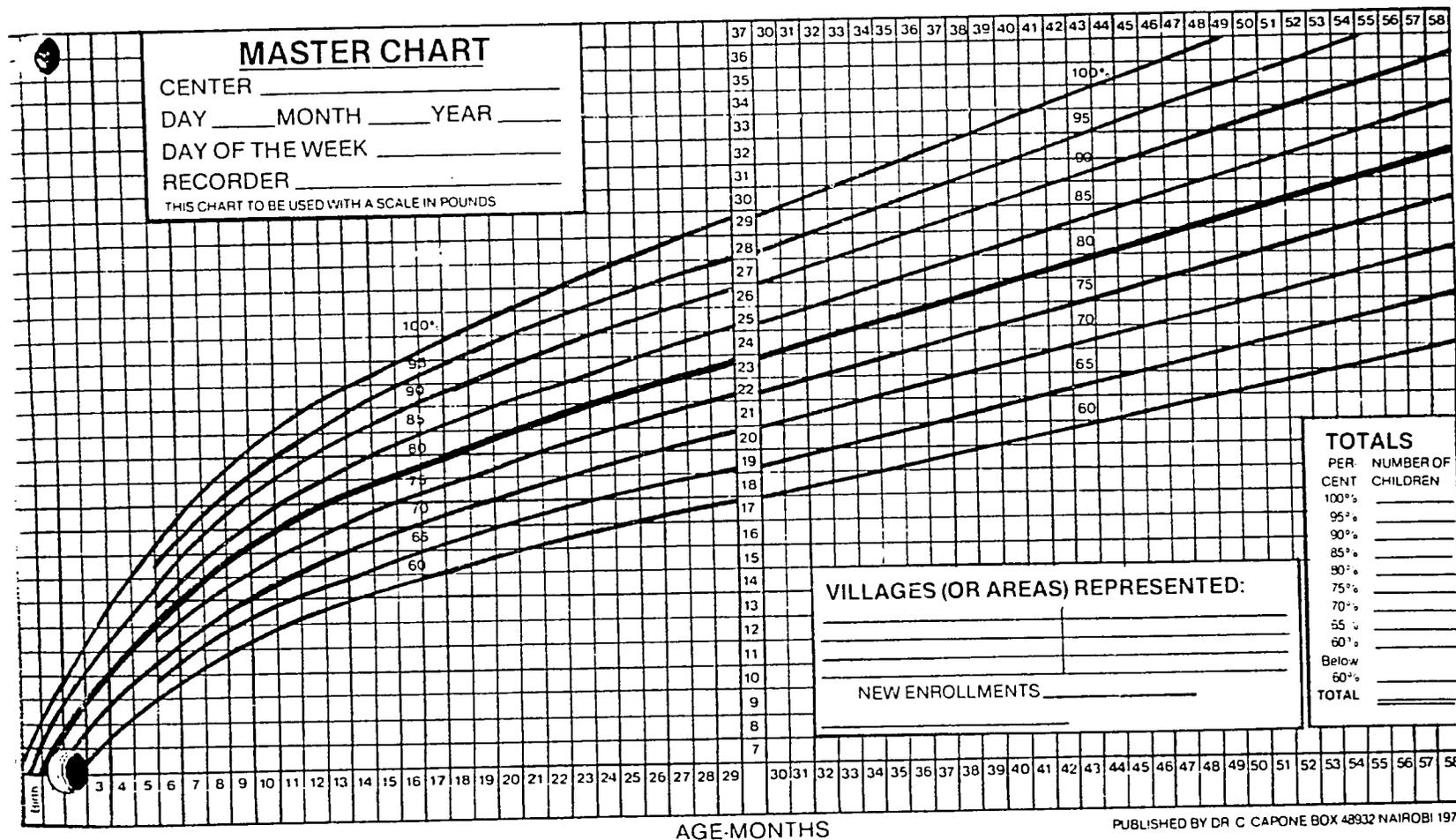
#### Fallback Positions

What if the community is not interested or is unable to commit resources for group actions to combat malnutrition? You probably will have a clear idea of the degree to which community participation will be successful before the second meeting of community leaders. The draft list of priority problems and solutions that you make in preparation for this meeting probably will reflect your understanding of the support that you expect to receive. Nevertheless, you should not underestimate the community. Be bold in asking for community help. You will never get it if you don't ask for it!

If the community provides little assistance, there will still be actions that you can take as an individual community health worker. You will also have accomplished the important task of introducing the idea of nutrition to your village. If such an idea is completely new, it may take some time--months or even years--to convince village leaders of its importance. Your individual nutrition activities will speed up their acceptance of group responsibility. They now will have greater understanding of your job and of your goals concerning nutrition.

**Figure 7 Master Chart for Growth Surveillance System—CRS/Africa**

Source: Catholic Relief Services, Africa Regional Office, Nairobi, Kenya



PILOT MODULE No. 2: DIETS FOR YOUNG CHILDREN



A nutrition curriculum module for Ghanaian community health workers - developed for field-testing, by Ghanaian Nutrition Technical Officers (NTOs), The University of Ghana Department of Community Medicine, and the International Nutrition Communication Service, at a workshop in Accra, September 12-19, 1982.

## PILOT MODULE # 2      DIETS FOR YOUNG CHILDREN

### A. Performance Objectives

At the end of this module, the community health worker should be able to:

1. Explain and otherwise demonstrate an understanding of her/his role in educating the community concerning the diets of young children.
2. Explain why breast milk alone is not enough after the age of 6 months and explain that the child should start to eat enriched pap by 5 months.
3. Advise village families what ingredients should be added to the local pap and how to add them.
4. Explain the three food groups and the need to start giving the baby all three groups at 6 months, in spite of local taboos.
5. Advise village families when and how to start feeding the adult diet to the baby.
6. Advise how much and how often to feed the young child, starting from 5 months, and what methods can be used to teach the baby to eat properly.
7. Explain what local snacks can be used to feed the young child (up to four years) more frequently, including all three food groups.
8. Interview the mother to learn how she is feeding her baby and give correct advice based on the messages above.

### B. The Role of the Community Health Worker in Teaching the Community How to Feed Young Children

The community health worker should be able to teach parents in a simple and straightforward manner how to improve the diets they already are giving to children under the age of four years. The community health worker must first understand why breast milk alone is not sufficient after six months, and what improvements can be made in the diet before he or she can teach this information to others. Dietary improvements that are applicable to almost all regions of Ghana are: adding enrichment

ingredients to the local pap and starting to feed this pap by five months; feeding the adult diet in a form that is soft and not too peppered starting about six months; overcoming taboos that prevent feeding of all three food groups starting at six months, and in particular taboos regarding protein foods such as beans, meat, and fish; and using local snack foods appropriately to feed the young child at frequent intervals.

Community health workers should be trained in their own regions. Their local supervisors, such as the community health nurses and nutrition technical officers, should provide them with recipes for pap that are based on locally available materials. The community health worker may make adjustments in these recipes when certain foods are scarce or more available in her village. But the community health worker should not be responsible for developing the technical content of the lessons he or she gives.

It should be the responsibility of the nutrition technical officers (NTO) and the Community Health Nurses (CHN), to develop pap recipes, or adapt the recipes they receive from the Nutrition Division in Accra to suit the local region. In this module, a rough guide for quantities is given. One part of stew ingredients to 4 parts of maize, guinea corn, or millet is recommended for making pap. This is slightly less rich than the mixtures used in rehabilitation centers but richer than the minimum safe ratio developed by the MOH Nutrition Division Accra. It is important to keep the pap thick and to add oil if the stew ingredient does not contain oil. It is easy to add too much water to a pap recipe with the result that a baby who eats it regularly will not get enough energy to grow well.

According to the teaching instructions, each recipe will be taught to village mothers during the training sessions. Then the

trainees will check the practicality of the recipes with the mothers at home during the week between one lesson and the next. Mixtures that are not practical will be reported at the next lesson, so that the NTO or CHN can make changes in them.

The community health worker should give education to the community about the diets of young children in the following ways:

- in cooking and feeding demonstrations for groups of mothers.
- during consultation with mothers who bring their sick children for health treatment.
- informally during social visits and group activities.
- during the weighing or growth monitoring program if one is developed.

The community health worker should be tactful. When he or she sees that a mother has a malnourished baby, the CCA should first befriend the family, then look for the right moment to discuss the problem with the mother and father.

### C. Training Procedures and Lessons

Pilot Module 2 consists of a total of 8 lessons of about 2 hours in the morning and 2 in the afternoon, depending on the length of the training day.

The site for training for these lessons should be in the same training village for all 8 lessons, with a new village for each new class of trainees. The entire lesson should take place in the village. The trainees should live in the village or go together to the village. In the morning, the trainees should have their own lesson either in the village clinic, the VDC chairman's house, or some other private location.

The second part of the lesson, in the afternoon, should take place with a group of village mothers and other family members in a public location. The teacher and the trainees together should repeat the lesson for the village mothers. Then the teacher will show the trainees and the mothers how to prepare the demonstration food and feed it to the young children. The trainees will be encouraged to explain what they have just learned to the mothers, but the teacher will guide them and answer any difficult questions.

To prepare for the demonstration, the village will be asked to have a cooking fire, large pots, and a table ready in the area where the mothers will be taught. The food can either be brought by the training team or donated by the village.

The first lesson, explaining to the trainees their role in educating the village concerning the diets of young children, will not include a formal lesson for mothers. In the afternoon of the first day, the training class will meet with the VDC or the chief. If possible they will then meet socially with the villagers and will introduce the purpose of the training course to the village informally.

All of the lessons in this module, except the first, can be used independently as refresher units with a slight change in format. The acting community health workers all should come to a central village, conduct the lesson together, and then return to give this lesson for the families in their own village.

LESSON 1

Performance Objective: Explain and otherwise demonstrate an understanding of her/his role in educating the community concerning the diets of young children.

Preparation of village: Arrange with VDC chairman or chief for new class of trainees to come for introductions in the afternoon and to meet with villagers publicly, to explain the purpose of the course. If possible, the instructors should contribute something towards light refreshments, such as palm wine.

Morning Session

Location: instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

Activities	Approach
Pretest	Ask trainees how they see their role in educating the community concerning the diets of young children. Ask them what are the problems with the diets of young children.
Instructor-led discussion and lecture	Show the picture of the two children, one well-nourished and one malnourished.* Explain that the biggest nutrition problem in most villages occurs in young children after the age of six months and up to the age of about four years. The community health worker can be of great service to the village by teaching families how to feed children of this age so that they grow strong and so that their brains grow to be intelligent. In this course, they will learn how to educate village families about diets for young children.
Explanation of plans for afternoon	In the afternoon, the group of trainees will meet the chairman of the VDC or chief for introductions and to announce the purpose of

\*Fig. 1, p. 2 - 7

67

the course. They will also be introduced socially to the villagers.

Post-test

Trainees role play explaining their role to the chief or VDC chairman, and explaining to villagers.

Afternoon Field Session

Time: Two hours.

Activities

Approach

Meeting with VDC chairman or chief and with village community

Traditional introductions to village influentials, and to villagers. Socializing with refreshments and dancing if this is suitable. The VDC chairman or the chief should introduce the instructor and call upon him or her to speak. The instructor should announce at this time that the trainees will be holding a class for village mothers once every week on the same afternoon. All mothers of children under four years should try to attend. At each class there will be a demonstration of how to cook foods specially to make young children strong and the children will try these foods.

The mothers should expect that the trainees may visit them sometimes in their homes to discuss what problems they have feeding young children.

Evaluation

Observe the trainees mixing with the community members. Listen to what they are saying and notice their manner.

## Lesson 1 Content

The Role of the Community Health Worker in Diets for Young Children

The role of the community health worker is to educate the community concerning the diets of young children. In Ghana about one of every three village children under the age of four years is malnourished. The picture below shows a well-nourished child standing beside a malnourished

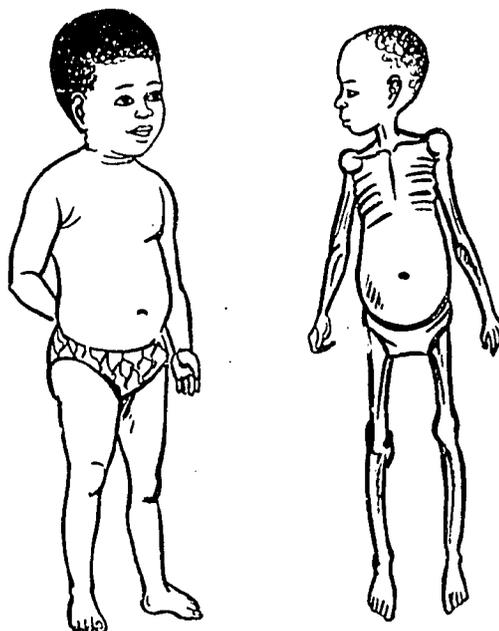


Figure 1 : Well Nourished Child  
 Malnourished Child

child of the same age. Both children are three years old. The child who has been eating well is tall and strong. His head is larger. He does not get sick easily like the smaller child because his body is strong and the foods that he eats protect his health.

Do the families in our villages have the money to feed their young children so that they grow very strong? The answer to this question is yes. Only a very few families are too poor to feed their children well. It is not necessary to feed foreign foods or expensive foods. The same foods that we eat every day will make children grow strong if they are given in the right combinations and in the right amount. Building a child's body is like building a house. If the right materials are used in the right amount, the house will be strong. Ghanaian foods are just as good as foreign foods.

There are three ways of making the diets of young children better. The community health worker should teach village families these ways.

They are:

- correct feeding of pap with added ingredients such as groundnut paste.
- correct use of adult foods for feeding young children.
- correct use of snack foods.

This course will teach the trainees about these three ways and will give them many recipes and ideas for mothers whose children don't have much appetite. The trainees will practice teaching what they learn to the mothers in the training village. They will also help to prepare a cooking and feeding demonstration for the mothers every week.

When the trainees go back to their home villages, they will teach the village families in four ways:

- by demonstrating new cooking methods for fixing pap.
- By advising mothers who come to them with sick children.
- by everyday conversation with mothers.
- in the weighing program, explaining how to feed the babies who are not gaining weight.\*

It is necessary to be friendly and sympathetic in teaching families about the diets of young children. It is very important not to make a mother feel ashamed because she has a malnourished child. Almost all mothers have love and patience and concern to see their babies grow healthy. But many lack the knowledge of how to prepare and feed the correct foods for babies. If the baby gets sick, he may become more malnourished and may even refuse food. Mothers may also have too much work to spend as much time with the young child as they wish. In most cases, the community health worker can make helpful suggestions if he or she wins the mother's friendship and trust. In some cases, the community health worker may first befriend the children in the family and then befriend the mother. The community health worker must be tactful in choosing the right moment to speak to the mother and father about the diet of the child.

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\*Mention this way only if there is a weighing program.

LESSON 2

Performance Objective: Understand and explain why breast milk alone is not enough after the age of six months and explain that the child should start to eat enriched pap by five months.

Morning Session with trainees only

Location: teacher and trainees privately in village clinic or Village Development Committee chairman's or other leader's house.

Time: Two hours.

Activities	Approach
Revision	Review of community health worker's role.
Pretest	Teacher asks trainees their ideas how much milk the mother has when the baby is born and how much by six or seven months. What is happening to the milk as the baby grows bigger? What other foods can be given? Show large beer bottle and large calabash to demonstrate amount of milk when baby is first born. (Show soft drink (Fanta or Coke) bottle and small calabash to show amount of milk when baby is older.
Lecture and Instructor-led Discussion	Teacher explains that the milk supply decreases after six months but that the baby needs more food because he is bigger and more active. Ordinary pap is not enough for the baby because it is too thick and doesn't have enough different ingredients to help the baby grow strong.
Explanation of food demonstration in session with mothers	Teacher explains the cooking method for the food and organizes the trainees to help with the demonstration.
Post-test	Questions to individual trainees and role play to test understanding.

Afternoon Session with trainees and village mothers

**Location:** Teacher, trainees, and village mothers and other family members meet publicly in village. Trainees visit homes to interview mothers about problems with the cooking method taught last week.

**Time:** Two hours and fifteen minutes.

Activities	Approach
Pretest	Same questions as morning session, but the village mothers give the answers.
Lecture and discussion	Same as morning session, but teacher asks trainees to help with explanation.
Food demonstration	Teacher explains recipe and cooking method. All cooperate in cooking and feeding to the young children.
Evaluation	Trainees go to village homes during the week to ask mothers if they are using the method they learned last week at home. Is it practical for every day? If not, why not?

## Lesson 2 Content

In the first three months after the baby is born the mother has plenty of breast milk. Every day she gives her baby as much milk as it would take to fill a large beer bottle or a large calabash (a large STAR beer bottle and a calabash or other local container that holds the same amount should be available for demonstration). After the baby is older, by about eight or nine months, the milk decreases. Now there is only as much milk as a soft-drink bottle or a small calabash can hold (a Fanta or Coke bottle and a small calabash or other small container should be available to demonstrate the amount). The baby grows bigger, but the amount of milk grows less. This is the reason why the mother should start to give the baby pap at five months. If he starts at five months, he will be really eating the pap by six months, which is the time when his mother's milk alone is no longer enough.

Some mothers have more milk and some mothers have less milk, particularly if they are very thin or they already have given birth to five

or six children. But all mothers will have more milk when the baby is very young and less after the age when it starts to get teeth. A mother with less milk may have to start pap at three months because her baby is hungry or is not growing well. A mother with plenty of milk still should start pap at five months because this is a good time for the baby to get used to the taste of the pap, so that he will learn not to refuse it. If the mother finds it difficult to remember the baby's exact age, she can use the baby's first tooth as a sign that it is time to start feeding pap. This is less reliable than age because some babies do not get teeth until eleven or twelve months. They could become malnourished if they did not receive pap before this time.

If the baby can be weighed every month it becomes easy to know whether he has been getting enough to eat. If we see that his weight increases by the right amount, we know that the mother's milk or milk and pap is enough. If his weight increases less than the right amount, we know to advise the mother to feed him more.

What about the pap we usually feed to babies? Is it a good food? Yes. But in the way in which we prepare it, it does not have enough ingredients. Could a grown man or woman live without soup or stew? If a grown person ate only kenke or akasa, or ampese or fufu every day, and never had any stew or soup to put on this food, would this person be strong? Such a person would grow thin and weak. This is the problem of many of our babies. When they eat plain pap every day, they become weak and don't grow rapidly, because they do not get the ingredients that we put in stew and soup. These ingredients are groundnut paste, palm nut and palm oil, egusi, greens such as nkantomere, beans, fish, meat, eggs and other common foods.

A baby does not need much of these foods, but he needs a small amount every day from the time when the mother's milk starts to grow less. A baby is much smaller than his father. But the baby's body is doing a different kind of work from the father's body. The most important work of the baby's body is to grow bigger. He cannot stay a baby. He must add new flesh and new bone to his body. For this work his body needs good ingredients. He can build more flesh from fish or groundnut mixed with pap than he can build from pap alone. The milk of the mother contains all the ingredients that the baby needs. This is why the baby should continue to breast feed for two years, if possible. But when the amount of the mother's milk starts to grow less, we must start giving other foods. These foods must also provide all of the ingredients for good health and good growth.

How can we give the soup and stew ingredients to a baby starting from six months? The baby does not have enough teeth to chew and most babies do not accept hot pepper. The most important way for us to give these ingredients is by adding small amounts of them to the baby's pap. Do grown people eat the same stew or soup every day? No, because we

would get tired of it. The same is true of the baby. The baby's pap can be cooked with the addition of small amounts of different ingredients from day to day, using the food that is in the house, or buying a little extra for the baby.

Pap Recipe for the Day's Demonstration

Before teaching this lesson, the instructor should decide upon the pap recipe for the day's demonstration and write the exact amounts in the space below, together with the instructions for combining ingredients: all kinds of pap are made with a staple food such as corn, guinea corn, or millet, enrichment ingredients such as groundnut paste, fish powder, etc., and water. The amount needed for the public demonstration and for teaching the recipe should be calculated carefully in advance. The amount of water also should be specified so that the cooked pap will not be too thin.

Please complete the following recipes:

Individual recipe for 1 or 2 children:

	Food	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

Recipe for group demonstrations (same as above but in large amounts)

	Foods	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

LESSON 3

Performance Objective: Advise village families what ingredients should be added to the local pap and how to add them.

Preparation: All the ingredients and cooking utensils and kitchen facilities necessary for demonstrating the different kinds of pap must be arranged.

Morning Session

Location: Instructor and trainees privately in village home where they can cook together.

Time: Two hours.

Activities	Approach
Revision	Ask trainee to explain why breast milk alone is not enough after the age of six months.
Pretest	What recipes do trainees already know for adding ingredients to pap? Have they tried them? Do mothers use them? Why? Why not?
Instructor-led demonstration and lecture	Show preparation method for four or five types of enriched pap that can be prepared in the training village. Demonstrate principle of one part stew ingredient to four parts of pap flour (corn dough, etc.). Use the thumb to represent the stew ingredient and the four fingers as a reminder of the amount of pap dough. Show how to add about a teaspoonful of oil for each child's serving if fish or bean flour are used to make the pap. Show how thick the pap should be.
Explanation of plans for afternoon	Explain how the demonstration will be arranged in the afternoon. Which recipes will be demonstrated using small amounts? Which one will be cooked in a large quantity for everyone to eat?
Post-test	Questions to individual trainees.

Afternoon Field Session

Time: Two hours

Activities	Approach
Revision	Same as above, but mothers answer questions.
Pretest	Same as above, with mothers answering.
Demonstration and lecture	Same as above, except that trainees and mothers assist with demonstrations.  After demonstration of small quantities, a large quantity of one of the recipes is cooked, with the assistance of the mothers.
Sharing of food	Food cooked in large pot is shared among all the young children.
Evaluation	Trainees go to village homes during the following week to see if mothers are using the cooking methods taught in class. If not, why not?

Lesson 3 Content

The same pap prepared for the baby will also be better than plain pap for all of the children in the house. It will save the mother time if she can cook for two or three children together. Only the amount of pap that can be eaten in half a day should be prepared, because it is not very safe to feed any food to babies under two years if more than half a day has passed since the time when the food was cooked. Older children and adults can still eat food that has been kept longer than this time because their bodies are better able to fight the germs that cause diarrhoea.

Some of the ingredients to be added to pap are found in all of Ghana. Others are only found in certain regions. The ingredients that are usually available everywhere are groundnut paste, fish flour made from pounding dried fish (this can keep about three days), bean flour made from pounding cow peas, and oil. Palm oil is best, but any other

cooking oil or type of "butter" also is satisfactory. Ingredients available in certain regions and season or for certain groups only are: fresh fish, milk, eggs, green leafy vegetables, nere seeds, egusi, baobab fruit, groundnut cake (made after pressing out the oil), meat and so on.

For all of the ingredients except for dried fish and oil, a mixture of 1 to 4 before cooking makes a good pap. This means about one measure of the stew ingredient and four measures of the corn or guinea corn or millet that is used to make the pap. If the stew ingredients are very expensive, less can be added but not less than 1 measure for about 8 measures of the akasa or guinea corn.

In the case of pounded dried fish, the amount can be 1 to 10 or more. If there is enough fish to add a good taste of fish to the pap, the amount probably is enough. In fact the person who is cooking should always test the taste of the pap, in the same way that we taste the stew to be sure that the ingredients are correct.

Oil is added together with other ingredients, not by itself. If the stew ingredient already has oil in it, such as groundnut paste or egusi or palm nut, then it is not necessary to add more oil to the pap. If the stew ingredient has no oil, then a very small spoonful of oil should be added for each child who is eating the meal of pap. In other words, if one baby is getting just enough pap for one meal, one teaspoon of oil should be added to this pap. The stew ingredients that require oil are fish, green leafy vegetables, and beans. Some kinds of pap are good with the addition of one or two lumps of sugar, if sugar is available. Groundnut paste pap, or pap with milk or egg, for example, are good with sugar.

In every case the pap should be thick. If it has too much water, it will fill the child's stomach with water instead of with food. Some people think that pap should be thin because the mother's milk is also thin. This is not true. The mother's milk looks like water, but it is very powerful because it comes directly from the blood of the mother. It contains all the ingredients that go to feed the different parts of the body. Pap only has the ingredients that we put into it.

Some mothers, who are very busy, must buy pap ready cooked from a vendor. If they have time, they can add stew ingredients, such as groundnut paste, to this pap and cook it again until the other ingredient is well enough cooked. If they do not have the time, there are still two things that they can do:

- take ingredients from a stew or soup that is already cooked in the house and add this to the pap. This could be a small amount of fish or meat or even just the palm or nkantomere or groundnut stew. But this stew or soup should be freshly cooked.

- feed the plain pap to the baby and feed it the other ingredients separately. For example, give the baby two or three bites of the soft flesh of fried fish, without any bones.

In some places, vendors have learned to add ingredients to the pap that they prepare for babies and mothers are happy to spend a little extra money to buy a better quality food for their children. If possible, the community health worker should explore with the village whether it would be practical to start such a system. How much would it cost the vendors to prepare a better quality pap? How much would they have to charge the mothers to buy it? Would the vendors and mothers be interested in this arrangement? If so, the community health worker might ask the VDC chairman for a small amount of money to cover training and start-up costs for the vendors.

#### Pap Recipe for the Day's Demonstration

Before teaching this lesson, the instructor should decide upon the pap recipe for the day's demonstration and write the exact amounts in the space below, together with the instructions for combining ingredients: all kinds of pap are made with a staple food such as corn, guinea corn, or millet, enrichment ingredients such as groundnut paste, fish powder, etc., and water. The amount needed for the public demonstration and for teaching the recipe should be calculated carefully in advance. The amount of water also should be specified so that the cooked pap will not be too thin.

Please complete the following recipes:

#### Individual recipe for 1 or 2 children:

	Food	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

Recipe for group demonstrations (same as above but in large amounts)

	Foods	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
_____		
_____		

LESSON 4

Performance Objective: Explain the three food groups and the need to start giving the baby all three groups at six months, in spite of local taboos.

Preparation: Get together foods to demonstrate three food groups and make preparations for afternoon pap demonstration to village mothers.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

<u>Activities</u>	<u>Approach</u>
Revision	Review last week's pap recipes. Discuss findings of evaluation discussions in village homes. Are the mothers using these recipes? If not, why? What changes could be made in the recipes?  Explain that the mothers need today's lessons to help them to understand the importance of the lesson last week.
Pretest	What do the trainees know about the importance of the different foods? What does each kind of food do for the body?
Instructor-led discussion and lecture	Show the three food groups picture and explain the meaning of each of the groups. Why do babies need foods from all the groups? Have a basket that represents each of the three food groups and about twenty pieces of demonstration food on a mat. (These may be peppers, an egg, corn, yam, a bottle of oil, some beans, some green leaves, a pawpaw, etc.) Ask the trainees to take turns picking up a food from the mat and putting it into the proper basket.
Explanation of plans for afternoon	Explain that the trainees will help teach the three groups to the mothers in the afternoon. Explain the pap demonstration.
Post-test	Ask trainees to explain the role of each of the food groups.

Afternoon Field Session

Time: Two hours

Activities	Approach
Revision	Discuss last week's pap recipes with the others.
Pretest	What do mothers know about the action of the different foods?
Instructor-led discussion and lecture	Same as above. But ask mothers to sort the demonstration foods into the baskets with help from the trainees. Explain why even a baby of six months needs foods from all of the three groups.  Ask mothers about local taboos against feeding these foods to babies. Explain why these taboos are not true.
Demonstration cooking and feeding	Group cooking of enriched pap recipe, with trainees and mothers assisting. Babies and young children share the cooked food.
Evaluation	Same as previous weeks. Trainees visit mothers at home to see success of last week's recipe.

## Lesson 4 Content

All of the foods we eat can be divided into three groups, depending on the way in which the body makes use of them and the actions they have within the body. The three types of food are shown in Fig. 2, p. 2-20a.



figure 2: Three Food Groups

Group One are the energy foods. Our bodies burn these foods in the same way that a car burns petrol. This group includes all of the foods that we eat in large quantities, such as rice, yam, cassavah, corn, millet, plantain and banana. It also includes all kinds of oil and fat and all kinds of sugar. Alcoholic drinks also are in this group (although they have other negative effects on the body, as well). When we do not get enough of these foods, we feel hungry and weak. We also get thin because we burn the fat off our own bodies to take the place of the energy food that we would need to eat.

Group Two are the growth foods. Our bodies use these foods to build new muscle, bone, skin, brains, etc. Children use these foods to grow. Adults, who are no longer growing taller, use them to repair the body and form new muscle if they exercise heavily. The brain also uses these foods for thinking and remembering. The most powerful foods in this group come from animals. They are meat, fish, eggs, and milk. We can easily use animal foods to build our bodies because these foods are more similar to our bodies than foods from plants. However, some of the plant foods also belong to Group Two. They are cheaper than the animal foods and are almost as useful. These foods are groundnuts, all kinds of beans, egusi, nere seeds, and palm nuts. Some of the foods in Group One have a small amount of growth power, but it is much less than the growth power of foods in Group Two.

Group Three are the protective foods. These foods protect our eyes and our skin from infections and rashes. They help our wounds to heal quickly and help to prevent us from getting all kinds of illness. They cannot prevent us completely from getting sick but they can make our illnesses milder and shorter lasting. This group includes all green leafy vegetables and other vegetables, such as squash, cucumbers, etc., and eggs. It also includes all fruits, such as oranges, lemons, mangoes, pineapples, and pears. Green leaves (such as nkontomere), oranges and pears are particularly powerful members of this group.

Adults and older children naturally eat food from all of the three groups. This is why adults and older children usually are strong unless they happen to become ill with a specific condition such as malaria. Mother's milk has the strength of all of the three groups in it, directly from the blood of the mother. This is why young babies up to the age of six months also usually are strong and well, if their mothers are healthy. Unfortunately, it is the older babies after six months and the young children up to about four years who suffer the most. After six months the mother's milk is not enough to feed the baby completely. Very often, older babies and very young children do not get food from all the three groups. They are mainly given foods from Group One. But they need more foods from Group Two and Group Three, because they are growing and because their body's defense against illness is not yet well developed.

In Ghana there are taboos against giving babies foods from Groups Two and Three. Meat is believed to cause worms in babies under the age of two. Fish also is believed by some to cause worms. Eggs cannot be given and beans are believed to be indigestible. These beliefs are not true. What is the truth? The truth is that some of the common ways of preparing and storing these foods are not suitable for babies, and this has caused people to think that the foods themselves were not suitable. When a baby is given food cooked with too much hot pepper, it may upset his stomach and cause the mother to think of worms. Also, if a stew is kept for more than half a day and then warmed lightly, it may make a baby sick, because babies need foods that are freshly cooked. Our babies and young children need these foods in order to be strong and intelligent. But they need to have them properly prepared.

Pap Recipe for the Day's Demonstration

Before teaching this lesson, the instructor should decide upon the pap recipe for the day's demonstration and write the exact amounts in the space below, together with the instructions for combining ingredients: all kinds of pap are made with a staple food such as corn, guinea corn, or millet, enrichment ingredients such as groundnut paste, fish powder, etc., and water. The amount needed for the public demonstration and for teaching the recipe should be calculated carefully in advance. The amount of water also should be specified so that the cooked pap will not be too thin.

Please complete the following recipes:

Individual recipe for 1 or 2 children:

	Food	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	

Recipe for group demonstrations (same as above but in large amounts)

	Foods	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

LESSON 5

Performance Objective: Advise village families when and how to start feeding the adult diet to the baby.

Preparation: Prepare to cook a group meal of adult food such as aprapransa in the training village and share it with parents and children. Cook two separate pots of the same food, one with pepper and the other without pepper.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

ActivitiesApproach


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	Review three food groups. Discuss findings of evaluation visits in village homes. Are more mothers using the pap recipes? Why, and why not?
Pretest	In the trainees' own families, when do they start giving adult food to the baby? How do they introduce it?
Instructor-led discussion and lecture	Explain content of lesson 5. The main points are (1) that babies should start adult food between six and ten months because they need plenty of foods from the three food groups; (2) if the baby won't eat pepper the family should cook part of the food without pepper for the baby; (3) the child should receive moral training in the home, but withholding good food should not be part of this training; (4) the best way to start feeding adult food to the baby is for the mother or father to hold the baby during the meal and feed the baby from the mother's or the father's own portion; (5) a rough guide for amounts is to make sure the baby gets one part of soup or stew (including some fish or meat) for every four parts of the rice or fufu or kenke, etc.

Explanation of afternoon plans	Explain that group will cook aprapransa with and without pepper and assign trainees to start this cooking during the group talk.
Post-test	Individual trainees answer questions about point above.

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### Afternoon Field Session

Time: Two hours.

Activities	Approach
Revision	Review three food groups with mothers. Put up picture. (Fig. 2, p. 2 -- 20a)
Pretest	Introduce topic for the day and start asking mothers when they started giving adult foods to their babies. Fufu? rice? kenke? pepper? stew? fish? beans? Ask about specific young children aged two or three years--do you remember when this child started eating pepper? rice? etc. Ask how the mothers encourage their young children to eat pepper.
Lecture and discussion	Explain that the baby should start eating adult food between six and ten months in order to get more foods from the three food groups. Continue to explain remaining points of lesson above. Let trainees help to answer the mothers' questions.
Cooking and demonstration	The food must be cooked by the time the discussion is finished. Cooking should start early because aprapransa takes some time to prepare. Ask mothers to try giving their babies the cooked food without pepper first and with pepper second (from two separate cooking pots or dishes). See how many will eat it without? How many will eat it with?
Evaluation	Trainees go to homes during week, as usual, and discuss practicality of cooking the baby's food without pepper. Do families agree to try this type of cooking? Why, and why not?

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8/3

## Lesson 5 Content

How and when should we start to give adult food to the baby? If the baby is eating pap with added ingredients, we can start any time between six months and about ten months. By twelve months, the baby should be able to eat the same foods as the rest of the family if he or she does not have a problem with pepper.

Some babies refuse food with pepper. They cry and even avoid the "bad" person who gave them the peppered food. Other babies eat peppered food, but it upsets their stomachs if they take too much. A third type of baby likes peppered food and can eat it without any trouble from as early as six or seven months. Families that like to eat pepper are fortunate if their babies are the third type. They will have no trouble starting to feed them the adult diet. If the baby cannot take pepper, there are two ways we can try to change our cooking:

- Put the pepper in the stew or soup late, after everything else. Take the baby's portion out before putting in the pepper and finish cooking it separately.
- Cook the stew or soup with no pepper or very light pepper and serve a separate pepper sauce with the meal.

Parents may think that it is spoiling the child to make special cooking arrangements simply because the baby cannot eat pepper. But if we consider how much effort it takes to bring up a child, and how costly the medical treatment can be if the child becomes ill, it seems reasonable to take extra precautions to protect the child's health by feeding it well. Also, if we wish the child to get good marks in school, we must make an extra effort to feed him the foods that will help him to grow to be intelligent.

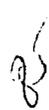
In fact, it is important not to spoil the young child. A child that does not respect his parents will cause severe problems for himself and for the family and the community. The child should be trained to be obedient and respectful. However, food should not be used for this type of training. Sometimes parents hold back food or try to give the child only a very small amount of the best foods, in order to teach him respect for his elders. This is dangerous, because it may damage the growth of the child's brain. The same lesson can be taught in other ways. The child should show respect for the family by working at simple jobs from an early age and completing these jobs as well as he can. Food should not be used in teaching this lesson.

The simplest way for the family to start feeding the baby with adult food is for an adult to hold the baby on his or her lap during the meal and to feed the baby as he or she is eating. The father may

wish to hold the baby and give him small bites of food, including fish and meat. When the baby sees the father eat, he will want to copy him. More often, the mother will hold the baby and feed it when she is eating. The mother or father should always keep the baby's needs in mind. The small child cannot be responsible for deciding what to eat until the age of three or four years, and even then an adult should keep watch on the child.

In many places the traditional custom is to force the child to finish his food from Food Group One (fufu, kenke, rice) before he is allowed to eat the food from Group Two (meat or fish). This may be necessary in order to encourage certain children to eat enough, when the fish and meat in the stew are expensive. However, parents who wish their children to grow to be very strong, both in mind and in body, are changing this custom. They are urging the child to eat the ingredients in the stew before they fill their stomachs with the rice or ampese, etc. because they know that the stew ingredients will make the child stronger.

A good rule is to have the baby eat about one portion of the stew for four portions of the main food (as in the case of pap recipes). If the parents can afford to give more stew, they can increase the amount.



## LESSON 6

**Performance Objective:** Advise how much and how often to feed the young child, starting from five months, and what methods can be used to teach the baby to eat properly.

**Preparation:** Prepare to cook a pap recipe in the village during the afternoon lesson for mothers.

### Morning Session

**Location:** Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

**Time:** Two hours.

### Activities

### Approach

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Revision	Review how to introduce adult foods. Check on results of evaluation in village homes. Are mothers able to cook without pepper for the baby? Why, and why not?
Pretest	How do trainees think a baby should be taught to eat pap? What if the baby doesn't like it? How much pap should the baby eat in a day?
Instructor-led discussion and lecture	Explain the content of Lesson 6, concentrating on the following main points: (1) babies can start to hold food in their hands at four to five months, but they won't succeed in eating well this way; (2) parents should start to let the baby share their food from about six months, feeding baby by hand; (3) the baby's main food until he gets teeth will be pap. For this reason, the mother should be very patient in teaching the baby to eat pap from a spoon; (4) the number of times that a baby eats should increase from one meal of pap at five to eight months to about five small meals by the age of one year. The total amount in a day should increase from one cup to four cups; (5) babies

	need special feeding during and after illness; (6) the baby should not stop breast feeding before the age of one year. If he is breast-feeding less, the mother should encourage him to feed more.
Explanation of plans for afternoon	Explain pap recipe for afternoon, and trainees' role in demonstrating spoon feeding.
Post-test	Ask trainees to explain the six messages.

### Afternoon Field Session

Time: Two hours

Activities	Approach
Revision	Ask mothers if any have tried cooking without pepper.
Pretest	Ask how mothers teach their babies to eat pap.
Instructor-led discussion and lecture	Explain and discuss six points above.
Cooking and feeding demonstration	When the pap is ready, return to point (3) and explain that this is most important: the bay's main food until he gets teeth will be pap mixed with stew ingredients. It is important to teach him to eat it. Ask individual mothers to demonstrate feeding the pap with a spoon to their young babies. Ask for volunteer mothers whose babies don't like pap. Teach the mother how to coax these babies to eat. Explain that the baby should have one cup a day up to eight months, and more after this time. But the baby should never stop breast-feeding because he is eating pap. Babies need both breast-milk and pap.
Evaluation	Students visit homes of mothers whose babies refused to eat pap (or other foods) before the last lesson. They try to help the mother to teach the baby to eat.

## Lesson 6 Content

How to go about feeding the young child, how much and how often to feed

Everyone who has taken care of babies knows that it sometimes is difficult to feed them. Everyone has a story about the most difficult child. The writer of this lesson had a baby daughter who could not be fed by spoon because she would vomit if the spoon went into her mouth. All the breast milk she had eaten in the past three hours would be vomited out. This child learned to feed herself by hand starting at six months. It is lucky that children like this one are not common. Some children try to refuse all food except for the breast. This is particularly true if the child is not well. All babies need us to be very patient with them.

How should we introduce new foods to a baby? By the age of four or five months, most babies have started to reach things with their hands. It is natural for them to put everything into their mouths. They also have learned to bite. At this time the baby usually has a natural desire to learn to eat. The baby can hold food in his hand and suck on it. Usually he will not succeed in eating much like this. He can chew on biscuits, bread, orange slice, yam, pawpaw, chicken bone and other foods. We must watch for two things: first, the things that go into baby's mouth must be clean, or they may make him sick. If his piece of yam falls on the ground we should not give it back to him. Second, he may choke if he bites off big pieces.

Starting at about five months we also can share the food that we are eating with the baby. We should share food from our own meals, so long as it is freshly cooked, and so long as the baby can eat the pepper. We also can share snacks, such as fruit and fried plantain. We can feed the baby by hand, as we feed ourselves. But if this food is not soft, the baby probably will not eat much, until he gets teeth. There are certain foods that we eat that are not good for the baby. We should not give him these foods. They are: coffee, strong tea, cola nuts, alcoholic drinks such as palm wine, and sweets or toffees. The sweets and toffees are not so bad as the others, but they may damage the baby's teeth and may take away his hunger for healthy foods. The sugar gives a feeling of fullness, but it has no power for growth or protection of the body.

Because the baby has no teeth he cannot get enough ingredients from eating adult meals only. This is the reason why we feed him pap, starting at five months. From the beginning, we add ingredients to this pap, so that he will have foods from all of the three food groups.

We should feed the pap with a spoon, by putting a small amount on the baby's tongue the first time, so that he can taste it. At first most babies will spit it out because they are not used to the taste. The mother should patiently put the food into the baby's mouth again. If he continues to refuse, she should try again the next day. It may take a month before the baby finally learns to eat the pap well. If the mother starts to feed him at five months, he should be eating pap properly by six months. The mother should try to start the pap at a time of day when the baby is hungry. She may hold back the breast for one or two hours before the time when she gives the pap. From the age of five to eight months, the mother who has plenty of milk can give pap once a day, when the baby is hungry. At this time the baby should eat about one full cup. If he can't eat that much, he should have a half cup first and then the other half after one or two hours. Pap that has been kept for more than half a day after cooking should not be fed to the baby. If the baby is thin or seems hungry, the mother should make pap twice a day, in the morning and the evening.

By eight months the baby should start having adult food in addition to pap every day. From eight months to one year the total amount of food the baby eats should increase gradually. The baby's stomach is small. For this reason, the food he eats should be divided into about five meals. This may be two meals of pap plus two meals of adult food plus some fruit or other snack. The total amount the baby eats in one day at the age of one year may be three or four cups of food. At some meals the baby will not be hungry. At other meals he will eat more.

When the baby has a fever or cold or diarrhea, he should continue to eat. Often babies refuse food at this time, although they continue breast-feeding and drinking liquids. Illness makes the baby thin. For this reason, the mother should give her child more food than usual as soon as he gets better. She should give him more than usual of the growth foods, from Group Two, to build back the parts of the body that were attacked by the illness.

A baby under the age of one year should not get into the habit of eating so much pap and adult food that it stops breast-feeding. If the baby sleeps with the mother and wakes up several times in the night to breast-feed, this is not a danger. But a few babies will stop breast-feeding when they start eating plenty of other food. If the mother notices that the child is only breast-feeding three or four times a day, she should try to feed it from the breast first, before giving the meals of pap or adult food.

Pap Recipe for the Day's Demonstration

Before teaching this lesson, the instructor should decide upon the pap recipe for the day's demonstration and write the exact amounts in the space below, together with the instructions for combining ingredients: all kinds of pap are made with a staple food such as corn, guinea corn, or millet, enrichment ingredients such as groundnut paste, fish powder, etc., and water. The amount needed for the public demonstration and for teaching the recipe should be calculated carefully in advance. The amount of water also should be specified so that the cooked pap will not be too thin.

Please complete the following recipes:

Individual recipe for 1 or 2 children:

	Food	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

Recipe for group demonstrations (same as above but in large amounts)

	Foods	Amounts
Staple	_____	_____
Ingredient 1	_____	_____
Ingredient 2	_____	_____
Water		_____
Cooking method	_____	
	_____	
	_____	

LESSON 7

Performance Objective: Explain what local snacks can be used to feed the young child up to four years more frequently, including all three food groups.

Preparation: Get samples of local snack foods to use for Three Food Groups exercise and for group snack after the afternoon lesson with the mothers. Have paper and pencils so that trainees can draw pictures of snacks that are not in season. Get three stools for sorting snacks into food groups.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

ActivitiesApproach


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Revision	Discussion of home visits. Are mothers succeeding in feeding pap to their more difficult babies?
Lecture and discussion	Explain to trainees that young children up to the school age need to eat more often than adults. Show picture of baby chicken and child. Explain need to set aside family food and to use snacks in order to feed the child more often.
Test of trainees' ability to sort local snacks into three food groups and to combine snacks from the three groups	Put up Three Food Groups picture. Put the examples of local snacks onto a table in front of three stools. First ask trainees what snacks are missing from the group shown on the table. Have them take paper and pencil and draw pictures of these missing snacks and put the pictures on the table. Now have the trainees take turns putting each snack onto the appropriate stool, commenting on whether this snack is good for young children (for example, coconut is too hard for children without teeth).
Post-test	Instructor takes a snack from one stool and asks a trainee what snacks from the other two food groups could be used to complement this snack.

Continue to ask this question of each trainee. Explain that the Three Food Groups do not need to balance at every meal, but that we should try to balance them during the day.

Explanation of  
Afternoon

Explain that the same lesson will be repeated for the mothers in the afternoon. The trainees can coach the mothers.

### Afternoon Field Session

Time: Two hours.

Activities

Approach

Revision

Ask mothers if any have succeeded in teaching their baby to eat pap since the last week. Who? Which baby?

Instructor-led  
discussion and  
lecture

First show all of the mothers the picture of the child and the baby chicken.\* Explain why young children must eat frequently, so that they can be lively and grow and learn faster. Explain that food should be set aside from the meal specially for the child, and that the child should eat snacks.

Show mothers the Three Food Groups picture, table with snacks on it, and stools representing the Three Food Groups.

As in the morning's lesson, ask the mothers one by one to put the snacks from the table onto the correct stool, representing the correct food group. As above, pick snacks from each group and ask the mothers for complementary snacks from the other groups. Explain again that snacks do not have to be balanced by food group at every meal, but that the food eaten

\*Fig. 3, p. 2 - 36

during the whole day should contain foods from each group.

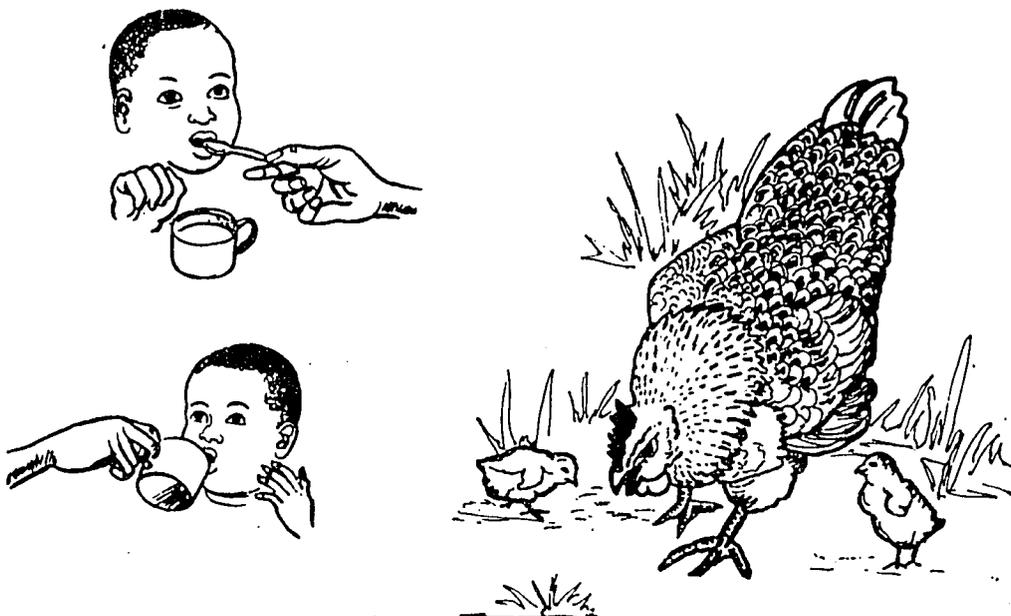
**Evaluation**

As previously, trainees visit homes during week and ask about mothers' use of snack foods.

**Lesson 7 Content**

Use of Local Snack Foods to Feed Young Children More Frequently

Young children up to the school age need to eat more often than adults because their stomachs are small and they are always running about. It has been said that the young child should be like the baby chicken, always pecking at food.



**Figure 3: Well Nourished Child and Chicken**

It is good for the child to play actively, running up and down, because this exercise develops the body and the mind. The young child who has plenty to eat is lively. The child who does not eat enough sits quietly.

In the last lesson we explained that the young child should eat about five times a day. This may cause problems for the mother because most mothers do not have time to cook more than twice a day. In many

families it is only possible to cook once a day. The grown persons in the family also may have the habit of eating only twice a day, or even once a day in some cases. Some families may think they should train the young child to eat only twice a day. This is not a good idea. They may be successful in training the child, but the young child's growth will suffer. Eating twice a day is a lesson that can be learned later, after the child is bigger and stronger.

One way that the mother can feed the child more often without cooking is to save some food in a special place for the child (on a covered plate or wrapped in banana leaf) after every meal and offer it to the child about two hours later. This food should not be kept for more than half a day after cooking or it may make the child sick, but after two or three hours it still will be fresh.

Another way of feeding the child more often without cooking is to give snack foods between meals. These foods may either be (1) from the family farm, (2) gathered wild, or (3) bought at the market or from a trader or vendor.

Fresh fruits such as orange, banana, mango, and pawpaw, are excellent snack foods for the young child. Many of the protective fruits, in Food Group Three, are common snack foods. Some of these



Fig. 4 Protective Foods

snacks are bush fruits that the children pick wild when they are in season. The mother can ask the older children to gather enough of these fruits to share with the very little children. But she must be careful that they are soft enough for the little ones to eat.

Special care should be taken in peeling fruits for very young children. The skin should be peeled or cut from the fruit immediately before eating, so that flies and dirt do not get onto the fruit before the baby eats it. If the fruit has been cut for some time, then the outside should be cut off again before giving it to the baby.

Fried snacks, such as fried plantain or dough balls give the young child extra energy. Fried rings of peanut cake, made after pressing the peanut oil, are a good growth food and are often sold in Northern Ghana. The other fried foods belong to Food Group One, the energy foods. If the young child eats much of them, the mother should try to also offer her some growth food to balance the meal. This could be roasted groundnuts or a small amount of fried fish or smoked fish.

(To complete the content of the rest of this lesson the instructor should make a list of all of the snack foods commonly eaten in the local villages and should write the names of these foods into the empty Three Food Groups picture .\* The instructor must think of the ways in which these snacks can be used in feeding children, so that the children receive a balanced diet from all three groups.)

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\*Fig. 5, p. 2 - 38a

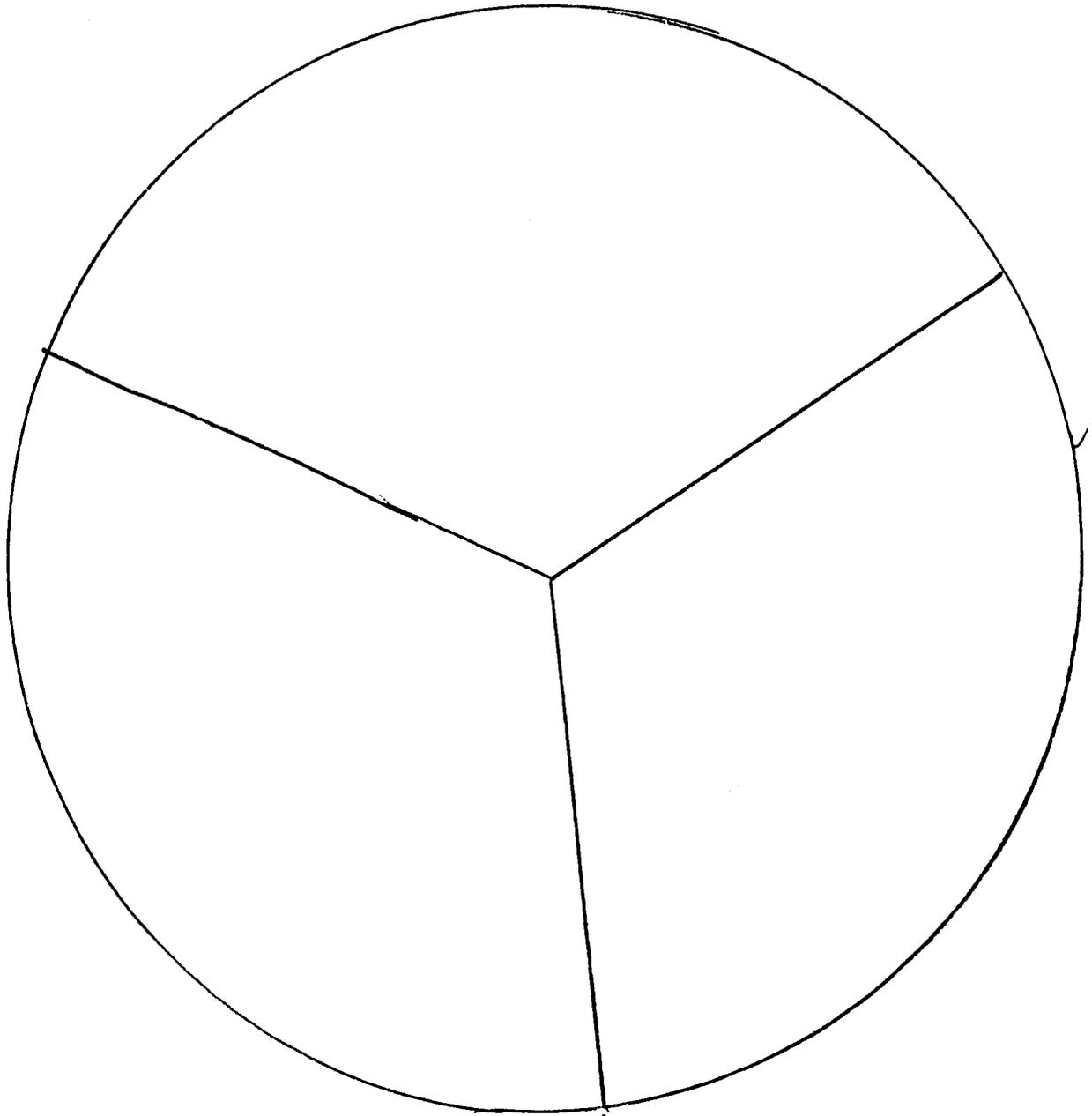


figure 5: Three Food Groups

LESSON 8

Performance Objective: Interview the mother to learn how she is feeding her baby and give correct advice based on the previous lessons.

Preparation: Decide whether to bring the mothers to a central location or visit them at home. Prepare the mothers one way or the other. Prepare the VDC chairman or chief for a farewell visit.

Morning Session

Location: Instructor and trainees privately in village clinic, school, leader's house or outdoor location where they will not be disturbed.

Time: Two hours.

ActivitiesApproach


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Pretest	Ask the trainees how they would find out from a mother whether she was feeding her baby properly.
Lecture	Explain the five steps in interviewing the mother and giving correct advice. Tell the trainees that the instructor will demonstrate these steps with one mother, and that after this demonstration each trainee will have the chance to go through them individually with one of the village mothers, while the instructor and the other trainees observe and help if necessary. The instructor must be ready to provide assistance to the second and third interviews, and then gradually reduce this assistance during the course of the day as the trainees understand more clearly how to conduct the interview and advice session by themselves.
Demonstration and practice	During the remainder of the day, the instructor and the trainees interview and advise the mothers one by one. If possible they visit each mother's home. At the end of each interview the mother should have the opportunity to ask questions and the class should say farewell to this mother and thank her for her participation in the training program.

Farewells to  
VDC chairman  
or chief

When the visits have been completed, the group should visit the VDC chairman or chief to say farewell, if this can be arranged appropriately. It may even be possible to arrange a goodbye party for the training class and the villagers. This should depend on the professional judgement of the training staff. In any case, every effort should be made to make the village feel happy that they have participated in the training course.

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### Lesson 8 Content

How to Interview the Mother to Find Out About  
The Baby's Diet and to Give Correct Advice  
Based on the Messages Learned in this Unit

When a mother comes to the community health worker with a sick child, or a malnourished child, or a child that refuses to eat properly, the community health worker must know how to advise the mother properly. The first step is to discover the exact nature of the problem. Unless the community health worker knows what the child is eating now, she cannot advise the mother how she should change the way in which she is feeding him.

The best way of understanding the child's eating problems is to conduct a twenty-four hour dietary recall. This is done by asking the mother to tell us everything that she fed the child starting from the moment when the child woke up yesterday morning until the child went to sleep last night.

The community health worker should go through the following procedure:

- (1) Ask how old the child is.
- (2) Use the arm strip to see whether the child falls into the red. If yes, the child is malnourished. If no, the problem is not so serious.
- (3) Ask the mother:

"Please tell me what did you give the baby to eat yesterday morning, when he first woke up? (mother answers) What was

the next time you fed her and what did she eat? (mother answers) How much did she take? (mother answers) After that, what was the next time you fed her and what did she eat? (mother answers) How much did she take?" (mother answers)

These questions should continue until the time when the child went to sleep at night. Then the community health worker should ask, "How many times did the baby wake up to breast-feed in the night?"

- (4) Analyze the feeding problem. In order to do this, the community health worker must decide whether the baby is eating the correct foods for its age in the correct amounts the correct number of times a day. The community health worker may wish to ask more questions, such as, "During your meal did you try to give the baby some of the beans?" or, "Did you stop giving the baby some foods because she was sick?"
- (5) Give the mother correct advice. This must be done very tactfully so that the mother does not become annoyed. The advice also must consider the mother's economic position. Often the best way to give the advice is in the form of the question. Ask the mother, "Can you add some pounded dried fish to the baby's pap?" If she says no, then you must look for another solution. At the same time, the advice must be firm.

There are two situations in which the community health worker may find it difficult to give advice. The first is in the case of a well nourished child that is not eating properly. This may be a baby whose mother is fortunate to have plenty of breast milk, or it may be a baby that is normal but would be even bigger and stronger if it ate better food. In such a case, the community health worker should still teach the mother how to improve the baby's diet and explain that this improvement will make the child even stronger and healthier. The second is the case of a very malnourished child that doesn't seem to improve even though the mother is trying to give it a correct diet. This baby may be suffering from an illness that has not been discovered. If possible, the community health worker should refer the child to the hospital or health center for a checkup. If this is not possible, she should try to ask the mother to increase the amount of stew ingredients used in making the pap.

The best way to learn how to conduct the twenty-four hour recall is by practice and example. This is why almost the entire lesson in

Lesson 8 is spent teaching the trainees individually to interview mothers and give correct advice. It is better to conduct this practice through home visits because it is then not necessary to keep the whole group of mothers waiting while each is interviewed. The mother's privacy is protected, and she also can show the cooking facilities and the food that she has available to her in the house. If the interview is not in the house, she will be more likely to try to please the interviewer by saying that she gave the baby foods that she does not have available.

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PILOT MODULE No. 3: TREATING AND PREVENTING DIARRHOEA



A nutrition curriculum module for Ghanaian community health workers - developed for field-testing, by Ghanaian Nutrition Technical Officers (NTOs), The University of Ghana Department of Community Medicine, and the International Nutrition Communication Service, at a workshop in Accra, September 12-19, 1982.

102

PILOT MODULE # 3      TREATING AND PREVENTING DIARRHOEA

A. Performance Objectives for Community Health Worker

At the end of this module, the community health worker should be able to:

1. Understand his/her role with respect to treating and preventing diarrhoea in the home (lesson 1).
2. Detect the signs of dehydration in children, and decide which cases need to be referred for special treatment (lesson 2).
3. Advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes (lesson 3).
4. Educate mothers about harmful local remedies for treating diarrhoea (lesson 4).
5. Advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea (lesson 5).
6. Advise and involve parents in carrying out practical home-based activities to prevent diarrhoea (lesson 6).

B. The Role of the Community Health Worker in Identifying, Preventing and Treating Diarrhoea

In this, the primary role of the Ghanaian community health worker should be to teach and involve parents about the preparation and use of rehydration fluids in their homes. In terms of treatment he or she should know how (objective 3) to prepare oral rehydration fluids using ORS solutions, sugar/salt solutions, or solutions using local resources, whichever is available. Figure 1 and Tables 1 and 2 have been developed as picture guides to help the community health worker carry out this task. Figure 1 and Tables 1 and 2 illustrate somewhat simplified procedures to account for the fact that

the community health worker should not be held responsible for mastering all the technical complexities of diarrhoeal disease management. It is assumed she will be supervised by the Community Health Nurse, and that she will also be able (objective 2) to detect severe cases of dehydration and refer them for special treatment. Figure 1 (p.3-9a) is a guide for the community health worker that illustrates the major clinical signs of dehydration.

Another important task for the community health worker is (objective 4) to educate mothers about harmful local remedies for treating diarrhoea. Such known harmful remedies in Ghana include the giving of enemas or laxatives, oral remedies using ginger and pepper, and the practice of starving the baby. If the community health worker is uncertain about whether or not a particular remedy is harmful, she should consult her supervisor who in turn may want to consult with the District Medical Officer, the Center for Traditional Healers at Mampong or the Department of Pharmacology at the University of Science and Technology in Kumasi.

The community health worker also should be able (objective 5) to advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea. Beneficial feeding practices include breastfeeding, boiling of water for the child, making food from scratch each day for the sick infant, and providing him or her with frequent feeds. Beneficial foods include breastmilk, light soup, and porridge mixed with either groundnut paste, fish powder or local beans.

Finally, the community health worker should be able (objective 6) to advise and involve parents in carrying out practical, home-based activities to prevent diarrhoea. She should be familiar with environmental factors in the community that contribute to diarrhoea, such as the source and condition of the water supply, the location and condition of public toilets, the prevalence of flies in certain areas. Personal hygiene factors include the methods for preparation and storage of food and water for the sick infant, methods for cleaning and handling feeding utensils, particularly bottles, and the methods for household and village refuse disposal.

To accomplish all of the above objectives, the community clinic attendant should know how to communicate with mothers, and involve them in adopting new behaviors. Consequently, a great many of the training activities focus on role play where one trainee assumes the role of a village mother while another trainee attempts to persuade the first to adopt a new behavior.

### C. Training Format and Procedures

#### Format

This module on "Treating and Preventing Diarrhoea" consists of six full lessons, each corresponding to one of the six Performance Objectives listed on page 3-1. The lessons should be given at weekly intervals to enable the trainees to try out what has been learned.

The site for training for these lessons should be in the same training village. The entire lesson should take place in the village.

105

In the mornings, the trainees should have their own lesson either in the village clinic, the VDC chairman's house or some other private location. The second part of the lesson should take place in the afternoon, with a group of village mothers and other community members in a public location. The teacher and the trainees together should repeat the lesson for the village mothers. The very first lesson, explaining to the trainees their role in educating mothers to treat and prevent diarrhoea disease, will not include a meeting with mothers. Instead, this lesson will include a meeting with the VDC and the local traditional healers. In the last part of this session the teacher will discuss the role of the trainee in teaching how to treat and prevent diarrhoea with a group of village leaders and ask for their support. The trainees will participate in the discussion. The last lesson will involve a performance evaluation of the trainees by the trainer.

LESSON 1

Performance Objective: Enable trainees to understand their role with respect to treating and preventing diarrhoea.

Morning Session (with trainer and trainees only)

Location: Village clinic or village school classroom.

Time: One and one-half hours.

<u>Activities</u>	<u>Approach</u>
Pretest	Teacher asks trainees to briefly describe their experience and role in relation to the problem of diarrhoea. Teacher probes to understand to what degree diarrhoea is considered a serious problem in the minds of the trainees.
Instructor-led discussion	Instructor outlines the role the CCA will be asked to play, using performance objectives 2-6 as a guide. A discussion follows where the CCA is asked to respond to the reasonableness of what she is being asked to do in light of conflicting time demands.
Explanation of plans for afternoon	Prepare trainees for meetings with the VDC and the village traditional healer; trainer should stress importance of gaining the support of village leadership and traditional healers.
Post-test (role play)	One trainee plays the role of the CCA; another plays the role of a VDC member, and a third plays the role of a traditional healer in a discussion about the nature of dehydration, its causes and cures.

Afternoon Field Session

Format and location: Instructor and trainees meet in a public place with VDC members and also visit the home/office of village traditional healer.

Time: One and one-half hours.

Activities	Approach
Pretest	Instructor and trainees ask VDC members and traditional healer what they think CCA can do to solve problems of diarrhoeal disease in the village.
Instructor-led lecture and discussion	Instructor outlines the performance objectives to VDC members and village traditional healers; VDC members are asked to refer cases of diarrhoeal disease to the CCA for treatment.

### Lesson 1 Content

The two main dangers of diarrhoea are death and malnutrition.

Death from diarrhoea is usually caused by losing large amounts of water and of salts from the body in the frequent watery stools. This is called dehydration. Small children with severe diarrhoea lose water and salts fast and can die quickly, sometimes in a few hours. Many children with diarrhoea recover by themselves, but they become weaker. 14.1 per cent of all childhood deaths in Ghana are attributed to gastroenteritis.

Malnutrition can be caused by diarrhoea, and makes it worse, because food passes too quickly through the body for it to be absorbed and because a person with diarrhoea usually feels too ill to be hungry and so does not eat. In addition, diarrhoea is more severe and more common in people who are already suffering from malnutrition.

The community health worker must be able to detect the signs and symptoms of diarrhoeal disease among children; treat diarrhoeal disease using resources available to him or her; and finally be able to involve parents and community members in adopting new behaviors to prevent future incidences of diarrhoeal disease. All of these functions are extremely critical, and the community health worker is the first professional line of resistance in a public health campaign against diarrhoea.

### Procedures

In most cases the community health worker's procedure for helping the community deal with its diarrhoeal disease-related problems will involve five steps.

First, he or she must be able to detect the signs of dehydration

in young children, and decide which cases need to be referred for special treatment. This involves knowing what the first symptoms of diarrhoeal disease are, e.g., three or more loose or watery stools in a day; and being able to tell, by looking, whether or not a child is dehydrated. It also involves a workable medical referral system that the community health worker can make use of if a particular child is severely ill.

Second, the community health worker must be able to advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes. This involves knowing how to prepare and use WHO Oral Rehydration Salts (ORS) packets, sugar and salt solutions, and local resource solutions such as coconut milk and akasa. It also involves the ability to convince a mother to give these fluids to her sick child.

Third, the community health worker should be able to educate mothers about harmful local remedies for treating diarrhoea. To do this well he or she should become familiar with the various local remedies used by villagers to treat their sick children. The community health worker should discourage the use of enemas and other known harmful remedies. Local remedies, whose effects are unknown, should be referred for analysis and special treatment.

Fourth, the community health worker should be able to advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea. In many communities it is a common practice to starve children when they have diarrhoea, or to use unhygienic practices in the preparation of food for sick infants. The community health worker should know how to discourage these harmful practices, and have full knowledge about methods of preparation and use of foods to feed sick children.

Finally the community health worker should be able to advise and involve parents in carrying out practical home-based activities to prevent diarrhoea. He or she should know how to identify environmental conditions or hygienic methods of food preparation that promote the spread of diarrhoeal disease. The community health worker should be able to convince mothers and community members to adopt new behaviors aimed at preventing the transmission of diarrhoeal disease.

As a prerequisite for all of these activities the community health worker should get the support of village community leaders and, if possible, local traditional healers for his or her efforts to treat and prevent diarrhoea. Once the community health worker understands what his or her role will be, a meeting should be arranged with members of the Village Development Committee and others in an attempt to secure their support.

LESSON 2

Performance Objective: Detect the signs of dehydration in children and decide which cases need to be referred for special treatment.

Morning Session

Location and format: Session with trainees only. District nutrition rehabilitation clinic or health post.

Time: Two hours.

Activities	Approach
Review	Trainees are asked to describe the skills they hope to master in relation to the goal of treating and preventing diarrhoeal disease in their village; they should also be asked to identify any special problems that they feel they might have in coordinating what they do with the village traditional healer or members of the VDC.
Pretest	Instructor asks trainees how they can tell whether or not a baby has diarrhoea? What are the signs of dehydration? And in what instance, and to whom, would they refer a case of dehydration for special treatment?
Instructor-led discussion and lecture	Instructor explains how to detect the onset of diarrhoea. He uses Figure 1 (page 3-9a) to illustrate the clinical signs of dehydration; then a visit is paid to the district health post or nutrition rehabilitation center where trainees can observe severely dehydrated children and meet health professionals to whom they would refer severe cases in the village.
Post-test	Trainees are asked to sketch the figure of a severely dehydrated child.

Afternoon Field Session

Location and format: Instructor, trainees and village mothers meet publicly in the village.

Time: One and one-half hours.

ActivitiesApproach


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Pretest	Instructor asks village mothers to describe the symptoms of diarrhoeal disease; mothers are asked to whom do they turn for treatment.
Instructor-led lecture and discussion	Trainees explain to mothers how to detect diarrhoea; they use figure 1 to point out signs of severe dehydration and point out to mothers how serious a health problem that is.
Evaluation	Trainees, under supervision of instructor, visit village homes to determine if any infants are suffering from diarrhoeal disease and if any need to be referred for special treatment.

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Lesson 2 Content

Detect the Signs of Dehydration in Children and Decide Which Cases Need to be Referred for Special Treatment

Diarrhoea is a condition in which stools are passed more frequently and are more loose or watery than is usual for the person. People vary in the sort of stools they pass, and in how often they pass them, but as a general guide, three or more loose or watery stools in a day can be considered as diarrhoea. Frequent passing of normal stools is not diarrhoea. Breast-fed babies often have stools that are very soft, but this too is not diarrhoea.

The following guidelines may be useful. They come from the WHO prototype manual, Guidelines for Training Community Health Workers in Nutrition.

Detecting children who have lost much water and salt from diarrhoea (dehydrated cases)

All children with diarrhoea are in danger. Many children recover, but some become seriously ill. Who are the children who need urgent care? Four of the things to do to find them are: ask, look, feel, and weigh.

Ask: How long has the child had diarrhoea? How many stools has he had in the last day (24 hours)? Have these been large and watery stools? Has the child vomited? The longer a child has had diarrhoea and the more he has passed stools and vomited, the more serious his condition is. Is the child thirsty? Has he had anything to drink? If he is thirsty, he is dehydrated and needs extra fluid. When did he last pass urine? How much urine and what colour was it?

Look: Can the child drink? Is he irritable or drowsy? Are the eyes sunken? Is the breathing fast and deep? Are the mouth, tongue and eyes dry? These are signs of a dehydrated child. Has he passed little urine or dark yellow urine? That is a sign of dehydration. If his stools are large and watery, the dehydration will be worse.

Feel: Is the skin elastic? Pinch up a fold of skin over the shoulder, abdomen or thigh. When you let it go, it should spring back like rubber. If it does not return to its normal shape immediately, the child is dehydrated. He needs fluid quickly. In a child with marasmus this test is not reliable since the skin is already wrinkled and not elastic. Feel the pulse. If it is fast and weak, the child needs more fluids. Feel the arms and legs. If they are cold when the weather is not cold, this is a bad sign; he needs urgent help. Is the child hot? Take the child's temperature, if possible.

Weigh: If a child has a growth-chart and has been weighed regularly (see Module 2), this is useful. A child who has diarrhoea and has lost weight is probably dehydrated. Five per cent dehydration is serious (that is, if he has lost 50 grams for each kilogram of his normal body weight). Ten per cent dehydration is very serious (that is, if a 10-kg child has lost 1 kg).

It is important to know if a child is only mildly ill or seriously ill because this affects the action you should take. A child who has mild diarrhoea can be treated at home, but a child who has severe diarrhoea, dehydration, and complications should be sent to the nearest health centre for special treatment. Figure 1 on the next page is a visual aid that the instructor can use to help trainees or mothers detect the clinical signs of dehydration.

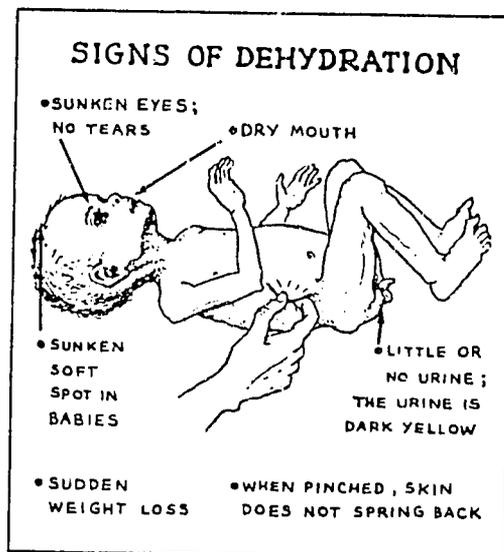


Figure 1 Clinical signs of dehydration

LESSON 3

Performance Objective: Advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes.

Morning Session

Location and format: Session with trainees only. Village health clinic or school room.

Time: Two hours.

Activities	Approach
Review	Trainees are asked to report on the home visits they have made in the village during the past week to look for signs of diarrhoeal disease and dehydration. How many children did they find who were suffering from diarrhoea? What visual signs of dehydration did they notice in these children? Did they refer any for special treatment? If so, to whom?
Pretest	Instructor asks trainees about their experiences using oral rehydration fluids. Have they prepared and administered ORS packets? sugar/salt solutions? Local resource solutions? Are ORS packets available in the village? Is sugar available?
Instructor-led demonstration	Instructor demonstrates how to prepare and use ORS packets, sugar/salt solutions and local resource (e.g., coconut water) solutions. Each trainee is asked to demonstrate the use of all three; instructor then shows trainees how to make use of support materials (Table 1, Fig.2*) that prescribe the amount of each type of solution to be given to children according to weight and age. Trainees should practice using both a cup and a cup and spoon.
Post-test	Instructor gives ages and weight of various children and asks trainees to prepare appropriate amounts of oral rehydration fluids.

\*Fig. 2, p. 3-13.

Afternoon Session

Location and format: Session with trainees and village mothers. Trainees and village mothers meet publicly in the village.

Time: One and one-half hours.

ActivitiesApproach


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Pretest	Instructor and trainees ask mothers to describe their experience with ORS, salts, sugar/salt or local resource solutions. If there has been experience, trainees are asked to judge if mothers prepare and use fluids correctly. If there has not been experience, trainees ask for volunteers - mothers who want to learn new methods. Volunteers are given a great deal of support.
Instructor/trainee led demonstration	Instructor asks trainees to demonstrate to mothers how to prepare and administer oral rehydration fluids. Demonstration will focus on method most appropriate for village. If no ORS packets are available, the demonstration will focus on sugar/salt solutions; if no sugar/salt then rice water, coconut milk or akasan.
Evaluation	Mothers are then asked to demonstrate the use of oral rehydration fluids, repeating procedures that were taught to them in the afternoon demonstration. Mothers are asked whether they will use this method in treating children with diarrhoea.
Post-test	During the week trainees will observe mothers in their homes using the oral rehydration method that was demonstrated to them in the afternoon session of lesson 3. They also will teach new mothers that method.

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## Lesson 3 Content

Advise and Involve Parents in the Preparation and Use of  
Rehydration Fluids to Treat Diarrhoea in Their Homes

There are three major categories of oral rehydration fluids: (1) Oral Rehydration Salts; (2) sugar/salt solutions; and (3) local resource solutions, such as coconut water, akasa, etc. Figure 2 on page 13 illustrates how to prepare fluids using each method. Ideally a community health worker should know how to prepare and use all three. ORS packets, distributed by WHO/UNICEF, and sugar/salt solutions are the preferred methods of treatment. However, some villages in Ghana may not have access to ORS packets, and there may be no sugar available. In that case, the community health worker should know how to prepare and administer oral rehydration fluids using local resources such as rice water, maize pap, fruit juices, etc.

A basic rule of thumb is to give the child one glass or cup of fluid for every loose stool he passes. Table 1 below gives approximate quantities of fluids, using any of the three solutions, that ought to be given each day according to the age and/or weight of the child. These quantities are expressed in terms of common cups or glasses that should be available in Ghana.

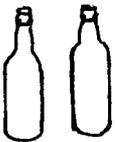
PATIENTS WEIGHT IN KILOGRAMS:	3 5 7 9 11 13 15 20 30 40 50									
	2 4 6 8 10 12 18 2 3 4 6 8 15 ADULT									
PATIENTS AGE:	← MONTHS → ← YEARS									
TO TREAT DEHYDRATION GIVE FLUID:										

Table 1: Amount of Rehydration Fluid Per Age/Weight of Child

If the child is dehydrated, give small amounts of the solution to the child every few minutes. The best way is to give 2-3 small spoonfuls from a cup, wait 2-3 minutes, then give again. Patience and persistence are very important in feeding a sick child with fluids. When the child improves he may drink from a cup.

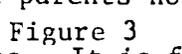
Protection of the prepared solution is very important. Use the fluid on the day it is prepared. Keep the container in a cool place and keep it covered at all times so that flies and dust cannot get in. Throw away any fluid that was prepared the day before.

#### Preparing Oral Rehydration Salts Solution

First, wash thoroughly a large pot or other container in which the solution can be kept. Wash, too, a cup or other small vessel from which the child can drink the solution, and a mixing spoon. Pour one litre of clean drinking-water into the pot. Whenever possible ORS solution (and all rehydration solutions) should be prepared with potable water.

Open the packet of Oral Rehydration Salts and pour the powder inside it into the litre of drinking-water. With the clean spoon, mix the powder until it has completely dissolved in the water. To make sure the mixture is correct, taste it; it should taste less salty than tears. If it is more salty, add a little clean water or throw it away and mix another amount according to the instructions.

Occasionally, a child may vomit after being given Oral Rehydration Salts. If he does, wait 5-10 minutes, then give again. Vomiting is not a reason to stop treatment with Oral Rehydration Salts solution, unless it is severe and frequent. In that case the child should be taken to the nearest health center.

If there are no Oral Rehydration Salt packets available in the village, the CCA should know how to teach parents how to prepare and use a sugar and salt solution. The  Figure 3 can be used as a guide to the measurement of sugar/salt solutions. It is from Helping Health Workers Learn by David Werner and Bill Bowen.

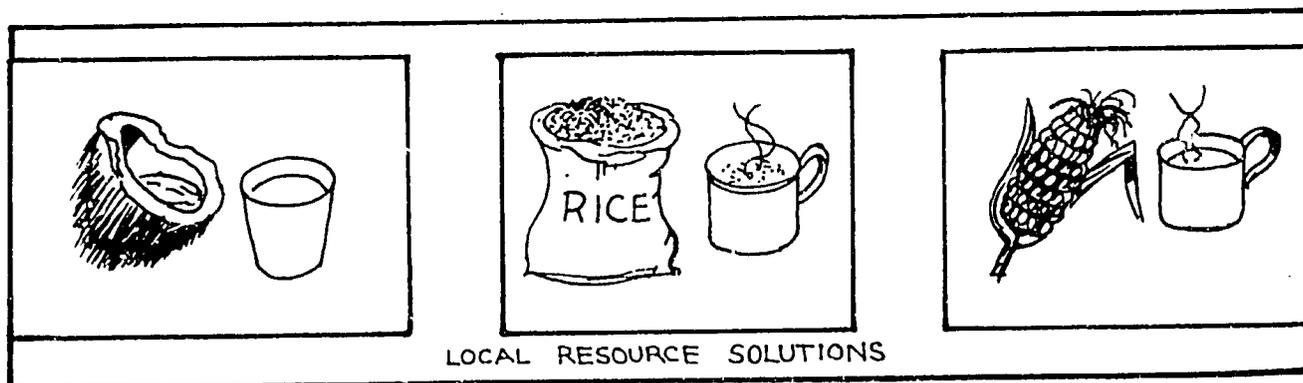
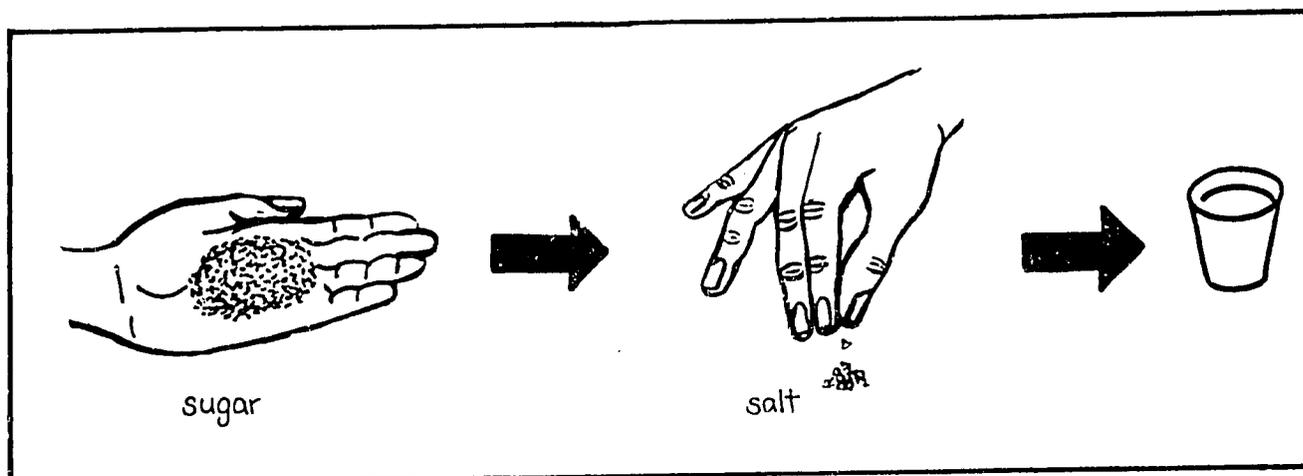
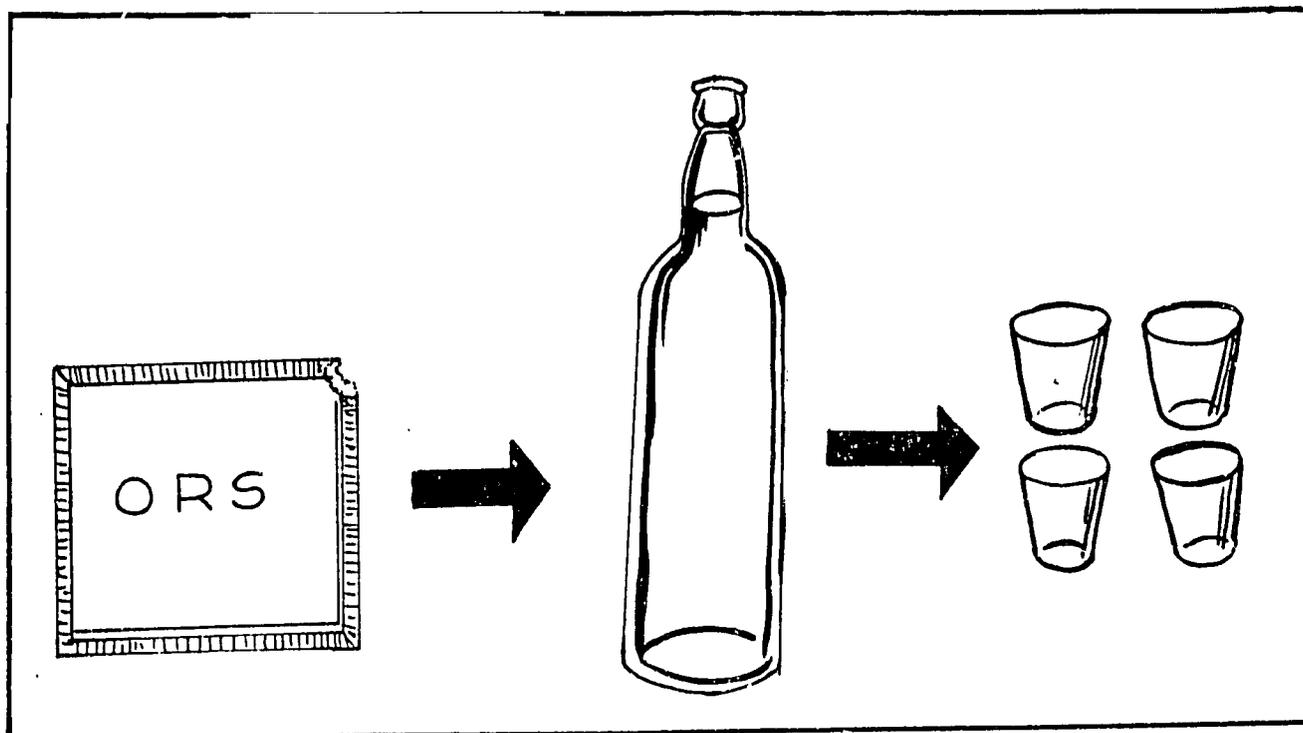


Figure 2: Types of Rehydration Fluids

**First method: ordinary spoons**

Mix 1 teaspoon of SUGAR

+ the tip of a teaspoon of SALT

in a glass of water (about 1/3 of a liter)

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**Second method: by hand**

Mix about this much SUGAR

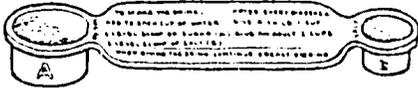
+ a pinch of SALT

in a glass of water

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**Third method: plastic measuring spoons**

In some places, special plastic spoons are available to measure the exact amounts of sugar and salt for one glass of water.

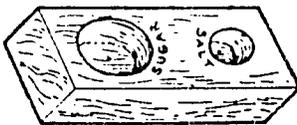



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**Fourth method: homemade spoons**

Rather than depend on plastic spoons that can get lost or broken, the children can learn to make their own measuring spoons.

Here is one example.



For another example, see the next page.

Figure 3. Methods of sugar/salt measurement

LESSON 4

Performance Objective: Educate mothers about harmful local remedies for treating diarrhoea.

Morning Session

Location and format: Session with trainees only. Village Health Clinic or school room

Time: One and one-half hours.

Activities	Approach
Review	Trainees are asked to report on the use of oral rehydration fluids by village mothers. How many mothers prepared and administered oral rehydration fluids correctly? How many prepared and/or used OR solutions incorrectly? What were the mistakes?
Pretest	Trainees are asked to list existing local remedies for treating diarrhoea, identifying which ones are harmful and describing why.
Instructor-led lecture demonstration	Instructor describes and holds up examples of harmful local remedies for treating diarrhoea. Instructor describes a medical history of a child who was treated with an enema.
Post-test	Role play between trainees. One trainee assumes role of mother who uses a harmful local remedy. Second trainee tries to persuade her to stop using the harmful remedy and adapt an improved practice.

Afternoon Session

Location and format: Session with trainees and village mothers and local traditional healer. Instructor and trainees meet first with mothers in a public place; then visit traditional healer's office/home.

Time: One and one-half hours.

ActivitiesApproach


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Pretest	Instructor and trainees ask mothers to describe their methods for treating diarrhoea.
Lecture discussion	Trainees point out ways in which particular local remedies may be harmful; and engage in discussions with mothers in an effort to persuade them to discontinue harmful practices and adopt beneficial methods of treatment.
Discussion	Trainees visit local traditional healer and discuss the merits of various local remedies. Trainees attempt to gain support from the traditional healer in their efforts to discourage harmful local practices. Trainees ask traditional healer about the value of certain local remedies whose worth is unknown to them.
Evaluation	Trainees visit mothers during the week to see which ones are still using harmful local remedies and attempt to persuade them to stop, and use beneficial methods taught in Lesson 3.

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Lesson 4 ContentEducate Mothers About Harmful Local Remedies for Treating Diarrhoea

Common remedies for treating diarrhoea in Ghana, which may be harmful to young children, include purgatives, antibiotics and certain herbal treatments.

Often Ghanaian mothers will give enemas to children with diarrhoea in an attempt to purge their systems. Purging a sick child to clean out disease only accelerates dehydration.

Modern antibiotics are not effective for treating the majority of childhood diarrhoeas, which are caused by viral or unknown agents. Antibiotics are indicated only for cholera and shigella dysentery. The drug of choice for cholera is tetracycline and for shigella is ampicillin or trimethoprim/sulfamethoxazole. The widespread use of antibiotics for a large proportion of diarrhoea cases is not only ineffective and a waste of scarce resources but also a hazard in itself. Several antibiotics, such as chloramphenicol and neomycin, which are frequently used, cause respectively aplastic anemia and renal damage.

There is also little place in the treatment of early childhood diarrhoea for medications such as kaolin, paregoric mixtures and Lomotil-type drugs. Studies have repeatedly shown that these medications do not change the course of diarrhoea, although they may temporarily relieve cramps and other symptoms.

Many Ghanaian homes use traditional herbal remedies to treat diarrhoea. Several, such as those based on ginger/pepper solutions, are harmful and should be discouraged. Many do a lot of good because they help to get water back into the child. In some cases the value of a particular herbal remedy will be unknown. In that case, the remedy should be referred for analysis to the Institute for Traditional Healers at Mampong or the School of Pharmacology at the University of Science and Technology at Kumasi.

LESSON 6

Performance Objective: Advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea.

Morning Session

Location and format: Session with trainer and trainees only. Village clinic or village school classroom.

Time: One and one-half hours.

Activities	Approach
Review	Trainees are asked to relate experiences during the week in trying to get mothers to stop using harmful local remedies.
Pretest	Instructor asks trainees what kinds of foods are given in the village to children who have diarrhoea. How are the foods prepared? How are they served?
Instructor-led demonstration and role play	Instructor demonstrates how to prepare special foods for young children with diarrhoea; instructor assumes a role of a mother who does not want to feed her child because she says he has no appetite, and asks trainees to convince her she's wrong.
Post-test	Instructor asks trainees to prescribe a one-week meal plan for an infant trying to recover from diarrhoea.

Afternoon Session

Location and format: Session with trainees and village mothers. Trainees and village mothers meet publicly in the village.

Time: One and one-half hours.

Activities	Approach
Pretest	Trainees ask mothers to describe how they feed children who are dehydrated.
Instructor/trainee demonstration	Instructor and trainees demonstrate to mothers appropriate home-based recipes, e.g., akasa, light soup, etc., for feeding sick infants. Emphasis is placed on frequent feeding and hygienic preparation and on continuation of breastfeeding. Mothers are asked to repeat demonstrations.
Evaluation	Trainees are asked to observe the homes of mothers of infants who are suffering from diarrhoea, and to promote improved feeding practices if appropriate.

## Lesson 5 Content

### Advise and Involve Parents in the Use of Beneficial Feeding Practices in the Home for Infants Who Have Diarrhoea

#### Feeding during and after diarrhoea

Many mothers and others in a community believe that feeding a child with diarrhoea is dangerous. This is a wrong belief. Children need food to restore strength and replace the loss caused by diarrhoea.

If the child is being breast-fed, the mother should continue to breast-feed him. Breast milk is safe, clean, and nourishing. Breast milk should be given between drinks of Oral Rehydration Salts solution.

If the child is on cow's milk or artificial formula, this should be diluted to half-strength with clean water. It should be given between drinks of Oral Rehydration Salts solution. Full-strength milk should be started again when diarrhoea stops.

If the child normally takes solid food, he should still be given food. Simple soft easily digestible foods (porridge, etc.) can be given. Small frequent meals should be given between drinks of ORS solution. Feeding a child who is ill requires extra patience, time, and care.

After recovery from diarrhoea, extra food should be given. Try to give one extra meal each day for seven days in order to recover what has been lost.

LESSON 6

Performance Objective: Advise and involve parents in carrying out practical home-based activities to prevent diarrhoeas.

Morning Session

Location and format: Session with trainer and trainees only.  
Village clinic or schoolroom.

Time: One and one-half hours

Activities	Approach
Review	Trainees are asked to describe their experiences of the previous week in getting mothers to adopt improved feeding practices.
Pretest	Trainees are asked to describe environmental conditions in the village that contribute to the spread of diarrhoeal disease.
Lecture/discussion	Instructor describes to trainees the process by which certain environmental practices, such as improper food storage, can lead to diarrhoeal disease. Instructor and trainees draw up a checklist of diarrhoea-related environmental conditions, which trainees will use as a guide for village level observations.
Post-test	Role Play: one trainee assumes the role of a mother who says there are too many conflicting demands on her time to adopt improved feeding practices. Second tries to convince first about the value to the health of her children in adopting improved practices.

123

Afternoon Session

Location and format: Session with trainees, village mothers and a local artist. Instructor, trainees and mothers meet in a public place.

Time: Two hours.

ActivitiesApproaches

Pretest	Trainees and mothers pair off and tour the village to identify environmental conditions and hygienic practices that may be contributing to the spread of diarrhoeal disease in the village.
Discussion	Whole group meets back in a public place and discusses their observations. Suggestions for practical improvements are made by instructor and trainees, and mothers are asked if these suggestions are realistic for them to do. If not, modifications are made. A set of priority behavior objectives for mothers is made. A local artist develops a poster and/or set of visual aids in support of these objectives.
Evaluation	Trainees visit homes during the following week to promote the adaptation by mothers of agreed upon list of behavior objectives. If visual materials have been made, trainees arrange to have them distributed or on display at key locations.

## Lesson 6 Content

Advise and Involve Parents in Carrying Out Practical  
Home Based Activities to Prevent Diarrhoea

How to prevent diarrhoea

Breast-feeding protects against diarrhoea and other infections. It also provides excellent nutrition. Do not bottle-feed. Bottles are difficult to clean and germs grow easily in milk.

126

Diarrhoea germs come from stools. If stools are passed where people cannot come into contact with them, the germs will not spread to others. Latrines should be built, used, and kept clean.

Dirty hands cause diarrhoea. Wash hands with soap and water before feeding a child, preparing and serving food, and after passing stools. Finger-nails should be kept clean.

Dirty contaminated food can cause diarrhoea. Freshly cooked food is clean. Preserve food by covering it completely and keeping it cool. Food prepared earlier or the day before may be contaminated by germs. It should be cooked again before being given to children.

Dirty water can cause diarrhoea. Water for drinking must be clean and should be kept in a special pot with a cover. Never put hands in drinking-water. Drinking-water for small children should be boiled.

Flies can carry the germs of diarrhoea. Flies settle on stools, pick up germs and then settle on food. Cover food to protect it from flies. If children pass stools near the house, the stools should be removed and covered with earth. Keep the house and surroundings clean and there will be few flies.